Design Standards

FOR HISTORIC DISTRICTS AND LANDMARKS

CITY OF WILMINGTON
NORTH CAROLINA

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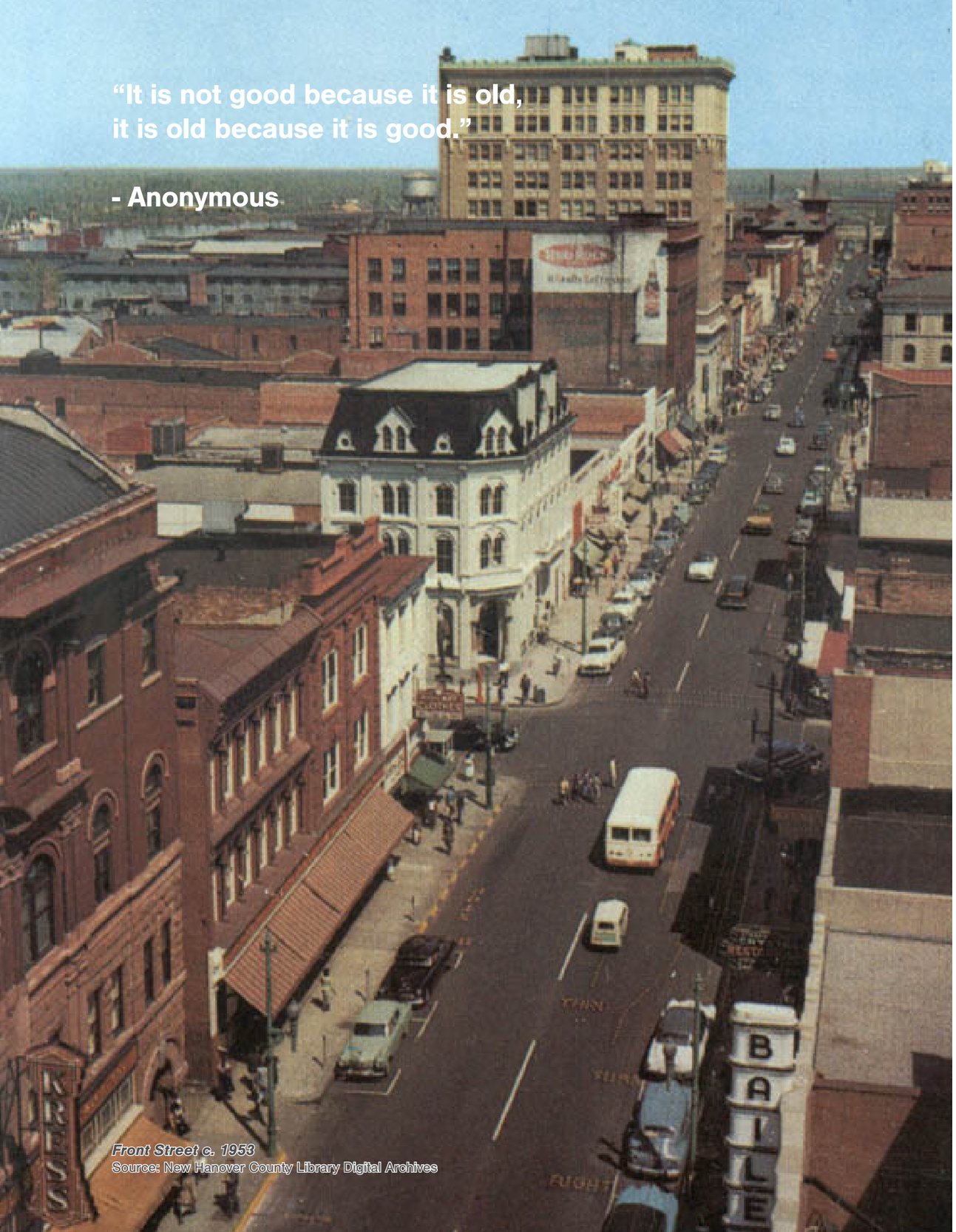
City Motto

“Persevere” is Wilmington’s motto, established and written onto the official seal in 1866.



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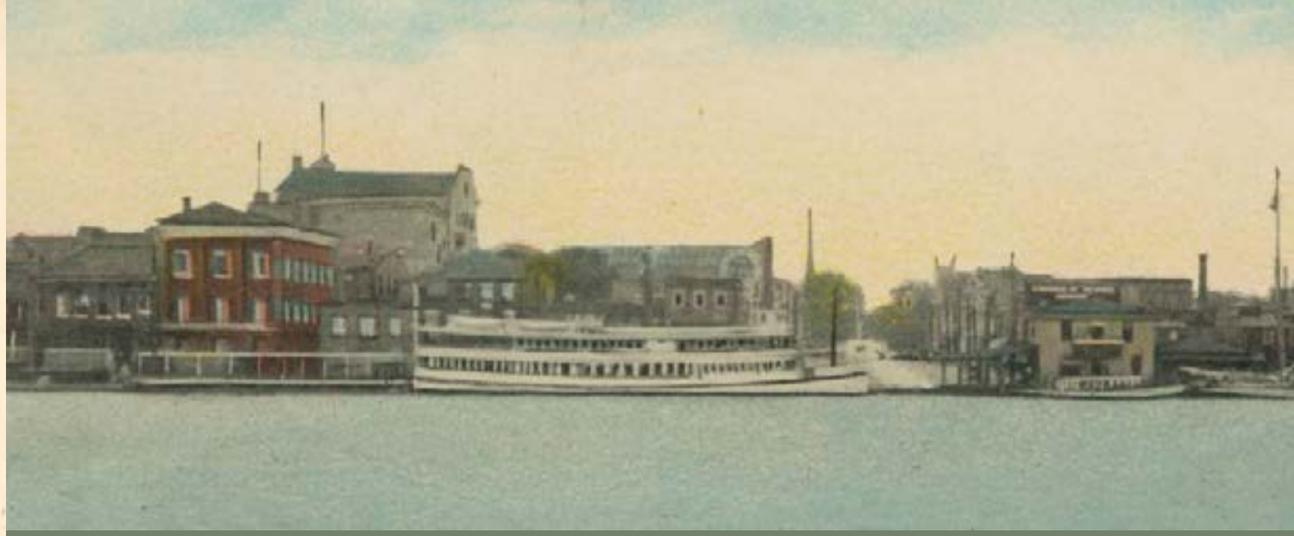
Sanborn Map of Wilmington, c. 1889
From 1867 to 1977, the Sanborn® Map Company of Pelham, New York, produced large-scale color maps of commercial, industrial and residential districts of some 12,000 towns and cities in North America. Each set of maps represented each built structure in those districts, its use, dimensions, height, building material, and other relevant features.
Source: North Carolina State Archives



1 Introduction

Section Topics

1.1 Benefits of Historic Preservation
1.2 Overview of Wilmington's Development
1.3 Architectural Styles of Wilmington
1.4 Historic Wilmington Foundation
1.5 Introduction to Design Standards
1.6 Wilmington Historic Districts
1.7 Historic Preservation Commission
1.8 Design Review Process
1.9 Federal Preservation Standards

1.1 Benefits of Historic Preservation

Historic preservation fosters a deeper appreciation of cultural heritage, enriching communities with tangible links to their past. It stimulates economic growth through heritage tourism, revitalizing neighborhoods and preserving unique architectural identities. The goal of these design standards is to preserve and enhance the historic character and integrity of Wilmington's historic areas. The following ten reasons to support local Historic Districts and Landmarks were prepared by Julia Rocchi with the National Trust for Historic Preservation in 2015.

1 Local districts protect the investments of owners and residents of historic properties.

Insensitive or poorly planned development can make an area less attractive to investors and home buyers, and thus undermine property value. In contrast, historic designation encourages people to buy and rehabilitate properties because they know their investment is protected over time.

2 Properties within local historic districts appreciate at rates greater than the local market overall as well as faster than similar non-designated neighborhoods.

Findings on this point are consistent across the country. Moreover, recent analysis shows that historic districts are also less vulnerable to market volatility from interest rate fluctuations and economic downturns.

3 Local districts encourage better quality design.

In this case, better design equals a greater sense of cohesiveness, more innovative use of materials, and greater public appeal – all of which are shown to occur more often within designated districts than non-designated ones.

4 Local districts help the environment.

Historic districts encourage communities to retain and use their existing resources in established neighborhoods. This reduces the need for cars, cuts back on pollution and congestion, and eliminates landfill waste.

5 Local districts are energy-efficient.

Many older buildings were designed with energy conservation in mind, taking advantage of natural light, cross-ventilation and climate-appropriate materials. Preservation commissions are also increasingly improving their design guidelines to make it easier for historic building owners to use renewable energy technologies.

6 Historic districts are a vehicle for education.

They are a tangible link to the past and a way to bring meaning to history and to people's lives. They preserve the original character of buildings and streets, while welcoming growth and innovation within those spaces. They are a living, active record communities and their residents.

7 Historic districts can positively impact the local economy through tourism.

An aesthetically cohesive and well-promoted district can be a community's most important attraction. According to a 2009 report, 78% of all U.S. leisure travelers are cultural and/or heritage travelers who spent, on average, $994 on their most recent trips – compared to $611 spent by non-cultural and heritage travelers. [Note: While these figures are outdated, recent studies have confirmed these same general expenditure differences.]

8 Protecting local historic districts can enhance business recruitment potential.

Vibrant commercial cores and charming neighborhoods with character attract new business and quality industry. Companies continuously relocate to communities that offer their workers a higher quality of life, which successful preservation programs and stable districts enhance.

9 Local districts provide social and psychological benefits.

People living in historic districts enjoy the comfort of a human-scaled environment (a mix of aesthetics and functionality that fit the average person's dimensions and capabilities); the opportunity to live and work in attractive surroundings; a recognizable and walkable neighborhood; and the galvanizing effect of community-based group action.

10 Local districts give communities a voice intheir future.

By participating in the designation process, citizens can help direct their communities' path. Making these decisions together in a structured way, rather than behind closed doors or without public comment, gives everyone involved a sense of empowerment and confidence.

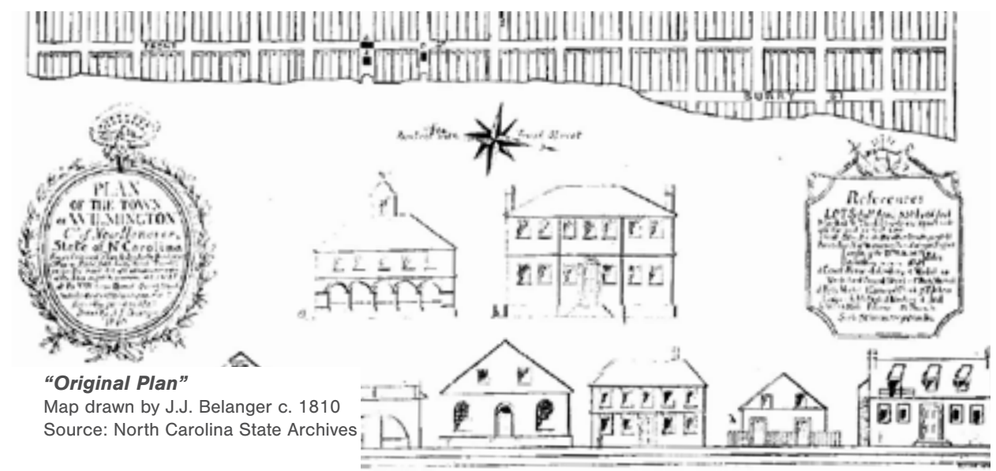
Certified Local Government Benefits
The CLG federal program is managed by the North Carolina State Historic Preservation Office. It allocates at least 10 percent of its money from the federal Historic Preservation Fund to CLG-designated communities such as Wilmington. Eligible projects include historic sites surveys, preservation planning, and drafting design standards. In fact, these updated standards were funded through this very program.

1.2 Overview of Wilmington's Development

Plan of Wilmington
Surveyed and drawn in 1769
by C. J. Sauthier
Source: North Carolina State Archives

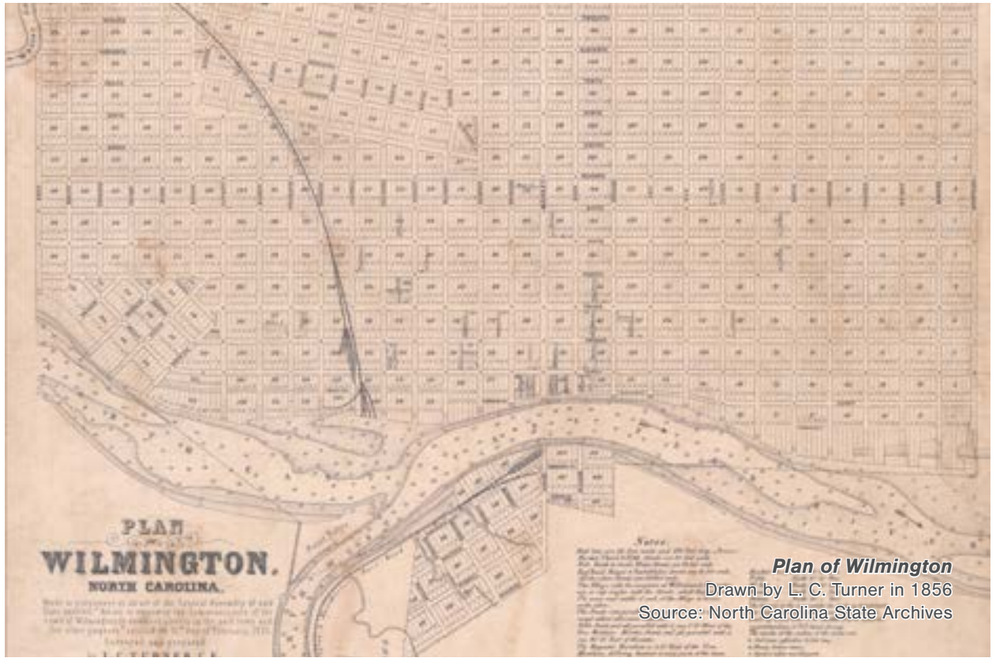
Incorporated in 1739/40, the City of Wilmington established itself quickly in the history of North Carolina and the United States. Several fires during the 18th and early 19th centuries devastated the built environment and its residents, leaving very few examples of the early colonial architecture of the City. The arrival of the railroad and increased port activity found Wilmington growing at a rapid rate post 1840.

The mid-18th century to the early 20th century was especially productive architecturally in Wilmington. The design styles of both commercial and residential architecture kept pace with the nation, engaging many nationally recognized architects to build churches, public institutions and private dwellings in Wilmington. These high style buildings along with more vernacular styles began to shape the built environment of the city.



"Original Plan"
Map drawn by J.J. Belanger c. 1810
Source: North Carolina State Archives

Most of the built environment across the city was a combination of architect and builder designs that reflected the technology available as well emulating current styles in modest yet sophisticated methods. The blending of the vernacular and high style buildings gives Wilmington a unique character and a sense of place to the larger community. J.J. Belanger drew a plan in 1810 illustrating the neat grid pattern of streets and blocks stretching along the east bank of the Cape Fear River. The plan also showcased several elevational drawings of the public buildings and churches.



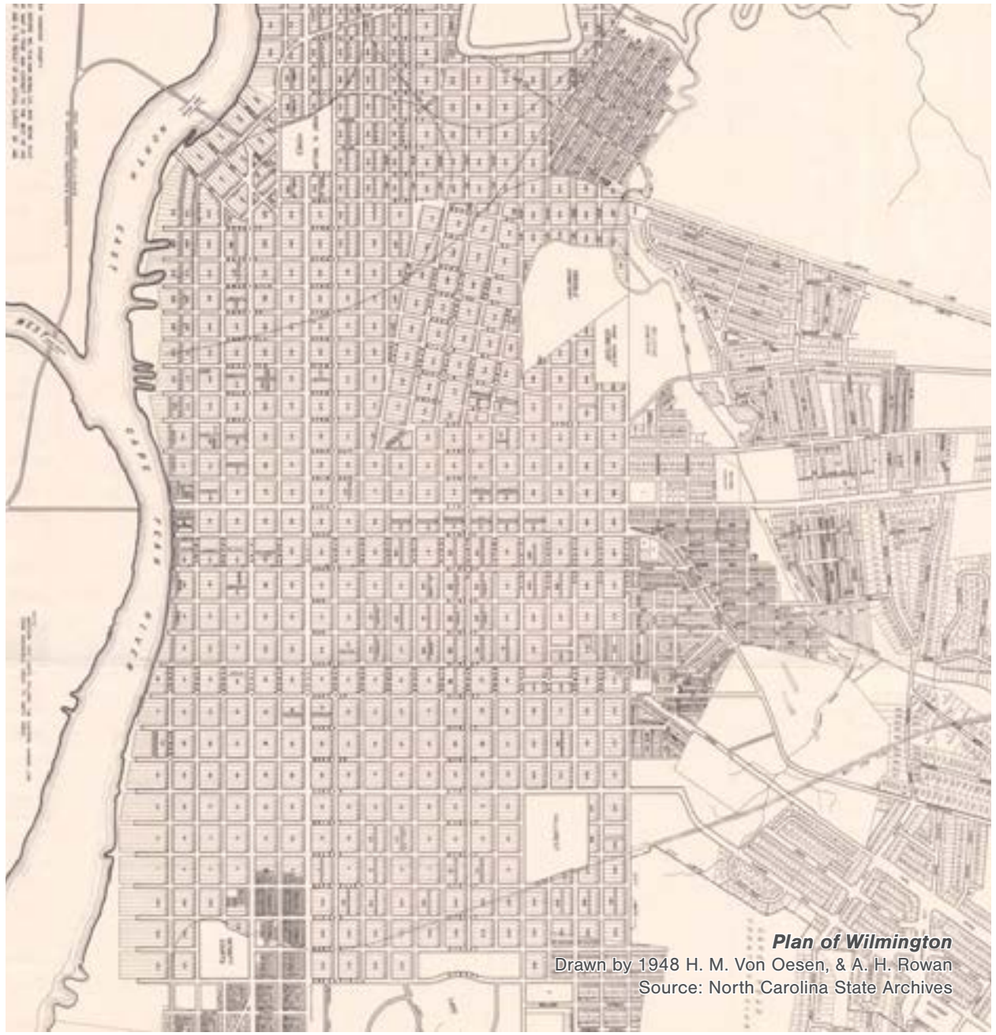
Plan of Wilmington
Drawn by L. C. Turner in 1856
Source: North Carolina State Archives

The architecture of Wilmington showcases the most popular national styles of each historic period extending from the mid-18th century to the mid-20th centuries. Mixed into the high style designed buildings was a vernacular, more modest architecture that allowed residents to have a sense of grandeur in a more affordable and accessible manner. The restrained modesty of many vernacular buildings is reflective of the preferences for working households and commercial needs in early Wilmington. Dwellings like the c. 1765 DuBois-Boatwright House at 14 South 3rd Street and the Burgin-Wright Kitchen next door showcase the Georgian style, while maintaining a vernacular use of materials and limited decorative detail. Simple, yet detailed Greek Revival homes of one and two stories flourished throughout the city and rural communities.

The Italianate style began to blossom in the mid-19th century and quickly became a favorite of Wilmingtonians. The style first appeared in numerous side-hall plan houses, and even the single-story bungalows and cottages throughout the central city area and beyond. The temperate climate and desire for porches elevated the Italianate style further to dominate the city's commercial and residential construction.

As the railroad industry grew in the late 19th-century, the development and accessibility of woodworking machinery brought the Queen Anne and Folk Victorian styles to the area. Applied decorative ornament appeared throughout. The humblest of cottages and the grandest of mansions all displayed Folk Victorian and Queen Anne elements. The brick-paved Church Street between south Front and South Second Street offers excellent examples of these turn of the century designs, including Four Square and Queen Anne homes.

The greatest development of vernacular architecture came in the early 20th century. The city increased rapidly in population and the downtown urban area and its' architectural styles shifted into the suburban districts and spread out along trolley lines that provided transportation to the area beaches. The trolley cars, usually operated by railroad lines carried residents through urban areas, to more residential suburban areas and further to the seashore.



Plan of Wilmington
Drawn by 1948 H. M. Von Oesen, & A. H. Rowan
Source: North Carolina State Archives

Trolley Car Suburbs
The 20th century brought with it a new concept of architecture for the middle class. Spurred by the growth of suburban developments, it was made possible by the appearance of mass transportation. Residents working in town could retreat from the noise and density of the city to "trolley car suburbs" that carried distinctive names. Such neighborhoods in Wilmington include Carolina Heights, Carolina Place, Brookwood, Forest Hills, Winoca Terrace, Sunset Park and Audubon. Characteristic architectural styles include revivals of Georgian, Federal and Neoclassical architecture, and the picturesque Tudor, Mediterranean and modern Prairie designs.

City Street Cars - c. 1910 - 1913
Source: New Hanover County Public Library Digital Archives

As the railroad and manufacturing industries grew across the nation, Wilmington was not left out. This growth created new access to the availability of materials, and "kit" or ready-made homes that were both affordable and comfortable.

Bettween 1908 and 1940 Sears-Roebuck and the Aladdin Company shipped crate after crate of precut structures across the country, with many arriving here in Wilmington. The Aladdin Company opened a factory in north Wilmington and produced thousands of homes in a variety of styles from Craftsman to Four Square and many other Revival styles. Entire neighborhoods sprung up in a rapid rate due to the prefabrication and simplification of residential building. The railroad also brought increased port activity and new manufacturing to Wilmington. The North Carolina Shipbuilding Company established itself on the southern east bank of the Cape Fear River, where it found a need for worker housing and the creation of small Cape Cod style cottages, many prefabricated began to appear along the parallel streets of the area known today as Sunset Park.

Today Wilmington continues to be a booming port city, its' past reflected in the numerous styles and designs of the past that can be seen in its seven National Register Historic Districts. The diverse districts reflect Wilmington's rich development history and provide insight into the special and unique history of the city.

The following section chronologically describe the architectural styles most prevelant in Wilmington. The supplemental notes in green text are from A Field Guide to American Houses by Virgina Savage McAlester.

1.3 Architectural Styles of Wilmington

Georgian: 1740-1810

The influence of the earliest representative building style in Wilmington, the Georgian depended on English traditions for its architectural character and appeal. Exemplary of the Georgian style is the Mitchell-Smith-Anderson House at 102 Orange Street, one of the earliest surviving structures in the region. It was built in the 1740s for planter merchant Edward Mitchell. Another surviving Georgian dwelling is the Burgwin-Wright House at 224 Market Street. It was built over the old city jail foundations in 1771.

Georgian House c. 1740
102 Orange Street

Key Design Features

A. Pediments over entrances with classical detailing such as dentils

B. Five-bay symmetrical facade Palladian-style entrance with a fanlight above the door and flanking side lights

C. Small-paned double-hung sash windows (often 9-over-9 or 6-over-6 configurations)

Georgian House c. 1771
224 Market Street

Federal: 1780-1840

During the latter part of the 18th century and extending into the first quarter of the 19th century, the Federal style of architecture predominated. This style also has more reserved detailing relative to the earlier Georgian style As in the previous decades, builders relied on published manuals to realize the design objectives of their clients. Although the approach was popular in Wilmington, fire destroyed the majority of the town's Federal style buildings.

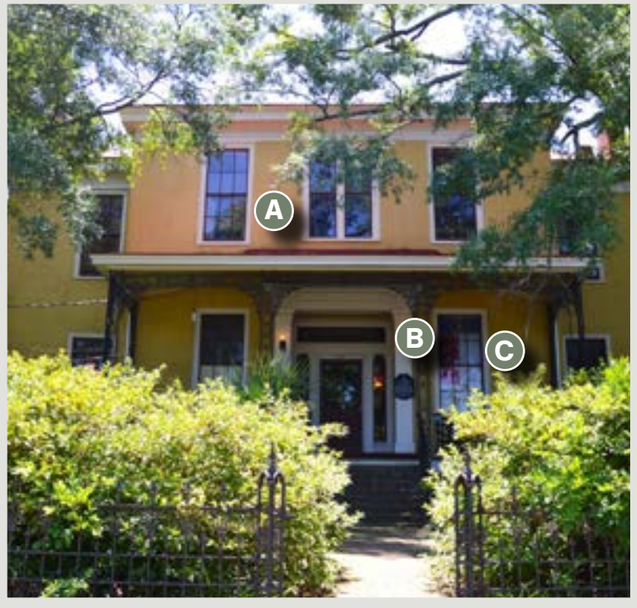
Federal House c. 1828
1 Church Street

Key Design Features

A. Symmetrical facade design

B. A transom above the door and flanking side lights

C. Small-paned double-hung sash windows with a 6-over-6 configurations



Federal House c. 1819
314 Grace Street

Greek Revival: 1820-1860

The Greek Revival style popular in 1830 produced a renewed attention to the architecture of antiquity, especially that of Greek temples. Pediments were simplified and used as a entrance frame and theme for the whole front of the building. Some buildings had columned porches, but most created the illusion of a temple with flat moldings. Doorways often had small windowpanes at their sides and sometimes overhead. The 1858 Thalian Hall (City Hall), shown left, is an institutional example of the style.

City Hall c. 1858
102 N 3rd Street

Key Design Features

A. Pediment

B. Two-story front porch with a roof supported by classical columns with Corinthian capitals.

C. Symmetrical facade design

D. Transoms and sidelights at the entrance

E. Relative to earlier styles, the windows are larger, including fewer and larger panes

This example appears to have undergone the later addition of detailing at the main entrance.

Greek Revival House c. 1850
503 Market Street

Gothic Revival: 1830-1870

The Gothic Revival style followed the Greek Revival era of design that swept Europe and America. Wilmington's most prominent examples are churches. They include lancet or pointed-arch windows and doors, foliated hoods, carved panels, battlements along the parapets, and a dominant tower with octagonal corner buttresses and pinnacles. Another good example of this style is the 1859 First Baptist Church, left, on the corner of Fifth Avenue and Market Street. This is the first significant example of Gothic Revival in North Carolina.

Gothic Revival Church - c. 1859
411 Market Street

Key Design Features

A. Buttresses along the outer walls

B. Octagonal two-story turret at corner

C. Lancet arch doorways and windows

D. Smooth masonry exterior cladding to convey a sense of strength and permanence

E. Steep-pitched gable roof for main segment echoed by a similar entrance roof

Gothic Revival Church c. 1875
600 Grace Street

Italianate: 1850-1885

Italianate was by far Wilmington's preeminent style, accounting for many of the city's best surviving private residences and public buildings. The basic shape of the house was still a two-story pitched roof box, but the decoration became more picturesque, and complex elements appeared on the facade. Recessed doors were emphasized by a projecting canopy or hood and supported by brackets. Bay windows were another variation that appeared at this time, and the number of brackets increased at the roof line.

Italianate House
111 S 4th Street

Key Design Features

A. Wide roof eaves supported by decorative brackets

B. Heavy ornate window hoods

C. Corner quoins

D. Ground level porch across the full width of the front with classical columns and balustrade with turned balusters

Italianate House c. 1852
126 South 3rd Street

Second Empire: 1855-1885

A subset of Victorian architecture, the Second Empire style was viewed as a contemporary style rather than a revival style. Common design features for this style include steeply-sloping Mansard roofs, flared eaves, dormer windows, iron roof cresting, cornices with heavy brackets, quoins, balustrades, a ground floor front porch, and tall hooded windows. By far, the Mansard roof is the most identifiable and defining element of Second Empire buildings.

Second Empire House
305 South 3rd Street

Key Design Features

A. Concave-shaped Mansard roof (can be convex and flat) with decorative shingles

B. Roof dormers with arched shape at top

C. Wide eaves with decorative brackets beneath

D. Hooded windows

E. Ground level porch across the full width of the front

Second Empire House c. 1849
20 South Fifth Avenue

Queen Anne: 1880-1910

These homes have a richness of detail, steeply pitched roofs of irregular shape usually with a dominant front-facing gable, patterned shingles, and cut-away bay windows. The facade is asymmetrical with a partial or full width porch which usually extends along one or both side walls. A commonly seen subtype in Wilmington is called "Spindlework." The houses and cottages in this category have delicate furred porch supports and spindlework ornament.

Shingle Style House c. 1901
99 South 3rd Street

Key Design Features

A. Asymmetrical facade designs

B. Wrap-around front porches with decorative millwork

C. Decorative shingles on walls and in gable ends of facades

D. Varied roof line, including steeply pitched gables

E. Decorative bargeboarding in gable ends

F. Corner turrets

Queen Anne buildings often have a variety of color patterns.

Queen Anne House
314 South 2nd Street

Neoclassical Revival: 1885-1950

This style was a reaction to the eclecticism of the Queen Anne style. Architects returned to the symmetry and detail of classical Greek and Roman styles. Houses of this style are dominated by a full height porch supported by Classical columns. Neoclassical cottages, a common sub-type, usually have hipped roofs with prominent central dormers. The porch colonnade may be either full or partial width and included under the main roof or have a separate flat or shed roof. The inherent large scale, of this style made it particularly popular for institutional structures.

Neoclassical Revival House c. 1905
100 South 3rd Street

Key Design Features

A. Symmetrical facade design

B. Gable roof with gable end forming a pediment as part of a portico

C. Classical design elements such as columns with classic capitals (Doric, Ionic or Corinthian)

D. Masonry cladding

Neoclassical Revival Church c. 1921
1403 Market Street

Four Square: 1890-1935

The American Foursquare is mostly symmetrical with a low-pitched hipped roof punctuated by dormers. This sensible house generally has little adornment and provides generous living space without the need for a large lot. Variants of this style include the Colonial, Craftsman and Prairie style Foursquares. The most commonly identifiable features of this style include: two or two-and-a-half stories; large, central dormers; low-pitched hipped or pyramidal roofs; deep, full-width porches; and large, grouped windows to let in lots of light.

Four Square House
114 North 16th Street

Key Design Features

A. A two-story square shape

B. Low-pitched pyramidal roof with a central dormer window

C. Varied configurations for ground floor openings, but equally-spaced upper floor windows

D. Deep front porch extending across the full width of the facade

E. Clapboard siding with upper floor wooden shingles

Four Square House
311 North 15th Street

Folk Victorian (1870-1910)

The style, a vernacular collection of Victorian detailing developed as many other styles did; through the growth of the railroad and the accessibility of woodworking machinery. The style features one- and two-story dwellings, with gable fronts, side gables and pyramidal hipped roofs. Detailing includes Queen Anne spindle work on porches, ornate brackets, and simple window details. Many Folk Victorian dwellings are symmetrical differentiating them from the Queen Anne asymmetry.

Folk Victorian c. 1883
408 S 2nd Street

Key Design Features

A. Front gabled roof

B. Decorative shingles in gable

C. Single story front porch

D. Decorative brackets

Folk Victorian House
118 S 6th Street

Tudor Revival: 1890-1940

This style is rooted in medieval English building traditions paying tribute to architecture from the English Elizabethan and Jacobean eras. Common characteristics include: decorative half-timbering, particularly within gable-end facades; steeply-pitched roofs, cross gables, and overhanging gables on second stories; prominent chimneys; narrow multi-paned windows; and patterned stone or brickwork.

Tudor Revival House
314 North 15th Street

Key Design Features

A. Rounded arch entrances

B. Typically no front porches

C. Brick is the most common cladding, but wood is sometimes used

D. Projecting bay windows are often on the front facade

E. Half-timbering in the gable end portions of the facade

F. Roof with multiple steeply-pitched gables

G. Small multi-paned windows

Tudor Revival House
316 North 15th Street

Colonial Revival: 1895-1935

The Colonial Revival style includes the following common features: rectangular shape and two or three stories in height; a symmetrical front facade with regularly-spaced single windows; a gable or hipped roof; front door with sidelights topped by transom windows, and some type of decorative accent over the front door; columned porch or portico, pedimented doors or windows; and a cornice with dentils or modillions. Porches are rare, but when present, they are often adorned with fluted columns capped with ornate capitals.

Colonial Revival House c. 1916
111 North 15th Street

Key Design Features

A. Gable roof (often hipped like the Chestnut Street example above at right)

B. Symmetrical facade design, often featuring five bays with a central entrance

C. Brick is a common cladding

D. Ornate detailing around the entrance, including transoms

Colonial Revival House
102 North 15th Street

Prairie School: 1900-1920

This is one of the few indigenous American styles. Most of Frank Lloyd Wright's early work could be attributed to this style. The style is usually distinguished by horizontal lines, flat or hipped roofs with broad overhanging eaves, windows grouped in horizontal bands, physical integration with the landscape, a high level of craftsmanship, and constraint in the use of ornamentation. The windows frequently have geometric patterns and the top half of the upper story is usually emphasized and window boxes are common.

Prairie School House - c. 1908
1901 Market Street

Key Design Features

A. Low-pitched gable or hipped roof with wide eaves that are typically bracketed

B. Pale brick cladding conveying an earth tone

C. Horizontal lines that emphasize a generally low height

D. Deep front porch with that extends across the full front facade

E. Thick front porch pillars that convey a sense of solid construction

Prairie School House
1519 Princess Street

Craftsman Bungalow: 1905-1930

Influenced by the Arts and Crafts movement, this style has British roots, but gained the early popularity in California. Characteristic features include a low-pitched roof with wide open eaves. The roof rafters are usually exposed. Decorative (false) beams or braces are commonly added under gables, and porches can be full or partial width. The roof is supported by tapered square columns on pedestals which frequently extend to ground level. It was one of the most popular residential styles in Wilmington during the first half of the twentieth century.

Bungalow House
207 North 16th Street

Key Design Features

A. Low-pitched multi-gabled roofs

B. Wide roof eaves with decorative exposed rafters

C. Paired tapered square columns on large brick piers

D. Brick cladding

E. Grouped double-hung sash windows

Craftsman Bungalow House
211 North 15th Street

Other Colonial Revival Styles: 1910-1930

Two additional colonial revival architectural styles that exist in Wilmington's historic areas, but in very small numbers, are the Dutch Colonial Revival and the Spanish Colonial Revival styles. Both are summarized below.

Dutch Colonial Revival: 1910-1930

- Colonial Revival style features; and
- A gambrel roof
- Dormer sheds and windows are often in the roof, and flared eaves.
- A columned porch or portico, pedimented doors or windows, and a cornice with dentils or modillions.

Dutch Colonial Revival House
204 North 15th Street

Spanish Colonial Revival: 1915-1930

Based on the Spanish colonization of the Americas, the 1915 Panama-California Exposition in San Diego gave the style exposure in the US. Embraced in California and Florida, hallmarks include:

- Smooth plaster (stucco) wall and chimney finishes
- Low-pitched clay tile, shed, or flat roofs, and terracotta or cast concrete ornaments.
- Small porches or balconies, semi-circular arcades and fenestration, tall windows, and decorative iron trim.

Spanish Colonial Revival House
1419 Rankin Street

Non-Residential Buildings

The previous several pages have focused on specific architectural styles that are most typically associated with residential buildings. Examples of exceptions to that rule include institutional buildings in the Greek Revival, Gothic Revival, and Neoclassical Revival styles. There are clearly historic commercial buildings that do reflect specific architectural styles, whether strongly or subtly. Examples of such buildings include the Art Deco buildings shown at right and the Neoclassical Revival building below at right. The Art Deco examples feature strong geometric lines associated with that style, while the Neoclassical example includes classical detailing such as fluted columns with Doric capitals on the ground floor level.

However, there are also numerous non-residential buildings in Wilmington's historic areas that defy any specific architectural style. In particular, many of those are two to four-story brick buildings lacking detailing that is tied to a discernible architectural style. Below are examples of such buildings that might be considered to be relatively generic stylistically in comparison with style-specific examples.

Art Deco Buildings
24 North Front Street

Commercial Buildings Defying a Style
29 & 31 South Front Street

1.4 Historic Wilmington Foundation

Background

The Historic Wilmington Foundation (HWF) is a 501(c)(3) non-profit organization dedicated to preserving and protecting the irreplaceable historic resources of Wilmington and the Lower Cape Fear region. Since 1966, HWF has preserved our region's built history utilizing a revolving fund, preservation easements, education, and advocacy. Programs include Tar Heels Go Walking field trips for every 3rd grader in New Hanover County, walking tours, hands-on workshops, the conservation of Maides Cemetery in Wilmington's Eastside, and the rehabilitation of Giblem Lodge, the second-oldest Black Masonic Temple in North Carolina.

Additionally, HWF rehabilitates naturally-occurring affordable housing listed on the National Register of Historic Places through its Preservation Equity Fund and partners with Cape Fear Community College to offer a historic preservation construction certificate program within the Economic & Workforce Development department. For more information about HWF, please visit *historicwilmington.org*.

The Historic Wilmington Foundation envisions a historic landscape that is inclusive, resilient, affordable, and accessible.

HWF's Preservation Resources Network

HWF maintains a database of preservation professionals with experience in restoring or rehabilitating historic properties called the Preservation Resources Network (PRN). The PRN is updated regularly by HWF to reflect current preservation projects within New Hanover, Brunswick and Pender Counties. Listings are collected using Certificates of Appropriateness issued by the City of Wilmington, recipients of HWF's annual Preservation Awards, HWF's historic preservation easement properties, and other preservation initiatives in the Lower Cape Fear. HWF does not recommend or specifically endorse any business and/or person listed in the PRN and encourages consumers to practice their own due diligence. To access the PRN, please visit *historicwilmington.org/preservation-resources-network*.

Legacy Architectural Salvage

When a historic property is facing demolition, Legacy Architectural Salvage serves as the best-case option in a worst-case scenario. Legacy staff and volunteers deconstruct old buildings, salvaging wood, doors, windows, siding, and other architectural elements. These materials are then sold (at affordable prices) to members of the community who utilize the resources in restoration and rehabilitation projects. An operation of the Historic Wilmington Foundation, Legacy Architectural Salvage diverts tons of irreplaceable, historic resources from the landfill and places these materials right back into our community's historic homes, helping to preserve our region's historic fabric. Legacy also accepts donations of pre-1970's architectural materials, in addition to furniture and home decor. For more information, including address and hours of operation, please visit historicwilmington.org/legacy-architectural-salvage.

Historic Wilmington Foundation Plaques

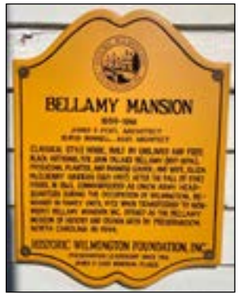
HWF has one of the most prolific local plaque programs in the country. Plaques adorn cottages, mansions, alleyways, beach bungalows, and more. The hand-painted plaques honor the heritage of communities across New Hanover, Brunswick, and Pender Counties. HWF's historic plaques are an educational tool and do not introduce preservation regulations onto any property. Similarly, plaques do not designate any properties onto inventories or registries, such as the National Register of Historic Places.

To be eligible for a HWF plaque, a property must be 75 years of age or older. Buildings more than 50 years old on barrier islands also qualify. Russet plaques are for structures 75-99 years old; black plaques are for structures 100-149 years old; goldenrod plaques for structures 150-199 years old; and sapphire blue plaques for structures 200+ years old. Additionally, sea oat plaques honor historic properties on barrier islands and green plaques interpret downtown Wilmington alleyways. For more information and to apply, please visit historicwilmington.org/plaques.

Plaque Color-Coding

Russet: 75-99 Years Old

Black: 100-149 Years Old



Goldenrod: 150-199 Years Old

Sapphire Blue: 200+ Years Old


Example House with Plaque c. 1846
508 South Front Street
Source: City of Wilmington

1.5 Introduction to Design Standards

Background

There are many benefits of living in one of Wilmington's locally designated historic districts. Residents enjoy living in interesting and historically significant housing which has stable and increasing property values. They have the privilege of receiving City-approved design guidance and protection from destructive unplanned growth.

Accompanying these benefits and privileges are the responsibility to help maintain the distinctive character of the historic districts. At its best, historic preservation is more than preserving individual buildings; it is about preserving neighborhoods. Therefore, all design decisions about individual properties should be made in conjunction with what is appropriate for the surrounding properties and the district as a whole. The purpose of the Historic Preservation Commission is to protect the special character of Wilmington's historic districts by preventing changes that are incongruous to the districts as a whole.

This manual, prepared by the Historic Preservation Commission and city staff, and subsequently updated by consultants, provides standards which enable the Commission to act responsively and responsibly in reviewing proposed design changes in the historic districts. It states the organizational framework within which the Commission must work. It also identifies Wilmington's historic districts and describes the review authority of the Commission in each district. Finally, it contains the local design standards that are used in conjunction with the U.S. Secretary of the Interior's Standards for Rehabilitation. All Commission decisions on proposed design changes are based on this document and the Secretary of the Interior's Standards.

The Commission should apply the design standards to assure that the construction, reconstruction, alteration, restoration, moving or demolition of buildings, structures, appurtenant fixtures, outdoor advertising signs or other significant features of an historic landmark or in an historic district are congruous with the special character of the landmark or district. If it can be demonstrated that a standard is not appropriate for the applicant's project, the Commission may find that the standard does not apply. The Commission interprets and applies standards on a case-by-case basis, taking into consideration any evidence submitted.

The Historic District Design Standards were prepared to assist individual property owners in preserving and maintaining their historic property and in planning exterior alterations to their property; to guide the Historic Preservation Commission in the review process; and to ensure that the special character of Wilmington's historic districts is preserved and protected.

1.6 Wilmington Historic Districts

Background

The buildings located within the historic districts are part of the cultural heritage of Wilmington and reflect the ambition and taste of its citizens for almost three centuries. While most of the early buildings are gone, what remains is a three-dimensional 19th century city which still retains the flavor of the bustling seaport and commercial center it once was. The original grid of streets that extends from the waterfront contains a variety of residences, churches, commercial and government buildings – some the work of prominent architects and builders. Seen here are the large high-style houses of the affluent sawmill owners, commission merchants, cotton exporters and railroad executives. One can also find the smaller houses of the middle-class, workers' cottages and 20th century bungalows. The plazas are lavishly planted and retain some of their original street furniture. Early brick pavement adorns the streets and the sidewalks are lined with stately old oaks.

The streetcar suburbs that emerged after the turn of the century have matured with time and offer another dimension of Wilmington's architecture. Neoclassical, Georgian, Colonial Revival and exotic revivals are found side-by-side with more modest cottages and bungalows. The large yards, generally unfenced, are richly planted with azaleas, camellias, crepe myrtles, and other flowering shrubs. Today, the area is relatively unchanged except for the increased size of the trees and the busy traffic on Market Street and Chestnut Street.

These standards apply to Wilmington's locally designated historic districts. If a property lies within these districts, it is subject to review by the Historic Preservation Commission (HPC) However, since the city features both National Register historic districts and local historic districts, the differences are clarified on pages 28-30.

Historic Districts and Other Designations in Wilmington

District	Type	Wilmington Designations
Local Historic Districts	Local*	Theatre Historic District (HD); Residential Historic District (HD-R); Mixed Use Historic District (HD-MU)
Historic District Overlay	Local*	Downtown Commercial Historic District (HD-O); Carolina Heights / Winoca Terrace Historic District (HD-O)
National Register of Historic Places	National	Wilmington Historic District (Downtown); Carolina Place Historic District; Carolina Heights Historic District; Market Street Mansion Historic District; Masonboro Sound Historic District; Sunset Park Historic District; Westbrook-Ardmore Historic District; Brookwood Historic District

Walking Through the Historic District
HD & HD-R Districts

Local Historic Districts

Local historic districts are established by the City Council following a recommendation by the Historic Preservation Commission. The City Council designated the first such district in 1962. Letters in parentheses after district names such as (HD), (HD-R) and (HD-MU) refer to zoning designations.

These three districts are stand-alone zoning districts with individual provisions and requirements in the City of Wilmington's Land Development Code (or its successor). Thus, they address both land use zoning and design issues. The Historic Preservation Commission reviews all sides of the building and the entire site in these districts. Requests for new construction and demolition are reviewed in these districts.

Theatre Historic District (HD): This district contains a mixture of residential, commercial, public and ecclesiastical architecture, as well as the Thalian Hall Theatre. Although the boundaries are irregular, it is bound roughly by Chestnut Street on the north, Dock Street on the south, Eighth Street on the east, and Second Street on the west.

Historic District Residential (HD-R): This district contains some of the finest of Wilmington's high-style and vernacular residential architecture. There are two different locations for this district category. The northerly one is bound roughly by Red Cross Street on the north, Chestnut Street on the south, Ninth Street on the east, and Fifth Street on the west. The southerly such district is geographically larger and is bound roughly by Market Street on the north, Castle Street on the south, Eighth Street on the east, and the river on the west.

Historic District - Mixed Use (HD-MU): This district contains a mixture of commercial, public, ecclesiastical and residential architecture, as well as a mix of uses. This district is the smallest of the Use & Design Districts and it is bound roughly by Cross Street on the north, Chestnut Street on the south, Seventh Street on the east, and Third Street on the west.

See pages 31 and 32 for maps of these districts.

Historic District Overlay

These districts do not affect the underlying zoning with regard to permitted land uses and related key requirements. They are additional design-related regulations overlaid on top of an underlying zoning district in the City of Wilmington's Land Development Code (or its successor). For example, a site may be zoned Central Business District (CBD) and it could also fall into the Downtown Commercial Historic District (HD-O), which is the design overlay. The letter "O" at the end refers to the "Overlay." Only alterations, restorations, reconstructions, new constructions, relocations or demolitions that are visible from public rights-of-way (except that which is visible only from public alleys) should be required to obtain a Certificate of Appropriateness (COA).

Downtown Commercial Historic District (HD-O): This district contains an eclectic mix of late-19th century and early-20th century buildings. Although the district boundaries are irregular, the rough boundaries include Princess Street on the north, Nun Street on the south, Third Street on the east, and the river on the west.

Carolina Heights/Winoca Terrace Historic District (HD-O): This district was built as a streetcar suburb at the turn of the century. Designated in 1977, this well-landscaped area contains a variety of 20th-century architectural styles. The Market Street Mansion National Register Historic District (HDO) is contained within this local district. While the boundaries are very irregular, they are currently bound roughly as follows: Railroad Street on the north, Market Street on the south, Burnt Mill Creek on the east, and Thirteenth and Fourteenth Streets on the west.

See pages 33-34 for maps of these districts.

Welcome Sign in Downtown Commercial District
Intersection of Market & 2nd Streets

Downtown Commercial District
1-33 South Front Street

National Register of Historic Places

The National Register of Historic Places is the nation's official list of buildings and districts worthy of preservation because of their architectural and historic significance. It is a federal program administered by the National Park Service in partnership with state and local governments. Designation by a local governing body has no connection with listing in the National Register of Historic Places. Properties within the National Register Historic Districts are subject to review by the Historic Preservation Commission only if they are within the local district boundaries. Historic properties located within the National Register Districts are eligible for federal and state tax credit programs. North Carolina allows a tax credit for certified rehabilitation of income-producing historic properties. These properties may also be eligible for federal investment tax credit. The law also allows a state income tax credit for qualified rehabilitation of owner-occupied personal residences.

These tax credit programs in our National Register Districts are administered by the State Historic Preservation Office in Raleigh. For more information contact the Restoration Branch at (919) 807-6579.

Wilmington has eight (8) districts listed on the National Register of Historic Places. The Wilmington Historic District is a large geographical area covering approximately 300 blocks and includes the original street plan of the city laid out in 1733. Both the Carolina Place Historic District and the Carolina Heights Historic District were early streetcar suburbs. The Market Street Mansion Historic District, consisting of four homes along Market Street between Seventeenth and Eighteenth Streets, was associated with these two streetcar suburbs. In addition, Masonboro Sound, Sunset Park and Westbrook-Ardmore Historic Districts are listed in the National Register.

National Register Districts

The following is a list of Wilmington's districts listed on the National Register of Historic Places:

- Wilmington Historic District
- Carolina Place Historic District
- Carolina Heights Historic District
- Market Street Mansion Historic District
- Masonboro Sound Historic District
- Sunset Park Historic District
- Westbrook-Ardmore Historic District
- Brookwood Historic District

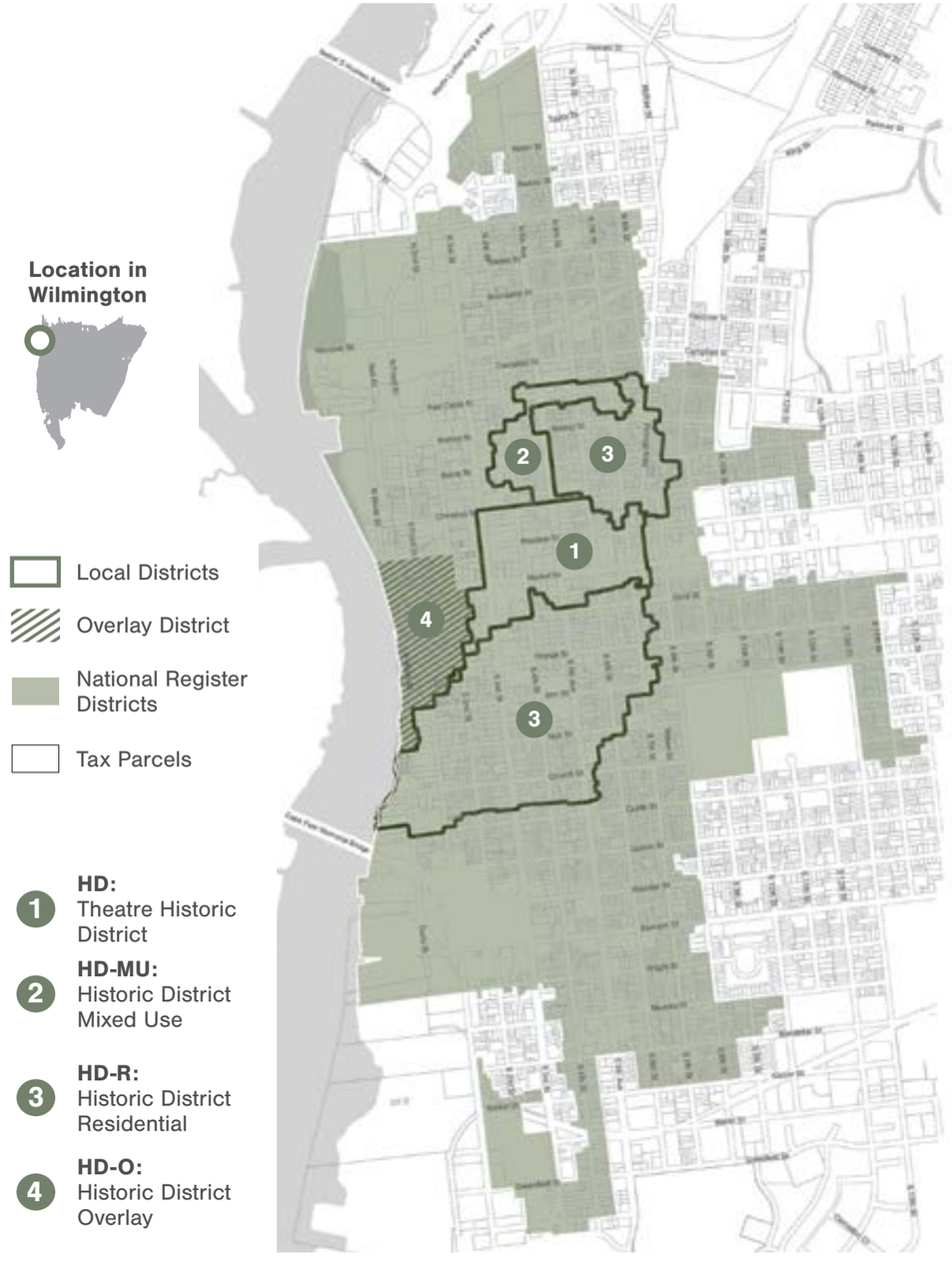
Investment Tax Credits for Historic Building Rehabilitations

A benefit of National Register designation is the potential for federal and state investment tax credits for the qualified rehabilitation of designated properties when following federal preservation standards. For project costs exceeding the property's adjusted cost basis, the federal incentive provides a 20% tax credit for income-producing properties. The state program mirrors the federal program in most way, but even offers credits for owner-occupied homes. For more information on both the federal and state programs, visit the State Historic Preservation Office website page: https://www.ncdcr.gov/about/history/division-historical-resources/nc-state-historic-preservation-office/restoration-5

Historic District Maps

Downtown Area Districts

These districts are located in the heart of downtown, where Wilmington was first settled.



Historic District Maps

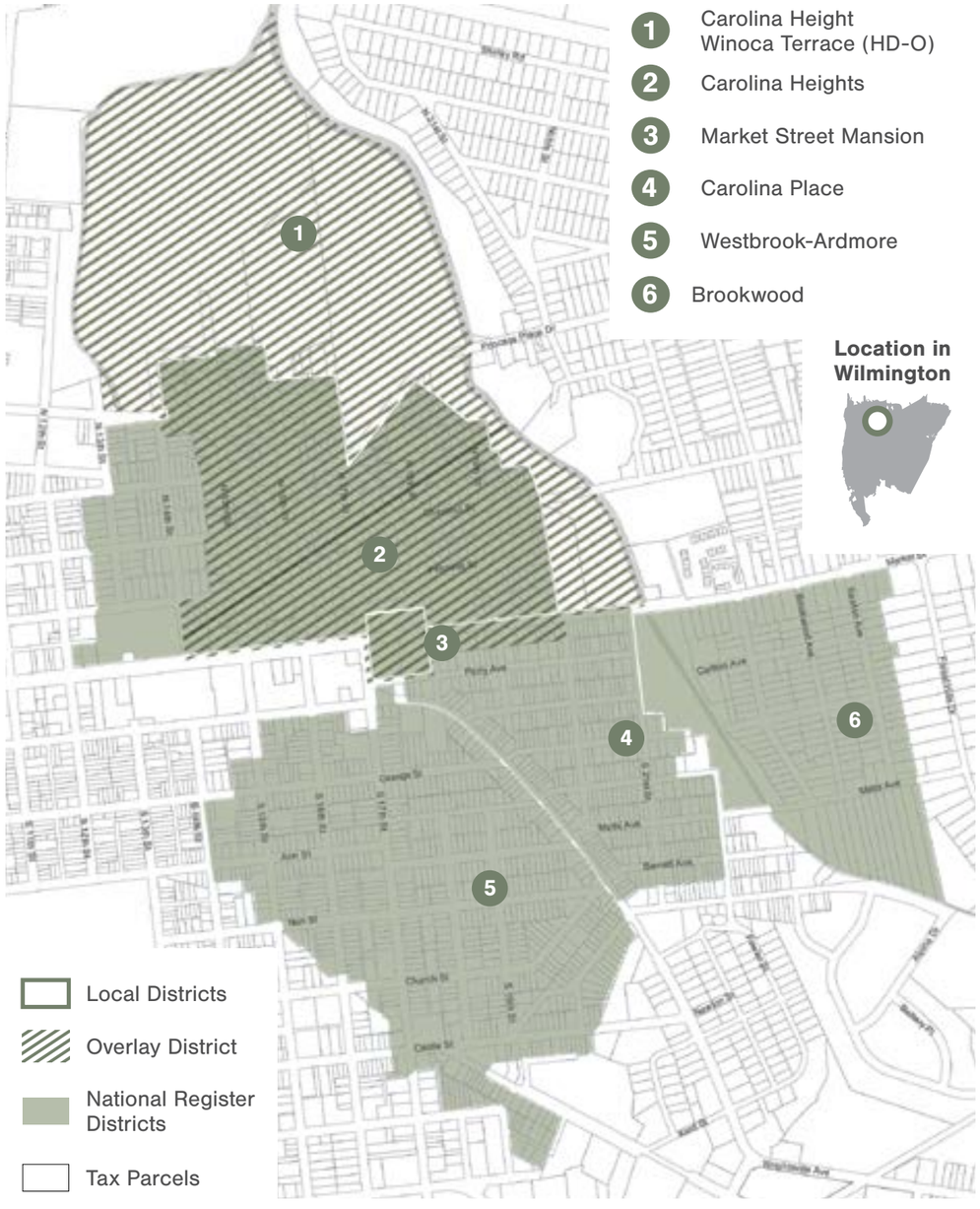
Downtown Area Districts Detail

All districts mapped here are within the National Register District Boundary (Downtown).

Historic District Maps

Eastern Downtown Streetcar Neighborhoods

These districts are located on the outer edge of Downtown along Market Street and Burnt Mill Creek.



Historic District Maps

Sunset Park

This district is located between Carolina Beach Road and the State Port, just south of Downtown.

Local Districts

Overlay District

National Register Districts

Tax Parcels

Masonboro Sound

This district is located along the Intracoastal Waterway on the eastern edge of the city.

Local Districts

Overlay District

National Register Districts

Tax Parcels

1.7 Historic Preservation Commission

Background

The Historic Preservation Commission (HPC or Commission) was established in 1999 to replace the former Historic District Commission (HDC), which was preceded by the Board of Architectural Review, established in 1962. The Commission was established pursuant to the General Statutes of North Carolina "to safeguard the heritage of the city by preserving any district or landmark therein that embodies important elements of its culture, history, architectural history, or prehistory." The Commission hopes that all property owners will join in acknowledging and celebrating the beauty and success of the Wilmington historic districts.

Member Requirements

- The seven (7) members of the HPC are appointed by the City Council and serve without compensation.
- At least three (3) members should be residents within a locally designated Use and Design District (i.e. area zoned HD, HD-R or HD-MU); and one (1) member may be a building owner or proprietor of a business within an Overlay District.
- Three (3) of the seven (7) members should be appointed at large. At-large members may be appointed from either outside or within locally designated historic districts and should have expertise in areas related to historic preservation such as: African American history, landscape architecture, public history, historic archaeology, preservation architecture, structural engineering, construction, or community planning or be a certified arborist.

All members of the HPC should be residents of the City.

Design Review Decisions

Design review decisions of the HPC are made in accordance with these Design Standards and the Secretary of the Interior's Standards for Rehabilitation. The HPC maintains a reference library of technical pamphlets from the National Park Service and other source material.

CLG Program

The City of Wilmington became a Certified Local Government (CLG) in 1986. The CLG program is a federal/state/local partnership that recognizes and supports cities nationwide that meet certain high standards in carrying out their local preservation programs. CLGs are recognized as having strong qualified commissions. In addition to their design review responsibilities, CLG commissions review nominations to the National Register of Historic Places. CLGs are eligible to apply for special federal grant funds available only to CLGs to benefit ongoing preservation activities such as architectural inventories and preservation planning.

Staff Support

The HPC is assisted in the design review process and its duties by City staff. The staff is also responsible for preparing all agenda items, official minutes, and Certificates of Appropriateness (COAs), and performs other administrative and design review duties as required by the HPC.

1.8 Design Review Process

Work Requiring Approvals

The Historic Preservation Commission reviews all proposed changes to the exterior of structures, demolition of structures, new construction, signage, and changes to the surrounding grounds, including landscaping. This design review authority does not extend to routine maintenance and repair. For example, if the deteriorated portion of a porch is to be replaced with the same material in the same design and color, review by the HPC is not required. If, however, the porch material, design or color are proposed to be altered, the changes must be reviewed and approved by the HPC (or staff for eligible administrative approvals) in order to obtain a Certificate of Appropriateness (COA).

Certificates of Appropriateness

A COA is necessary for all exterior changes to structures. The COA is valid for six (6) months or one (1) year, depending on the type of COA. If work is not begun within that period, an extension of the original COA may be obtained. Written requests for extensions must be made before the expiration of the COA and should be directed to the Secretary to the HPC at the Planning Division, 929 N Front St, Wilmington, NC 28401.

HPC Decisions

The purpose of review by the HPC is to determine if the proposed work meets the standards within its particular context. The HPC will grant or deny a COA based on findings of fact relative to the application of these standards. Approval may be subject to conditions necessary for the work to meet the standards. The review by the HPC is not to set forth specific design requirements or to offer design advice, but to determine whether or not the proposed work is compatible with the character of the district or landmark. However, the City's Historic Preservation Planner is available to assist the applicant in interpreting the standards and their applicability to the project prior to design review by the HPC, as well as during project implementation.

Steps Prior to HPC Meetings

The deadline for receipt of applications for each meeting is approximately thirty (30) calendar days before the meeting. This gives City staff time to prepare agenda information for each item, location maps, supplementary information, and its recommendations on the appropriateness of the project based on findings of fact. Nearby property owners are notified of the application, and a legal advertisement is placed in the primary local news-paper stating the time, date, location, and items of business for the meeting.

The HPC meets on the second Thursday of each month at 5:30 pm in City Hall located at 102 North 3rd Street. Special meetings may also be held upon call of the Chairman or the Vice-Chairman. The order of business for HPC meetings is as follows:

HPC Order of Business

1. Introduction
2. Swearing in of applicants and witnesses
3. Introduction of each agenda item by the Chairman
4. Presentation by Staff
5. Presentation by the Applicant
6. Presentation by nearby property owners and other interested parties
7. Rebuttal by the Applicant, if desired
8. Rebuttal by the nearby property owners, if desired
9. Approval of Minutes
10. Other business

COA

Certificate of Appropriateness (COA)

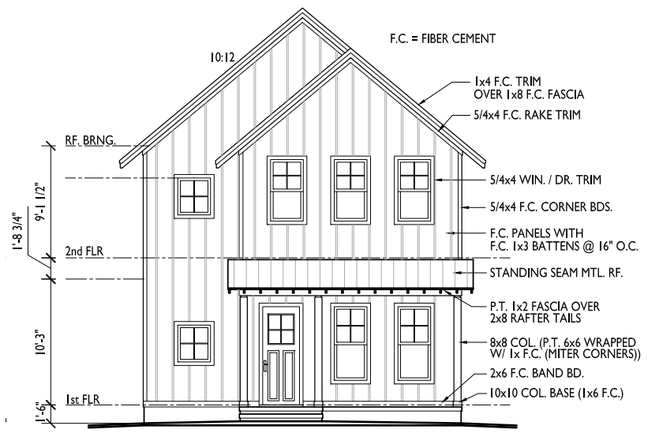
Application forms for a Certificate of Appropriateness (COA) can be obtained at the City of Wilmington Planning Division, 929 N Front St, Wilmington, North Carolina, or by calling (910) 254-0900 between 8:00 a.m. and 5:00 p.m., Monday through Friday. The application requires that the Applicant include a tax map, photographs of existing conditions, and a detailed description of the proposed project. In addition, plot plans, elevations, samples of building materials and colors, and product information sheets may be required. A list of adjacent property owners and accompanying stamped, addressed envelopes must also be supplied.

Appeals

Appeals of decisions of the Historic Preservation Commission on applications for COAs are made to the City's Board of Adjustment. Appeals are filed with the City staff. The deadline for an appeal is thirty (30) calendar days from the Commission's decision. Subsequent appeals may be taken to the Superior Court of New Hanover County.

Work Not Requiring a COA

Neither HPC or City staff review is required for the routine repair and maintenance of any exterior building feature, or the replacement of identical materials or features except for that of roofs. Review of roofs is required to ensure appropriate identical materials are used.



Sample Building Elevation
For COA Application to HPC

COA Process | Major Works

Own property in a Use & Design District or Overlay District

▼

Wish to make exterior alterations

▼

Contact City of Wilmington Historic Preservation Planner

▼

Obtain a COA Application

▼

Fill out all applicable application materials

▼

Turn application in 30 days prior to next HPC meeting

ATTENTION

Failure to obtain a COA in accordance with the City's ordinance and rules of procedure of the Historic Preservation Commission shall constitute a violation of the zoning ordinance regulations in the City Code.

When using the Administrative Approval process, the Applicant makes an application for a Certificate of Appropriateness (COA) to the City's Historic Preservation Planner. The application is approved if found to be consistent with these Design Standards. The staff cannot deny applications. Therefore, any application that is not approved by the staff is submitted to the Commission.

Certificate of Appropriateness (COA)

Review Level		Major Works	Minor Works	No COA
A. Structures				
Roof & Roof Features				
A.1	Installing gutters and downspouts (if color matches house trim color), and roof ventilators.		●	
A.2	Installing gutters and downspouts if the color does not match the trim color.	●		
A.3	Installing chimney caps and roof ventilators.			●
A.4	Replacing asphalt or fiberglass roofing with asphalt or fiberglass shingles.		●	
A.5	Repairing/replacing roofing if there is a material change.	●		
A.6	Replacing any roofing material with the same, including the same color.		●	
A.7	Installing satellite dishes, permanent mechanical equipment, skylights, or solar panels.		●	
A.8	Removal of non-original chimneys.		●	
A.9	Replacement or repair of missing chimney materials or features if replacements match the original.		●	
A.10	Changing the roof line.	●		
A.11	Replacement or new construction of a chimney when it is similar to the original.		●	
A.12	Replacement or new construction of a chimney when it does not match the original.	●		

Certificate of Appropriateness (COA)

Review Level		Major Works	Minor Works	No COA
A.13	Roofing over built-in gutters or installing gutters which obscure or change architectural detailing of the façade.	●		
Walls & Building Trim				
A.14	Painting siding or trim. (Not including previously unpainted masonry)			●
A.15	Removing asbestos, asphalt, or other artificial siding to be repaired and repainted.		●	
A.16	Removing asbestos, asphalt, or other artificial siding to be replaced.		●	
A.17	Resurfacing buildings walls with new materials or adding new trim.	●		
Doors & Windows				
A.18	Replacement of door or window glass if it does not alter the appearance.			●
A.19	Installing storm windows and doors if trim color matches the house trim color.		●	
A.20	Caulking and weather-stripping.			●
A.21	Removal of non-functional and non-wood shutters.			●
A.22	Replacement of original shutters with those similar to the original. Examples of "similar" include replacing wooden louvered shutters with the same and replacing wooden paneled shutters with the same.		●	

Certificate of Appropriateness (COA)

Review Level		Major Works	Minor Works	No COA
A.23	Replacement of functional wood shutters or the addition of shutters where they previously did not exist (regardless of material and design)		●	
A.24	Replacement of windows or doors and removal, addition, or replacement of garage doors with in-kind materials.		●	
A.25	Replacement of windows or doors and removal, addition, or replacement of garage doors with new material.	●		
Other Building Features & Issues				
A.26	Installation, repair or replacement of air conditioners, antennae, and other temporary mechanical equipment.		●	
A.27	Replacing missing/ deteriorated siding, trim, roof shingles, porch floor, etc. if it matches original in detail and color.			●
A.28	Removal or replacement of awnings and canopies.		●	
A.29	Minor repointing and other masonry and stone repairs, such as loose bricks in steps.			●
A.30	Repairing or replacing masonry foundations, installing foundation vents, and replacing wood basement doors.		●	
A.31	Replacing missing or deteriorated architectural details with new materials that are identical to the original details.		●	
A.32	New construction, additions to a building or new accessory structures.	●		
A.33	Demolition of any part of an existing structure.		●	

Certificate of Appropriateness (COA)

Review Level		Major Works	Minor Works	No COA
A.34	Moving of structures.	●		
A.35	Replacement of architectural details when there will be a change in the appearance of the structure.		●	
A.36	Installation of fire exits, fire escapes, or secondary entrances.	●		
A.37	Installation of awnings or canopies where they have not previously existed.		●	
A.38	Addition of porch handrails or balustrade, and porch enclosures.		●	
A.39	Applying stucco to masonry of a building.	●		
A.40	Painting masonry that was not previously painted.	●		
A.41	Substitution of exterior building materials with alternative like-materials for new construction, additions to a building, or new accessory structures projects.		●	
B. Landscaping				
B.1	Landscaping, pruning and alterations, including vegetable and flower gardens, shrubbery, and the installation of rear yard trees. The addition or removal of individual plants. (replacement must be with another species on the Recommended Plant List)			●
B.2	Removing dead/diseased trees.		●	

Certificate of Appropriateness (COA)

Review Level		Major Works	Minor Works	No COA
B.3	Landscaping changes not visible from a street, including demolition of any part of an existing landscape feature.		●	
B.4	Removal of healthy over 4", if replaced by another tree on the Recommended Plant List.		●	
B.5	Removal of healthy large trees, if not replaced by another tree.	●		
B.6	Grading of property.	●		
C. Other Features				
C.1	Installation of house number, mailboxes (wall mounted or free-standing), and flag brackets.			●
C.2	Repairs to walks, patios, fences, driveways, and parking areas if replacement materials match original/existing in detail, dimension, and color.			●
C.3	Erection of temporary signs. (real estate, political, etc.)			●
C.4	Removal of cinderblock walks or steps. Removal of railroad ties or landscape timbers around planting beds.			●
C.5	Removal of metal storage buildings.			●
C.6	Installing temporary handicapped ramps if not permanently altering exterior features.		●	
C.7	Installation of permanent handicapped ramps.	●		
C.8	Repair or removal of existing signs.			●

Certificate of Appropriateness (COA)

Review Level		Major Works	Minor Works	No COA
C.9	Repairs to lighting fixtures if replacement materials match the original or existing materials in detail.			●
C.10	Removal of a satellite dish or underground tank except historic cisterns.			●
C.11	Replacing or installing exterior lighting fixtures that comply with the standards and are appropriate to the structure.		●	
C.12	Repairing exterior lighting fixtures that comply with the standards and are appropriate to the structure.			●
C.13	Repairing masonry or wood exterior stairs, landings, and steps if consistent with the original design.			●
C.14	Replacing masonry or wood exterior stairs, landings, and steps if compatible with the structure's designs.		●	
C.15	Removal of deteriorated accessory building that are not original to the site or otherwise historically significant.			●
C.16	Installation of front, side, and rear yard fences or walls on non-corner lots.		●	
C.17	Installation of side and rear yard fences on corner lots.	●		
C.18	Installation of permanent signs.		●	
C.19	Replacement of a wall or fence if the appearance is identical to the original and not on a corner lot.		●	
C.20	Replacement of a wall or fence if the appearance is identical to the original and on a corner lot.		●	

Certificate of Appropriateness (COA)				
Review Level		**Major Works**	**Minor Works**	**No COA**
C.21	Ground disturbing activities that affect known archaeological resources on the site.	●		
C.22	New parking areas, walks or driveways or replacement if there is a change to color, dimension, location, or material.	●		
C.23	New swimming pools, new patios, decks, or terraces.	●		
C.24	Step or stair replacement where there is no change in design, materials, or color.			●
C.25	Step or stair replacement where there is a change in design, materials, or color.		●	
C.26	Applying stucco to masonry of a site feature, such as a wall.	●		
C.27	Painting masonry that was not previously painted, and waterproof coatings on original masonry.	●		
C.28	Installation of new site features such as gazebos, trellises, fountains, walk lights and walls.		●	

1.9 Federal Preservation Standards

The Verandas
202 Nun Street

Background

In addition to its own design standards, the Commission has adopted the U.S. Secretary of the Interior's Standards for Rehabilitation for use in determining the appropriateness of proposed work in Wilmington's historic districts. These national standards, which are applied as principles for rehabilitation, were first developed in 1976 by the U.S. Department of the Interior. They serve as the foundation for the City's standards. The Commission should use the most current Secretary of the Interior's Standards when reviewing COA applications.

The Federal Standards are applied to projects in a reasonable manner, taking into consideration economic and technical feasibility. The Standards apply to historic buildings of all periods, styles, types, materials, and sizes. They apply to both the exterior and the interior of historic buildings, but they are only applicable to exterior work for the City's purposes (interiors are not regulated). The Standards also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction.

King-Thorpe House c. 1890
209 Nun Street

Dr. Anderson's Office c. 1871
104 Orange Street

The Secretary of the Interior's Standards (2017)

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall 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 buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall 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.

Downtown Wilmington, c. 1955
This aerial photograph displays a historical perspective of Downtown Wilmington's riverfront, businesses and neighborhoods.
Source: New Hanover County Library Digital Archives

2 District Setting Standards

Section Topics

2.1 Landscaping
2.2 Public Rights-of-Way
2.3 Fences & Walls
2.4 Walkways, Driveways & Off-Street Parking
2.5 Accessory Structures
2.6 Decks & Pools
2.7 Lighting
2.8 Telecommunications
2.9 Archaeology

2.1 Landscaping

Landscaping Character by Districts

Downtown Commercial District

Street plazas are more formally planted, alleys supplement the major streets, and the sidewalk trees are smaller. On Front Street, low plantings and benches enhance the intersections and the sidewalks are narrow. Along the river in front of the Federal Court House, a boardwalk *Riverwalk* and adjoining park provide a place to stroll, jog or just reflect on the water.

Residential and Theatre Historic Districts

These areas represent the evolution of a cultural landscape for over two-and-a-half centuries. Large oaks draped in Spanish moss provide shade to brick paved streets. The plazas retain some original street furniture and display lavish plantings of azalea, oleander, and crepe myrtle. Low brick walls and wood and iron fences mark the sidewalk boundaries of many front yards. Pierced brick walls add variety to the streetscape. On some streets, the front building setbacks are minimal. In general, lots are narrow with ample rear yards that are usually fenced. Paving, ground cover, streetlights, benches, traffic signs, transit stops, and utility lines also contribute to the character of the districts. What survives today is a distinctly urban landscape that still retains the character of its 18th-and 19th-century past.

The Carolina Heights/Winoca Terrace Historic District

These districts developed at the beginning of the 20th century, presents a suburban landscape where larger lots and deep building setbacks allow for well-tended front lawns and gardens. Only rear yards are fenced. The shade trees planted almost a century ago have now matured and provide ample shelter on the broad streets.

Trees

Trees are an important natural feature in the historic districts. It is important that healthy mature trees remain intact and undisturbed. In the event of severely diseased or dead trees, approval for removal is always contingent upon the submittal of a report by the City's tree specialist. If a historic building or landscaping feature is endangered by tree and shrubbery roots or growth, the HPC will assess the importance of that feature in determining the appropriateness of the tree's removal. The choice of types, as well as the size and location of trees, will be reviewed by the City's tree specialist, or certified arborist for appropriateness to the local climate and soils, and for historical correctness for the Wilmington area.

NOTE: The installation of up to five (5) trees may be approved administratively by City staff if consistent with Appendix C "Plants."

Landscaping Standards

1. Maintain the topography of the site to the extent possible. Do not alter topography with grading, filling, or excavating unless it is part of the approved construction of a building addition or a new structure. Site grading should not adversely affect drainage or soil stability on adjoining properties. Site and roof drainage should assure that water does not splash against building or foundation walls nor drain toward the building. It is inappropriate to use landscape timbers or railroad ties to create retaining walls or raised planting beds in locations visible from a street.

2. Retain and maintain landscaping that contributes to the character-defining elements of the historic districts, including large trees, hedges, foundation plantings, grassy lawns, ground cover, trellises, patios, terraces, fountains, and gardens. Exceptions include trees and other landscaping that is diseased, dying, considered to be an undesirable or invasive species, a threat to the safety of property and/or people, or is causing structural damage to a historic structure. If desirable landscaping is removed, it should be replaced with identical or similar species.

3. Themes in landscape design should be consistent with the character of the historic districts. For example, oriental gardens or a southwestern desert landscape are inappropriate.

Landscaping Standards

4. Avoid planting a tree or large shrub too close to a wall or structure. Not following this standard may cause root damage to foundations or basement walls, in turn causing them to crack or heave. Furthermore, tree limbs overhanging a building's roof may promote the growth of plant materials in gutters, particularly if they are not cleaned on a regular basis. Position trees to the side of the front entry and at least three times the distance from the structure as the tree trunk width at maturity. If the construction of a new wall close to a mature tree is being considered, the root span should be checked by the City of Wilmington's Planning, Development, and Transportation Division. To prevent root damage a masonry arch or reinforced concrete lintel supporting the wall may be introduced between the regular footings.

5. When landscaping new construction or an addition, incorporate existing significant landscaping. Establish a tree protection zone around mature trees, including installing protective fencing around a tree's dripline to avoid heavy equipment from compacting the soil and causing the tree's eventual death.

6. Mature, healthy trees should remain intact and undisturbed on a site unless they are causing the structural deterioration of a building. A mature tree is defined as being fifteen (15) inches or larger in diameter as measured four (4) feet above the ground. Removed trees should be replaced with a similar type tree, except where the replacement would cause structural damage to the building. Diseased trees should be examined by the City Arborist to determine if removal or treatment is required. When a tree is removed, the tree stump should be ground and the soil should be leveled and seeded.

7. Do not remove a tree because it disrupts an adjacent sidewalk. Also, do not cut the tree roots, which will jeopardize the tree's health. Instead, repair or replace the sidewalk to accommodate the roots. The least expensive method is to lift the sidewalk slab, shave it from the underside to accommodate the root, and reinstall it. Other techniques include:
Excavating below the root to give it space to shift downward; away from the roots and outside the root plate (the distance from the tree that is three times the tree trunk's diameter).
Replacing the sidewalk slabs with thicker concrete slabs connected by rebar or wire mesh to avoid the future lifting of a slab; or
If space allows, meandering the sidewalk

8. Tree topping is discouraged. It can leave trees vulnerable to insect infestation and decay fungi. It can also disfigure trees so that they lose their character. Some tree species not tolerant to topping can be killed by the process.

9. Prevent vines or ivy from attaching to a building's exterior wall. Such plant materials can cause moisture damage and the roots or tendrils can intrude into the wall surface and deteriorate masonry and wood. To achieve the same look, consider installing a trellis in front of the wall and allow the vines or ivy to grow onto the trellis.

10. New landscaping should be consistent with the recommended plant list. Other cultivares not found on the recommended plant list may be considered by the City Arborist. Plantings on corner lots should not obstruct vision at intersections. Also, plantings should not interfere with utility lines, sidewalks, or pedestrian traffic.

2.2 Public Rights-of-Way

Background

The character of Wilmington's historic districts depends not just on its buildings, but on its brick streets and historic markers, sidewalks and granite curbs, broad plazas, street furniture, fountains, and street trees. Paving, ground cover, street lights, benches, traffic signs, transit stops and utility lines also contribute to the character of the public right-of-way (ROW).

Maintenance
Routine maintenance and attention to the streetscape are required if the visual character and ambiance of the area is to be retained. Shells, Belgium block, limestone rock or marl, cobblestones, flagging stones, crushed stones, asphalt block, and bricks were used to pave Wilmington's streets as early as 1880. However, by the turn of the century, brick became the dominant paving material because of its durability and low maintenance. To retain the visual character and ambiance of the area, routine maintenance and attention to the hardscape, streetscape, and landscape is required.

District-Specific Characteristics
Characteristics of the public ROW vary from district to district, and often within the districts themselves. In the *Theatre District*, the streets slope up from the river and include busy thoroughfares with broad sidewalks and small-scale plantings. In contrast, the boulevards of the *Residential Historic District* have their richly planted central plazas and canopies of trees. The streets in the *Carolina Heights / Winoca Terrace Historic District* retain their early 20th-century character. The broad front lawns and lack of fencing on some streets is reminiscent of a garden suburb, while on other streets the houses are closer to the sidewalks with densely planted front yards, broader sidewalks, and canopies of trees. In the *Downtown Commercial Historic District*, the streets and plazas are more formally planted, alleys supplement the major streets, and the sidewalk trees are smaller.

NOTE: Repair of brick streets with a pre-approved procedure. Brick agreed upon by the City's Public Works Division and the HPC does not require review and comment. However, if a brick or procedure other than that which is pre-approved is proposed, the HPC should review and comment on the proposed brick or procedure within sixty (60) days of the submittal of the plans to the City.

Public Rights-of-Way (ROW) Standards

1. **Preserve and maintain the patterns, features, materials, and size of streets, sidewalks, and street plantings that contribute to the character of the historic districts.** Paving, ground cover, street lights, benches, traffic signs, transit stops and utility lines also contribute to the character of the public right-of-way.

2. **Landscaping standards contained in the previous section on landscaping should apply to public ROWs as well.** In particular, the planting strips located between street curbs and sidewalks should be maintained and their historically-based vegetation should be preserved.

3. **If construction work in the ROW is necessary, protect and retain historic streetscape features** such as brick streets, street furniture, fountains, granite curbing, and street plantings. Repair or replace sidewalks, curbs, and paving where needed to match adjacent materials. If new bricks are needed for street or sidewalk repair, they should match the original in size, dimension and color.

4. **New street furniture and lighting shall be compatible in design, material, color, and scale with the character of the district.** When possible, the historic features shall be matched with exact or very close designs as the originals.

5. **Additional utility poles, transformers, cables, and wires on streets should be kept to a minimum.** Consider introducing new utility lines underground to reduce their impact. Another alternative is locating or relocating utilities within alleys.

6. **Select street lighting for the ROW to be compatible in design, materials and scale with the character of the historic district.** When possible, historic lighting should be matched with exact or very close designs as the original ones.

7. **It is inappropriate to introduce new ROW features in historic districts to create a false historical appearance or era.** Examples of such features include paving materials, lighting, and streetscape furniture.

8. **Historic street patterns, width, profiles, and materials shall be maintained, if feasible.** Streets and alleys shall not be closed. Replacement of granite curbs with concrete is not appropriate. Avoid disrupting historic curb and sidewalk materials. Physical connections with historic curb and sidewalk materials shall be made as cleanly and compatibly as possible.

2.3 Fences & Walls

Pierced Brick & Ballast one Wall
3rd & Ann Streets

Background

Fences and walls have been traditionally used in Wilmington to delineate property lines and mark boundaries between public and private property right-of-ways. Fences and walls of wood, brick, stone, and wrought and cast iron are found within the Residential and Theatre Historic Districts.

Variations of the picket fence are common in both front and rear yards, although low brick walls and cast and wrought iron fences are more traditional for front yards. Pierced brick walls are frequently used on corner lots or above retaining walls. Wilmington's wrought and cast iron fences reflect the City's participation in the Industrial Revolution when mass-produced ornamental fencing became prevalent during the mid and late-19th century.

Maintenance

- Inspect fences and walls regularly for signs of deterioration or moisture damage.
- Keep all mortar joints sealed to avoid moisture damage.
- Maintain paint on all elements that were traditionally painted. Metal fences should be clean from rust and coated with a metal primer prior to repainting.
- Follow this document's standards for maintenance of masonry, wood and metal (see pages 83-89).
- Remove any vegetation except for trees four (4) inches in diameter at breast height (DBH) and over that is uprooting posts or causing other structural damage.
- Maintain hedges by trimming and eliminate harmful vegetation that can lead to wood rot or metal rusting.
- Do not paint or seal unpainted masonry walls, as this could accelerate deterioration.

Fence & Wall Standards

1. Retain and preserve original and or historically appropriate fences and walls, and all architectural features that are character-defining elements of original fences and walls, including gates, decorative pickets, and rails that contribute to the character of the districts.

2. Only replace materials when that is the only option. If replacement of the entire fence or wall is necessary and original material is unavailable, match the historic material in composition, size, shape, color, pattern, and texture. If only part of the fence is severely deteriorated, replace only that part. Decayed pickets or boards should be replaced with decay-resistant or pressure-treated wood. The latter should be properly seasoned so that it can hold paint.

3. If a historic fence or wall must be replaced, it should match the original in size, design, materials, color, pattern, texture, and detail. Fences in the front or front side yards should be constructed of wood picket, brick, stone, or cast iron. Pickets should be stained or painted and cast iron should be painted.

4. Construct new fences or walls to follow property lines, unless they will negatively impact the neighbor's property by obscuring a view or preventing repair and maintenance of the property. Fences and walls should be installed a minimum of three (3) feet from an adjacent structure to provide space for adequate maintenance.

5. New fences or walls should be constructed of traditional materials and design, and only in locations that are characteristic of the district. Walls should not be constructed of cinder block or cement block unless it is stuccoed or veneered with brick. Walls constructed of artificial siding that seek to resemble brick veneer, stone veneer, or wood veneer are not appropriate. Walls should not feature plastic panels, corrugated metal or any similar material.

6. Avoid constructing retaining walls in front yards where none existed historically. When approved, they should be constructed of stone, brick, or textured block with a historic character. Poured concrete and wood timbers are not appropriate.

7. Front yard fences should feature a degree of transparency by allowing visibility between vertical members. The space between the pickets of wooden fences located in yards adjacent to streets should be a minimum of one and one-half (1½) inches up to a maximum to two (2) inches. Opaque fences, including privacy fences, should only be allowed in rear yards.

8. Front yard fences must be lower than the maximum allowed for rear yard fences. New fences and walls should not exceed a height greater than four (4) feet. Supporting posts may project up to six (6) inches above that height. Rear yard fences and walls should not exceed six (6) feet. On corner lots, a fence may exceed 4 feet in height at the side yard if it is placed at or behind the midpoint of the side of the house. The height of the fence or wall should be constant and follow the contour of the land.

Fence & Wall Standards

9 Design fences and walls to be compatible with the era of the associated building and the immediate area. Wooden picket fences should be limited to historic residential areas. Vinyl, opaque, stockade and chain link fencing are inappropriate in the historic districts. Other incompatible fence types include split rail and basket weave fences.

10 The structural members of wooden privacy fences should face the property of the individual erecting the fence. An alternative is double-siding the fence so that structural members are not visible from either side.

11 Fences or walls may be used to screen parking areas, garbage areas, and mechanical systems, but should not exceed six (6) feet in height. Dumpsters should not be visible from a street. If visible otherwise, they should be screened from view by fencing, walls and/or evergreen vegetation. Fencing and walls for dumpster areas may exceed the six (6) foot limit, but should be no taller than necessary for screening purposes. The material and character of fencing or walls for screening should relate to the building's design.

12 Existing chain link fences should be screened, when possible, with vegetation such as ivy, climbing roses, wisteria, evergreens and/or shrubs, as well as trees where appropriate.

Appropriate Walls in Wilmington's Historic Districts


Side pierced brick wall


Front brick wall


Front brick wall


Side/rear brick wall

Appropriate Fences in Wilmington's Historic Districts


Wood Fencing
623 Dock Street


Iron Fencing
322 South Front Street


Front wooden picket fence


Front metal fence with brick base


Front metal fence with masonry base


Rear/side wooden privacy fence

Inappropriate Fences & Walls from Other Communities


Front wooden rail fence


Front concrete block retaining wall


Front metal fence

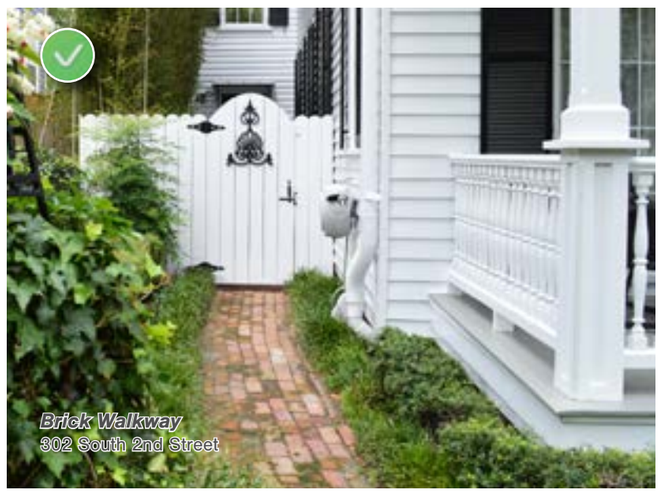
2.4 Walkways, Driveways & Off-Street Parking

Walkways
Brick walkways laid in a variety of patterns are part of Wilmington's *Residential and Theatre Districts*' traditional streetscape and complement the brick paving on the nearby streets. In most instances, they lead directly from the entrance to the sidewalk or run parallel with the house leading to the driveway. Depending on the topography, the walkways often incorporate steps and sometimes a decorative gate if the front yard is fenced. Brick paths in herringbone and basket weave designs enhance the gardens and contribute to the character of the neighborhood.

Driveways
Driveways in the residential areas of the historic districts tend to be narrow based on the width of early cars. They sometimes lead to a rear parking area, garage or carriage house. When the houses are closely spaced, there is an absence of driveways. In the *Carolina Heights / Winoca Terrace District*, rear alleys often provide access to garages and parking space. Driveways rarely exist in this area, but a covered parking space is occasionally found next to the main building. In the past, driveways were finished with compacted earth, gravel and oyster shells. Today, most of the driveways in the residential areas of the historic district have a brick or gravel finish.

Off-Street Parking
Within the Downtown area, parking lots are located behind buildings and some parking is even provided through parking garages. In residential districts, small lots are also tucked behind buildings and often screened.

NOTE: It may be necessary to obtain a driveway permit or encroachment agreement before the construction of a walkway, path or driveway if the improvement is located on or adjacent to a public ROW.



Driveway, Walkways & Off-Street Parking Standards

1. Retain and preserve the patterns, features and materials of existing walkways, driveways, and off-street parking areas that contribute to the character of the historic district. That includes brick and stone pavers, and poured concrete features predating roughly 1950.
2. Replace only the deteriorated sections of historic walkways and driveways, and match to the original with respect to materials, design, color., and texture.
3. For driveways, use paving bricks manufactured specifically for driveways, as opposed to bricks made for other purposes.
4. Design new walkways and driveways to be compatible with the dimensions, materials and color of existing paths and driveways. Use of pervious paving materials is encouraged.
5. Preserve significant site features, including topography and mature trees, when constructing new driveways, walkways and parking lots. See standards in the Landscaping section for protecting trees and other important features.
6. Do not use precast paving slabs or decorative coatings for paths or walkways in the residential areas of the historic districts.
7. Follow the Standards for lighting when lighting walkways, driveways, and off-street parking areas within Wilmington's historic districts.
8. New driveways should not be constructed where they did not exist historically. If a new driveway is permitted, it should only provide access to a parking area at the lot's rear. If a new driveway is planned next to an existing driveway on an adjacent lot, a planting strip should be left to avoid a wide expanse of pavement.
9. Existing driveways may be eliminated where they did not exist historically, and their elimination should be encouraged.
10. Minimize the width of driveways to the extent possible. Consider features such as landscaped central strips and permeable paving to minimize the amount of permeable surface.
11. Handrails on steps along a walkway should be compatible in materials, design and style with the associated building and its era.
12. Design off-street parking to be unobtrusively located in the rear or side yard and visually screened from the street with appropriate fencing, walls and/or landscaping. Parking areas placed directly in front of primary buildings are inappropriate.
13. Provide internal landscaping for large parking lots, including shade trees planted in curbed islands. A parking lot with more than six parking stalls should have a minimum of ten (10) percent of the interior area landscaped.
14. Large trash receptacles, including dumpsters, should be located out of the public view at the rear or along an inconspicuous side of a building. It should also be screened by gated walls or fences and/or evergreen vegetation.

2.5 Accessory Structures

Background

Many houses in Wilmington have accessory structures including early carriage houses, enslaved person's quarters, garages, and other dependency buildings. Dates of construction vary of the structures depending on type and original use. This also means that methods of construction and styles vary from brick utilitarian structures to wooden frame structures that mimic the style of the main dwelling. The buildings are usually sited in the side or rear yards and accessed by a driveway from the street.

In the *Carolina Heights / Winoca Terrace District*, which developed after the turn-of-the-century, the material and design of garages were more influenced by the eclectic revival architecture of the neighborhood and included a variety of door types and wall finishes. Breezeways connecting the garage to the main structure are some-times found in this area, as well as pergolas for the Spanish Revival, Colonial Revival and Bungalow styles. Since the garages often reflect the house styles, they are sometimes in a more prominent position and are visible from the street. Those sited in rear yards are often accessed by alleys at the back of the property.

Many historic district houses lack garages. Therefore, small storage sheds are prevalent and often sited in rear yards, and they are not visible from the street. Early sheds were simple wood-framed structures with corrugated tin roofs and sometimes a single window. Larger sheds tend to reflect the scale and character of the adjoining house and, in some cases, are elaborately detailed.

Accessory Structure Standards

1. Retain and preserve garages, carriage houses and other accessory structures and their character defining materials, features and details that contribute to the character of the building site and surrounding historic district. Outbuildings that are less than fifty (50) years old are typically not considered significant.

2. The same basic standards that apply to the preservation and rehabilitation of a property's primary structure should generally apply equally to outbuildings.

3. Avoid relocating historic outbuildings if possible. The location of these buildings is for historically based practical reasons, and respect to that should be considered.

4. If a historic accessory building deteriorates beyond repair, replace it with a new structure compatible in scale, design, height, texture, color and material with the principal building on the property and other accessory structures in the district. If the information is available, replace it with a design based on documentation of the original structure. The new structure should be in proportion to other outbuildings of its type within the district.

5. New accessory structures should be appropriately located to not visually compete with the property's primary structure. They may not be located in a front or side yard, and garage locations should be based upon their method of vehicular access (termination of a driveway or off an alley). Garages may not be attached to the primary structure if they are visible from a street. Gazebos and playground equipment are not appropriate in front or side yards.

6. The scale of all accessory structures should be minimal and subordinate to the property's primary structure. With the exception of Accessory Dwelling Units (ADUs), no accessory structure should feature a building footprint exceeding six hundred and fifty (650) square feet or a height greater than one (1) story.

7. The style of an accessory structure may reflect the character of the main building or have a historically compatible, utilitarian appearance. Features and details that create a false sense of history should not be part of new structures.

8. No garage should be designed to serve more than three (3) vehicles, regardless of its location and degree of visibility.

9. The design of garage doors should be compatible with the area's historic character. For garages that are visible from a public street, each bay of the garage should have a separate door. For garages that are not visible from a street, a single door can serve up to two (2) parking bays. Garage doors visible from a street must appear to be constructed of wood and must be paneled. Doors that operate via hinges or sliding are encouraged, while those that roll-up or fold (accordion doors) are discouraged.

2.6 Decks & Pools

Deck Addition
DuBois Boatwright House at 14 S 3rd Street

Background

Decks
Decks are a modern adaptation to historic buildings and function as outdoor living spaces in the same manner as the traditional porch. Although the traditional porch is still favored in Wilmington for outdoor enjoyment, decks have been added successfully to buildings in the *Residential and Theatre Districts*. For the most part, these decks are sited in the rear and are not visible from the street. Lattice is often used to conceal the structural framing. In the *Carolina Heights / Winoca Terrace District*, developed after the turn of the century, decks are more visible because of larger lots and a lack of fences. Decks should be considered in relation to the site, their impact on adjacent properties, and the neighborhood.

Decks proposed for corner lots will be reviewed by the HPC to ensure their compatibility with structures in the surrounding district.

Pools
A Certificate of Appropriateness (COA) is required for swimming pools, which are appropriate only in rear yards. On corner lots, pools are limited to the portion of the rear yard farthest from the street. Fencing around swimming pools must also comply with the State Building Code, the Wilmington Code of Ordinances, and these Design Standards.

Regulation of Features
A Certificate of Appropriateness (COA) is required for swimming pools, which are appropriate only in rear yards. They must also comply with the requirements of the Building Code and the City's land use regulations. On corner lots, pools are limited to the portion of the rear yard farthest from the street. Security fencing is to comply with the State Building Code, the City's land use regulations, and these Design Standards.

Deck Addition
Historic District

Deck & Pool Standards

1. Design and locate decks in a manner that the historic features of the building are not damaged or obscured. They should be structurally self-supporting and allow for future removal without damage to the historic building.
2. Locate decks in the rear or on the least conspicuous side of the building and screen with shrubs and/or fencing.
3. The construction of decks should avoid the destruction of building features or site elements such as porches and mature trees. Roof decks are not recommended.
4. Design decks to be contemporary yet compatible with the related building. Decks should be simple in character and scale with the associated historic building so that they do not compete visually. Relate decks to buildings using traditional materials such as wooden lattice or brick skirting to screen their structural frames. Design railings, balustrades and steps to reflect the scale, proportion and materials of the building. Landscape screening should be used to obscure views of the deck from public ROWs.
5. Use materials and construction methods that will allow new decks to be well maintained. Construct decks of pressure treated lumber or hard insect-resisting woods, such as cedar and cypress. Use galvanized nails to avoid rust stains.
6. Swimming pools are appropriate only in rear yards. On corner lots, pools should be limited to the portion of the rear yard farthest from the street. The security fencing should be in compliance with the State Building Code, the Wilmington Code of Ordinances, and these Standards. Above-ground pools are prohibited.
7. Swimming pools should be screened from public streets. It can be achieved by evergreen landscaping, fencing, walls, or a combination.
8. Pool construction should avoid negative impacts to historic properties. A pool should be built so that it can be removed without damage or alteration to the historic structure. Important landscape features, such as mature trees, should be protected when a pool is constructed. The removal of historic building materials to allow for a pool should be avoided.

Swimming Pool Screened by Fencing
Source: The Walker Collaborative

Above-Grade Elevated Pool
Source: The Walker Collaborative

2.7 Lighting

Downtown Street Lighting
Corner of Front & Grace Streets

Background

Early photographs show street lights in both the residential and commercial districts. Depending on their location, fixtures varied from large globes with decorative finials mounted on cast iron poles to smaller bracketed globes on simple utilitarian poles. New fixtures of traditional design have replaced the early street lights on main thoroughfares and in the *Downtown Commercial Historic District*.

In the residential historic districts, original porch lights should be retained. If new fixtures are needed, they should match the scale and style of the house. It is not recommended to select a fixture in a contrasting style. Simple contemporary fixtures, unobtrusively located, may provide more illumination, if needed.

Additional light may be needed on a particular site for safety and security reasons. Used effectively, exterior lighting can enhance the building's historic character. Consideration should be given to the amount and location of supplemental lighting and to its impact on adjacent properties. Install reasonably spaced low-wattage lighting to achieve adequate lighting of driveways.

Lighting Standards

1. Retain and preserve exterior lighting fixtures that contribute to the historic character of a building, site, or streetscape. In particular, historic fixtures should be retained.

2. Replace a historic exterior lighting fixture with one similar in appearance, material and scale to the original. If the original is missing, install a fixture compatible in scale, material, color, finish and character with the building.

3. Design new site and street lighting to be compatible with human scale and the character of the district. Consider the location, scale, material, color, finish and brightness of a proposed fixture to determine compatibility. Avoid contemporary metal street lights.

4. Do not introduce period lighting fixtures that predate structures in the historic district in an attempt to create a false sense of history.

5. Exterior lighting should not detract from the historic districts. Residential areas should use low-level lighting. Carefully locate low-wattage, low-level or directional site lighting to prevent illumination on adjacent properties. The area illuminated should be limited so that adjacent properties are not adversely affected.

6. Light fixtures should be used primarily to illuminate entrances, but up-lighting to illuminate facades and landscaping features is permitted. It is inappropriate to use floodlights to illuminate the facades of houses in the residential areas of historic districts.

The Verandas Exterior Lighting
202 Nun Street

2.8 Telecommunications

Background

As technology has changed the way we live, it is important to maintain and preserve the integrity of historic buildings, streetscapes, and the historic districts as a whole. While supporting the technology needs of residents, businesses and visitors, telecommunications facilities and equipment should not be at the expense of the character defining features of the historic properties and districts.

Telecommunications Antenna Collocated with Existing Utilities
South 3rd and Orange Street

Stealth Telecommunications Pole with Attached Street Light
Water & Dock Streets

Telecommunication Standards

1. New telecommunications facilities and equipment should be reviewed for aesthetics, compatibility, design, landscaping, setbacks and fall zones.
2. Telecommunications facilities and equipment should be in keeping with the aesthetic character of historic districts, and standards set forth for that district with respect to color, height, material, type, and scale.
3. The siting of telecommunications facilities and equipment should first consider the feasibility of collocation when other supporting facilities are located nearby. Specifically, collocation should be considered for telecommunication facilities utilizing existing poles or structures within a five hundred (500) foot distance from the desired location.
4. New telecommunications equipment should be located at the ends or between buildings. It should not be located in front of a building unless the facility is located in a public right-of-way.
5. Stealth poles and antennas should be utilized when it is not feasible to locate telecommunication facilities and equipment on utility poles, provided the design is compatible with that of the surrounding buildings and features.
6. Telecommunications facilities and equipment should be screened or camouflaged (landscaping, fencing, painting, etc.) to minimize the visual impact of any new poles or associated equipment cabinets.
7. Telecommunications equipment cabinets should not be installed in Wilmington's local historic districts.
8. Telecommunications facilities and equipment should be installed utilizing existing poles and conduits to the greatest extent possible.
9. Poles for mounting telecommunication antenna and equipment should meet the highest standards. They should be manufactured to the standards of the City of Wilmington Land Development Code.
10. The height of poles used to mount telecommunications antenna and equipment should not exceed forty (40) feet above the existing undisturbed grade.
11. New telecommunications equipment should not be permitted in historic districts or historic district overlays except along thoroughfares.
12. Structure lids of all pull boxes, hand holes, manholes, and vaults should be kept to a minimum where installed, and colors should blend within the existing sidewalk and street plantings. Structure lids should be flush and centered within a single section of sidewalk or plaza.
13. Underground vaults not on sidewalks should be at grade and concealed by landscaping as much as possible.

2.9 Archaeology

Cannon Dated Early-1700s
Discovered at Water Street Construction Site in 2016

Background

Archaeological resources are physical evidence of human activity buried below the ground that tells us about our prehistoric and historic past. A site may contain glass bottles, metal cans and utensils or broken pottery and stone implements. It can also contain the walls of a house, the remains of a house or a shipwreck. Archaeological sites exist in densely-built urban areas, below roads, parking lots and plowed fields in rural areas. The love of the past and the desire to preserve it forms a natural bond between historic preservation and archeology. Information derived from archaeological sites provides a better understanding of historic buildings.

Wilmington was established in 1739-40. Because of its early settlement, its location on the Cape Fear River, and its importance as North Carolina's largest port city, the possibility of archaeological sites within the *Downtown Commercial Historic District* along the waterfront is high.

Archaeological resources are fragile and irreplaceable, and they should be protected. Even when archaeological excavation is not possible at a particular time, a site can simply be left alone and preserved for future study. It can be excavated and documented, or it can be incorporated within the landscaped area of a development project. Any earth-moving activities involving demolition, excavation or fill grading, landscaping, and drilling can adversely affect archaeological resources.

Development Review Process
As part of a pre-application review for new commercial and residential construction where the total floor area exceeds three thousand (3,000) square feet, Applicants are encouraged to submit a preliminary archaeological assessment of the site by a qualified professional archaeologist. If the site plan area has no substantial archaeological significance or the proposed construction has no impact on known or unknown resources, there will be no further review. If the site plan area has potential significance, the applicant is encouraged to submit an archaeological evaluation report and a resource management plan as part of his the application for a Certificate of Appropriateness. The North Carolina Office of Archaeology can provide a brief report on the importance of the site and give technical advice to property owners.

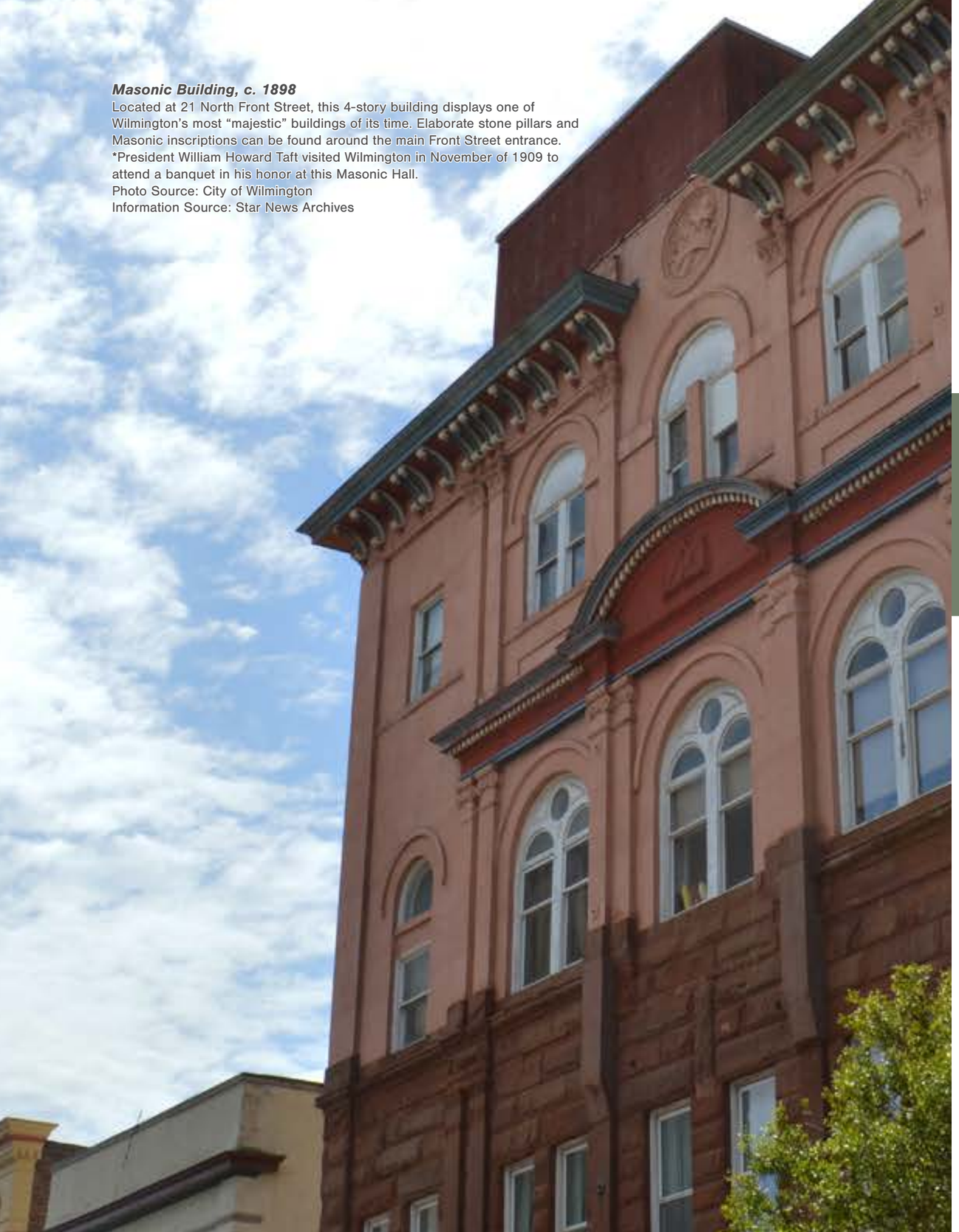
NOTE: These standards apply within any archaeological districts designated by the NCSHPO.

Archaeology Standards

1. Retain and preserve known archaeological sites and resources, as well as areas suspected of having such resources, particularly before and during construction projects.
2. Investigate the potential for archaeological resources prior to undertaking a project that affects the grounds of a historic property. Undertake necessary investigations using professional archaeologists and contemporary methods when it is not possible to preserve archaeological materials in place.
3. Minimize disturbance of the terrain in the historic district to reduce the possibility of destroying unknown archaeological materials and habitation levels.
4. Do not introduce heavy machinery or equipment on sites where their presence might disturb archaeological materials. Silt fencing might be used to delineate such areas.

Gun Carriage Discovered in Neuse River
Found in 1988 and kept at Fort Fisher
Source: New Hanover County Digital Archives

19th Century Cistern
Found at Third & Chestnut Streets
Source: New Hanover County Digital Archives



Masonic Building, c. 1898
Located at 21 North Front Street, this 4-story building displays one of Wilmington's most "majestic" buildings of its time. Elaborate stone pillars and Masonic inscriptions can be found around the main Front Street entrance. *President William Howard Taft visited Wilmington in November of 1909 to attend a banquet in his honor at this Masonic Hall.
Photo Source: City of Wilmington
Information Source: Star News Archives

3 General Building Standards

Section Topics

3.1 Roofs, Roof Features, & Chimneys
3.2 Exterior Walls
3.3 Doors & Windows
3.4 Foundations
3.5 Porches & Entrances
3.6 Materials
3.7 Exterior Colors
3.8 Utilities & Energy Retrofit
3.9 Health & Safety Codes
3.10 Security Equipment

3.1 Roofs, Roof Features, & Chimneys

Roof Forms

The variety of Wilmington's roofs reflects the diversity of its architecture. Every type of roof from the simple gable to the complex mansard, including hipped, gambrel and flat roofs, are found within the historic districts. Hipped roofs are the most common form because of their adaptability to the popular Italianate style. Complex roofs including turrets, intersecting planes and a variety of gables associated with the late-19th century Queen Anne style also occur within the historic districts. Most of the vernacular cottages have street or side facing gable roofs. The pitch of the roof and size of the overhang are influenced by the building style, such as the wide roof eaves of Bungalows. Chimneys, dormers, turrets, cresting, cupolas, belvederes, finials, and other roof features often reflect the style of the building.

Common Roof Types

These are a few of the basic roof types found in the local historic districts. There may be some others or variations.

Flat **Mansard** **Gable** **Hip** **Gambrel**

Roof Standards

1. Retain and preserve original and character-defining roof configurations and roofing materials that contribute to the historic character of the building. Substitute materials may be considered when the material cannot be repaired or when it is no longer available.

2. Retain roof features such as dormers, chimneys, turrets, cupolas, cresting, finials, and decorative roof patterns and colors (typically associated with slate, wood and metal shingles).

3. Most metals associated with roofing should have protective coatings. Consider flexible coating systems to maintain existing metal roofs. Gutters and downspouts should be painted for protection from rust, with the exception of copper.

4. If part of a roof needs replacement, remove only the deteriorated part and replace with material to match the original or historically-appropriate feature in design, pattern, color and scale. Where such materials are deteriorated on front facades, consolidate intact materials from the rear to maintain the appearance as viewed from the street. Do not use coatings that can hold in moisture and accelerate deterioration. For example, the application of tar to metal roofs is not appropriate, as tar contains sulphur that can pit the metal.

5. Tar or asphalt products should not be used to patch slate or metal roofing. They are not visually compatible and are typically only a short-term solution.

6. Sheet metal such as copper, galvanized metal or aluminum with a baked enamel finish should be used for all newly installed asphalt shingle or shake roofs unless historic evidence indicates otherwise. It should be used for all valley flashing and counterflashing to provide watertight joints where roof planes change or protruding features interrupt the roof surface, such as chimneys, vents and dormers.

7. Substitute roofing material should be compatible with the visual characteristics of the historic material. Select colors, textures, patterns, and finishes in light of the original materials. Dark asphalt, fiberglass and composite shingles are most appropriate in the absence of historic roofing materials. White and light-colored roofing material should be avoided with the exception of flat roofs where the intent is to reflect or otherwise reduce heat build-up.

Roof Materials

Wood shingles were used in Wilmington for domestic buildings until advances in technology made possible a variety of other roofing materials, such as standing seam metal, polychrome slate, and clay tiles. Standing seam metal became the accepted roofing material in Wilmington in about 1870 and provided a consistency to the streetscape (see more on the following page). Although slate, clay tile, and asphalt shingle roofs can be found within the residential areas of the historic districts, they are more common on the Revival and Eclectic-style houses of the *Carolina Heights / Winoca Terrace District*.

Existing Metal Roofs Examples

111 North 15th Street
This Colonial Revival house that now serves as a bed-and-breakfast features a dormered roof with an older standing-seam metal roof that is consistent in character with many of Wilmington's historic areas.

Source:
The Walker Collaborative

201 North 15th Street
This Bungalow house has multiple roof planes, including a dormer window on the front main gable roof. It also features an older standing-seam metal roof that is common in the surrounding historic neighborhood.

Source:
The Walker Collaborative

200 Church Street
This Victorian house has a new standing-seam metal roof. The seam lines are a bit taller than those in the older versions, and a pronounced seam occurs at the ridge, which is also inconsistent with older examples. Regardless, it is generally compatible relative to other examples of newer metal roofs.

Source:
The Walker Collaborative

Roof Feature Standards

1. Replace gutters and downspouts that are beyond repair with materials and designs that match the original. They should not damage or conceal architectural features. Replacements (except copper) should be painted or have a baked enamel finish appropriate to the color of the house. It is inappropriate to eliminate built-in gutters. They may be roofed over if the procedure is reversible and if run-off can be provided. Concealed, built-in gutter systems that are historic should not be replaced by modem exposed gutters.

2. It is not appropriate to introduce new roof features, such as dormers, vents, and skylights, if they are out of character with the design of the roof and or are visible from the public right-of-way. Avoid new street-facing features.

3. Replace missing roof features with features that are identical to the original in size, scale, texture, detail, craftsmanship, material, and color. If no evidence exists regarding the characteristics of the missing roof feature, it should be compatible with the historic building and surrounding historic area.

4. New dormers should not be added to an existing historic roof when visible from a street unless historic evidence exists that such dormers existing historically. When new dormers are added, the proportions should be compatible with the roof scale and shape. Often, new dormers are too large or poorly proportioned to the roof. Historic evidence of original dormers should be investigated, and comparable historic buildings might be modeled for the correct design.

5. Encourage the removal or replacement of inappropriate dormers and other later features. Dormers were sometimes added to a roof long after the building's era of significance and they can often be incompatible with the balance of the building's design. In such cases, they should be removed or replaced by more compatible dormers.

Chimneys

Original chimneys are significant features of historic buildings and should be preserved. On a Victorian house, the chimney might be very tall with extensive corbelling at the top. Stone chimneys are found on many Craftsman style houses. Deteriorated chimneys should never be shortened, nor the brickwork parged. Loose bricks should be re-laid and the chimney repointed. Chimneys which have not been used for some time should be inspected before they are reused. Many are unsafe due to deterioration or the need for flue liners. Chimney caps have become an integral element to the external features of a historic structure and come in a variety of forms. Queen Anne and Tudor Revival style homes typically utilized terra cotta chimney cap designs. Colonial Revival homes have utilized corbelling or extended flues with a stone or concrete cap. Most recently, formed sheet metal or cast iron has been used.

Polychromatic slate roof and prominent chimneys
316 South 3rd Street

Maintenance

Frequent inspection and prompt repair are important for the preservation of historic roofs. Metal roofs can be painted to avoid corrosion. Incompatible flashing materials and fasteners can cause galvanic corrosion and should be avoided, as should coating the roof with tar or aluminum paint. Well-maintained metal roofs have a life expectancy of at least 100 years. The nails and flashing used to attach slate and clay tile roofs can fail, but they are repairable. New hangers can be installed to hold up individual slates or tiles. Asphalt and fiberglass shingles are commonly used for newer buildings.

The entire roofing system, which includes gutters, fascias, downspouts, flashing and coping, requires frequent inspection and prompt repair. Clean gutters and downspouts on a regular basis to remove leaves and other debris. Built-in gutters, which contribute to the character of many older residences, are important to retain and should be frequently inspected to prevent water seepage into the walls of the building and possible damage to the cornice. If another roof is installed above the built-in gutter, the procedure should be reversible, allowing for repair of the gutter at a later date. Roof and soffit vents should be inspected periodically to ensure they are unblocked. Flashing around chimneys and valley flashing must be maintained and replaced as necessary. The use of copper, galvanized metal, or rolled aluminum with a baked enamel finish is preferred to the modern practice of weaving asphalt shingles to create valley flashing.

Chimney Standards

1. Preserve the original design of chimney masonry. Brick corbelling, clay chimney pots, or other original features should be preserved and repaired rather than removed.

2. Removal of chimneys or furnace stacks is acceptable if they were added after the original construction and if the appearance of the structure will otherwise remain unchanged.

3. Repair or rebuild original chimneys visible from a street rather than removing or shortening them when they become deteriorated. Special care should be taken to ensure that repairs blend in color, composition, and texture. Parging (covering with cement) is prohibited as an alternative to repointing deteriorated chimney masonry.

4. Metal chimney caps are acceptable if they are unobtrusive and do not alter the design of the chimney. The design of the chimney cap should be chosen in context to the architecture of the building and the materials of the chimney.

5. Unpainted masonry chimneys should not be painted to retain the original appearance and to avoid the risk of trapping moisture that can lead to deterioration.

6. New chimneys should utilize traditional materials and designs. Wooden boxed chimneys are inappropriate in the historic districts. Chimneys made of materials that simulate brick or stone are not acceptable as alternatives to the authentic materials.

More Roofing Information

For more information on historic roofing, see the National Park Service Preservation Brief #4: "Roofing for Historic Buildings" at https://www.nps.gov/orgs/1739/upload/preservation-brief-04-roofing.pdf

For information on historic wooden shingle roofs, see the National Park Service Preservation Brief #19: "The Repair and Replacement of Historic Wooden Shingle Roofs" at https://www.nps.gov/orgs/1739/upload/preservation-brief-19-wood-shingle-roofs.pdf

For information on dealing with slate roofs, see the National Park Service Preservation Brief #29: "The Repair, Replacement and Maintenance of Historic Slate Roofs" at https://www.nps.gov/orgs/1739/upload/preservation-brief-29-slate-roofs.pdf

For information on historic clay tile roofs, see the National Park Service Preservation Brief #30: "The Preservation and Repair of Historic Clay Tile Roofs" at https://www.nps.gov/orgs/1739/upload/preservation-brief-30-clay-tile-roofs.pdf

This information is supplemental and not part of these standards.

3.2 Exterior Walls

General

The walls are the framework that define a historic building and delineate its form. The wall materials can sometimes help to indicate a building's age, type and style. In the case of commercial and mixed-use buildings in a historic downtown, the side walls often mirror the side property lines. Wall materials typically include stone, brick, concrete, stucco, and metal.

Residential Walls

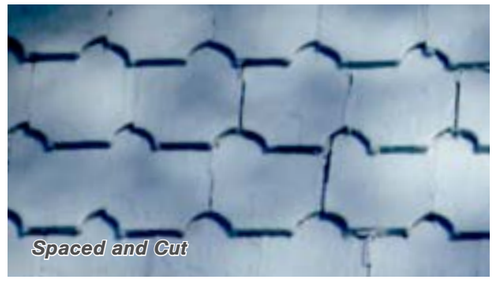
In historically residential areas, wall and foundation materials usually feature stone, brick, stucco, and wood. The early houses in Wilmington's residential areas generally had a wood finish and modest amount of decoration. By the end of the 19th century, decorative elements in the form of corner boards and brackets increased. Balustrades and shingles in a variety of patterns added texture and interest to the houses. In most instances, the decoration reflects the style of the building. Queen Anne style houses have a wealth of ornament and a variety of finishes. Italianate homes are noted for their bracketed cornices. A few Neoclassical Revival style houses have full height entry porches with elaborate columns and entablatures. More common are two story structures with full facade porches, boxed eaves, and wide friezes below denticulated cornices. Bungalows are often brick faced, or have a combination of stucco, shingles, and brick facing. Solid brick construction was commonly used for early warehouses along the waterfront, whereas later buildings in the Downtown Commercial Historic District (HDO) are faced with stone, brick and sandstone frequently enhanced by terracotta or precast ornament.

Wood Siding

In the residential areas of the historic districts, wood siding is the material most commonly used to cover wood framed buildings. Weatherboards, also known as clapboards, are overlapping horizontal boards usually mounted directly on the framework. The width of the board relates to the style and age of the building. Generally, clapboards are beveled with the slightly thicker edge at the bottom. Clapboard also comes with square edges or they can be laid flush. Shiplap, also known as German siding, has a flat face which is beveled or grooved at the lap. In the early-19th century, clapboards were often beaded to create a decorative effect. Board and batten siding consists of closely spaced wide boards placed vertically with the joints covered by thin wood strips called battens. It is often associated with Gothic Revival architecture. Examples of this form of siding are rare in Wilmington. Decorative shingles became popular in the late-19th century and appear in a variety of patterns, depending on their cut. Examples include fish scale, staggered, imbricated, and spaced/cut styles. More information on this topic is provided on the following page, while information on wood as a material is found on pages 83-84.

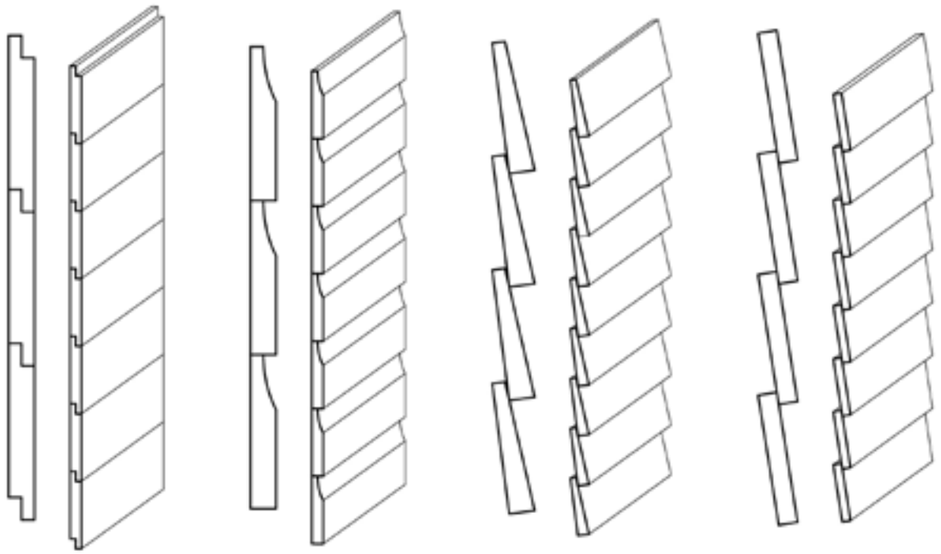
Decorative Cut Wood Shingles

These are the basic types of decorative cut wood shingles that became popular during the late 19th century.



Wood Siding

The most common types of wood siding found in Wilmington are illustrated below.



Flush siding | **German lap siding** | **Taper-edged clapboard** | **Square-edged clapboard**

Vinyl siding with corner stripping
Source: The Walker Collaborative

Exterior Wall Standards

1. Retain and preserve original and/or historic exterior wall cladding (wood siding, masonry, stucco, etc.), trim, and decorative elements such as cornices, brackets, and window architraves.
2. Do not obscure original facades with replacement or covering materials, such as metal "slipcovers" hiding historic commercial buildings or vinyl siding on a house's exterior.
3. Remove obsolete and non-historic building elements such as synthetic siding, unused mounting brackets and anchors, junction boxes, cables and conduits, and other such features.
4. Replace only the damaged portion of a historic wall if it is deteriorated beyond repair and such deterioration is clearly documented. Materials identical to the original should be used. Match the original in dimension, shape, scale, proportion, detail, and texture and material.
5. It is inappropriate to add decorative features incompatible with the building's architectural style or to create a false sense of history.
6. Plywood is a prohibited material for exterior wall cladding. Also, wood shakes or shingles which are incongruous with the design of the building should not be used.

Maintenance

Heart of pine, known for its durability, was historically the wood of choice for construction in Wilmington. Although wood siding is extremely durable, it requires routine maintenance to keep it in good condition. The application of chemical preservatives to beam ends or outriggers that are traditionally unpainted can increase the life of wood members.

- Check wall surfaces for signs of damage from moisture, mildew, vegetation or insects.
- Check the condition of painted wall surfaces for peeling paint and open joints.
- Check all joints and caulk them as needed.
- Provide proper drainage to prevent standing water on any flat surfaces (exterior window sills).
- Provide adequate flashing at wall openings and intersections to avoid water penetration.
- Provide and maintain gutters and downspouts on roofs to prevent water damage to walls and their decorative elements.
- Check porches and chimneys for separation from the supporting wall.

It is inappropriate to use high-pressure cleaning methods such as sandblasting to clean any wall surfaces. Hand-scraping and wet-sanding of wooden and masonry surfaces are recommended. Low-pressure power washing is recommended for cleaning. The pressure level should be below 400 pounds per square inch (PSI), although 200 PSI is preferred. The objective should be to clean the surface and remove loose paint, not to totally remove intact paint. When paint is so deteriorated that total removal is necessary prior to painting, careful use of hot air guns on decorative features and electric heat pads on flat wood surfaces is recommended. The use of a propane torch should be avoided since it may cause fire and can cause long-term damage to the surface.

NOTE: For details regarding materials, see pages 83-98.

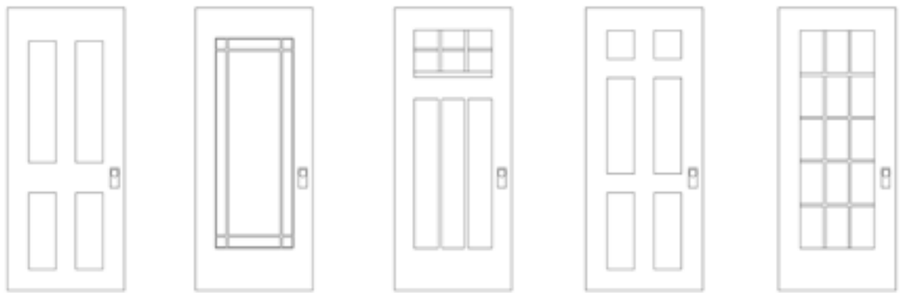
3.3 Doors & Windows

Doors

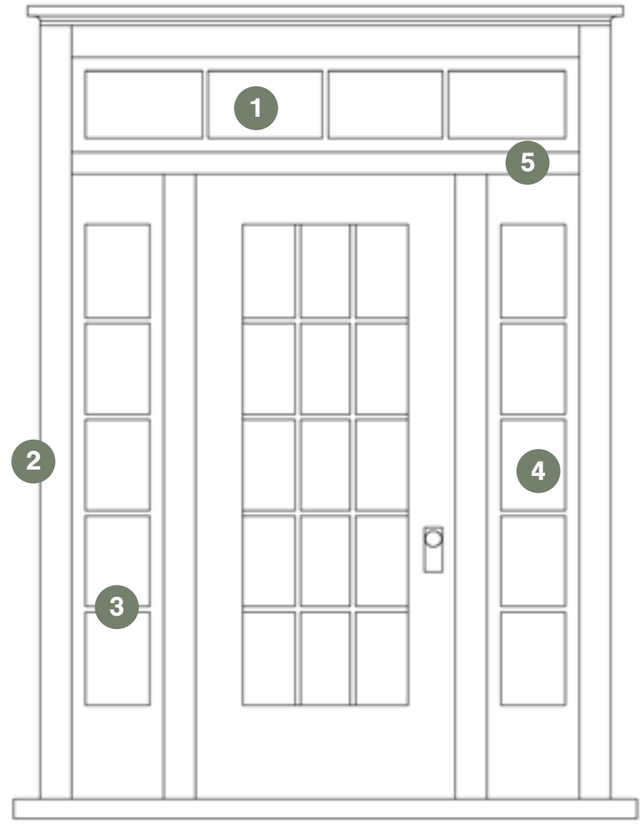
Wilmington's historic districts have a diverse selection of exterior doors that tend to reflect the style of the building. Greek Revival doors, whether paired or single, are frequently divided into two or more panels with side lights and overhead transoms. Italianate doors are often set within arched openings with elaborate frames, and they sometimes incorporate large glass panels. Some Colonial Revival houses have paneled doors that reflect the house style, while many of the more modest Classical Revival houses have top panels of beveled glass. Craftsman houses tend to have single doors with fixed multi-paned top panels. Original doors, like windows, are important features of a building.

Door Types

There are five basic door types common in Wilmington.



Four Panel | **Bungalow or Craftsman** | **Craftsman** | **Six Panel** | **Full-size Glazed**



Basic Door Terms

1. Transom
2. Casing
3. Muntin
4. Side-light
5. Transom Ear

Ornate Stylistic Door Types

In addition to the basic door types shown above, the following three types of doors are more intricate and appropriate to their particular style (as described).

Greek Revival


Italianate

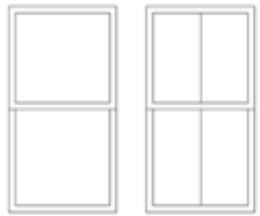

Georgian

Windows

Windows, like some other features, reflect the architectural styles and the age of a building. They also indicate changes in technology. Most of the windows in Wilmington's historic districts are double hung, although casement types (sometimes with metal frames) are a feature of the Revival architecture in the *Carolina Heights / Winoca Terrace District*. Early windows were made by hand with smaller panes and thicker glass. By the end of the 19th century, windows were mass produced and technological advances allowed for the production of larger panes. Leaded stained glass and other forms of ornamental glass became popular during this era.

Window Types

Basic types of windows common in Wilmington.



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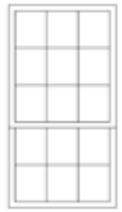

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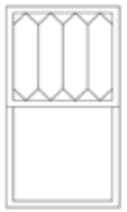


Sash with Geometric Tracery

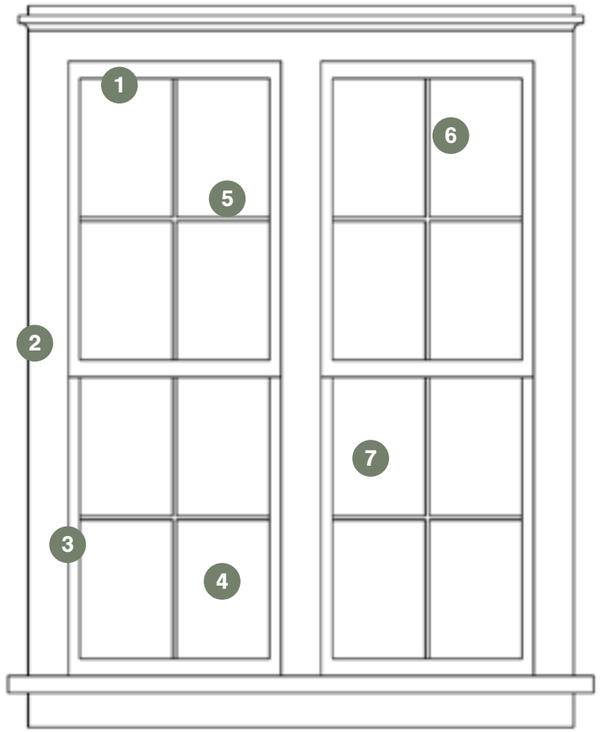
Palladian

Triple

Queen Anne Sash

Appropriate window blinds
214 N 7th Street

Inappropriate air conditioning unit in window
Source: The Walker Collaborative



Basic Window Terms

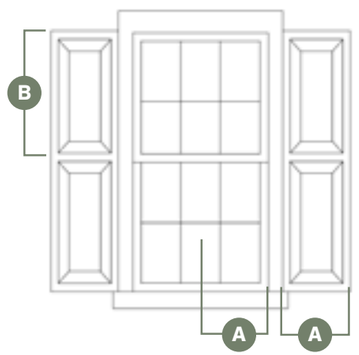
1. Muntin
2. Sash
3. Sill
4. Apron
5. Mullion
6. Casing
7. Light or Pane

Blinds and Shutters

Blinds have louvers, while shutters have panels

Blind

Shutter



Blinds & Shutters

A When closed, a shutter or blind width should cover 1/2 of a window opening.

B If blinds are used, the louver area should be equal to the sash height. Horizontal rails should occur at the line where the sash meets the rails of the window, as shown above.

Door & Window Standards

1. Retain and preserve original windows and doors, including sashes, frames, glass, lintels, sills, stools, trim, shutters and hardware. Examples of character-defining features to be preserved include transoms and sidelights. Repair, rather than replace, original windows and doors.

2. Glazing surrounding doors and windows should not be covered, painted or otherwise altered.

3. Historic door and window materials should only be removed when an accurate restoration necessitates its removal. Examples of such materials include conventional glass, stained glass, textured glass, leaded glass, beveled glass, glass block, and tracery.

4. If historic doors or windows of a masonry building must be eliminated/enclosed, infill material should be recessed to maintain the outline of the original opening. Also, such alterations should be limited to secondary or rear elevations.

5. Replace only the deteriorated part if a portion of an original window or door needs replacement. It should match the original in size, scale, proportion, material, and detail.

6. Double-pane glass may be used as a repair or replacement material in an existing sash under certain conditions. It should be generally compatible with the reflective quality of the existing glazing elsewhere on the building, and the muntin must be deep enough to accommodate insulated glazing. However, because insulated glazing will fail at some point as the sealer (gasket) deteriorates, the installation of a single-glazed window with a storm sash is preferable.

7. It is inappropriate to replace original clear glass with colored or stained glass unless it reflects the style of the building. Tinted, frosted, reflective or opaque glass is inappropriate.

8. It is inappropriate to install snap-in muntins in either existing or new windows. New windows should utilize true divided lights or simulated divided lights with spacer bars.

9. Windows and doors should utilize traditional materials. For example, salvaged doors and windows should be sought before new materials are introduced. Substitute materials may only be considered when historic materials are no longer available.

10. Do not alter the opening size and shape of historic windows and doors to accommodate new doors or windows. Likewise, the historic framing and detailing surrounding the opening should be preserved.

11. Encourage the replacement of later non-historic windows and doors and those that are missing with new windows and doors that are based on historic doors from the building or documentary evidence. Replacement material should match the historic material in size, shape, design, texture, scale, color, and (where possible) material.

Door & Window Standards

12. New entrance doors or windows should be compatible to the era and style of the building and the district. Doors and window that create a false historic appearance or the appearance of an earlier era are inappropriate. Jalousie windows and sliding windows are not appropriate in the historic districts.

13. Relate wooden replacement blinds or shutters to the dimension of the window opening and equip them with historically accurate hardware (hinges and holdbacks) and nail affixed to the wall. They should be attached to the window casing and not siding. Blinds and shutters should be made of wood unless it can be proven that a composite material will hold its appearance over time.

14. The use of louvered blinds versus solid shutters should be based upon the age and style of the building. Most historic buildings in Wilmington used blinds, but shutters are appropriate for the earliest buildings (18th century) and Revival forms of such buildings, such as Colonial Revival.

15. Storm windows should not obscure the character defining elements of the window. If the window is a double-hung window, install a storm window with a divider that matches the elevation of the meeting rail of the existing sash. Storm sash frames should have a narrow profile and finished in the same color as the window sash. Additional dividers should be located to align with window mullions. The storm window should be installed in a manner that does not damage the existing window or window frame. Interior snap-in storm windows having little visual impact from the outside should be considered as an alternative, although they fail to protect the window from weather.

16. Storm doors should be the full-light type (single panel) to allow clear visibility of character-defining elements of the door. It should be installed in a manner that does not damage the existing door or frame.

17. Exterior storm windows and doors should be either prepainted, paintable, or have a baked-enamel finish compatible with the color of the building's trim. Install storm windows and doors so that existing windows, doors and frames are not damaged or obscured.

18. Retain and preserve original and or historically appropriate wood-framed screen doors. If replacements are needed, match the original in dimension and design. They can be stained and left to weather naturally or painted to be compatible with the building's trim.

19. Avoid the installation of air conditioning units in windows, particularly on a building's front facade. Not only are they out of character with historic buildings, but improper installation and maintenance can result in damage to wooden window sills, including rot from condensation.

Maintenance

Doors and windows deteriorate over time because of their constant use and exposure to rain and moisture. Peeling paint, the absence of glazing putty, and damp conditions will accelerate rot and energy loss. It is more appropriate to repair a window sash than to replace the entire window. Wood decay can be chemically retarded when the spaces in damaged wood are filled with epoxy consolidants. Deteriorated sections can be replaced. Inspect windows and doors on a frequent basis to prevent deterioration and follow these steps:

- Maintain caulking and glazing putty around the window glass to prevent air or water infiltration.
- Weatherstrip windows and doors to prevent moisture and air filtration.
- Check sills and thresholds to ensure that water does not collect on them.
- Maintain a sound paint coat on all wooden windows and doors.

Exterior shutters and blinds appear on many houses within Wilmington's historic districts. Both decorative and functional, they should be proportionate to the window openings and constructed of wood. Awnings were historically used on residences and commercial storefronts within the historic districts. They appear on late-19th and early-20th century Revival-style houses. Canvas was the most common material used historically for awnings.

Historic Windows & Energy Efficiency

Despite marketing campaigns promoting new windows, historic wood windows have the same, if not more, efficiency than new windows if maintained properly. Experts at the National Trust for Historic Preservation and the Department of Energy have determined that weatherization of existing windows can be more cost-effective than replacement.

How to Improve the Efficiency of Historic Windows

- Maintain windows in good working order;
- Minimize water penetration by maintaining caulk or putty;
- Reduce air infiltration by using weather stripping;
- Seal and insulate sash cord weight pockets;
- Lock windows to improve seal between sashes; and
- Install storm windows per the standards in this section.

Repairing Historic Windows

Repairing the original windows in an older building is more appropriate and cost effective than replacing them with new ones. Wood framed windows are usually relatively easy and inexpensive to repair. The sashes may stick because they are warped or swollen with moisture, or because of years of paint build-up. The sash may not open properly because of broken sash cords. Getting them to work may be as simple as moving the stop molding out a bit, scraping off excess paint, and replacing the sash cord. If the sash is too loose, the stop may need to be moved in slightly. Reglazing, weather-stripping, and caulking will help to stop air leaks. Finally, rotten wood can be rejuvenated by using wood consolidation products.

Window Replacement Principles

The following principles should guide any window replacement projects:

- Pre-1940s wood windows are typically more durable and resistant to rot due to their likely construction of old-growth wood;
- Historic windows are made of individual components that can be replaced versus newer windows that are built as a single unit requiring complete replacement if it fails;
- Replacement windows that are high quality are expensive, forcing a longer return on investment, and many fail long before that return;
- Cost effective methods of weatherization, such as storm windows and shades, can produce energy savings comparable to replacement windows;
- Improving the efficiency of historic windows has a lower environmental impact than replacement windows due to the energy required to produce new windows and their often shorter life.

More Information on Historic Windows & Doors

For information on how to properly repair wooden windows, see the National Park Service Preservation Brief #9:
"The Repair of Historic Wooden Windows" at https://www.nps.gov/orgs/1739/upload/preservation-brief-09-wood-windows.pdf

For information on dealing with historic steel windows, see the National Park Service Preservation Brief #13:
"The Repair and Thermal Upgrading of Historic Steel Windows" at https://www.nps.gov/orgs/1739/upload/preservation-brief-13-steel-windows.pdf

For information on historic stained and leaded glass, see the National Park Service Preservation Brief #33: "The Preservation and Repair of Historic Stained and Leaded Glass" at https://www.nps.gov/orgs/1739/upload/preservation-brief-33-stained-leaded-glass.pdf

This information is supplemental and not part of these standards.

3.4 Foundations

Background

In many cases, a building's foundation is finished in a different material than the exterior walls. Foundations are usually built of brick or stone, although concrete block was often used on some early-20th century buildings. In some cases, stucco is used as a finishing material. Solid, pier, and infilled pier foundations are all characteristic of historic foundations that might be found in Wilmington. Individual buildings and materials should be taken into consideration when beginning a foundation rehabilitation project. Pier and underpinning construction may be of different material historically in residential construction. Foundations, which carry the load of a building to the ground, can differ from underpinning material and even from the infill material. During the 18th and 19th-centuries, residential construction was typically atop piers that frequently had underpinning and/or infill construction. However, in the early to mid-20th century, continuous foundations became common. Porches are often supported by brick piers in which the gaps between piers are screened with a wooden lattice work and/or shrubs.

Maintenance

Regular maintenance of historic foundations should include the following:

- Conduct routine inspections to ensure the foundations are sound and not in need of repair.
- Maintain the downspout system and splash blocks that carry water away from the base of the foundations so that water does not cause damage to foundations.
- If downspouts connected to underground drains are prone to clogging, repair them as needed. An alternative is to disconnect the downspout from the drain and attach a long flexible pipe to the end of the downspout to direct the water away from the building, but that is only a temporary solution.
- Check the ground around the foundation for adequate drainage away from foundations, including at least a slight slope in the grade away from the building. Ideally, the grade under a building should be higher than the adjacent grade. Standing water under or adjacent to a building can be wicked up masonry walls and increase the moisture content of wood framing members atop a foundation and increase the dampness in a building. However, grade adjustments are not always possible, especially for commercial buildings that abut neighboring building. Adding a sump pump and moisture barrier is another option to reduce water from under a building. Grading changes should not drain water onto neighboring properties or create drainage problems that did not previously exist.
- Ensure that foundations are free from vegetation (including ivy), insect infestation, and water damage.

Foundation Standards

1. Maintain and preserve foundations, their underpinnings, infill materials, and their details that contribute to the significance of the building. These include wall materials such as brick, masonry, and stucco, as well as historic latticework existing between piers.
2. Keep ventilation openings in the foundation clear and avoid filling. If the ventilation cover ("grill") contributes to the architectural character of the building, such as decorative cast iron grills, maintain the original design. If missing, replace such covers with identical designs.
3. Conduct regular inspections and maintenance of historic foundations, as described previously in the section on Maintenance. Occasional repointing of mortar joints may be necessary.
4. Historic foundations and their features should not be visually obscured by the installation of modem substitute materials, such as a stucco parge coat. To the extent that a building's foundation materials or design contribute significantly to the character of the building, foundation landscaping should be minimized to avoid completely hiding the foundations unless there is historic precedent for such landscaping.
5. Painting and/or waterproofing the exposed parts of foundations is not allowed. Non-porous coatings trap moisture which, upon freezing, accelerates deterioration and sometimes causes interior damage.
6. Trees and other large vegetation should not be planted near a foundation because the roots hold moisture and can crack foundations as they grow.
7. Avoid cladding, parging, or otherwise covering historically exposed foundation materials. Such treatments negatively alter a building's character and can trap moisture that leads to damage.
8. Recess underpinning or infill materials behind the front of the historic piers. Openings between brick piers may be filled in with matching masonry materials or lattice work. Masonry should be recessed at least three (3) inches in depth.
9. When a foundation must be repaired or rebuilt, the original bricks or stones should be used or replaced by bricks or stones that are similar in size, color, and surface texture to the original. For recycled bricks, the weathered side should face the outside.
10. Repointing should match the design and color of the original mortar joints. See the section of these Design Standards on masonry materials for more information on proper repointing practices.

Foundation Standards

11 When rebuilding a foundation, the existing bond patterns and mortar joints should be duplicated. Bandboards, brick header rows, and other visible horizontal design elements should match and align with the existing elements.

12 Replace only the damaged portion of a historic foundation if it is deteriorated beyond repair. Materials and methods identical to the original should be used.

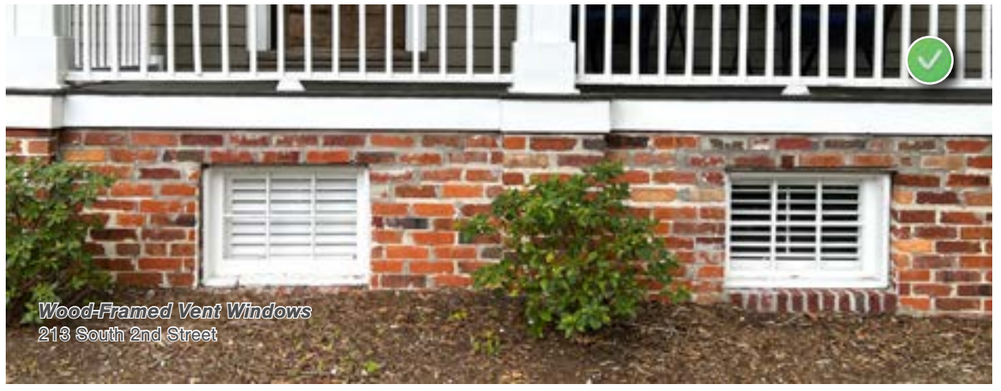
13 Foundation components that must be replaced should be identical to the original in size, scale, texture, detail, craftsmanship, material, and color range. If a new design is necessary, the design should be compatible with the historic building based on documented evidence.

14 Substitute materials may be considered when the material cannot be repaired or when the material is no longer available. Exposed concrete blocks and framed concrete should not be used.

15 Venting of a foundation is necessary. When designed based upon historic precedents, they should feature wooden framing that is painted to match the building's trim. Another option is decorative painted cast iron if appropriate to the building's age and style. If intended to not be visible, vents should be painted a color that blends with the existing foundation color.

16 Access doors to the foundation area have a minimal visual impact. They should be located in an area not visible from a street.

Parged Historic Foundation
Source: The Walker Collaborative



Wood-Framed Vent Windows
213 South 2nd Street

Wooden Lattice Work
215 North 6th Street

3.5 Porches & Entrances

Background

Porches and entrances are important elements of a building. Their prominent position helps establish character and architectural style. In the late-18th century, they were added to southern folk houses, providing shelter from the sun and storms. As building styles changed, so did porches. They were sometimes called "piazzas" after the Italian word for "plaza." They embellished mansions and cottages, and were frequently changed to keep up with the most recent stylistic trends.

Wilmington's historic districts have a wide variety of porches and entrances. From the simple vernacular cottage to high-style residences, every building has a porch. Two-story porches enhance 19th century mansions overlooking the river. Porches with square posts and classical entablatures complement Greek Revival-style houses, while the bracketed porches of Italianate homes have chamfered columns and sometimes cast iron posts. Deep wrap-around porches with turned columns and decorative spandrels embellish late-19th century Queen Anne-style houses. The facades of large Neoclassical buildings are often dominated by full-height porches with Ionic or Corinthian capitals. However, in Wilmington, more modest examples of the style have one-story full-width porches. Colonial Revival style houses have small pedimented entrances. Prairie style houses in the *Carolina Heights / Winoca Terrace District* have hipped roof porches with sturdy brick or battered supports, while the many bungalows have recessed porches with short thick columns resting on massive piers or solid balustrades.

Porch floors of the 19th and early-20th century are tongue-and-groove and gently slope away from the house. Balustrades were typically lower by today's standards (32 inches) and generally reflected the style of the columns. Square spindles were commonly used on balustrades until the middle of the 19th century when they were replaced by more ornate turned posts. After the turn of-the-century, there was a return to square spindles. The structural supports of early ceilings were often exposed with a painted finish. By the mid-19th century, it was popular for ceilings to have a tongue-and-groove board finish.

Porch & Entrance Standards

1. Retain and preserve original and/or historic porches and entrances, as well as their functional and decorative features that contribute to the significance of the building and the area.

2. Prioritize repair over replacement. Repair deteriorated entrances and porches and their features with identical material. Retain as much of the original materials as possible.

3. If replacement is necessary, match the original in size, shape, pattern, material, and composition. Replacement materials should have the appearance of original materials if visible from a street. For example, metal supports should not be used as substitutes for wood columns, plywood should not be a substitute for beaded board ceilings, and concrete should not be a substitute for tongue-and-groove wood flooring.

4. Use substitute replacement materials only if using the original material is not possible. Fiberglass and composite units are the most appropriate alternatives for elements such as columns and balustrades on front facade and side porches. Metal replacement columns and posts may be acceptable for the rear facade, but vinyl is prohibited for all façades.

5. Replace missing porches and similar features (porticoes, balconies, etc.) only when there is evidence that such feature existed historically and when it can be replaced with a fair degree of historic accuracy based on evidence and/or comparable such features in the area for comparable buildings.

6. Replace original floors only as a last resort. Replacement floors should be visually compatible with the original. Composite flooring and cementitious floor boards imitating wood are acceptable.

7. When historic steps must be replaced, use closed risers (no open back between treads), and maintain a scale and materials appropriate to the porch. Replacing wood steps with masonry, such as bricks, is inappropriate. Similarly, poured concrete steps are inappropriate unless there is evidence that they were historically present.

8. A false sense of history should not be created by the introduction of inappropriate features and details to a porch or entrance area.

9. It is inappropriate to screen or enclose front porches because of their significance as a design element and the possibility of losing or damaging original materials. Rear or side porches may sometimes be screened if the frame is constructed behind the columns or posts and is removable without adversely affecting the historic integrity of the structure. When permitted, screening should use the minimum number of vertical and horizontal framing members necessary, and they should be aligned with existing porch elements to minimize their visual impact. The reopening of porches that were previously enclosed is highly encouraged.

10. Rear and side porches may be converted to sunrooms if the new design is compatible with the architectural style of the house and the glass elements can be removed without adversely affecting the structure.

Full-Width Front Porch on Four Square
311 North 15th Street

Maintenance

Porches can deteriorate rapidly because of constant exposure, so the following steps should be followed:

- Maintain a paint coat and ensure that joints are sealed.
- Maintain a proper slope on porch floors to ensure water run-off away from the building.
- Maintain gutters and downspouts.
- Conduct routine inspections for any water, vegetative, insect, and structural damage.
- Keep porch and portico roof valleys, gutters, and downspouts clear of debris, and look for rusting metal
- Avoid artificial turf, carpets, and throw rugs on flooring to avoid trapping moisture that can deteriorate the wood. If used, they should be periodically removed, checked for damage, and allowed to dry.

NOTE: The State of North Carolina's Building Code requires a 36" handrail when the porch height is 32" or more above ground level. However, existing handrails in the Wilmington historic districts are typically less than 36" high in keeping with historical precedent. Regardless, new construction requires the current height of 36".

More Porch & Entrance Information

For more information on preserving wooden porches, see the National Park Service Preservation Brief #45: "Preserving Historic Wood Porches" at https://www.nps.gov/orgs/1739/upload/preservation-brief-45-wood-porches.pdf

This information is supplemental and not part of these standards.

Inappropriate enclosure of Bungalow porch
Source: Tamanoeconomico via Wikimedia Commons

Inappropriate new hand rails
Source: The Walker Collaborative

Inappropriate creek stone post supports and concrete blocks replacing brick porch pier
Source: The Walker Collaborative

3.6 Materials

Background

Building materials entail more than just foundations, walls, and roofs. Decorative and architectural elements are also considered building materials. The building material is essential to the contributing qualities of a historic building. In addition to brick and wood, the most common building materials for historic buildings include stone, terra cotta, stucco, slate, granite, limestone, cast stone, concrete, cast iron, wrought iron, tin, and glass. It is important to retain and preserve these materials so that the significance of the building and the area is not compromised. The following standards are specific to wood, masonry, metal and artificial materials.

Wood

In Wilmington's commercial and mixed-use historic areas, exterior wood is primarily used for storefronts, cornices, doors and windows. For historic residential areas, wood is also used for doors and windows, but even more so for exterior walls having clapboard cladding, as well as other architectural features, including porches and fences.

Clapboard replacements to match existing
209 Nun Street

Wooden shingles, clapboards, window frames, sashes, muntins, and blinds
408 South 2nd Street

Wood Standards

1. Retain and preserve original and/or historic wood materials, including wood siding, trim and decorative elements, such as cornices, brackets, and window architraves. The preservation of wood materials should include its original dimensions, texture and details, such as beading on boards.
2. Repair historic wood using traditional preservation techniques, including patching, splicing and reinforcing, as needed. Utilize wood consolidants as a last resort to total replacement to stabilize damaged or deteriorated wood.
3. Repair may include a limited amount of replacement in-kind where some has deteriorated. Replace historic deteriorated or damaged wood only as a last resort. Match the substitute material to be original in shape, scale, proportion, detail, texture and material. When possible, limit replacement to the deteriorated or missing section only, as opposed to the entire feature.
4. Do not add wood features that have no historical basis, thereby conveying a false sense of history.
5. It is inappropriate to cover existing wooden finishes with synthetic products such as vinyl or aluminum. Whenever possible, remove the synthetic siding and repair original material.

The Case for Old-Growth Wood

Old-growth wood is the term used to describe wood that grew up in forests over hundreds of years. Old-growth wood is denser than the young trees harvested today and is therefore stronger and more resistant to damage and decay. Its quality allows it to hold up well to both dry and wet conditions. Old-growth wood expands and contracts less, so paint lasts longer. Before replacing historic siding, trim, or wood windows that look deteriorated, consider repairing them with wood repair epoxy and properly repainting instead. That hundred-year-old material or window may last another hundred years.

Wood Maintenance

Heart of pine, known for its durability, was the wood of choice for construction in Wilmington. Although wood siding is extremely durable, it requires routine maintenance to keep it in good condition. The application of chemical preservatives to beam ends or outriggers that are traditionally unpainted can increase the life of wood members. Key maintenance steps include the following:

- Check painted wooden surfaces for signs of damage from moisture, mildew or insects.
- Check the condition of painted wooden surfaces for peeling paint and open joints.
- Check all joints and caulk as needed.
- Provide proper drainage to prevent standing water on flat surfaces (window sills, porch floors, etc.).
- Provide adequate flashing at openings and intersections to avoid water penetration.
- Provide gutters and downspouts on roofs to prevent water damage to wood and decorative elements.

Also, it is inappropriate to use high-pressure cleaning methods, such as sandblasting, to clean wood surfaces. Hand-scraping and wet-sanding are recommended. Low-pressure power washing (less than 400 PSI) is permitted for cleaning wooden surfaces. When paint is so deteriorated that total removal is necessary prior to painting wooden surfaces, careful use of hot air guns on decorative features and electric heat pads on flat wood surfaces is permitted. The use of a propane torch is prohibited since it may cause fire. Existing exposed wood and new wood should be treated with preservatives prior to priming and painting to protect the wood from deterioration. Improve replacement wood with an application of oil-based copper naphthenate prior to painting it.

Treating Wood Rot

Although deterioration can occur to a range of materials that are part of a historic building, one of the most common such materials is wood. Rotted wood can compromise the structural integrity of supporting columns, and it can even cause floors, walls, or roofs to collapse. Wood windows, doors, porch columns, siding, exterior trim and other places where wood gets wet and may not have been painted frequently enough can quickly deteriorate. Properly maintaining the exterior of a building can prevent rot, but skipping a needed painting cycle, letting gutters back up, missing a roof leak, or failing to caulk around windows and doors, allows water to seep in and wood rot to occur. Although wood rot is potentially a serious problem, if caught soon enough, it can be easily repaired without the need to replace any elements of the building.

A variety of products exist that can restore strength to weak rotted wood. By using epoxy adhesives intended for the repair of rotted wood, a deteriorated wooden element can be restored into a durable and water-resistant material. The first step is to apply an epoxy consolidant, which can soak deeply into the wood fibers without the need to cut out any of the damaged wood. It can be brushed, poured or injected into the wood. Once the consolidant dries, the previously deteriorated wood will be solid again. Next, if the wood rot is so bad that damaged areas are completely missing, a putty-like epoxy can be pressed into place where needed. Once hardened, it can be sanded by hand or with an electric sander. It can then hold paint, be nailed or screwed into, or routed/carved for decorative effects.

Masonry

In early Wilmington, where fire was a constant threat, brick was used for warehouses and commercial buildings beginning in the late-18th century. Brick was also used for street paving, for building structural and decorative walls, and for foundations, pathways and driveways within the historic districts. Stone ballast from overseas supplied the foundations for early houses. Beginning in the late-19th century, many of the commercial buildings had a stucco finish, often with terracotta details. Sandstone appears as trim and as applied ornament. Granite curbing is common throughout all of Wilmington's historic districts. Materials commonly used for building features in Wilmington's historic structures include brick, stone, terra cotta, cast stone, concrete, slate, tile and stucco, with brick being the most prevalent masonry material. Architectural features using these materials included walls, steps, foundations, and chimneys. The texture, scale, color, course pattern, and details of masonry surfaces all combine to contribute toward the character of a historic structure.

Masonry Standards

1. Retain and preserve all original and/or historic masonry features, including walls, foundations, chimneys, arches, quoins, cornices, pediments and similar architectural elements.

2. Eliminate any forms of vegetation that may cause structural damage or prevent surface drainage.

3. Do not waterproof masonry as a substitute for repointing or repair. Water repellent coatings are permitted, as they do not trap moisture. Sealants are prohibited.

4. Do not use high-pressure cleaning methods, such as sandblasting and waterblasting, on historic masonry surfaces.

5. Do not apply paint or other coatings to unpainted masonry elements that were never painted. Removal of paint from masonry surfaces is only permitted if the surface was not historically painted. Undertake removal only with a chemical paint remover specifically formulated for masonry. Always test the remover on an inconspicuous area or a test panel first.

6. If replacement of deteriorated masonry material is necessary, match the new materials to the original materials in composition, size, shape, color, pattern and texture. It is inappropriate to use new masonry materials that were unavailable when the building was constructed. Limit replacement to the deteriorated section only, rather than the entire feature.

7. Do not add masonry features that have no historical basis, thereby conveying a false sense of history.

Masonry Maintenance

Ensure that water does not collect at the base of a masonry foundation or chimney. Surfaces should be inspected regularly for dirt build-up, moisture damage, deteriorated mortar joints and cracking.

Masonry Cleaning

- Cleaning is not recommended to reduce the effects of weathering, but is acceptable to reduce accumulative deposits of dirt. Heavily-soiled masonry should be cleaned with low-pressure water washing (500 pounds per square inch or less) and soft natural brushes.
- Care should be taken when cleaning sandstone or soft brick. If detergent is necessary, check composition before use.
- Chemical cleaners are acceptable provided a spot test demonstrates the masonry material will not be adversely affected.
- Sandblasting should not be employed to clean masonry, as it can heavily damage the hard fired exterior surface of bricks and the calcified mortar joints.

Mortar Joints

Mortar joints that deteriorate over time can allow the penetration of moisture to the interior of the structure. Repointing is necessary to correct the problem.

- All loose and deteriorated mortar needs to be raked out of the joint by hand and new mortar inserted. Old mortar should generally be removed to a minimum depth of one-and-one-half times the width of the joint to ensure an adequate bond.
- Care must be taken to choose a mortar mix that matches the original in terms of composition, color, texture, strength, tooling width and appearance. Repointing with a mortar composed of a high Portland Cement mix is not permitted, as it can create a mortar that is stronger than the existing mortar and may cause the brick to break apart. Repoint older bricks with a mortar no harder or softer than the original.
- Color match for mortar should be achieved with the proper selection of sand, not color additives. The new mortar joint should match the original in appearance and profile.

Removal of Vegetation

While some people like the appearance of vines growing on a masonry wall, the tiny roots can penetrate the mortar joints and cause them to deteriorate. Removal is best achieved as follows:

- Sever vegetation, such as vines, several inches to a foot above the ground level, and treat the base or stump with an herbicide applied into the stump.
- Carefully remove vegetation from hard-fired masonry and harder mortars. For under-fired masonry and lime-based mortar, the plant must be cut just above the face of the building and allowed to degrade over time without pulling, as pulling can result in the loss of historic fabric.

Masonry Applications

- Do not paint previously unpainted historic masonry surfaces to retain its historic appearance.
- Do not parge or apply above-grade, water-repellent coatings and sealers, as they may cause greater deterioration by trapping moisture inside the wall, in addition to altering the appearance of the masonry.

More Masonry Information

For more information on the cleaning and treatment of historic masonry, see the National Park Service Preservation Brief #1: "Assessing Cleaning and Water Repellant Treatments for Historic Masonry Buildings" at https://www.nps.gov/orgs/1739/upload/preservation-brief-01-cleaning-masonry.pdf

For more information on repointing mortar joints, see the National Park Service Preservation Brief #2: "Repointing Mortar Joints in Historic Masonry Buildings" at https://www.nps.gov/orgs/1739/upload/preservation-brief-02-repointing.pdf

For information on dealing with historic concrete, see the National Park Service Preservation Brief #15: "Preservation of Historic Concrete" at https://www.nps.gov/orgs/1739/upload/preservation-brief-15-concrete.pdf

For information on dealing with historic stucco, see the National Park Service Preservation Brief #22: "The Preservation and Repair of Historic Stucco" at https://www.nps.gov/orgs/1739/upload/preservation-brief-22-stucco.pdf

For information on dealing with historic cast stone, see the National Park Service Preservation Brief #42: "The Maintenance, Repair and Replacement of Historic Cast Stone" at https://www.nps.gov/orgs/1739/upload/preservation-brief-42-cast-stone.pdf

This information is supplemental and not part of these standards.

Metal

Wilmington's Residential, Theatre, and Downtown Commercial Historic Districts have a wealth and variety of architectural metals. Wrought and cast iron fences define the property lines. Iron cresting, weather vanes and finials enhance the roof tops of churches and public buildings. Elaborate porches and balconies contribute to the character of many larger homes. Cast iron furniture highlights the plazas of boulevards and streets. Some commercial buildings in the Downtown District have cast iron storefronts. In Oakdale Cemetery, cast iron fences adorn many of the gravesites. Terne metal has been a popular roofing material since the mid-19th century. Copper is used on finials, dormers, gutters, downspouts, and (in rare instances) cornices, domes and other architectural features on public, commercial, and residential buildings. Modern metals such as aluminum and stainless steel are also found in the districts, although those are not always appropriate materials, depending upon their use.

The extensive use of decorative ironwork in Wilmington goes back to the 1830s and it increased after the Civil War. Most of the decorative metal work is cast iron. Cast iron is made by pouring molten iron into molds making it possible to create unlimited creative and decorative forms. Wrought iron is relatively soft, malleable, tough, and readily worked by forging, bending, and drawing. Cast iron elements are bolted or screwed together, whereas wrought iron elements are either riveted or forged. Compared with cast iron, wrought iron elements generally are simpler in form and less uniform in appearance.

More Metal & Materials Information

For information on architectural cast iron, see the National Park Service Preservation Brief #27: "The Maintenance and Repair of Architectural Cast Iron" at https://www.nps.gov/orgs/1739/upload/preservation-brief-27-cast-iron.pdf

For more information on the problems associated with harmful cleaners on all types of historic materials, see the National Park Service Preservation Brief #6: "Dangers of Abrasive Cleaning to Historic Buildings" at https://www.nps.gov/orgs/1739/upload/preservation-brief-06-abrasive-cleaning.pdf

For more information on the maintenance of the exterior of historic buildings, see the National Park Service Preservation Brief #47: "Maintaining the Exterior of Small and Medium Size Historic Buildings" at https://www.nps.gov/orgs/1739/upload/preservation-brief-47-exteriors-small-medium-buildings.pdf

This information is supplemental and not part of these standards.

Metal Standards

1. Retain and preserve original and/or historic metal features, including its original dimensions, texture and details. Examples include cast iron facades, steps, fences, sheet metal cornices, roof cresting, finials, metal doors, hardware, and other architectural metal features and surfaces.
2. Repair architectural metal features rather than replacing it whenever possible. Repairs can be made by patching, splicing or reinforcing, using accepted preservation standards rather than substitute materials.
3. Replace only parts of architectural metal features that are too deteriorated to repair. The replaced portions should match the original in terms of material, style, detail, shape, and form.
4. Utilize only those architectural metals with decorative elements that are in keeping with the character and style of the building and that do not create the illusion of an earlier era.
5. Substitute materials may be considered when the metal material cannot be repaired or when it is no longer available. Examples of potential substitute materials include fiberglass, aluminum or wood detail. When painted, the substitute material should have an identical appearance to painted metal, and it should be able to withstand weathering over time.

Metal Maintenance

Architectural metals should be inspected and maintained on a regular basis to prevent deterioration through corrosion, metal fatigue and water damage. Corrosion occurs in the form of oxidation or rusting when metals are exposed to moisture and air. Corrosion can also occur from galvanic action between two dissimilar metals. The following maintenance guidelines are offered:

- Provide proper drainage to prevent water puddling on flat horizontal surfaces or accumulating around decorative elements.
- Clean debris from metal roofs and gutters to avoid accumulation that results in corrosion or rust.
- Clean architectural metals when necessary to remove corrosion before repainting. Hard metals can be cleaned with wire brushing or hand scraping. Such metals include wrought iron, cast iron and steel. Harsher techniques, such as low-pressure grit blasting or glass bead blasting, should only be used when milder techniques are unsuccessful.
- Clean soft metals such as tin, copper, terneplate, brass, and bronze with appropriate chemical methods. They may receive a protective coat of lacquer once they have been cleaned. Use hand scraping and wire brushing to clean hard metals like wrought iron, cast iron, and steel. If this is not effective, low-pressure dry grit-blasting may be used. Always spot check to determine if the chemical cleaner will injure the metal.
- To avoid corrosion or rust, apply a primer to ferrous metals (as opposed to non-ferrous metals such as copper, brass and bronze) after cleaning such as a zinc-based primer or some other rust-inhibiting primer. Alkyd rust-inhibitive primers are recommended for wrought iron, cast iron, and other hard metals.
- Do not remove naturally-occurring patinas on metals such as copper, as it functions as a protective coating and is consistent with a historic character. However, when absolutely necessary, mild chemical cleaners can be used for soft metals such as brass, copper, tin and lead, but testing should first occur in a low-visibility areas.

Artificial Slate Roof
Source: All Weather Products Ltd. / Ken Lillejord

Artificial Materials

There are many available artificial materials that can avoid negatively altering the appearance and character of historic buildings. However, as just one example, many faux slate roofing materials are actually larger than historic slate roofing and will greatly alter the appearance of the roof and overall building. The use of artificial siding, such as aluminum or vinyl, can cause long-term damage to historic materials by hiding decay, trapping moisture, and damaging historic wood with nail holes. Furthermore, artificial siding can also negatively alter the appearance of a building's exterior. For example, the surface appearance and exposure width of clapboards may not look authentic when using artificial siding. Materials such as vinyl siding utilize strips at facade corners and around the perimeter of doors and windows that are instant clues that artificial materials have been employed. Nevertheless, when it is determined that the use of artificial building materials is acceptable, it should be utilized in a manner that new material matches the design, appearance, size, texture, and other visual qualities of the historic material.

Problems with Artificial Siding

The use of artificial siding to cover the original siding is generally not permitted. Some of the drawbacks to artificial siding include the following:

- It conceals original building materials and alters details and scale of windows and door surrounds, corner boards, and cornices. It obscures the architectural details which characterize a historic structure.
- During the installation process, nail holes damage the materials and craftsmanship of the original siding.
- It hides damage from termites, rot, and moisture. The hidden wood siding will deteriorate rapidly as minor problems become serious and expensive.
- It traps moisture in the space created next to the wood of the house, increasing the chance of damage to the building.
- It is not a good insulator. Attics, floors, doors, and windows are the areas of greatest heat loss, not walls. The insulation value is negligible.
- It tends to dent and scratch. When damaged, it must be removed and replaced since it can not be repaired.
- Colored artificial siding can eventually fade and mildew, so that it must be painted.
- Vinyl siding has much lower melting and flash points than wood so as to be hazardous.
- It lacks the warmth and charm of natural wood.

Artificial Material Standards

1. Remove existing artificial siding when the opportunity presents itself, such as the removal of vinyl or aluminum siding. Historic materials beneath such artificial siding should then be repaired or replaced in kind if necessary.

2. Artificial siding may be considered when the historic siding is missing or too deteriorated to be repaired. Applicants must document the extent of deterioration that necessitates replacement, and they must also prove that a like material is unavailable. The longevity and appearance of artificial materials over time must be considered. For example, oil-based copper naphthenate should be used on all exposed wood surfaces prior to priming to extend the life of the replacement material.

3. Do not cover historic wooden siding with artificial materials such as vinyl or aluminum, as doing so can trap condensation and cause long-term damage to historic materials, conceal damage that needs to be repaired, and accelerate deterioration of the historic materials.

4. Synthetic stucco or exterior insulation and finish systems (EIFS) can be an acceptable replacement material if the replacement material matches the historic material in size, texture, appearance, design, and other visual qualities. However, EIFS is more susceptible to damage, so it should be avoided near doors and lower parts of facades. It is also more appropriate in locations not visible from a street.

5. Roofing materials are often among the most compatible artificial materials because the height and angle of their location, as seen from the ground, makes them less visible. Examples of artificial roofing materials that are often very convincing looking include slate, clay tiles and wood shakes. However, as noted previously, the materials must be identical to that of original materials in size, shape, design thickness, texture and other visual qualities.

6. Cementitious (fiber cement) siding may be used in some situations. It should not be used on a facade visible from a street that already features wood siding. In some cases, it might be used on a full facade that is not very visible from a street. It can also be used on rear additions and non-historic outbuildings. When permitted, the exposure width of clapboards must match that of the original structure and grain patterns should be avoided.

Cementitious Siding
Unlike this synthetic example, wood graining is not visible on authentic wooden clapboard siding

Questions for Deciding on Artificial Materials

When deciding whether the use of artificial materials is appropriate or not for particular applications, the following questions might be asked:

- What is the availability of the original material? Are there financial or other legitimate reasons for not utilizing the authentic material?
- How will the artificial material impact the building's character, if at all? How visible is the artificial material? Is it on a front facade or a rear wall?
- How compatible is the artificial material with the texture, scale, proportions, profile, and finish of the original material?
- How durable is the artificial material? Will it require more frequent maintenance and replacement than traditional materials? Will it fade, lose its color or deteriorate more quickly than original materials?

Building Materials Matrix

The following table lists a variety of building materials organized by building component that might be considered in Wilmington's local historic districts. The materials are further classified as follows:

Permitted

Yes
Materials that are allowed as-of-right regardless of their visibility from a street, application to existing structures versus new structures, and similar variables. If part of a COA application for Minor Work, these materials can be approved administratively by Planning staff.

Maybe
Materials that may be allowed if approved by the HPC. A range of considerations may come into play to determine their appropriateness.

No
There are materials that are prohibited in any circumstance, regardless of whether it is tied to a historic building or an addition or new building, as well as the degree of visibility from a public right-of-way.

The permission to use any material listed in this table is still subject to its appropriateness for the particular project as established in these Design Standards. Materials not listed in this table may be proposed and will be reviewed according to this section on Materials beginning on page 102.

More Artificial Materials Information

For more information on the use of aluminum and vinyl siding on historic buildings, see the National Park Service Preservation Brief #8: "Aluminum and Vinyl Siding on Historic Buildings" at https://www.nps.gov/orgs/1739/upload/preservation-brief-08-aluminum-vinyl-siding.pdf

For more information on the use of substitute materials on historic buildings, see the National Park Service Preservation Brief #16: "The Use of Substitute Materials on Historic Building Exteriors" at https://www.nps.gov/orgs/1739/upload/preservation-brief-16-substitute-materials.pdf

This information is supplemental and not part of these standards.

Building Materials

Permitted	Yes	Maybe	No
Walls			
Primary Materials			
Brick or brick veneer	●		
Natural Stone or veneer	●		
Artificial or natural stone wall tiles/panels			●
Stucco	●		
Artificial Stucco (e.g. Exterior insulation and Finishing System, fiber cement panels with stucco finish)	●		
Concrete		●	
Wood siding/ shingles	●		
Fiber cement siding/ shingles		●	
Aluminum/ metal siding			●
Vinyl siding			●
Architectural metal panels		●	
Secondary Materials			
Wood siding/ shingles	●		
Fiber cement siding/ shingles		●	
Fiber cement panels			●
Medium density overlay board (MDO)		●	
Trim & Decorative Details			
Brick or brick veneer	●		
Natural stone	●		

Building Materials

Permitted	Yes	Maybe	No
Cast stone	●		
Artificial or natural stone panels			●
Wood trim, cornice, and other decorative trim	●		
Wood composite trim, cornice, and other decorative trim		●	
Fiber cement trim, cornice, and other decorative trim		●	
Cellular PVC trim, cornice, and other decorative trim		●	
Polyurethane trim, cornice, and other decorative trim		●	
Foundations			
Primary Materials			
Brick or brick veneer	●		
Natural Stone or veneer	●		
Artificial or natural stone wall tiles/panels			●
Stucco		●	
Cement parged concrete block	●		
Exposed concrete block (including split-faced and similar)		●	
Details			
Wood underpinning	●		
Composite underpinning		●	
Vinyl skirting			●
Decorative cast iron foundation vents	●		
Decorative urethane foundation vents		●	
None-decorative foundation vent		●	

Building Materials

Permitted	Yes	Maybe	No
Roofs			
Primary Materials			
Natural slate	●		
Synthetic slate		●	
Clay tiles	●		
Composite clay tiles		●	
Concrete tiles		●	
Wood shake shingles	●		
Synthetic shake shingles		●	
Premium asphalt shingles	●		
Solar and solar metal roofing	●		
Copper	●		
Standing seam metal	●		
5-V crimp metal		●	
Corrugated metal		●	
Metal shingles		●	
Details			
Wood facia and soffit details	●		
Wood composite fascia, rake, and soffit details		●	
Fiber cement fascia, rake, and soffit details		●	
Cellular PVC fascia, rake, and soffit details		●	

Building Materials

Permitted	Yes	Maybe	No
Polyurethane fascia, rake, and soffit details		●	
Copper flashing	●		
Painted metal flashing	●		
Copper gutters and downspouts	●		
Galvanized/painted metal gutters and downspouts		●	
Doors & Windows			
Primary Materials			
Wood	●		
Aluminum-clad wood		●	
Vinyl-clad wood		●	
Cellular PVC		●	
Composite		●	
Fiberglass		●	
Steel		●	
Vinyl			●
Shutter Materials			
Wood	●		
Wood composition			●
Vinyl			●
Metal shutter hardware	●		

Building Materials

Permitted	Yes	Maybe	No
Storm Door & Window Materials			
Wood	●		
Wood composite	●		
Painted/finished aluminum	●		
Glass			
Clear glass	●		
Heavily tinted glass			●
Mirrored glass			●
Frosted glass			●
Storefronts			
Materials			
Wood	●		
Painted/finished aluminum		●	
Anodized aluminum		●	
Vinyl			●
Clear glass	●		
Heavily tinted glass			●
Mirrored glass			●
Frosted glass			●

Building Materials

Permitted	Yes	Maybe	No
Canopies & Awnings			
Canopy Primary Materials			
Wood	●		
Wood composite		●	
Metal	●		
Canopy Supports & Decorative Details			
Metal rods/chains	●		
Metal cables		●	
Awning Primary Materials			
Canvas	●		
Metal		●	
Plastic			●
Vinyl			●
Awning Frame			
Metal	●		
Wood			●
Plastic			●

Building Materials			
Permitted	**Yes**	**Maybe**	**No**
Materials			
Brick columns (porches)	●		
Natural stone columns (porches)	●		
Wood columns (porches)	●		
Wood composite columns (porches)		●	
Fiberglass columns (porches)		●	
Vinyl columns			●
Glass		●	
Metal columns		●	
Wood brackets (porticoes, balconies)	●		
Wood composite brackets (porticoes, balconies)		●	
Wood flooring, rails, and balustrades	●		
Composite flooring, rails, and balustrades		●	
Vinyl rails and balustrades			●
Metal rails and balustrades (balconies)		●	
Cable railing		●	
Trim & Decorative Details			
Wood	●		
Wood composite trim, cornice, and other decorative trim		●	
Fiber cement trim, cornice, and other decorative trim		●	
Cellular PVC trim, cornice, and other decorative trim			●
Polyurethane trim, cornice, and other decorative trim			●

3.7 Exterior Colors

Background

Color is a significant element in the architect's concept of design. Easy to alter, color remains the finishing touch, the most visible aspect of the building. The residential areas of Wilmington's historic districts contain a wide variety of styles from the romantic revivals of the mid-19th century to the more flamboyant Queen Anne and other styles of the late-Victorian period. Greek Revival buildings, popular in Wilmington between 1840-1865, were usually painted white with dark green or black shutters. Natural tints of beige, gray and light green were used on the many Italianate houses built between 1850-1870, while the late-Victorian styles favored richer and darker colors in shades of red, green and brown. Revival style houses in the residential areas were painted in lighter colors in keeping with the national trend that favored pastel colors for the body of the house accented by a white or off-white trim. Earth colors appeared on some of the stucco and shingle Prairie style homes built in the *Carolina Heights / Winoca Terrace District* after the turn of the century. Wilmington's many bungalows frequently used a light trim to set off the materials and details of their porches and roofs.

Doors and roofs should be included when a color scheme is being considered. Many 19th century doors were varnished or stained. Standing seam metal roofs, traditional within the historic districts, were painted in dark greens, reds or sometimes black. Dark colors are more appropriate if substitute roof materials are being considered.

Shingles and clapboard are normally painted, although shingles are occasionally stained. Porch ceilings are often painted blue, while gray is the traditional color for porch floors and steps. Nearly all the houses built in America from the Civil War to World War I were defined by the color of their trim.* The corner boards, cornice, water table and belt courses were painted like the trim. The vertical and horizontal elements of the porches were outlined in the same fashion, as were the windows and door openings. Cornice brackets and porch balusters usually look better painted in the trim color. On homes built after 1875, the sash is darker than the trim, usually a deep red or chocolate brown, dark green, olive or black.

Approval Requirements
All color changes require approval through the City's Administrative Bypass procedure. The HPC has adopted the following books on house color design:

- Moss, Roger W., *A Century of Color: Exterior Decoration for American Buildings 1820-1920*, Watkins Glen, N.Y.: American Life Foundation, 1981.
- Moss, Roger W., and Gail Caskey Winkler, *Victorian Exterior Decoration: How to Paint Your 19th century American House Historically,* New York: Henry Holt and Company, 1987; revised paperback edition, 1992.
- Moss, Roger W., Editor, Paint in America: *The Colors of Historic Buildings,* Washington, D.C. Preservation Press, National Trust for Historic Preservation, 1994.

These publications can be reviewed at the Development Center and are also available at the New Hanover County Public Library.

Exterior Color Standards

1. Establish the style of the building before selecting a color. Color should reflect the style of the building when relevant.
2. If the building has been altered, the color should reflect the dominant style.
3. Harmonize the paint colors with the adjacent structures in the historic district.
4. No more than four colors are recommended (except on Queen Anne houses). This does not include the colors of the roof, front door and the porch ceiling.
5. All downspouts should be painted a color compatible with the building (except copper).
6. It is inappropriate to apply paint or other coatings to unpainted masonry elements that were never painted.

Removal & Application of Paint

Although usually thought of as a decorative element, paint is primarily a protective treatment that allows wood to shed water and, therefore, protect the building. Painting should not be done unless absolutely necessary. The build-up of many layers of paint becomes a problem in itself. Dingy paint can be freshened with a mild detergent. Light scraping and sanding with touch-up painting can extend a paint job. At some point, a total repainting will be needed. Surface preparation takes time and is tedious, but is worth the expense since it extends the life of a paint job.

Paint Removal

For paint that has cracked, blistered, "alligatored", or where paint of 1/16" thickness or more has accumulated, the surface should be scraped with a pull-type scraper followed by hand-sanding. Buildings painted before 1950 likely have layers of lead-based paint that should be treated as a toxic material. For protection, a dust mask, goggles, a respirator, and skin protection may be needed. It is not necessary to remove paint that is still sound. If stripping is necessary, the electric heat plate is the safest method and effective on thick paint build-up. Blow torches or, to some extent, heat guns are less safe because toxic fumes are released and an undetected fire could ignite in the wall cavity. Blow torches also scorch the wall. Heat guns work well on irregular surfaces. Chemical strippers are safer to use, but they can damage wood surfaces if not properly applied and leave residue disposal problems. Therefore, chemical treatments should be left to professionals. Abrasive techniques are not recommended. Rotary or disc sanders leave swirl marks in the wood. Belt sanders are less effective. Sandblasting and water blasting erode the soft porous fibers of the wood and leave a surface with ridges and valleys similar to driftwood.

Paint Application

Prepared surfaces should be washed with a mildew killer and then thoroughly rinsed and allowed to dry. Wood that has been exposed to the weather for any length of time may not hold paint and should be treated with a preservative before painting. Bare surfaces and chalking paint should be covered with an oil-base primer. Joints should be sealed with caulk, and holes and cracks should be filled with putty. Two top coats of either latex or oil-based paint are usually adequate. Latex should not be used directly over old oil-based paint, but it can be used over an oil based primer.

Lead Based Paints

Any building built prior to 1978 must be assumed to have, or be tested for, the presence of lead-based paint. Synthetic siding, in general when not viewed from a street, is not in character in Wilmington's historic districts. The loss of architectural details and its impact on the individual building and the neighborhood is the strongest case against its use.

NOTE: Cement fiber siding is considered a synthetic material, which has been approved for new construction.

Traditional Exterior Colors by Architectural Style

Style	Era	Body	Trim, Brackets and Pediments	Shutters / Blinds
Greek Revival	1830 - 1860	Ranges from white or gray to yellow	Yellow or white	Green or black
Bracketed or Italianate	1850 - 1880	Ranges from light gray, light brown, light golden brown, to a moss green	A deeper or lighter shade of the body color or a contrast	Contrasting or harmonizing colors
Second Empire	1855 - 1885	Ranges from light brown to light gray	Varies between dark brown to white	Deep yellow, dark orange, warm brown sash/ green blinds, dark brown
American Four Square	1890 - 1920	Light brown or natural	Beige	Dark green, black or white
Mediterranean	1890 - 1935	Pastel colors from yellow to light pink	White	Red or earth tone tiles
Colonial Revival	1895 - 1920	White, deep yellow, gray, tan	White	Dark green
Neoclassical	1895 - 1950	White, deep yellow, gray, tan	White	Dark green
Prairie Style	1900 - 1920	Reddish yellow or buff, reddish brown	Brown	Dark green or earth tone
Craftsman Bungalow	1905 - 1930	Ranges from brown, natural to gray	Light or dark harmonizing colors	Dark green, beige or light yellow

NOTE: While the chart above highlights some of the more common colors for historic buildings, many coastal cities embrace vibrant color themes that recognize the rich, diverse history of their communities.

3.8 Utilities & Energy Retrofit

Solar panel on back half of side yard facing roof
515 S 2nd Street

Background

Two common challenges facing historic districts today are the management of utilities within the landscape and the retrofitting of historic buildings for energy conservation. Before the days of air conditioning, Wilmington's many porches, projecting roofs, awnings, and operable blinds and shutters provided shelter from the summer heat. Commercial buildings used store windows, light wells, and skylights to introduce light into buildings. Open air markets were common, and tall trees, shrubs, and other natural elements provided shade and protection from the sun. The condition of these existing features should be considered before retrofitting historic buildings for energy conservation.

Utility & Retrofit Standards

1. **Retain and preserve the natural energy-conserving features of historic buildings and sites**, including shade trees, porches, shutters, awnings and windows.
2. **Increase the thermal efficiency of historic buildings using the accepted practices** of caulking, weatherstripping, and the introduction of awnings, operable blinds and shutters, and storm windows and doors where appropriate.
3. **Install new mechanical systems with the least amount of alterations to the building**, particularly as viewed from streets. When possible, roof-top features should not front onto streets and ground-mounted features should be in rear yards.

Utility & Retrofit Standards

4. **If needed, storm windows and doors should blend in with the historic windows and doors.** They should be painted or have a baked enamel finish reflecting the color of the sash or existing door. Double hung windows should have operable storm windows. Meeting rails should align with the existing sash to prevent obscuring the window design.

5. **New storm windows, storm doors, and screen doors should be tension-mounted with air-tight gaskets and weep holes** to avoid build-up and condensation damage to historic windows and doors.

6. **Replace deteriorated shutters and blinds to match the originals** in size, dimension, and design to insure their proper fit and operability.

7. **Locate new mechanical equipment and utilities in inconspicuous locations.** Such features include heating and air-conditioning units, gas and water meters, and fuel tanks. Where possible screen them with plantings and/or fencing or walls.

8. **Encourage the use of underground utility lines** if upgrading the power supply is being considered. Care should be taken to not disturb large tree roots and archaeological resources.

9. **Minimize the visual impact of window air-conditioning units**, particularly as viewed from streets. Locate them on rear or side elevations.

10. **It is inappropriate to replace multi-light sashes with new thermal sashes.** Instead, use storm windows to preserve original material.

11. **It is inappropriate to install mechanical equipment on roof slopes that are visible from the public right-of-way.** Antennas and satellite dishes should be located in an inconspicuous manner, taking into consideration the received signal strength and the nature of the installation.

12. **Satellite dish antennas should be located at the rear of the site, properly screened, and painted a neutral color.** Rooftop installations on commercial buildings are permitted, although an enclosure is not recommended unless it renders the antennas less obtrusive.

Solar panels on street-facing roof
Source: The Walker Collaborative

Maintenance

The following steps should be taken for the maintenance of historic properties relative to utilities and energy:

- Make sure all windows, doors, awnings, operable shutters, and other features contributing to natural ventilation are in working order.
- Replace damaged shade trees, if needed. See Section 2.1 on Landscaping (starting on page 44) for more information on this topic.
- Conserve energy through the installation of storm windows and doors, weatherstripping, and the addition of mechanical systems, while retaining the historic character of the building.
- Install insulating material on the inside of masonry walls to increase energy efficiency without disturbing interior character defining details. See Section 3.3 on Windows & Doors (starting on page 71) for more information on this topic.
- Installed insulating materials in attics, unheated cellars, and crawl spaces.

3.9 Health & Safety Codes

Background

Because of use changes or extensive rehabilitation, buildings often require modifications to comply with current requirements for health, life, safety, and accessibility by persons with disabilities. These changes should be carefully planned to ensure that the integrity and character-defining features of buildings are preserved.

Code Requirements
In 1994, the North Carolina State Building Code adopted provisions aimed at providing greater flexibility in the administration of code requirements on older buildings. The federal Americans with Disabilities Act (ADA) of 1990 also impacts historic properties. To comply with the North Carolina building code, a handrail with a minimum height of 36" is required when the height of an open porch or deck is 32" or more above the ground level. However, existing handrails less than 36" high may be replicated in keeping with historic precedent.

Wilmington's Needs
Since many of Wilmington's historic residences and public buildings have raised foundations, wheel chair ramps or lifts may be required to provide barrier free access. Fire exits and fire doors, railings, handrails, and other safety features may also be required to comply with local regulations. Property owners should work with local code officials, preservation specialists, and local disability groups to investigate alternative solutions for building changes that are reversible and sensitive to historic buildings.

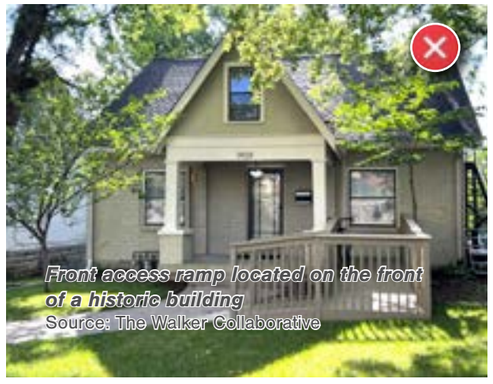
NOTE: Property owners in Wilmington's Historic Districts should become familiar with the contents of North Carolina's State Building Code, which deals with the requirements for historic structures. Code information is available at the New Hanover County Planning and Inspections Department.

More Health & Safety Codes Information

For more information on addressing health and safety codes for historic buildings, see the National Park Service Preservation Brief #32: "Making Historic Properties Accessible" at https://www.nps.gov/orgs/1739/upload/preservation-brief-32-accessibility.pdf

Health & Safety Code Standards

1. Comply with accessibility, health and safety code requirements in such a manner that the character-defining features of historic sites and buildings are preserved.
2. Fire exits, stairs, landings and ramps should be compatible with the scale, materials, and details of the historic building.
3. Install sensitively designed fire suppression systems, rather than applying fire-resisting sheathing to character defining features.
4. Install removable or portable access ramps rather than permanent ones to provide barrier-free access.
5. If a code-required stairway or elevator can-not be accommodated within the historic building, it should be inconspicuously located at the rear or side of the building, and it should have some relationship to the building with respect to size, material and proportion.



3.10 Security Equipment

Background

Security cameras and other security equipment offer modern solutions for safety and security needs. They serve a wide variety of purposes in both the residential and commercial historic districts. Security cameras and security equipment can act as a deterrent to property crime and offer a sense of safety to residents, business owners, and operators.

It is important that the installation of security equipment, such as security cameras and accessories, preserves the integrity and character-defining features of both individual structures and the historic district as a whole. Consideration should be given to the location, design, and number of security devices utilized on historic properties.

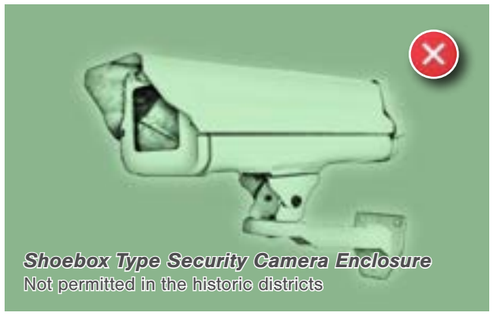
Lipstick / Bullet-Style Security Camera
503 S Front Street

Doorbell Security Camera
400 South Front Street

Security Equipment Standards

1. Where possible, wireless technology should be used in order to reduce the amount of cords, conduit, and cables that run from the interior of a structure to security equipment located on the exterior of the structure.
2. Minimize the size of security equipment, when possible. Large visually-obtrusive box or "shoebox" cameras and accessories should be avoided.
3. Security camera signage should be limited in number to no more than one sign per building elevation. It should also not obscure the character-defining features of a structure. All signage must comply with the City's Land Development Code (or its successor).
4. Security cameras should not be mounted in a way that damages or obscures building elements, including (but not limited to) soffits, fascia, porch posts, cornices, trim, windows, and doors.
5. Cameras should be mounted under overhangs to limit visibility as seen from streets and other public right-of-ways.
6. The visibility of camera housing, conduit, wiring, and enclosures should be minimal. It should be aligned with architectural features and trip and be painted to match the adjacent building material.
7. Avoid mounting security devices to masonry, such as brick. If masonry cannot be avoided as the mounting surface, hardware should be installed in the mortar and not the brick face.
8. Security devices, including doorbell cameras, should not be mounted on or into a door. Instead, they should be located directly adjacent to the door.

Hemispherical Dome Type Security Camera
35 North Front Street



Shoebox Type Security Camera Enclosure
Not permitted in the historic districts

New Residential Construction
213 South Front Street

4 Residential Building Standards

Section Topics

4.1 Additions
4.2 New Buildings

4.1 Additions


Side Addition to Bungalow - small and recessed
Source: The Walker Collaborative

Background

Additions are often added to historic buildings when there is a use change or a need for more space. Historic buildings may need to evolve just like the people who inhabit them. Although additions in Wilmington's Residential Historic District are generally located in the rear, some have been designed for corner sites. Fortunately, adding to a historic building can be accomplished without compromising the integrity of the building or the surrounding area. The most common are small, one-story inconspicuous additions that relate to the style and scale of the building. If existing additions are at least fifty (50) years old and have architectural significance, they are considered products of their own time. Their contribution in defining the historic character of the building is important.


Recessed One-Story Side Addition
1 Church Street

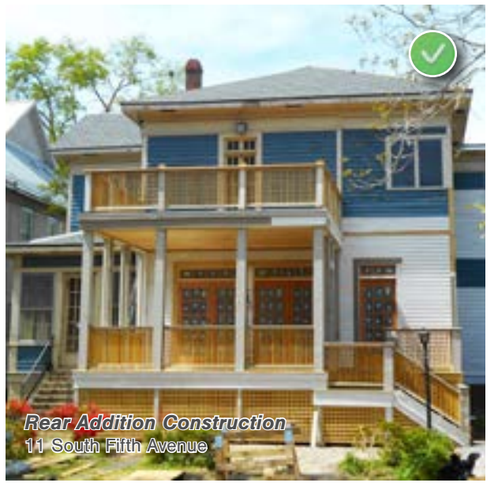
Key Considerations

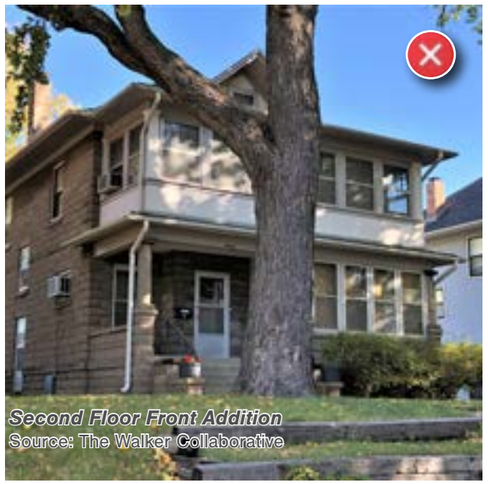
The main considerations when planning additions to historic buildings include the addition's placement, setbacks, materials, size, scale, orientation, general design, detailing, architectural style and site landscaping. How-ever, it is also important to make additions discernible from the original building. Just a few examples of techniques to achieve this objective include different siding, roof lines, window types and foundation materials. In fact, split-face concrete blocks are a common foundation material for additions. Also, the primary exterior cladding of the addition should be the same as or subordinate in weight to the primary historic building. For example, the addition to a brick-clad historic building can be clad in brick or clapboard. Likewise, the addition to a clapboard-clad historic building can be clapboard, but it cannot be masonry since that is a heavier material.

Criteria to Consider for Proposed Additions

When considering an addition to a historic building, the following questions should be asked:

- How visible will the proposed addition be from any street, in particular, and alleys as well?
- Does the proposed addition negatively impact the character of the historic building?
- Does the proposed addition negatively impact the appearance and character of adjacent properties and the streetscape?
- Does the proposed addition require significant alterations to the historic building or the removal of significant features?
- Is the proposed addition visually subordinate to the historic building?
- Are the sides of the proposed addition set back from those of the historic building?
- Does the proposed addition utilize high-quality design and materials?
- Could the proposed addition be removed without causing irreversible damage to the historic building?


Rear Addition Construction
11 South Fifth Avenue


Second Floor Front Addition
Source: The Walker Collaborative

Addition Standards

1. New additions should be located along the rear facade of the historic building to lessen its visual impact on the building and the area. The exception might be the building side if:
   - A sufficiently-sized side yard exists, and
   - The addition is subordinate in appearance to the original building with a front setback behind that of the original building and/or a smaller scale than the original building.
2. Design additions to be compatible with the historic building with respect to massing, scale, height, form, size, materials, proportion, fenestration, and roof form. Synthetic materials are inappropriate.
3. The sides of the rear addition should be recessed behind the sides of the historic building. The new addition should be set back from the sides of the historic building on both sides.
4. Consider the landscape features, street vistas, historic paving, and topography when siting new additions. Protect mature trees and other site features during the construction phase and survey the site in advance to minimize the possibility of disturbing unknown archaeological resources during construction.
5. Construct additions with the least possible impact upon the historic building. Avoid the loss of historic building materials, and do not damage or obscure the character-defining features of the building.
6. Design additions to be removable in the future without damage to the historic building and its materials and features.
7. Additions should be physically subordinate to the historic building. Subordination is achieved primarily through a smaller scale of the addition and a rear location.
8. Additions should be recognized as new, even if only subtly. This objective can be achieved by introducing one or more of the following elements: different siding, roof, roof line, foundation material, and window type. Split-face concrete blocks are a common approach to foundations for additions.
9. Consider the foundation height and eaves lines of the historic building when designing the addition. Align the foundation height of the addition with that of the historic building. Eave lines of additions should be at or below the historic eave line. The latter demonstrates subordination to the historic building.
10. Select a dominant exterior material for the addition that is compatible with that of the historic building. The primary exterior cladding of the addition should be the same as or subordinate in weight to the primary historic building.

Addition Standards

11. **Substitute exterior materials may be appropriate since most additions are not very visible from a street** and the addition is a component distinct from the balance of the historic building. However, vinyl and aluminum siding are not appropriate even for additions. Cementitious siding simulating clapboards can be acceptable when the exposure width and other characteristics of the original building's clapboards are followed. Buildings should be relocated in one piece, to the extent feasible, rather than being partially dismantled prior to relocation. If partial dis-mantling is required, all parts should be labeled and photographed prior to the move to facilitate accurate reconstruction at the relocation site.
12. **Simplified details that reflect the character of the historic building are appropriate.** Subtle changes in setback, material, and details are an appropriate means for distinguishing additions from the original building.
13. **Distinguish relatively large additions from the historic building through a connecting building segment** that is smaller in scale relative to both the historic building and the addition to emphasize that the addition is indeed an addition.
14. **Additions should be identifiable as a product of their own time.** They should be discernible between what is historic and what is new, even if the distinctions are somewhat subtle. Additions should not imitate an era or architectural style earlier in time than that of the historic structure.

More Additions Information

For more information on additions to historic buildings, see the National Park Service Preservation Brief #14: "New Exterior Additions to Historic Buildings: Preservation Concerns" at https://www.nps.gov/orgs/1739/upload/preservation-brief-14-exterior-additions.pdf

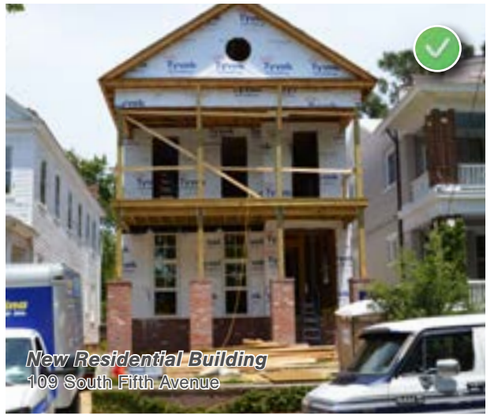
This information is supplemental and not part of these standards.

4.2 New Buildings

Background

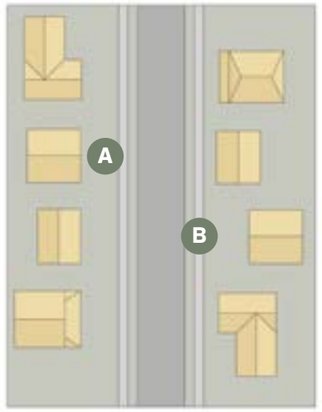
New construction can provide interest in the neighbor-hood, eliminate gaps in the streetscape, and contribute to the architectural evolution of the town. In Wilmington's *Residential and Theatre Historic Districts*, tree-lined streets slope up from the river, the houses are generally sited close to the street on long narrow lots, and side yard setbacks are not required. The juxtaposition of small cottages and high-style houses provides rhythm and scale to many of the streets. Here and there, new buildings, townhouses, or the occasional new residence add variety to the streetscape. In the *Carolina Heights / Winoca Terrace Historic District*, developed after the turn-of-the 20th century, there is less evidence of new construction. Lots tend to be larger with deeper setbacks, and the topography is flat. In all districts, residential buildings rarely exceed 2.5 stories and most houses face the street.

The wide range of Wilmington's architectural styles has produced a wealth and variety of details, ornament, and construction techniques that can be reinterpreted in contemporary design. Wood siding is the predominant building material in the residential districts. Brick and stone, which may be rusticated or have a smooth finish, are also used, followed by shingles and stucco. The predominant roof material is metal, followed by slate. The texture of area structures in the form of colors, ornamental relief, and other surface materials may be incorporated in new design projects.

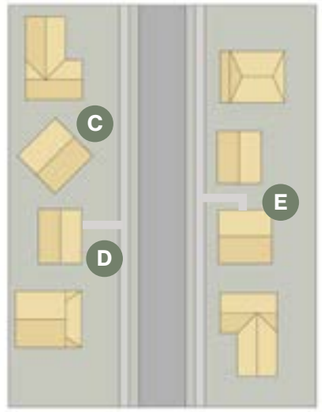


Building Siting

Buildings should be consistently set back from the street and have a direct orientation and entrance towards the street.



Setback



Orientation / Entrance

Basic Window Terms

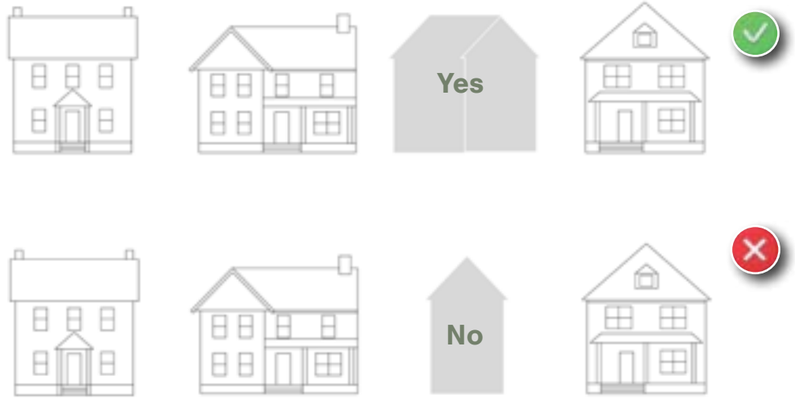
- **A** Similar Setback (Yes)
- **B** Deep Setback (No)
- **C** Diagonal Orientation (No)
- **D** Direct/Front Orientation (Yes)
- **E** Side Entrance (No)

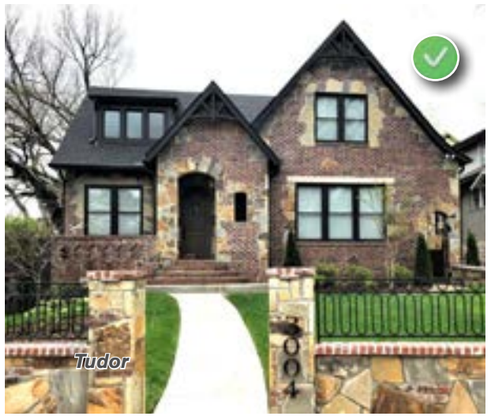
Height and Scale

Height and scale are important issues when determining appropriate standards for new construction and should be compatible with neighboring contributing structures. Both the perceived and actual height should be considered in determining appropriate standards. Perceived height is the product of the number of stories, the relationship of height to width, and the height of porches and other visual elements. Actual height mainly depends on the height of each story and the pitch of the roof.

Proportion

The overall proportion of new buildings should be compatible with the proportions of neighboring contributing structures. Form and rhythm are created by the interplay of building shapes and elements. Roof forms and pitches, the relationship of solids to voids, and the placement of windows and porches create a street pattern that is part of the district's character and should be carefully evaluated in new designs.





Examples of New Residential Buildings from other communities
Source: The Walker Collaborative

New Building Standards: Lots & Building Siting

1. **The lot dimensions should be relatively consistent with those of the block face**, particularly with respect to the lot width. Exceptions would include a historically large lot that has never been subdivided into multiple smaller lots.

2. **The lot orientation should be consistent with those of the block face.** The lot orientation is based upon whether the long axis of the lot is parallel or perpendicular to the street.

3. **Buildings should be sited to blend in with the surrounding area.** Design new buildings to be compatible with the contributing buildings in terms of lot coverage, setbacks, spacing, and orientation to the street.

4. **New buildings should not compromise the topography and site features.** Preserve significant mature vegetation and important vistas. Excessive grading should not occur so that an entire new structure is unnecessarily at a single elevation on a steeply sloped site. Building segments should be stepped at different elevations to work with the topography.

5. **Retain and protect mature trees during construction.** Use silt fencing or similar means to mirror the tree's dripline to protect the root system so that heavy equipment does not impact them

6. **Protect any potential archaeological resources from damage during construction.** Survey the site in advance to minimize the possibility of disturbing unknown archaeological resources.

7. **Buildings should not be sited at unusual angles to the street or with side walls facing the street** unless it is a corner lot and the side wall fronts the subordinate street.

New Building Standards: Design

1. **Design new buildings to be compatible with nearby contributing buildings** in terms of massing, scale, height, form, size, materials, proportion, fenestration and roof form. Building heights are regulated per zoning.

2. **Design new buildings so that the spacing, proportion, size and detailing of windows, doors and other openings are compatible with nearby contributing buildings.** Considerations include their size, orientation, pattern on the facade, and ratio of solids to voids (openings) on the facade. Snap-in or flush muntin bars are not appropriate.

3. **Primary entrances should be located on the front facade and face the associated primary street,** and designed to give them prominence relative to other entrances based on their scale and architectural detailing.

4. **A minimum of 25% of the front facade should be glazed** (comprised of glass in the form of windows and doors). Glass anywhere on the front facade may not be reflective, frosted or tinted by more than 30%.

New Building Standards: Design

5. **The proportions, spacing and rhythm of windows should be similar to those of surrounding historic buildings.** Windows should typically be vertically oriented, although grouped vertical windows can result in an overall horizontal orientation. Also, transom lights above entrances are always horizontally oriented, even if the individual lights have a vertical orientation.

6. **If shutters or blinds are provided for windows, they should be properly designed** to fit the window, and they should either be operable or appear to be operable and not mounted flush against the facade wall.

7. **Roof types and pitches for new residential buildings should be appropriate for the architectural style.** For example, the American Four Square style roof should be pyramidal or hipped, while a Dutch Colonial Revival needs a gambrel roof. Roof elements such as turrets are only appropriate for specific architectural styles, such as Queen Anne styles.

8. **Foundations should be raised between 12 and 24 inches above grade at the building's front facade** unless the building has an architectural style that historically lacked a raised foundation or if the grade of the building slopes downward substantially from the front of the building to the rear. This standard also applies to the front porch if proposed.

9. **Single-family detached and attached houses (duplexes, triplexes, quads, etc.) should feature a front porch** unless it is a style that historically lacked a porch (Georgian Revival, Tudor Revival, etc.). Porches should occupy at least 50% of the front facade's width and should be at least 8 ft. in depth.

10. **Exterior materials used for new residential buildings can be contemporary**, but must be compatible with materials used in the surrounding historic buildings in terms of scale, pattern, detail, texture, finish and color.

11. **New residential buildings should be a product of their time.** There should be at least a subtle visual distinction between old and new buildings. However, new buildings should respect the character of the adjacent historic buildings, the block, and the overall district.

“The greenest building is the one that already exists.”

- Carl Elefante, FAIA

MacRae Building
23 North Front Street

5 Non-Residential Building Standards

Section Topics

5.1 Existing Buildings
5.2 Storefronts, Canopies & Awnings
5.3 Additions
5.4 New Buildings
5.5 Automated Teller Machines

5.1 Existing Buildings

Commercial & Mixed-Use Buildings
North Front Street

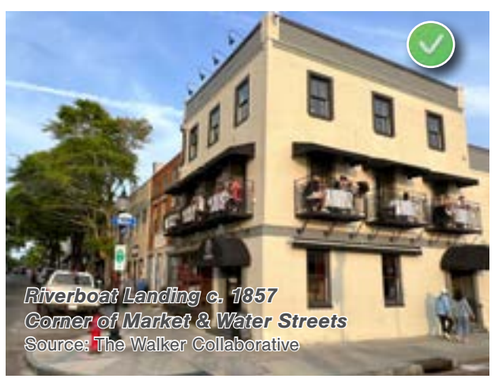
Background

Wilmington's *Downtown Commercial Historic District*, laid out in the 19th and 20th centuries, is the centerpiece of North Carolina's largest port city. What remains today is a concentration of historic buildings, a largely undeveloped riverfront, and a number of blocks left vacant by urban renewal. Market Street, with its broad sidewalks and richly-planted plazas, slopes up from the river and divides the north part of the district from the south.

Along North Front Street, the buildings are more stylistically diverse and vary in height and proportion. Cast iron storefronts with elaborate cornices compete with Italianate façades, and the surviving stand-alone facade of a former Art Deco movie house conceals a parking lot on the east side of the street. Corbelled string courses and stone capped parapets complement the early-20th century structures along Princess Street, and historic alleys provide rear access. Although the original cornices on a few buildings have been removed or are obscured by synthetic materials, many buildings have been sensitively restored.

South of Market Street, the buildings are lower and more vernacular in character. Stone-capped parapets have replaced elaborate cornices, and buildings are defined by their proportions, fenestration, and finish. Along the riverfront, the buildings are low in keeping with their historic uses. Several warehouses have been restored.

Front Street Commercial Buildings
Source: The Walker Collaborative



Riverboat Landing c. 1857
Corner of Market & Water Streets
Source: The Walker Collaborative

Von Kampen Building
130 South Front Street

On the south and east boundaries, the district assumes a more residential character.

Most commercial, mixed use, and institutional buildings are brick, which is sometimes painted. Stucco and other masonry structures are enriched with applied ornament. The bracketed cornices are made from pressed metal or wood. Rusticated sandstone, glazed terracotta and cast stone are used for lintels, surrounds, pilasters and other decorative details. The maintenance of building façades and their decorative elements is essential to retain the integrity and character of the *Downtown Commercial District*. Owners should consider providing a routine maintenance program to protect exteriors of commercial, mixed use, and institutional façades.

N 3rdStreet Institutional Buildings
Source: The Walker Collaborative

5.2 Storefronts, Canopies & Awnings

Awning (left) and Canopy (right)
114 and 108 North Front Street
Source: The Walker Collaborative

Storefronts

The storefront is often the most important feature of a commercial building. It is also the feature most frequently changed. The rehabilitation of historic storefronts preserves the architectural character of the building and increases business for the owners. Wilmington's storefronts date from the late-19th and early-20th centuries. Some original cast iron fronts survive complete with cornices, brackets and columns. Cornices of wood, brick and precast stone add vitality to the streetscape. Many transoms placed above display windows and doors to allow for air circulation remain, although some have been covered. In the early-20th century, the display window was expanded. Also, curved glass, stainless steel framing elements, and a variety of bulkhead materials were often introduced. Along Front and Market Streets, the storefront entrances are generally centered and recessed, with side doors to the upper stories. Compatible new designs for display windows in wood have been introduced.

NOTE: For more information on the maintenance of metal, wood surfaces and other decorative elements, see the standards in Section 3.2 (Exterior Walls) and Section 3.6 (Materials).

Canopies & Awnings

Canopies are flat rigid panels located just above store-fronts and they are typically parallel to the sidewalk. They are usually made of wood and/or metal. Awnings are made of a durable fabric such as canvas, and they are typically slanted, angled or curved to provide the same shelter as canopies. They were historically retractable, and they often incorporate colorful designs and signage.

Canopies and awnings have a historic precedent in Downtown Wilmington, although awnings are much more prevalent. Both are helpful to energy conservation efforts by providing shade that can decrease air conditioning needs during the warmer months. Canopies, for the purposes of these Design Standards, are an overhead roof structure that has open sides. In the context of commercial and mixed-use buildings, they are typically placed horizontally along the front facade between the first and second floors to provide protection from the weather for people on the adjacent sidewalk. Awnings, on the other hand, are roof-like coverings of fabric, often adjustable, placed over a window, door, porch, or similar feature to provide protection against the sun and other weather conditions. In short, canopies are hard and awnings are soft.

Storefront Standards

1. **Retain and preserve storefronts and their functional and decorative features**, including their entrances, display windows, transoms, bulkhead, pilasters, columns, signs, and awnings. Preserve replacement materials that have since become significant, such as Carrara glass. The exposure of covered or painted transoms should be encouraged.

2. **Preserve the historic openings and arrangement of storefronts.** Enlarging or infilling openings should be avoided unless evidence shows that the storefront historically had a different configuration consistent with the proposed alteration.

3. **Repair rather than replacing any original deteriorated storefront features.** Match the original or existing historically-appropriate storefront in size, scale, proportion, material, texture and detail. Only consider substitute materials if the original materials are unavailable. It is inappropriate to use faux masonry and synthetic materials such as vinyl on historic storefronts.

4. **Consider design compatibility with the material and design of the upper floors of the facade** when rehabilitating street-level commercial storefronts.

5. **Replace only the damaged portion of a historic storefront if it is deteriorated beyond repair.** Replacement portions of a historic storefront should match the historic portions in size, texture, design, color, and material. Unpainted wood surfaces and bright metallic finishes are inappropriate unless historically present or consistent with the visual character and age of the building.

6. **Do not introduce new architectural details or features to a historic storefront without documentary evidence** that it is appropriate. Such details or features should not be used to create a false sense of history.

7. **If replacement of the entire storefront is necessary, base the new design on accurate documentation** of the original or create a new design compatible with the original in size, scale, proportion, material, texture and detail with the building and the district.

8. **If recent modifications conceal the original storefront materials, consider their removal.** Display windows should not be reduced in size. It is inappropriate to use snap-in muntins.

9. **Clear glass should be used when repairing or replacing damaged glazing.** Frosted, tinted, reflective, opaque and other types of decorative glass are not appropriate unless it can be documented that they were historically present.

10. **Color schemes for historic storefronts should complement the balance of the building** and other buildings on the block. Care should be taken to unify the upper and lower portions of the façade.

Canopy Standards

1. **Retain and maintain historic canopies.** Non-historic features are not required to be retained. However, if an applicant seeks to alter or replace such a feature, it should be replaced by a historically appropriate feature.
2. **Canopies should be constructed of wood or metal with a simple design** per historic precedents unless historic documentation demonstrates otherwise.
3. **Elaborate detailing and metalwork are inappropriate for canopies** when there is no historical precedent for such designs.
4. **Canopies should typically be oriented perpendicular with the facade** (parallel with the sidewalk) unless evidence exists that a sloped-roof canopy is historically appropriate for the building.
5. **Canopies should be placed at the historic-ally appropriate level on the front facade.** It should be even with the ceiling of the first floor and/or the floor of the second floor.
6. **Canopies should maintain a clear height of at least 8 feet** as measured from the sidewalk surface to the bottom of the canopy.
7. **Canopies should not extend more than 12 feet beyond the building's facade or beyond the adjacent street curb**, whichever is further. If documentation of the historic depth exists through photography, that evidence should determine the depth.
8. **Canopies should not be used to create an upper-story balcony where no balcony historically existed.**

Because historic awnings are usually non-existent because of their fragility, the standards for awnings are focused on proposed new awnings. Awnings are much more common in Wilmington's historic districts than are canopies. Some of the standards for awnings are related to building facade bays. For the purposes of these Design Standards, a bay is considered to be an opening or division on a facade. For example, a facade with a door and two windows is considered to be three bays wide. Awnings are historically installed to align with the individual bays of a facade. It is more appropriate to choose colors that compliment rather than exactly match a building. The most common awning colors were blues, reds, browns, greens, and tans.

Maintenance

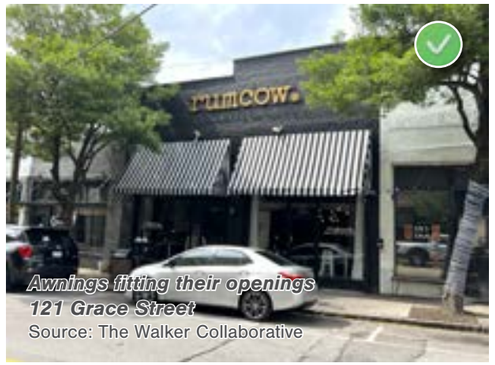
- Regularly check for moisture damage, insect infestation, and structural changes.
- Provide drainage to prevent water standing on flat surfaces or around decorative elements.
- Clean surfaces on a regular basis and paint when necessary.
- To remove paint build-up and rust from cast iron storefronts, hand-scrape and use wire brushes before painting.
- Periodically replace awnings with historically appropriate awnings when they become too weathered.

Awning Standards

1. **Retain any existing historic hardware** used for roll-up or retractable awnings so that it can be utilized with a new fabric component.
2. **Only fabric awnings supported by a metal internal frame are permitted** unless there is historical precedent for another design. Plastic, vinyl, and leatherette awnings are not appropriate. Metal awnings are inappropriate for any building other than those built after approximately World War II.
3. **Operable awnings that are retractable are strongly encouraged**, as opposed to awnings with a frame that is fixed in place.
4. **An awning's shape should reflect the shape and width of the facade opening that it shelters.** Shed or straight-sloped awnings (triangular from the side) with a valance are most appropriate for flat and segmentally-arched window openings. Half-dome awnings are only appropriate for arched window and door openings. Box awnings, mansard roofs, quarter round, and balloon awnings are inappropriate.
5. **Awnings should use traditional designs.** Multiple awnings on the same building should be identical. Awnings should be open on the underside to be consistent with historic precedents and to avoid a bulky and heavy appearance. They should have a matte finish and be opaque. Awning colors should complement the building's trim, and internal illumination is not appropriate.
6. **Awnings should be mounted at an appropriate height** in relation to the storefront cornice. The bottom of an awning should be at least 8 feet above the sidewalk level, and it should not feature any sort of supporting vertical poles. Where a storefront features a transom, the awning should be attached just above or below it to avoid blocking natural light.
7. **Awnings should be deep enough to provide shelter and shade, but not deep enough to obstruct views** along the streetscape. They should project no more than 5 feet from the building facade and should not extend beyond the adjacent street curbing.
8. **Awnings should be installed so as to not obstruct, damage, or require removal of character-defining features of the building.** Connections on a masonry building should be made to the wood or metal frame within the masonry opening. This approach will prevent water from streaming down the facade and behind the awning. Where connections can only be made with the masonry, framing for an awning should be mounted through mortar joints to avoid damage to the masonry face.
9. **Awnings can also be utilized for signage.** When possible, associated lettering should be placed along the bottom flap of the valance.

Awning with Combined Signage - 15 South Front Street
Source: The Walker Collaborative

NOTE: These Design Standards do not have a section specifically for residential awnings. However, the standards above for non-residential buildings are generally relevant to those. Also, residential awnings are most appropriate for late and post-Victorian house styles, especially Queen Anne, Colonial Revival, Bungalow, and the many Period Revival styles. Striped awnings are most appropriate on Bungalows, Queen Anne style, and Spanish Revivals. Solid colors are preferred for Colonial Revival houses. As with non-residential buildings, metal awnings are inappropriate for any residential building other than those built after World War II.



Awnings fitting their openings
121 Grace Street
Source: The Walker Collaborative

Awnings above and below transoms
209-215 Princess Street
Source: The Walker Collaborative

More Storefronts & Awnings Information

For more information on the rehabilitation of historic storefronts, see the National Park Service Preservation Brief #11: "Rehabilitating Historic Storefronts" at https://www.nps.gov/tps/how-to-preserve/briefs/11-storefronts.htm

For more information on the use of awnings on historic buildings, see the National Park Service Preservation Brief #44: "The Use of Awnings on Historic Buildings, Repair, Replacement and New Design" at https://www.nps.gov/tps/how-to-preserve/briefs/44-awnings.htm

This information is supplemental and not part of these standards.

5.3 Additions

Grace United Methodist Addition
401 Grace Street

Background

Change is inevitable in buildings and neighborhoods. The character of buildings and neighborhoods change over time. Buildings may need to be updated, expanded or adapted for another use. When an addition is added to a building, some loss of material and some change in form is inevitable. The relationship between the building and the neighborhood will also be changed.

An addition should preserve the character of the historic building and clarify the difference between the old and new work. An example of this concept is the addition to City Hall in 1989. The addition is a product of its time, yet compatible with the historic building. Several historic churches in Wilmington also have successful additions without significant loss of materials and features. The need for additional space in the *Downtown Commercial District* may bring about future additions to commercial and institutional buildings.

If new additions are placed on secondary elevations, the loss of architectural features and material will be minimized. These elevations are frequently constructed from more "ordinary" material and are less detailed. It is desirable to retain as much of the original elevation as possible. Another successful way to avoid damage is to link the new addition to the historic segment by means of a visual connector (as illustrated above by the glass connector between the original building at right with the new addition at left).

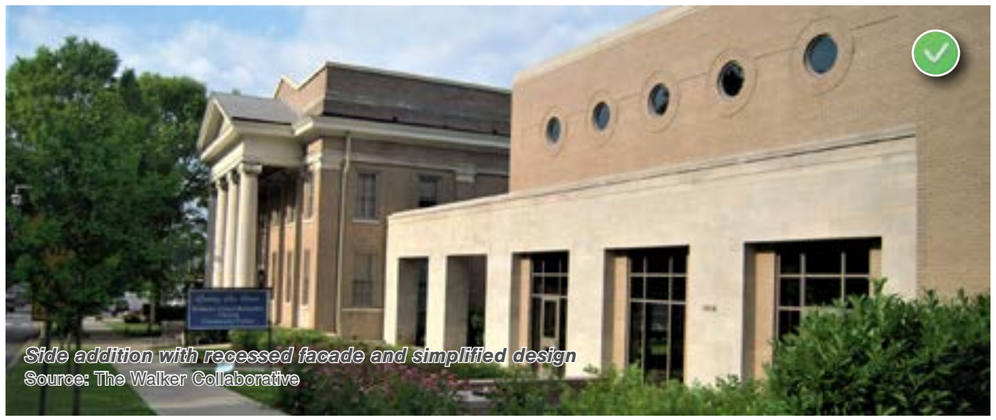
The appropriate size of a new addition varies from building to building and depends upon the relationship between the actual and apparent sizes of the historic building and its addition. For a commercial building with a relatively low height, the impact of another floor is likely to change the building's character, whereas a rooftop addition to an eight-story building will rarely be visible from the street.

Criteria to Consider for Proposed Additions

When considering an addition to a historic building, the following questions should be asked:

- How visible will the proposed addition be from any street, in particular, and alleys as well?
- Does the proposed addition negatively impact the character of the historic building?
- Does the proposed addition negatively impact the appearance and character of adjacent properties and the streetscape?
- Does the proposed addition require significant alterations to the historic building or the removal of significant features?
- Is the proposed addition visually subordinate to the historic building?
- Are the sides of the proposed addition set back from those of the historic building?
- Does the proposed addition utilize high-quality design and materials?
- Could the proposed addition be removed without causing irreversible damage to the historic building?

Addition to City Hall
102 North 3rd Street



Side addition with recessed facade and simplified design
Source: The Walker Collaborative

Addition Standards

1. **New additions should be located along the rear facade of the historic building** to lessen its visual impact on the building and the area. The exception might be the side of the building if:
   - A sufficiently-sized side yard exists, and
   - The addition is subordinate in appearance to the original building with a front setback behind that of the original building and/or a smaller scale than the original building.
2. **Design additions to be compatible with the historic building** with respect to massing, scale, height, form, size, materials, proportion, fenestration and roof form.
3. **The sides of the rear addition should be recessed behind the sides of the historic building, unless not visible from any street.** The new addition should be set back from the sides of the historic building on both sides. That reference point applies to the greatest width of the historic building.
4. **Consider the landscape features, street vistas, historic paving, and topography when siting new additions.** Protect mature trees and other site features during the construction phase and survey the site in advance to minimize the possibility of disturbing unknown archaeological resources during construction.
5. **Construct additions with the least possible impact upon the historic building.** Avoid the loss of historic building materials, and do not damage or obscure the character-defining features of the building.
6. **Design additions to be removable** in the future without damage to the historic building and its materials and features.
7. **Additions should be physically subordinate to the historic building.** Subordination is achieved primarily through a smaller scale of the addition and a rear location.
8. **Additions should be recognized as new, even if only subtly.** This objective can be achieved by introducing one or more of the following elements: different siding, roof, roof line, foundation material, and window type. Spit-face concrete blocks are a common approach to foundations for additions that feature a raised foundation.
9. **Consider the foundation height and eaves lines of the historic building when designing the addition.** Align the foundation height of the addition with that of the historic building. Eave lines of additions should be at or below the historic eave line. The latter demonstrates subordination to the historic building.
10. **Select a dominant exterior material for the addition that is compatible with that of the historic building.** The primary exterior cladding of the addition should be the same as or subordinate in weight to the primary historic building.

Addition Standards

11 **Substitute exterior materials may be appropriate** since most additions are not very visible from a street and the addition is a distinct component distinct from the balance of the historic building. However, vinyl and aluminum siding are prohibited even for additions. Cementitious siding simulating clapboards can be acceptable when the exposure width and other characteristics of the original building's clapboards are followed.

12 **Simplified details that reflect the character of the historic building are appropriate.** Subtle changes in setback, material, and details are an appropriate means for distinguishing additions from the original building.

13 **Distinguish relatively large additions from the historic building through a connecting building segment** that is smaller in scale relative to both the historic building and the addition to emphasize that the addition is indeed an addition.

14 **Additions should be identifiable as a product of their own time.** They should be discernible between what is historic and what is new, even if the distinctions are somewhat subtle. Additions should not imitate an era or architectural style earlier in time than that of the historic structure.

15 Rooftop additions should be compatible with the character of the historic building and placed well back from the roof edge to ensure that the proportions and profile are not radically changed.

More Additions Information

For more information on additions to historic buildings, see the National Park Service Preservation Brief #14: "New Exterior Additions to Historic Buildings: Preservation Concerns" at https://www.nps.gov/orgs/1739/upload/preservation-brief-14-exterior-additions.pdf

This information is supplemental and not part of these standards.

5.4 New Buildings

New Mixed-Use Building
15 S Water Street

Background

Wilmington's *Downtown Commercial District* is a vital part of a larger Central Business District and contains an eclectic mix of late-19th and early-20th century historic buildings rehabilitated and adapted to commercial uses. Apart from a tall office tower, most historic buildings are less than four stories in height and even lower along the riverfront. Many small vacant lots, a few larger blocks, and some unused buildings can provide an opportunity for new development and adaptive reuse.

At the sidewalk level, it is desirable that new construction harmonize with the nearby storefronts and create a friendly image for pedestrians. Acceptable materials for new construction include brick, stucco, stone, and cast stone. Changes in material are usually accompanied by a change in the facade plane. For review purposes, the applicant may want to make a checklist of design elements which distinguish the area. The list should begin with broader design features such as scale, massing, and height, and then cover details such as materials, openings and ornamentation. Proposals for new construction include architectural plans, elevations and a site plan. A perspective or an isometric drawing of the building or streetscape may also be requested for review. For further information on submission requirements, refer to Appendix A.

New Judicial Annex Building with design similarities with the adjacent historic County Courthouse
316 Princess Street, South 3rd Street Facade
Source: Thomason and Associates

New Building Standards: Lots & Building Siting

1. **The lot dimensions should be relatively consistent with those of the block face**, particularly with respect to the lot depth. Exceptions would include a historically large lot that has never been subdivided into multiple smaller lots.

2. **Buildings should be sited to blend in with the surrounding area.** Design new buildings to be compatible with the contributing buildings in terms of lot coverage, setbacks, spacing, massing, scale, height, form, size, materials, proportion, fenestration and roof form.

3. **Commercial and institutional building setbacks can differ.** Most new commercial buildings should front directly onto the edge of the sidewalk. Institutional buildings can be set back on a lawn or plaza. Likewise, commercial buildings in Downtown Wilmington often share side walls, while institutional buildings typically feature side setbacks.

4. **New buildings should not compromise the topography and site features.** Significant mature vegetation and important vistas should be preserved. Silt fencing or similar measures should be used to protect root systems. Excessive grading should not occur so that an entire new structure is unnecessarily at a single elevation on a steeply sloped site. Building segments should be stepped at different elevations to work with topography.

5. **Protect any potential archaeological resources from damage during construction.** A survey of the site should be done to minimize the possibility of disturbing unknown archaeological resources.

6. **Buildings should not be sited at unusual angles to the street or with side walls facing the street** unless it is a corner lot and the side wall fronts the subordinate street. In some instances, it is most appropriate to design corner buildings to have two fronts.

7. **Additions should be physically subordinate to the historic building.** Subordination is achieved primarily through a smaller scale of the addition and a rear location.

8. **Additions should be recognized as new, even if only subtly.** This objective can be achieved by introducing one or more of the following elements: different siding, roof, roof line, foundation material, and window type. Spit-face concrete blocks are a common approach to foundations for additions that feature a raised foundation.

9. **Consider the foundation height and eaves lines of the historic building when designing the addition.** Align the foundation height of the addition with that of the historic building. Eave lines of additions should be at or below the historic eave line. The latter demonstrates subordination to the historic building.

10. **Select a dominant exterior material for the addition that is compatible with that of the historic building.** The primary exterior cladding of the addition should be the same as or subordinate in weight to the primary historic building.

New Building Standards: Building Design

1. **Design new buildings to be compatible with nearby contributing buildings** in terms of massing, scale, height, form, size, materials, proportion, fenestration and roof form. Building heights are regulated per zoning.

2. **Design new buildings so that the spacing, proportion, size and detailing of windows, doors and other openings are compatible with nearby contributing buildings.** Considerations include their size, orientation, pattern on the facade, and ratio of solids to voids (openings) on the facade. Snap-in or flush muntin bars are prohibited.

3. **Primary entrances should be located on the front facade and face the associated primary street,** and designed to give them prominence relative to other entrances based on their scale and architectural detailing.

4. **At least 50% of the ground level front facade of commercial buildings should be glazed** (glass in the form of windows and doors). Glass on the front facade may not be reflective, frosted or tinted by more than 30%.

5. **The proportions, spacing and rhythm of windows should be similar to those of surrounding historic buildings of the same building type** (commeriail or institutional). Upper floor windows should typically be vertically oriented. Also, transom lights above entrances are always horizontally oriented, even if the individual lights have a vertical orientation.

6. **If exterior shutters are provided for windows, they should be properly designed** to fit the window, and they should either be operable or appear to be operable and not mounted flush against the facade wall.

7. **Roof types and pitches for new buildings should be appropriate for the building type and architectural style.** Most commercial buildings should have a flat or slightly sloped roof that is visually screened from adjacent streets through the use of parapet walls. Many institutional buildings feature pitched roofs, as well as vertical architectural elements such as cupolas and steeples.

8. **The provision of a raised foundation should depend upon the building type and/or style.** Buildings with ground floor commercial space should not have a raised foundation. However, many institutional buildings should have a raised foundation, such as Classic Revival style buildings.

New Building Standards: Building Design

9 **Design the facade of large buildings to reduce the perceived height and to not appear to be a solid mass.** Configure window groupings to denote bays, and make en-trances obvious by articulation within the bays in which they occur. Buildings that are four (4) or more stories in height should have a triparte building articulation with a base, shaft and cap (see graphic on the next page). Also, no front facade plane of a commercial buildings should exceed a width of thirty (30) feet, with facade offsets being at least four (4) inches in depth.

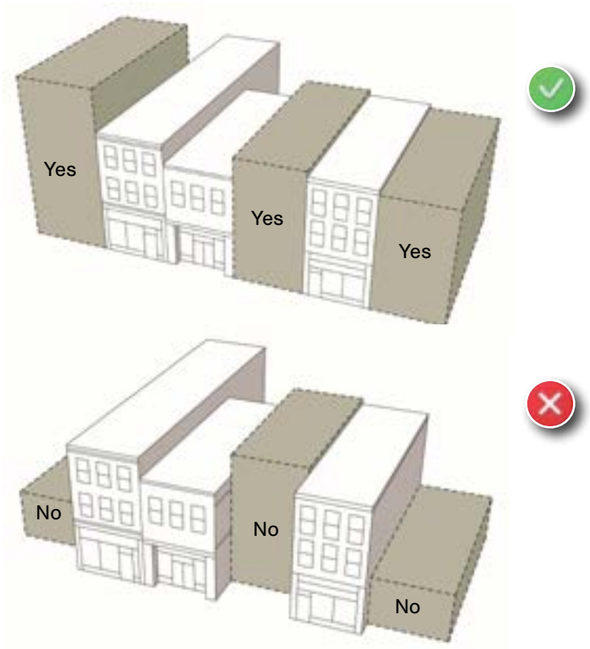
10 **Exterior materials used for new non-residential buildings can be contemporary**, but must be compatible with materials used in the surrounding historic buildings in terms of scale, pattern, detail, texture, finish and color.

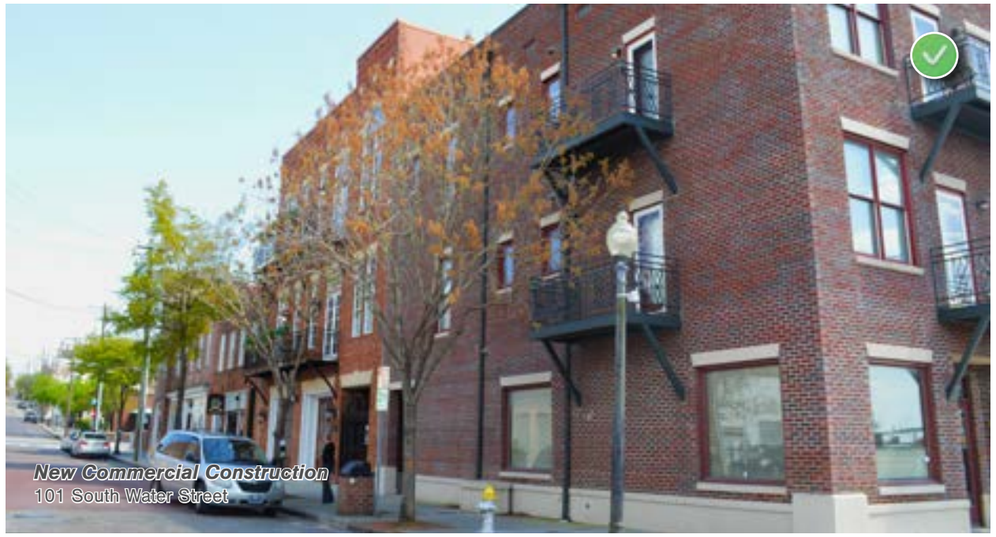
11 **New buildings should be a product of their time.** There should be at least a subtle visual distinction between old and new buildings. However, new buildings should respect the character of the adjacent historic buildings, the block, and the overall district.

Setback, Height and Overall Mass of New Buildings

New buildings should reflect the massing of their surrounding context and strive to fill the space available on the site, especially in terms of having a uniform setback, compatible height, and mass that does not detract from the rhythm of buildings along the street.

NOTE: By including setbacks on the street side(s), there are cases where it is desirable to reduce the apparent height of buildings, perhaps by setting back upper stories.



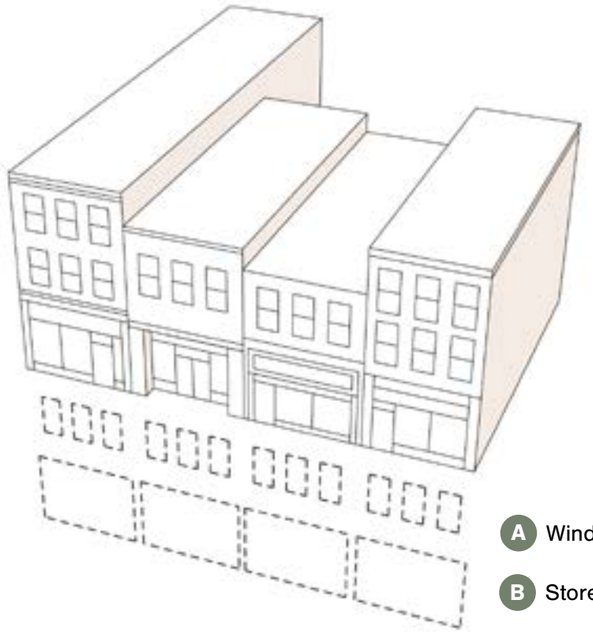


Segments and Bays of Larger New Buildings

Tall new buildings should be vertically segmented with tripartite building articulation consisting of a base, shaft and cap similar to that of a classic column. Bays are vertically aligned openings that visually break up the massing of a larger facade.

Door & Window Spacing for Infill of Commercial and Mixed-use Buildings

New buildings should reflect the pattern of windows, door-ways and storefront areas established along the street or other applicable context.



A Window Rhythm

B Storefront Rhythm

New Non-Residential Buildings in Other Communities

The following buildings would be compatible in Downtown Wilmington's historic areas per these Design Standards:

Convention center with segmented facade
Source: The Walker Collaborative

Mixed-use building with enclosed ground floor dining
Source: The Walker Collaborative

Mixed-use building with arcaded ground floor dining
Source: The Walker Collaborative

5.5 Automated Teller Machines

Background

The first Automated Teller Machine (ATM) began service in 1967. Since then, the popularity of ATMs has spread around the world allowing banking customers to have quick, self-serve transactions. ATMs allow customers to perform everyday banking like deposits, withdrawals, and even more complex transactions like bill payments and transfers. In many cases, financial institutions own ATMs. However, individuals and businesses also buy or lease ATMs on their own or through an ATM franchise. Banks place ATMs in and outside of their branches. Other ATMs are located in high-traffic areas such as along sidewalks in commercial districts, shopping centers, grocery stores, convenience stores, restaurants, and other locations. The convenience of ATM service should not be at the expense of the character of Wilmington's historic districts.

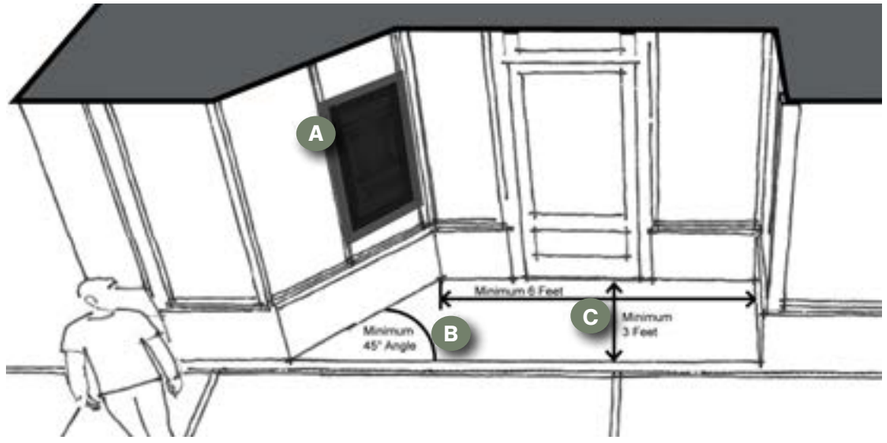
ATMs with 45° Entry

Appropriate ATM Location

A ATMs should be composed of materials and colors that are consistent with, and complimentary to, the building and/or storefront it occupies.

B A minimum angle of 45° is required.

C The recessed entry should be a minimum of six (6) feet in width.



ATM Standards

1. **Installation of ATMs on the interior of a historic property is preferable** and encouraged in order to maintain the character of commercial storefronts in Wilmington's historic districts.

2. **Installation of an ATM should not be permitted if the storefront façade is original** or has acquired historic significance.

3. **Removing a door or inserting an ATM through a door is inappropriate.**

4. **ATM installations should be done in a manner that, if removed, does not negatively impact the building** with respect to it essential form, integrity, architectural elements, and character-defining features.

5. **The installation of an ATM within the storefront of a building may be appropriate if removal of only storefront glazing can be reinstalled when the ATM is removed.** The amount of storefront glazing that may be removed should only be the width and height of the ATM unit itself. Installing glass above and below the ATM is encouraged to retain the glazing and visibility quality of the storefront.

6. **The installation of an ATM should maintain visibility into the building** and should not cover more than 25% of the entire store-front glazing on the ground level.

7. **ATMs should not be located on the primary façade with the exception of buildings with a recessed entry.** For a building having frontage on two separate streets, each street façade is considered a primary façade.

8. **Only one ATM should be installed in a storefront** façade of a building in a historic district.

9. **ATMs should only be installed on that portion of the storefront glazing that is in an area of the entry that is recessed between 45 and 90 degrees from the front plane of the façade.** The recessed entry must be a minimum width of 6 feet to allow the passage of pedestrians, goods, and materials into and out of the building.

10. **Stand-alone or freestanding ATMs in the entry of a building on sidewalks are not prohibited** because they are not congruous with the streetscape or the special character of historic districts.

11. **The design of ATM installations should be compatible and harmonious** with the features of the building, the streetscape and the character-defining features of the historic district with regards to scale, materials, profile, color, trim and lighting.

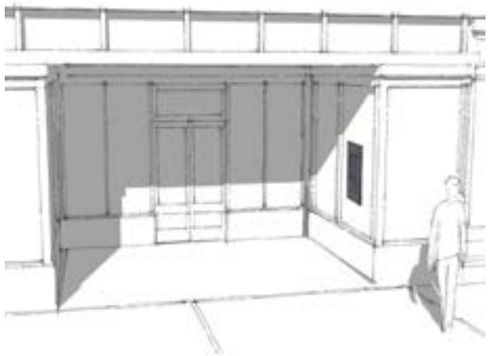
12. **Digital, flashing or backlit signs for ATMs are not congruous with the special character of historic districts.** All signage associated with the ATM should be compatible with the building, the streetscape, and the character- defining features of the historic district as a whole with regards to material, scale, color, lighting, and other signage on the building.

ATM Standards

13. **Stand-alone ATMs may be appropriate in parking lots that serve the public** so long as it serves as an accessory to a principal use and there is not an historic building on the property.

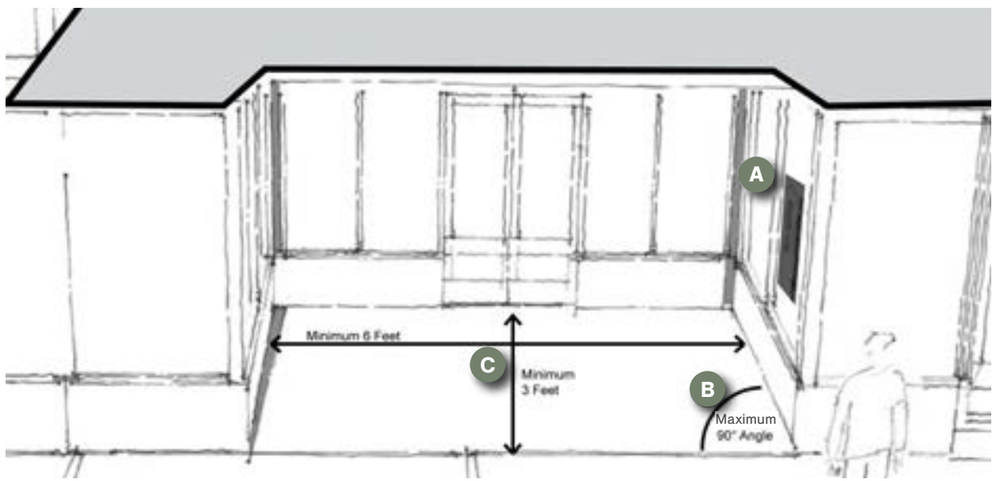
14. **Exterior recess entries where ATMs are located should be well lit** in an effort to increase user security.

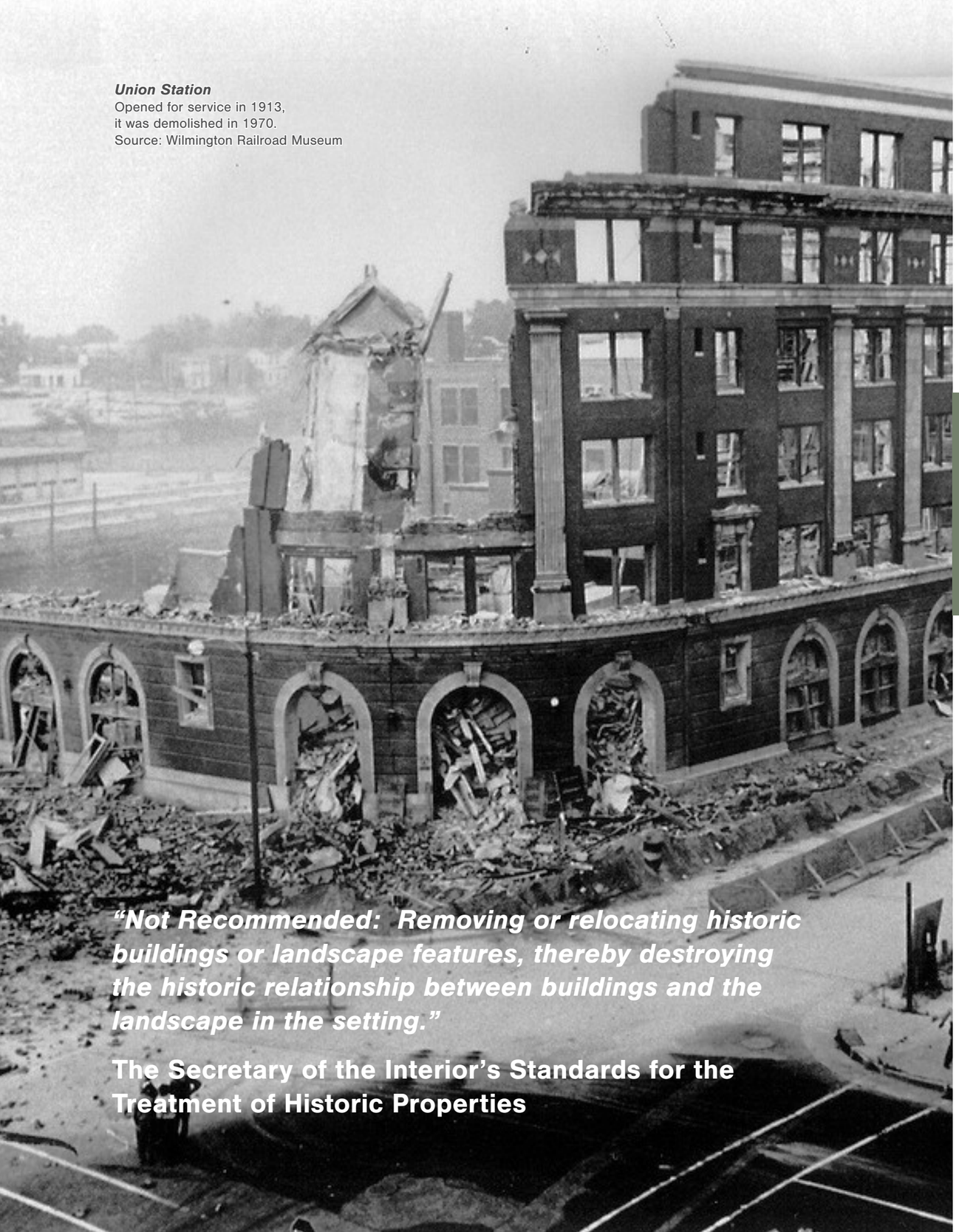
ATMs with 90° Entry



Appropriate ATM Location

- **A** ATMs should be composed of materials and colors that are consistent with, and complimentary to, the building and/or storefront it occupies.
- **B** A maximum angle of 90° is required.
- **C** The recessed entry should be a minimum of six (6) feet in width.





Union Station
Opened for service in 1913,
it was demolished in 1970.
Source: Wilmington Railroad Museum

"Not Recommended: Removing or relocating historic buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape in the setting."

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

6 Relocation & Demolition

Section Topics

6.1 Relocation
6.2 Demolition
6.3 Demolition by Neglect

6.1 Relocation

Background

Moving a building is generally viewed as a last resort to avoid demolition. Although relocation may destroy the original context and compromise its significance, the results can be beneficial. Significant buildings in Wilmington have been saved from demolition and successfully moved with benefits to the community and the buildings. Vacant lots have been filled; houses restored; and sites freed up for new development.

Because moving a building is expensive and complex, every aspect of the move should be checked and considered. Is there a threat of demolition other than through neglect? Is relocation the only alternative? Does the building's significance justify the move? Will the structure survive the move and adapt to its new site? Ideally a structure should be moved as an intact unit. If this is not possible, it can be moved in sections. If neither method is possible, the building can be completely disassembled. Relocation is considered only as a last resort, as it may result in a substantial loss of building material.

Criteria to Consider Relocations

- The following factors should be considered for a proposed building relocation:
- Potential threats facing the building, including demolition and redevelopment.
- The architectural and historical significance and uniqueness of the building.
- The structural integrity of the building and its ability to withstand the stresses of relocation.
- The integrity of the original setting in which the building is located.
- Potential negative impacts of the relocation on adjacent properties, site features, and/or the character of the district from which it is being removed.
- Relocation plans, including the degree to which the building will have to be disassembled to facilitate the move.
- The character and compatibility of the relocation setting, particularly if the building is being relocated elsewhere within the Historic District or to another Historic District.
- Proposed plans for the vacated site, including the resulting compatibility with surrounding properties and the broader landscape of the Historic District.

Relocation Standards

1. Choose relocation only as a last resort to demolition. Explore all possible alternatives prior to considering a building relocation.
2. Document the original site and building through drawings, site plans, and photographs before moving a historic building.
3. Work with experienced contractors to accomplish the relocation. Ideally, they should have examples of past successful relocations that they have achieved.
4. Plan the relocation route thoroughly and contact utility companies and City officials to secure necessary permits. Coordinate efforts to ensure minimum delays that might threaten the building's preservation.
5. Protect the building and its significant characteristics during and after the move by working with a professional house moving contractor and by securing the building from possible vandalism or environmental conditions.
6. The structure to be moved should be historically and architecturally compatible with the adjacent buildings within the receiving historic district. If it was originally a rural building, it should be moved to a new location within a rural area. If the original site was within a residential neighborhood, it should be moved to a residential neighborhood containing properties with similar characteristics. All efforts should be made to keep the building in Wilmington.
7. Avoid the demolition, relocation, or significant alteration of another historic building to accommodate the relocation of the subject historic building.
8. Assess the structural stability of the building prior to relocation and consider those findings in planning the relocation.
9. Choose a site that corresponds to the size and proportion of the structure to be moved. Orient the building to the street and ensure that the set back and lot coverage are compatible to, and harmonious with, the existing structures on the block.
10. Protect important site features of the original site, the new site, and the route of the move during relocation. Ensure the move will not entail the destruction of mature trees, vegetation and outbuildings.
11. Prepare and submit to the HPC a site plan for the new site prior to moving the building. The plan should show all site changes, including landscaping, driveways, parking areas, and site lighting. Follow the guidelines for siting new construction when relocating a building within a Historic District.
12. Buildings should be relocated in one piece, to the extent feasible, rather than being partially dismantled prior to relocation. If partial dis-mantling is required, all parts should be labeled and photographed prior to the move to facilitate accurate reconstruction at the relocation site.

6.2 Demolition

Background

Demolition creates an irreversible loss of resources that contributes to the integrity and character of the Historic Districts. Over the years, many historic buildings in Wilmington have been saved by relocation and adaptive reuse. An application for a Certificate of Appropriateness to demolish a building, structure or site cannot be denied unless the State Historic Preservation Office has determined that the property has statewide significance. However, demolition may be delayed up to 365 days for buildings on the site within the locally designated districts. The maximum period may be reduced by the Historic Preservation Commission if it finds that the owner would suffer extreme hardship or be deprived of beneficial use or return from the property by virtue of delay.

A delay in demolition allows the Commission time to negotiate with the owner and other interested parties in an effort to preserve the building. If it can be determined that a deteriorated structure does not pose a threat to public health and safety, demolition should be delayed. If relocation is recommended as an alternative to demolition, the delay will allow time to find a suitable site and prepare the structure for moving. The following factors will be considered prior to making a determination regarding a proposed building demolition:

Criteria to Consider Demolitions

- The architectural and historical significance and uniqueness of the building.
- The presence or lack of architectural integrity, including the extent of irreversible alterations that might have occurred.
- Potential negative impacts of the demolition on adjacent properties, site features, or the character of the district.
- Public safety issues, if applicable.

Demolition Standards

1. Work with the Historic Preservation Commission to identify alternatives to demolition. Explore all possible alternatives prior to considering demolition, including relocating the structure.
2. Evaluate the historic and architectural significance of the building and the impact of the proposed demolition on the overall character of the historic district and the adjacent buildings.
3. A delay in demolition is recommended for historically significant structures that: A) contribute to the overall aesthetic character of the designated historic districts, and B) do not pose a threat to public health and safety.
4. Document significant structures prior to approved demolitions for the historical record through photographs, site plans and/or drawings.
5. Delay a demolition if a structure can be saved by relocation. This approach can provide the needed time to find a site and to prepare the structure for moving.
6. Salvage any significant elements of the building that might be reused for the restoration of other historic buildings or to be used in the construction of new buildings. Examples include siding, doors, windows, shutters, mantels, balustrades, newel posts, and hardware.
7. Make every effort to protect significant site features, both on-site and nearby, before during, and after demolition. That includes protecting trees with silt fencing around the dripline to avoid heavy equipment from dam-aging trees directly or com-pacting the soil around the root system. Avoid disturbance of any archaeological resources during demolition, and report any findings immediately to the City's Planning Department.
8. Clear the site promptly after demolition and develop the site according to the plans approved by the HPC as soon as possible. The site should be cleared of debris, re-seeded, and maintained in a manner consistent with other properties in the Historic District if the site is to remain vacant for more than 60 days.

- The structural instability or deterioration of a property, including the circumstances under which the property fell into disrepair. If structural deficiencies are cited as the reason for demolition, property owners must provide a report prepared by a structural engineer or registered architect detailing the property's physical condition, reasons why rehabilitation is not feasible, and cost estimates for rehabilitation versus demolition.
- Any applicable claims of economic hardship by the property owner that have been submitted to the HPC, including the required relevant financial information (property value assessment, amount paid for the property, ongoing expenses, revenue generated, etc.).
- Proposed plans for the site, including their compatibility with surrounding properties and the broader Historic District.

6.3 Demolition by Neglect

Deteriorated House
507 Ann Street

Background

Demolition by neglect is the deterioration of a historic structure due to a lack of maintenance. Over time, deterioration can cause irreversible damage and what amounts to, in effect, demolition. It is the responsibility of the property owner to maintain the building so that it can endure.

The City's Land Development Code addresses the demolition by neglect process. Specifically, Sec. 18-597.B states that "upon written request by the city, [property owners must] repair such exterior features if they are found to be deteriorating or if their condition is contributing to deterioration and demolition by neglect, including, but not limited to, any of the following defects."

Demolition by Neglect Standards

1. Deterioration of exterior walls, foundations or other vertical support that causes leaning, sagging, splitting, listing or buckling.
2. Deterioration of flooring or floor supports, roofs or other horizontal members that causes leaning, sagging, splitting, listing or buckling.
3. Deterioration of external chimneys that causes leaning, sagging, splitting, listing or buckling.
4. Deterioration or crumbling of exterior plasters or mortars.
5. Ineffective waterproofing of exterior walls, roofs and foundations, including broken windows or doors.
6. Defective protection or lack of weather protection for exterior wall and roof coverings, including lack of paint or weathering due to lack of paint or other protective covering.
7. Rotting, holes and other forms of decay.
8. Deterioration of exterior stairs, porches, handrails, window and door frames, cornices, entablatures, wall facings and architectural details that causes delimitation, instability, loss of shape and form or crumbling.
9. Heaving, subsidence or cracking of sidewalks, steps or pathways.
10. Deterioration of fences, gates and accessory structures.
11. Deterioration that has a detrimental effect upon the special character of the district as a whole or the unique attributes and character of a historic landmark.
12. Deterioration of any exterior feature so as to create or permit the creation of any hazardous or unsafe conditions to life, health or other property.

Storefronts Along Market St
Historic Downtown

7 Signs

Section Topics

7.1 Residential Signs
7.2 Commercial Signs

7.1 Residential Signs

Background

Signs are an important visual element in the historic districts. Appropriate signs can enhance the character of the residential buildings in the area. In Wilmington, the street signs in the residential areas of the historic districts are compatible in their scale and ambiance. On almost every street, historic markers describe people and events that contributed to the community's past. House plaques with dates and histories of ownership are common and unobtrusively placed near the entrance. For residential buildings put to commercial use, free-standing signs are recommended. In keeping with these *Design Standards*, graphic simplicity and compatibility with the existing architecture are the basic principles of designing effective and attractive signs.

NOTE: Standards are subject to provisions in the Wilmington Sign Ordinance of the Wilmington Land Development Code.

Free-Standing Sign

Residential Sign Standards

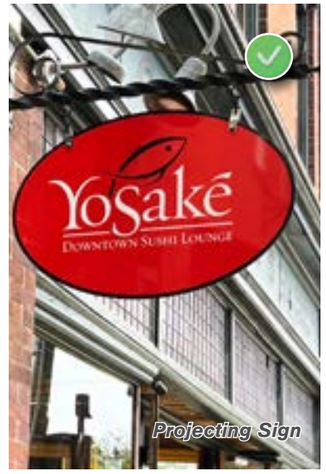
1. Preserve and maintain existing signs that contribute to the character of the historic district.
2. For new signs, wood and metal are the preferred materials. Plastic signs may be appropriate if they are of sturdy, high quality material that does not shine or glare.
3. Limit the number of colors on signs and relate them to the adjacent structures.
4. Relate the shape of the sign to the building's architectural style or include elements of the style.
5. Combine readability and visibility in lettering and relate it to the style of the building. Take up no more than 40% of the sign area and contrast the lettering with the background. It is recommended to use dark letters on a light background or light letters on a dark background.
6. Design identification signs for residential buildings to be under four (4) square feet in area. Flush mount historic plaques close to the entrance.
7. Free-standing or flush-mounted signs are recommended for residences put to commercial use. Do not obscure the building or break up the facade or yard pattern. Care should be given to the size and the style of the mounting.
8. Light signs in a manner compatible with the historic character of the district.
9. It is inappropriate to install neon signs on buildings in the residential areas of the historic districts.

7.2 Commercial Signs

Background

Signs are an important visual element in the historic districts. Appropriate signs can enhance the character of the commercial buildings in the area. The intent of the sign standards is to provide objective criteria by which the Historic Preservation Commission (HPC) and its staff (City Planning Department) can systematically evaluate applications for signage within the locally designated Historic Districts properties. The goal of these standards is to allow signs that are compatible with both the corresponding structure and the character of the overall area.

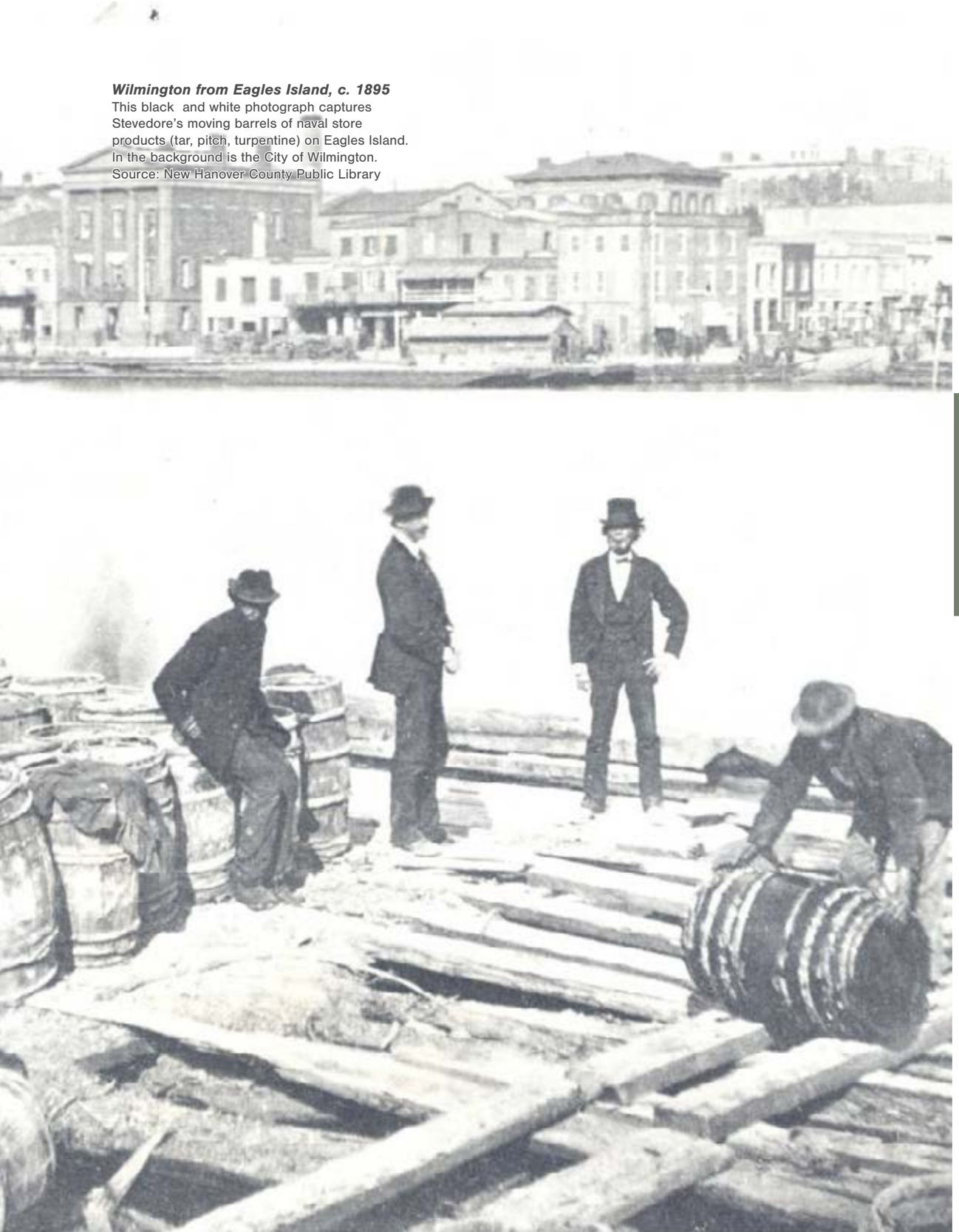
NOTE: Although murals are not technically considered to be signs, it is inappropriate to mount or paint murals on commercial buildings within the Historic Districts. Standards are subject to provisions in the Wilmington Sign Ordinance of the Wilmington Land Development Code.



Projecting Sign

Commercial Sign Standards

1. Preserve and maintain existing signs that contribute to the character of the historic district. The retention of early signs and advertising painted on historic walls is recommended.
2. New signs should be compatible with the storefront and/or building in material, scale and color. It is inappropriate to install signs that cover character-defining features of the building.
3. For new signs, wood and metal are the preferred materials. Plastic signs may be appropriate if they are of sturdy, high quality material that does not shine or glare.
4. Limit the number of colors on signs and relate them to the adjacent structures.
5. Relate the shape of the sign to the building's architectural style or include elements of the style.
6. Combine readability and visibility in lettering and relate it to the style of the building. Take up no more than 40% of the sign area and contrast the lettering with the background. It is recommended to use dark letters on a light background or light letters on a dark background.
7. Light signs in a manner compatible with the historic character of the district.
8. Ensure that signs mounted on the fronts of buildings to designate multiple businesses in retail/office centers are compatible in scale with the buildings architectural elements, consistent in placement and size placement, size, and compatible in design material and color but not necessarily identical design, material and color with the architectural elements of the building.



Wilmington from Eagles Island, c. 1895
This black and white photograph captures Stevedore's moving barrels of naval store products (tar, pitch, turpentine) on Eagles Island. In the background is the City of Wilmington.
Source: New Hanover County Public Library

A Appendices & Resources

Section Topics

A Project Review Checklist
B Glossary
C Plants
D Resources
E Resiliency

Appendix A - Project Review Checklist

The following design considerations serve as a checklist for applicants submitting an application for new constriction, renovations, restorations and additions. It also serves as a starting point for the Historic Preservation Commission's (HPC) review of the applications.

Although the considerations are derived from Wilmington Design Standards as well as the Land Development Code (or its successor) requirements for new construction, they may not be all inclusive. Comment on the implementation of these considerations does not serve as a vehicle for redesign by the HPC, but serves as a reference for determining the overall congruency of the building relative to others in the context. In other words, comments presented by the HPC relative to these considerations should be stated along with findings of fact regarding their implementation.

Project Review Checklist	
Lot Coverage	The percentage of lot area that is covered by impervious cover.
Orientation	A building's placement on a site, entrance location, and the positioning of windows, rooflines, and other features.
Setback	The areas, measured from the property line to any structure, within which building is prohibited, but which may include driveway areas or other similar surface improvements.
Spacing and streetscape (Rhythm)	Building patterns that are repeated over a typical block, and the emphasis and arrangement of architectural elements.
Scale	A building's size relative to another building's size, or the size of one building's elements relative to another building's elements.
Height	The vertical distance measured from the uniform finished grade to the highest point of the roof.
Shape and form (Proportion)	The overall massing of a building and its architectural elements.
Roof form and pitch	The type or style of roof and how many inches the roof rises for every 12 inches in depth.
Materials	any construction material which may result from the construction, renovation, or demolition or any structure.
Architectural elements	The unique details and component parts that, together, form the architectural style of houses, buildings and structures including doors, windows, porches, roofs, and chimneys
Architectural detailing	A small piece of the whole that contributes to the overall character of a structure. Detailing typically includes lintels, cornices, and trimwork.
Parking areas and driveways	The paving material and location.
Landscaping	The plants, vegetation, fences, and retaining walls.

Appendix B - Glossary

A

Aluminum Siding:
Sheets of exterior wall covering, usually with a colored finish, fabricated from aluminum to resemble wood siding. *Aluminum siding* was developed in the 1940s and became popular in the 1950s and 1960s.

Appropriate:
Suitable for, or compatible with, a property, based on accepted standards and techniques for historic preservation.

Arch:
A curved and sometimes pointed structural member used to span an opening. A rounded arch represents *classical* or Romanesque influence whereas a pointed arch generally denotes Gothic influence.

Architrave:
The lower part of a *classical entablature*, resting directly on the *capital* of a column, the *molding* around a window or door.

Art Deco:
A style of decorative arts and architecture popular in the 1920s and 1940s, characterized by geometric forms and exotic motifs.

Ashlar:
Stonework consisting of individual stones that are shaped and tooled to have even faces and square edges.

Asphalt Shingle:
A shingle manufactured from saturated roofing felts, rag, asbestos or fiberglass coated with asphalt and finished with mineral granules on the side exposed to weather.

Awning:
A roof-like cover of canvas or plastic over a window or door to provide protection against sun, wind or rain.

B

Ballast Stones:
Stones carried by oceangoing vessels for weight. In North Carolina ports such as Wilmington, small, rounded *ballast stones* were unloaded when ships picked up heavy cargoes of timber and naval stores, and were reused locally to build walls and *foundations*.

Balustrade:
A series of balusters or uprights connected on top by a handrail and sometimes on the bottom by a bottom rail to provide an ornamental and protective barrier along the edge of a stair, roof, balcony, or porch.

Bargeboard (also vergeboard):
A sometimes richly ornamented board placed on the verge (incline) of the *gable* to conceal the ends of rafters; typically seen in the picturesque styles of the 19th century such as the *Gothic Revival* and the *Queen Anne*.

Battered Wall:
A wall that is thicker at the bottom than at the top.

Bay:
(1) An opening or division along a face of a building; for example, a wall with a door flanked by two windows is three bays wide. (2) The space between principle structural members, as in a timber frame, the space between posts. (3) A projection from the *façade* of a building, such as a *bay* window.

Belvedere:
A rooftop pavilion from which a vista can be enjoyed (Sometimes incorrectly referred to as a *cupola*).

Beveled Glass:
Glass panels whose edges are ground and polished at a slight angle to form a beveled border; used for entrance doors and ornamental work.

Blind:
A louvered rectangular *panel* used to cover a window.

Bond:
The pattern in which *masonry*, particularly brickwork, is laid to tie together the thickness of the wall. The principle bonds used in North Carolina were *English bond*, *Flemish bond* and common *bond*.

Bracket:
Projecting support members found under eaves or other overhangs; may be plain or decorated. Often called consoles, they are characteristic of the *Italianate* style.

Bulkhead:
The area below the display window on the front *façade* of a commercial storefront.

Bungalow:
A house type and architectural style popular in the early 20th century. Typically defined as a relatively modest, one-story dwelling of informal character, the bungalow traced its origins to British colonial India, as well as to the Arts and Crafts movement of the 19th century.

C

Capital:
The top member of a column, usually decorated or molded. Each *classical* order has its characteristic *capital*.

Casement:
A window with *sash* hung vertically, which opens inward or outward.

Casing:
The finished visible framework around a door or window.

Cast Iron:
Iron, shaped in a mold that is brittle, hard, and cannot be welded. In 19th century American commercial architecture, cast iron units were frequently used to form entire *façades*.

Caulking:
A resilient mastic compound, often having a silicone, bituminous, or rubber base, used to seal cracks, fill joints, prevent leakage, and/or provide waterproofing.

Chamfer:
A beveled edge on the corner of a post, wall, etc. May take the form of a flat surface, or a more elaborately molded surface. Edges so beveled are said to be chamfered.

Character Defining Features:
Individual physical elements of any structure, site, street, or district which contributes to its overall historic or architectural character, and for which it is recognized as historically or architecturally significant.

Clapboard:
Long horizontal boards with one edge thicker than the other, overlapping to cover the outer walls of framed structures; also known as *weatherboard*.

Classical:
The architecture of ancient Greece and Rome, and architecture using forms derived from ancient Greece and Rome.

Colonial Revival (1870-1950):
An architectural style that drew freely on motifs associated with the American past, including elements of the Colonial period. Features of the style include a balanced *façade*; the use of decorative door crowns and *pediments*, sidelights, *fanlights* and *porticoes* to emphasize the front entrance; double hung windows with multiple *panes* in one or both *sashes*; and the frequent use of string *courses* or decorative *cornices*.

Composite Order:
A *classical* order that incorporates the large *voluted* (spirals) of the *Ionic Capital* with the lush foliage of the *Corinthian* Capital.

Coping:
The top *course* of a *masonry* wall or *parapet* which projects beyond the wall surface to throw off the rain.

Corbel:
A small projection built out from a wall to support the *eaves* of a roof or some other feature.

Corinthian Order:
A *classical* order distinguished by the *capitals*, which are ornamented with stylized acanthus leaves.

Cornice:
In *classical* architecture, the upper projecting section of an *entablature*; projecting ornamental *molding* along the top of a building or wall. The term is loosely applied to any horizontal molding forming a main decorative feature such as a molding at the junction of the walls and ceiling of a room. A raking cornice extends along a slanting (raking) side of a *gable* or *pediment*. A boxed *cornice* is a simple treatment with a vertical *fascia* board and a horizontal *soffit* board enclosing the ends of the ceiling joists where they project at the *eaves*.

Course:
A horizontal row of bricks, stones, or other *masonry* units.

Craftsman (1905-1930):
The Craftsman style, which originated in southern California, was inspired primarily by the work of Greene and Greene, two brothers who practiced architecture in Pasadena (the style was also influenced by the English Arts and Crafts movement). Characteristics include low pitched gable roofs with exposed rafters; recessed porches; tapered columns; heavy stone *foundations* and windows with multi-pane top *sash*.

Cresting:
Ornamental ironwork used to embellish the *ridge* of a gable roof or the upper *cornice* of a *mansard roof*.

Cross Gable:
A *gable* which is set perpendicular to the *ridge* of the roof.

Cupola:
A small domed structure, usually polygonal, built on top of a roof or tower.

D

Deck:
popular in contemporary residential architecture.

Dentils:
Small, closely placed blocks set in a horizontal row used as an ornamental element of a *classical cornice*.

Doric Order:
The oldest and simplest of the *classical* Greek orders, characterized by columns with no base, simple unadorned *capitals* supporting a *frieze* of vertically grooved tablets or triglyphs set at intervals.

Dormer:
A vertical window projecting from the slope of a roof; usually provided with its own roof; used to light rooms in a half story.

Double-hung Window:
A window with two *sashes*, each movable by means of sash cords and weights.

Downspout:
A pipe that carries water from the gutters to the ground, or to a sewer connection.

E

Eaves:
The projecting overhang at the lower edge of a roof. Eaves are often flush with the wall at the *gable* ends of 18th and early 19th century buildings.

Elevation:
A scaled drawing which illustrates the view of a side, front or rear of a building.

Ell:
A wing or extension of a building, often a rear addition, positioned at right angles to the principal mass.

Engaged Column:
A column that is in direct contact with a wall; at least half of the column projects beyond the surface of the wall to which it is engaged.

English Bond:
A method of laying brick wherein one *course* is laid with stretchers and the next with *headers*.

Entablature:
The horizontal part of a *classical* order, above the columns; consists of *architrave*, *frieze* and *cornice*.

Etched Glass:
Glass where the surface has been cut away by a strong acid, creating a decorative pattern.

F

Façade:
An exterior side of a building.

Fanlight:
A semicircular or fan-shaped window with a radiating glazing bar system usually found over entrance doors.

Fascia:
The flat member of the *architrave* in *classical* architecture. A *fascia* board is a flat board used to cover the ends of roof rafters.

Fenestration:
The arrangement of windows in other exterior openings of a building.

Finial:
An ornament at the top of a spire, *gable* or pinnacle.

Flemish Bond:
Headers and stretchers alternating in each *course* with the center of each header over the center of the stretcher directly below it; more decorative but structurally weaker than *English bond*.

Folk Houses:
Houses built with local materials to provide basic shelter. More influenced by geography and local tradition than by architectural styles.

Foundation:
The supporting portion of a structure below the first floor construction, or below grade.

Frieze:
In *classical* architecture, the member between the *architrave* and *cornice*. Also, any plain or decorative band, or board, on the top of a wall immediately below the cornice.

G

Gable:
A triangular wall segment at the end of a double pitched or gabled roof.

Galvanized:
Steel or iron coated with zinc.

Gambrel Roof:
A roof having double slope or two sides of a building.

Gazebo:
A small summerhouse or other space with a view; usually found in a garden or yard.

Georgian Style (1700-1780):
The prevailing architectural style of the 18th century in Great Britain and the North American colonies; characterized by symmetry of floor plan and *façade*, heavy *classical moldings*, raised *panels* and classically derived ornament.

German Siding:
A type of siding characterized by overlapping boards; the upper part of each board has a concave curve.

Gothic Revival (1840-1880):
This style, which came from England, is distinguished by the pointed *arch* which in public buildings and churches could be combined with towers, buttresses and steep *gables*. The first documented houses in this style were designed by Alexander Jackson Davis and were asymmetrical in plan to allow for flexibility of rooms and create a picturesque silhouette.

Greek Revival (1825-1860):
The mid-19th century revival of the forms and ornamentation of the architecture of ancient Greece. The style is characterized by a low pitched *gable* or sometimes *hipped roof*, a *pedimented* gable, a *portico*, six-over-six double hung windows, and a four *panel* door flanked by *side-lights* with a *transom* window above.

H

Headers:
Bricks laid with their ends toward the face of a wall.

Hipped Roof:
A roof formed by four pitched roof surfaces.

I

Ionic Order:
A *classical* order characterized by a *capital* embellished with opposing *volutes*.

Italianate (1840-1880):
An architectural style characterized by the following: two or three stories, low pitched *hipped roofs*, cross hipped or *cross gabled* with wide *eaves* supported by large *brackets*; a *belvedere* or tower is sometimes featured. There are many sub-types.

J

Jerkin Head Roof:
A roof form in which the top of the *gable* is cut off by a secondary slope forming a *hip*. Also known as a clipped gable.

K

Keystone:
The wedge-shaped stone found at the center of an *arch*.

L

Latticework:
Openwork produced by interlacing or crossing lath or thin strips of iron or wood; often used at the base of a porch or as a framework for screening a porch.

Lean-to:
A small addition to a house with a single pitched roof or shed roof.

Light:
A *pane* of glass.

Lintel:
A horizontal structural member that supports a load over an opening.

Louver:
A small lantern or other opening, often with wood slats, used for ventilating attics or other spaces.

Lunette:
A small or arched-topped half circular window in the peak of a gabled roof or porch; sometimes used as a vent.

M

Major Landscaping:
Significant landscaping that could impact adjoining properties or require a professionally landscaped plan. *Major landscaping* involves alterations to, or the addition or removal of more than five (5) trees and plantings and/or topography.

Mansard Roof:
A roof that has two slopes on all four sides.

Masonry:
Work constructed by a mason using stone, brick, concrete blocks, tile, or similar materials.

Minor Landscaping:
Landscaping changes that do not involve significant alterations to, or the addition or of one (1) to five (5) trees or plants. The planting of small flower beds and small trees and shrubs does not require a Certificate of Appropriateness.

Molding:
A continuous decorative band; serves as an ornamental device on both the interior and exterior of a building or structure.

Mortar:
A mixture of plaster, cement, or lime with a fine aggregate and water used for *pointing* and bonding bricks or stones.

Mullion:
A large vertical member separating two casements and forming part of the window frame.

Muntin:
One of the thin strips of wood used for holding *panes* of glass within a window; also called *sash* bar or glazing bar.

N

Neoclassical Revival (1900-1940):
Used to define the revival of architecture based on Greek and Roman forms around the turn of the 20th century; characterized by a two story *pedimented portico* supported by colossal columns (usually with Ionic, Corinthian or Composite *capitals*). More modest versions of the style are common.

Newel Post:
The post supporting the handrail at the top and bottom of a stairway.

P

Pane:
A single piece of window glass.

Panel:
A sunken or raised portion of a wall, ceiling, mantel or door with a frame-like border.

Parapet:
A low wall or protective railing often used around a balcony or along the edge of a roof.

Patio:
A usually paved and shaded area adjoining or enclosed by the walls of a house.

Pediment:
A wide low-pitched *gable* surmounting the *façade* of a *classical* building; also used over windows, doors and niches.

Pergola:
An arbor or passageway with a *trellis* roof on which climbing plants can be trained to grow.

Pilaster:
A shallow pier attached to a wall, often decorated to resemble a *classical* column.

Plaza:
(In Wilmington), the planting strip at the center of some major thoroughfares in the historic district and the area between the curb and sidewalk.

Pointing:
The final filling and finishing of *mortar* joints that have been left raw or raked out.

Porte-cochère:
A covered entrance large enough for vehicles to pass through.

Portico:
A major porch, usually with a *pedimented* roof supported by *classical* columns.

Portland Cement:
A hydraulic binder for concrete; made by burning a mixture of clay and limestone.

Prairie Style (1890-1920):
Often associated with the architecture of Frank Lloyd Wright, the style is horizontal in character using bands of casement windows, long terraces or balconies and low-pitched roofs with wide overhangs to achieve a linear effect.

Public Right-of-Way:
Publicly owned and maintained streets and walkways.

Q

Queen Anne (1890-1920):
An eclectic architectural style of the late 19th century, influenced by the work of English architect Robert Norman Shaw and characterized by irregularity of plan and massing, variety of color, texture and window treatment, multiple steep roofs, porches with decorative *gables* and the frequent use of *bay* windows.

Quoin:
Large stones, or rectangular pieces of wood or brick, used to decorate and accentuate the corners of a building.

R

Rake:
The slope of a *gable*, *pediment*, stair, string, etc.

Rehabilitation:
Rehabilitation means "making habitable or useful again." It may include new elements that are non-historical or some *restoration* or, on the other hand, changes to the building.

Repointing:
Raking out deteriorated joints and filling them with a surface *mortar* to repair the joint.

Restoration:
The act or process of accurately recovering the form and details of a property and its settings as it appeared at a particular time by removing later work, or replacing missing earlier work.

Retaining Wall:
A brace or freestanding wall that bears against an earthen backing.

Return:
The continuation of a *molding* from one surface onto an adjacent surface.

Ridge:
The horizontal line formed when two roof surfaces meet.

Rustication:
Rough-surfaced stonework.

S

Sandblasting:
An abrasive way of cleaning brick, *masonry* or wood by directing high powered jets of sand against the surface.

Sash:
A frame for glass to close a window opening.

Screen Door:
A door intended to allow ventilation, but exclude insects; usually consists of a light weight frame and fine wire mesh screening.

Second Empire (1855-1890):
This style is characterized by its distinctive *mansard roof*, which has a variety of silhouettes. *Dormer* windows appear in a variety of styles. Beneath the roof line, *Second Empire* houses have details closely related to the *Italianate* style.

Segmental Arch:
An *arch* formed by the segment of a circle or an ellipse.

Shake:
A wedge-shaped piece of wood, rubber, slate, metal or asphalt used in overlapping *courses* to cover a roof or an outside wall surface.

Shingle Style (1880-1915):
A picturesque style that evolved from the *Queen Anne* style characterized by uniform wall covering of wood shingles, *hip* or *gable* roofs with *dormer* windows, irregular roof line, small paned windows, and no corner boards. The style is generally associated with New England.

Shutter:
A paired solid *panel* of wood or metal that is hinged at the outside jambs and used to cover a window.

Side-light:
One of a pair of narrow windows flanking a door or window.

Sill:
The framing member that forms the lower side of an opening, such as a door *sill*. A window sill forms the lower, usually projecting, lip on the outside face of a window.

Soffit:
The exposed underside of an *arch*, *cornice*, balcony, or beam.

Spall:
To split off from the surface, as stone or brick that is bearing undue pressure near its face or is acted on by weathering.

Spandrel:
The triangular space between the shoulder of an *arch* and the triangular framework that surrounds it; the space between two adjacent arches; the triangular space between the outer string of a stair and the floor.

Stockade Fence:
A solid fence constructed of vertical boards, typically of wood.

Stool:
A *casing* or molded piece running along the base of a window and contacting the bottom rail on the inside of a building.

Street Furniture:
Street furniture includes all historic drinking and decorative fountains as well as horse troughs, benches and trash receptacles.

Stringcourse:
A continuous horizontal band of brick, stone, or wood on the exterior wall of a building; used for decorative purposes, or to break up a large expanse of wall surface.

Stucco:
An exterior finish for *masonry* or frame walls, usually composed of cement, sand and hydrated lime mixed with water and laid on wet and often scribed to resemble blocks of stone.

Surround:
An encircling border or decorative frame.

Synthetic Materials:
Not natural or genuine, it is artificial or contrived.

T

Terne Metal:
Terne is an alloy coating that was historically made of lead and tin to cover steel. Currently lead has been replaced with the metal zinc; used to inhibit corrosion.

Terra Cotta:
A fine-grained fired clay product used ornamentally on the exterior of buildings, may be glazed or unglazed, molded or carved.

Tongue:
The projecting rib along the edge of a member that fits into a corresponding groove in an adjacent member.

Tongue-and-Groove:
A joint composed of a rib (*tongue*) received by a groove. Often used in wood flooring and wainscoting.

Transom:
An opening over a door or window, usually for ventilation, and containing a glazed or solid *panel*.

Trellis:
A light frame or *latticework* used as a screen, or as a support for vines.

Trim:
The finish material on a building, such as a *molding* applied around door and window openings or at the floors and ceilings of rooms.

Turret:
A small tower usually corbelled at the corner of a building.

Tuscan Order:
One of the *classical* orders, resembling the *Doric* but of greater simplicity. The columns are unfluted, the *capitals* are unornamented and the *frieze* lacks the triglyphs that are part of the Doric order.

U

Underpinning:
The system of supports, such as rough walls or piers, beneath the ground floor.

V

Valley:
The depressed angle formed at the meeting point of two roof slopes.

Veranda or Verandah:
A roofed space attached to the exterior wall of a house and supported by columns, pillars, or posts; commonly used to describe an open porch.

Volute:
A spiraling scroll-like ornament. In classified architecture, the dominant feature of the *Ionic Capital* (but also focused on *Corinthian* and Composite Capitals).

WXYZ

Water Table:
A plain or molded ledge or projection, usually at the first floor level, that protects the *foundation* from rain running down the wall of a building.

Weatherboard:
Wood siding consisting of overlapping horizontal boards, usually thicker at one edge than the other.

Weatherstrip:
A piece of wood, metal, or other material installed around window and door openings to prevent air infiltration and moisture penetration. More commonly used in North Carolina than the term "*clapboard*."

Wrought Iron:
Pig iron that is puddled and rolled or hammered into shape, never melted or cast.

Architectural Terms Sources:

Information was taken from architectural dictionaries and resource books, including: Old House Dictionary (1992) by Steven J. Phillips, American Source Books, Lakewood, Colorado; American Architecture since 1780: A Guide to the Styles (1992) by Marcus Whiffen, The MIT Press, Cambridge, Mass; Dictionary of Architecture (1952), by Henry B. Saylor, John Wiley and Sons, New York; What Style Is It? (1983) by John C. Poppeliers, S. Allen Chambers, Jr. and Nancy B. Schwartz, National Trust for Historic Preservation.

Appendix C - Suggested Plants

Large Trees

Common Name	Scientific Name
Red, Scarlet, Swamp Maple	Acer rubrum
Golden Catalpa	Catalpa bignonioides var. aurea
Atlas Cedar	Cedrus atlantica
Cryptomeria, Japanese Cedar	Cryptomeria japonica
Ginkgo	Ginkgo biloba
Chinese Holly, Burford Holly	Ilex cornuta
Japanese Holly	Ilex crenata
American Holly	Ilex opaca
Tulip Tree, Tulip Poplar	Liriodendron tulipifera
Southern Magnolia, Bull Bay	Magnolia Grandiflora
Bayberry, Wax Myrtle	Myrica cerifera (shade)
Black gum, Tupelo	Nyssa sylvatica
Eastern Spruce	Picea rubens
Shortleaf Pine	Pinus echinata
Spruce Pine	Pinus glabra
Longleaf Pine	Pinus palustris
Loblolly Pine	Pinus taeda
Japanese Black Pine	Pinus thunbergii
Sycamore, Large Buttonwood	Platanus occidentalis
White Oak	Quercus alba
Pin Oak	Quercus palustris
Willow Oak	Quercus phellos
English Oak	Quercus robur
Live Oak	Quercus virginiana
Bald Cypress	Taxodium distichum
American Linden	Tilia americana
Carolina Hemlock	Tsuga caroliniana
Rabbiteye Blueberry	Vaccinium ashec

Medium Trees

Common Name	Scientific Name
White Birch, Canoe or Paper Birch	Betula papyrifera
Snowdrop Tree, Silver-bell	Halesia carolina
Savannah Holly	Ilex Savannah
Nellie Stevens Holly	Ilex x Nellie R. Stevens
Black Alder, Winterberry	Ilex verticillata
Red Cedar	Juniperus virginiana
Red Cedar Variety	Juniperus virginiana var. venusta
Lily Magnolia	Magnolia lilliflora var. gracilis
Big Leaf Magnolia	Magnolia macrophylla
Saucer Magnolia	Magnolia X soulangiana
Saucer Magnolia cultivar	Magnolia X soulangiana var. norbertiana
White Swamp Magnolia	Magnolia virginiana
Japanese Crab Apple	Malus floribunda
Sargent Crab Apple, after 1892	Malus sargentii

Small Trees

Common Name	Scientific Name
Japanese Maple, varieties	Acer palmatum
Spider-leaf Japanese Maple	Acer palmatum ornatum
Split leaf Japanese Maple	Acer almatum ‘dissectum’
Bottlebrush Buckeye, Dwarf Horse Chestnut	Aesculus parviflora
Cut-leaved Alder, Black Alder	Alnus glutinosa var. imperialis
American Hornbeam	Carpinus caroliniana
Chinese Redbud, Japan Judas Tree	Cercis chinensis
White-flowering Dogwood	Cornus florida
Pink Dogwood	Cornus florida rubra
Star Magnolia	Magnolia stellata
Carolina Cherrylaurel	Prunus caroliniana
Yoshino Cherry	Prunus yedoensis
Weeping Willow	Salix babylonica

Shrubs

Common Name	Scientific Name
Little-leaf Box	Buxus microphylla
Dwarf Box	Buxus sempervirens var. suffruiticosa or another dwarf form
Common Camellia	Camellia japonica
Sasanqua (one of the earliest cultivated plants in the south – c. 1750)	Camellia sasanqua
Japanese Quince, Flowering Quince	Chaenomeles lagenaria
Sweet Pepper Bush	Clethra alnifolia
Rock-spray, not used until after 1880	Cotoneaster horizontalis
Scotch Broom	Cytisus scoparius
Daphne, Mezereum	Daphne mezereum
Slender Deutzia	Deutzia gracilis
Double-flowered Deutzia	Deutzia scabra plena
Winged Euonymus	Euonymus alata
Pearl Bush	Exochorda racemosa
Weeping Forsythia	Forsythia suspensa
Witch Hazel	Hamamelis virginiana
Chinese Hibiscus	Hibiscus rosa-sinensis
Althea, Rose of Sharon	Hibiscus syriacus
House Hydrangea	Hydrangea macrophylla var. otaska
Oak-leaved Hydrangea	Hydrangea quercifolia
Shore Juniper	Juniperus conferta ‘Blue Pacific’
Parsons Juniper	Juniperus davurica “Expansa”
Kerria	Kerria japonica
Crepe Myrtle	Lagerstroemia Indica
Oleander	Nerium Oleander
Sweet Mock-orange	Philadelphus coronarius
Pittosporum	Pittosporum tobira
Pomegranate	Punica grenatum
Firethorn, Red Pyracantha	Pyracantha
Sweet Azalea	Rhododendron arborescens
Flame Azalea	Rhododendron calendulaceum
Indian Azalea	Rhododendron indicum

Shrubs

Common Name	Scientific Name
Flowers double, Hose-in-hose	Rhododendron obtusum var. amoenum
Hoary Spirea	Spiraea canescens
Reeve’s Spirea	Spiraea cantoniensis
Bridal Wreath	Spiraea prunifolia
Vanhoutte Spirea	Spiraea X vanhouttei
Cleyera	Ternstroemia gemnenthera
Weigela	Weigela Florida
Adam’s Needle, Yucca	Yucca filamentosa

Vines

Common Name	Scientific Name
Trumpet Creeper	Campsis radicans
Sweet-scented Clematis	Clematis flammula
Sweet Autumn Clematis	Clematis paniculata
Mistletoe Honeysuckle	Lonicera quinquelocularis
Climbing Roses: Baltimore Belle; Queen of the Prairies	Rosa sp.
Hardy Roses: General Jacqueminots; Hybrid Perpetual; Varonne Prevosts; Madame Plantiers	Rosa sp.
Lady Banks Rose	Rosa banksiae
Crimson Rambler	Rosa cathayensis var. crimson rambler
American Wisteria	Wisteria frutescens

Bedding Plants

Common Name	Scientific Name
Dwarf Blue Ageratum	Ageratum sp.
Begonia Vernon	Begonia semperflorens
Canna	Canna ehmannii now C.X generalis
Dwarf French Canna	Canna ehemannii X glauca and others now included in C.X generalis
Dusty Miller	Centaurea gymnocarpa
Mums	Chrysanthemum sp.
Coleus Varieties	Coleus sp.
Coleus hybrid	Coleus blumei var. golden bedder
Coleus hybrid	Coleus blumei var. kirkpatrick
Elephant Ear, Taro, Eddo, Dasheen	Colocasia esculenta
Gladiolus, Sword Lily, Garden Gladioli	Gladiolus X hortulanus
Dwarf Lantana	Lantana camara var. hybrida
Edging Lobelia	Lobelia erinus
Sweet Alyssum	Lobularia maritima
Alyssum, variegated	Lobularia maritima var. variegatus
Horseshoe Geranium	Pelargonium zonale
Scarlet Salvia	Salvia splendens
Common Stone-crop	Sedum acre
Centauria, Dusty Miller	Senecio leucostachys
Variegated Thyme	Thymus serpyllum var. variegatus
Tulip varieties: La Belle Alliance, excellent red; Artus, excellent red; Pottebaker, white; Yellow Prince, yellow; Canary Bird, yellow	Tulipa gesnerana
Madagascar Periwinkle	Vinca rosea
Pansies	Viola tricolor var. hortensis

Flowers

Common Name	Scientific Name
Fernleaf Yarrow	Achillea filipendulina
Yarrow or Milfoil variety	Achillea millefolium rosea
Downy Yarrow, Wooly Yarrow	Achillea tomentosa
Hollyhock	Althaea rosea
Yellow Chamomile, Golden Marguerite	Alyssum repens var. wierzbickii
Yellow Chamomile, Golden Marguerite	Anthemis tinctoria
Snapdragon	Antirrhinum glutinosum
Golden or Golden-spurred Columbine	Aquilegia chrysantha
Aster	Aster shortii
Spiraea	Astilbe japonica
Bellflower	Campanula isophylla var. alba
Garden canna	Canna x generallis
Max Chrysanthemums or Daisy – Known in many forms, as King Edward VII, Chrysanthemum Daisy, Shasta Daisy	Chrysanthemum maximum
Clematis	Clematis heracleifolia var. davidiana
Golden Coreopsis, perhaps C. drummondii or C. basalis, Golden Wave	Coreopsis sp.
Tickseed	Coreopsis lanceolata
Pampas Grass	Cortaderia selloana
Cloth-of-gold Crocus	Crocus susianus
Crocus	Crocus vernus
Crocus	Crocus versicolor
Dahlias	Dahlia sp.
Beautiful Larkspur, Garland Larkspur	Delphinium cheilanthum var. formosum
Tall Larkspur, Candle or Bee Larkspur	Delphinium elatum
Red Larkspur	Delphinium nudicaule
Carnation, Pinks	Dianthus caryophyllius
Foxglove	Digitalis purpurea

Flowers

Common Name	Scientific Name
Flowering Spurge	Euphorbia corollata
Rubber Plant	Ficus elastica
Ferns, especially native species in naturalistic settings	Filicales
Baby's-Breath	Gypsophila paniculata
Double Perennial Sunflower	Helianthus sp.
Christmas Rose	Helleborus niger
Day Lily	Hemerocallis flava
Late Yellow Day Lily	Hemerocallis thunbergii
Mallow, Giant Mallow	Hibiscus lasiocarpus var. californicus
Marsh Rose-mallow	Hibiscus moscheutos
Blue Plantain	Hosta caerulea
Plantain Lily, Fragrant Plantain, Day Lily	Hosta plantaginea
Seersucker, Plantain Lily	Hosta sieboldii
Morning Glory	Ipomoea purpurea
Crested Iris	Iris cristata
German Iris	Iris X germanica
Florentine Iris, Orris Root	Iris X germanica var. florentina
Tritoma, Kniphofia, Red-hot Poker Plant, Torch Lily	Kniphofia uvaria
Lily	Lilium dauricum (L. pensylvanicum)
Tiger Lily	Lilium tigrinum
Tiger Lily	Lilium tigrinum var. splendens
Bee Balm, Oswego Tea	Monarda didyma
Grape Hyacinths	Muscari sp.
Daffodil or Daffodowndilly	Narcissus pseudonarcissus
Two-coloured Narcissus	Narcissus pseudonarcissus, form bicolor
Daffodil (partial shade)	Narcissus pseudonarcissus, form maximus
Two-coloured Narcissus	Narcissus tazetta, form bicolor
Poppy	Papaver bracteatum
Ivy-leaved Geranium	Pelargonium peltatum
Horseshoe Geranium	Pelargonium zonale
Grass	Pennisetum villosum

Flowers

Common Name	Scientific Name
Common Garden Petunia	Petunia X hybrida
Phlox	Phlox carolina
Summer Perennial Phlox	Phlox decussata (Phlox paniculata, P. maculata, P. suffruticosa)
Coneflower, Golden Glow, Flowers double	Rudbeckia laciniata var. hortensia
Large Cone-flower	Rudbeckia maxima
Sedum	Sedum spectabile
Goldenrod	Solidago canadensis
Goldenrod	Solidago rigida
Goldenrod	Solidago shortii
Stoke's Aster	Stokesia laevis
Skunk Cabbage	Symplocarpus foetidus
Tulips	Tulipa sp.
Garden Verbena	Verbena X hortensis
Best of the Speedwells	Veronica longifolia var. subsessilis
Calla	Zantedeschia sp.

Appendix D - Resources

Local:

City of Wilmington
Planning & Development Department
929 N Front St
Wilmington, NC 28401
910.254.0900

Historic Wilmington Foundation
211 Orange Street
Wilmington, NC 28401
910.762.2511

Public Archaeology Corps
P.O. Box 1029
Rocky Point, NC 28457
901.200.0996

State:

State Historic Preservation Office:
North Carolina Department of Cultural Resources
109 E. Jones Street
Mail Service Center 4601
Raleigh, NC 27601
919.814.6800

Information on Historic Properties:
Survey and National Register Branch
www.hpo.ncdcr.gov
919.814.6577

Information on Preservation Tax Credits:
Restoration Services Branch
www.hpo.ncdcr.gov
919.814.6585
919.814.6574

Information on Archaeology:
Office of State Archaeology
www.hpo.ncdcr.gov
919.814.6550

National:

U.S. Department of Interior
National Park Service
1849 C Street NW
Washington, DC 20240
202.208.6843

Southeast Regional Office of the National Park Service
100 Alabama Street, SW
1924 Building
Atlanta, GA 30303
404.507.5792

Appendix E - Resiliency Standards

E1. ELEVATION AND FLOODPROOFING

Background

Most of Wilmington's historic residential properties are located on relatively high ground with only moderate risks of flooding. However, the historic commercial core next to the Cape Fear River has experienced numerous flood events in recent decades. Hurricanes have brought flood waters to downtown Wilmington and there has been an increase in "nuisance" flooding due to king tides and rising sea levels. To protect and preserve historic properties, the following resiliency standards should be considered to reduce the risk of flooding. The City of Wilmington encourages property owners to make their historic buildings more resilient through elevation and hardening.

Resiliency is the process by which properties are able to withstand, respond to, and recover from a flood or high-water event.

Elevation refers to the process of raising an existing building on its foundation to a height above projected future high water caused by storms and floods.

Hardening is the term to describe making buildings more floodproof and windproof through exterior barriers, window shutters and other preventive techniques known as "dry-floodproofing." Another approach to hardening is "wet-floodproofing" where water is allowed to flow through the building with no or minimal damage. The resilience standards seek to allow for increased height or hardening while resulting in the least adverse impact possible to a historic property's original design and its context within the streetscape.

These resiliency standards have been developed in accordance with the National Park Service's "Standards on Flood Adaptation for Rehabilitating Historic Buildings" published in 2021. These Standards are referenced throughout this chapter and provide the basis for resiliency recommendations.

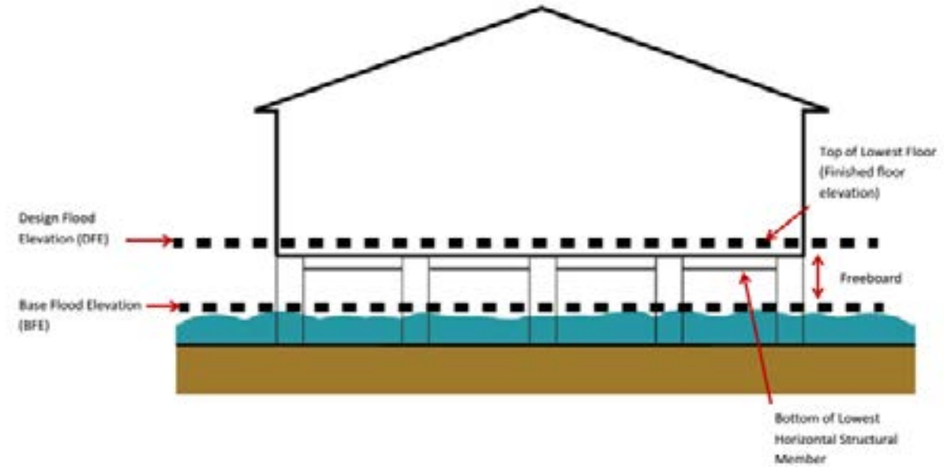
Evaluating Your Flood Risk

To obtain an accurate flood risk assessment for your property you will need to acquire an Elevation Certificate from a licensed surveyor, architect, or engineer. An Elevation Certificate will identify the height of the lowest floor relative to the Base Flood Elevation (BFE). The BFE is the elevation of flooding, including wave height, having a one percent chance of being equaled or exceeded in any given year (also known as "base flood" and "100-year flood").

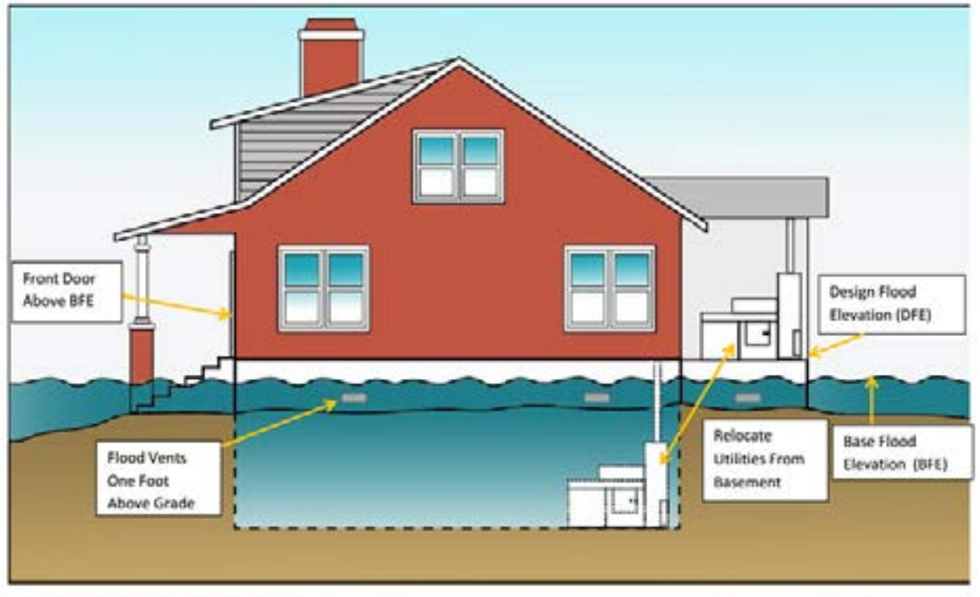
The BFE is the basis of insurance and floodplain management requirements and is shown on Flood Insurance Rate Maps (FIRM). FIRMs are the official maps for Wilmington on which FEMA has delineated the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations (BFEs) and the risk premium zones applicable to the city. The height of the lowest occupied floor, which may be the basement, can be used to calculate flood insurance rates and determine the height to which the building must be protected to comply with Wilmington's floodplain management regulations.

In a typical elevation project, a dwelling is lifted off its foundation and gradually raised with jacks and frame cribbing. Once the house reaches the Design Flood Elevation (DFE) it is placed on a newly constructed foundation. (Photos courtesy Rod Scott).

In addition to the BFE, Wilmington also has a Design Flood Elevation (DFE) and Regulatory Flood Protection Elevation (RFPE) which are both one (1) foot above the BFE. The DFE and RFPE are regulatory flood elevations adopted by the city to add an additional foot of elevation height as a protection option of safety. This additional amount of height is also called the "freeboard" which is the level at which a structure's lowest floor must be elevated or flood proofed to be in accordance with the City's floodplain management regulations.



This illustration depicts differences between the Base Flood Elevation (BFE) and Design Flood Elevation (DFE) for buildings in coastal communities.



The BFE and DFE assist in determining the best approaches to wet floodproofing. These approaches may include the installation of flood vents and relocating utilities.

The resiliency standards address both low increase building elevation projects and high increase building elevation projects.

Low Increase Building Elevation is the elevation of a historic building due to the threat of imminent flooding without significant changes to its historic integrity. These changes are typically around four feet or less in urban environments. Increased elevation heights in urban areas are typically less because of the building's close proximity to the right-of-way; its proximity to other buildings in the streetscape; the proximity of neighboring buildings to the right-of-way; and where fill cannot be easily accommodated without displacing water to adjacent vulnerable properties.

High Increase Building Elevation is the elevation of a historic building due to the threat of imminent flooding where the historic integrity of the building will most likely be lost due to the increased elevation and the resulting changes to the landscape, such as increased set back, relationship to adjacent buildings, alterations to the staircase, handicap accessibility etc.

Both low and high elevation projects have the potential to impact a property's historic and architectural integrity. Integrity is the ability of a property to convey its significance through seven key aspects as defined by the National Park Service. These aspects are location, design, setting, materials, workmanship, feeling and association. To retain historic and architectural integrity a property must maintain several, if not all, of these key aspects.

The ability of a property to retain integrity depends on seven aspects. **Location** is the place where the historic property was constructed.

Design is the combination of elements that create the form, plan, space, structure and style of a property.

Setting is the physical environment of the property.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.

By definition, an elevation project will usually require detaching a building from its original foundation and placing it on a new foundation at an increased height. The amount of height required, retention of original materials, design of new materials, and changes in the property's location and setting are among the factors that will determine if historic integrity is retained.

The intensity of recent storms and rising sea levels makes elevation a significant factor for homeowners faced with repeated flooding and rising insurance rates. By applying standards, Wilmington's Historic Preservation Commission (HPC) encourages a consistent approach to elevation. These elevation design standards are intended to assist property owners with appropriate designs and not as a list of steps for codes compliance.

E2. FOUNDATIONS FOR ELEVATION PROJECTS

Background

Wilmington's historic dwellings display a variety of foundation materials and designs. Foundations may be open with piers or closed with continuous materials. Closed or continuous foundations may be of stone, brick, poured concrete, or rusticated block. Many foundations are composed of brick piers or piers covered with stucco. Open foundations with brick piers often have lattice or other types of wood panels between the piers. In addition to supporting the dwelling, a foundation must also be designed to anchor it from floodwater and wave action. The anchoring system must also be sufficient to keep the dwelling from floating off its foundation. Dwellings required to be in full compliance with NFIP regulations must meet or exceed NFIP foundation construction and design criteria. Foundations can either be closed or open in accordance with FEMA standards. Closed foundations are those with perimeter masonry walls sometimes used on building elevation projects. They must have flood vents to equalize water pressure during floods. Open foundations refer to the open space between raised piers.

Foundations for Elevations Standards

1 The new foundation of an elevated building should replicate the design, materials, and proportions of the historic foundation. The existing foundation may be extended upward, though building codes may require the construction of new piers or continuous foundation walls and footings.

Raised brick foundations may be solid, pierced, open piers, or piers with underpinning.

2 Appropriate underpinning materials are those found elsewhere in the historic districts, including brick, stone, concrete block, rusticated block, stucco, lattice, lattice in front of concrete block, and slatted wood panels. The underpinning should be inset from the exterior face of the adjacent piers two inches or the depth of the brick header dimension.

3 Do not use enclosed areas under elevated dwellings for living space. Regulations specify that enclosed areas under elevated buildings may be allowed if the enclosed areas are used solely for:

- Parking of vehicles (attached garages or parking areas below elevated buildings)
- Building access (stairwells, foyers)
- Storage

4 The addition of stucco on masonry foundation is only appropriate where it has been a historic surface treatment.

5 Install flood vents which meet FEMA standards in solid foundation walls. Reuse historic foundation vents where possible. New vent materials should be as compatible as possible and painted to match the foundation color.

6 The exterior face of the foundation piers and columns should align with the exterior face of the sill of the house and porch(es).

7 Underpinning should be designed to break free, if required by codes. Lattice and other wood screening panels should be hinged to retract during high water.

Foundations for Elevations Standards

8 Dark colors for screen panels are preferred to light colors.

9 Concrete block used to increase a foundation height should be finished with brick veneer, unless unfinished concrete block was the historic treatment. A stucco finish to a new concrete block foundation is only appropriate is that was the historic treatment. Split-faced concrete block is not an appropriate material for new foundations on historic dwellings. Some increase in the size of the pier may be necessary if brick veneer is added to a concrete core. Historic pier size and the proposed pier size should be presented for review in any COA application.

10 Original masonry pier materials should be salvaged and reused as much as possible in the elevation project.

11 Re-use historic foundation materials. When a dwelling undergoes an elevation project it is recommended that historic materials be salvaged from the rear and side elevations and used for the new foundation on the front and readily visible sides of the dwelling.

12 Landscaping and vegetative screening can minimize the visual impact of an elevation increase project. When installing landscaping for elevation increase projects use indigenous vegetation native to coastal North Carolina such as deciduous shrubs and decorative grasses. Consider plants that allow for moisture absorption.

13 Consider the use of small amounts of fill, terracing, retaining walls, period appropriate fences or a combination of all of these approaches to mitigate the visual impact of elevating a foundation. These approaches will depend on the site features of the property and storm water management. Care must be taken to not displace flood waters onto adjacent properties.

The elevation of this dwelling (above) included rebuilding the brick porch foundation with honeycomb openings for wet floodproofing (below). New flood vents meeting FEMA standards were added to other areas of the foundation.

The screening of this low elevation increase project includes a retaining wall and landscaping to mitigate the increased height of the foundation.

Break-away wood lattice panels are appropriately placed within the piers of this foundation.

Above and below is an example of an appropriately sized retaining wall and period fence to screen the low elevation increase of this dwelling.

Low retaining walls and period fencing are used to screen the foundation of these low elevation increase projects.

E3. FLOOD VENTS FOR ELEVATION PROJECTS

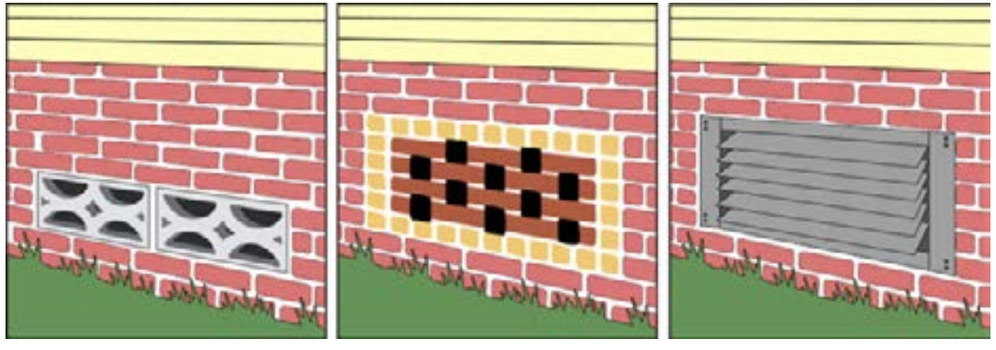
Background

For properties that are elevated and rebuilt with solid foundation walls, flood water must be able to freely flow in and out of the crawlspace without requiring electrical, mechanical, or manual operation. This necessity applies to exterior walls as well as interior walls separating enclosed spaces. To allow the free flow of water, a minimum of two flood openings are required and they must be located on different walls. Any modification to or covering of flood openings such as louvers or screens should be installed in a manner that does not impede the free flow of flood water. Vents should not be placed on primary facades unless there is a precedent for the building. The visual impact of flood vents should be mitigated by concealing them with plantings.

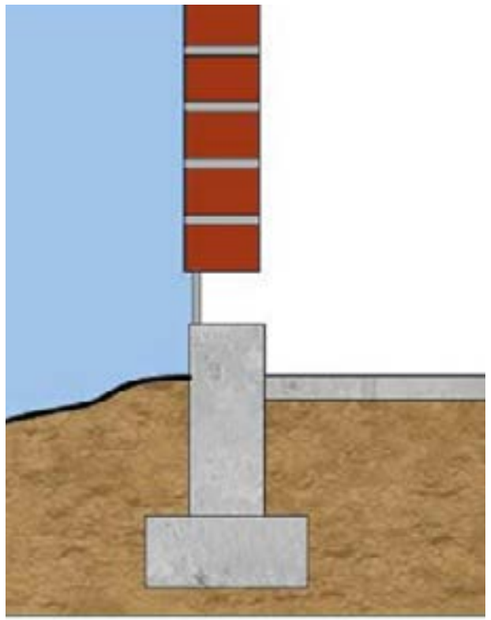
Flood Vents for Elevation Standards

1. **Install flood vents that meet FEMA standards in solid foundation walls.** Reuse historic foundation vents where possible. New vent materials should be compatible with the historic foundation materials.
2. **Historic foundation vents should be preserved and maintained.** Historic vent designs such as honeycomb brick should be retained but these vent openings must be supplemented with new vents to meet FEMA standards.
3. **The bottom of flood vents may not be higher than one foot (1') above the exterior grade.**
4. **Ensure vents are of proper size.** The size of a vent is determined by the size of the area being protected. The formula for this is one square inch of vent opening for every one square foot of enclosed space. For example, one hundred (100) square feet of enclosed space would require one hundred (100) inches of open vent space. Louvers in vents subtract from the area of open vent space. Only the open area - free from obstructions - can be counted toward the total number of inches required.
5. **At least two (2) flood vents are required for each enclosed area. A minimum of two (2) vents must be placed on at least two different walls.**
6. **Manual closures are not permitted. Vent operation should be automatic. If a vent comes with manual closures, this feature must be left in the open position.**
7. **Modern flood vents should be painted to match the color of the foundation material to minimize their visual impact.**
8. **Flood vents should also be concealed with landscaping.**

Historic vent patterns such as honeycomb brick should be preserved and retained (photograph above and below).



Appropriate flood vents may include decorative masonry panels (left), honeycomb brick (middle) or metal vents (right) depending on the age and style of the dwelling. Inoperable historic vents may need to be supplemented with operable flood vents to allow for adequate water flow.



The bottom of flood vents must be placed no more than one-foot (1') above grade

YES: Example of an appropriate metal vent in a low elevation foundation.

E4. PORCHES FOR ELEVATION PROJECTS

Background

For frame dwellings, porch elements such as wood columns, railings, and floors should be kept intact in any building elevation increase. Craftsman-style porches with tapered posts on brick piers should retain their historic appearance above the porch sill. Below the porch sill, new brick foundation piers should extend straight down in alignment with the historic porch piers and match the historic materials as closely as possible. For some elevation projects new porch piers may be required. The exterior face of the porch piers and the exterior face of the original porch columns should align with the exterior face of the porch sill. The porch piers and original porch columns should have the same centerline. The exterior face of corner piers should align with the exterior face of the porch's sill on the front and side. Porch piers should match the historic masonry columns or piers. Stucco is appropriate only where it was used historically. Concrete or concrete block may be appropriate for mid-20th century building elevation increase projects.

Porches for Elevation Standards

1. **New porch railings should match the original stair design or be compatible with the style of the house.**
2. **Craftsman-style porch columns should be extended to the ground straight down from the porch floor structure.**
3. **Increasing the porch's height may require the introduction of a new taller porch railing.** If so, the railing should be compatible to the style of the house in materials and detailing.
4. **Porch columns should align with the foundation piers below and not be offset.**
5. **Skirt boards at least four inches and a maximum of twelve inches should be added at the base of the porch's wall and above the foundation piers.** The use of a wide skirt board helps to lessen the visual appearance of the new height.

The porch columns and piers are in appropriate alignment in these photos of building elevations (above) and high increase building elevation (below).

E5. STAIRS FOR ELEVATION PROJECTS

Background

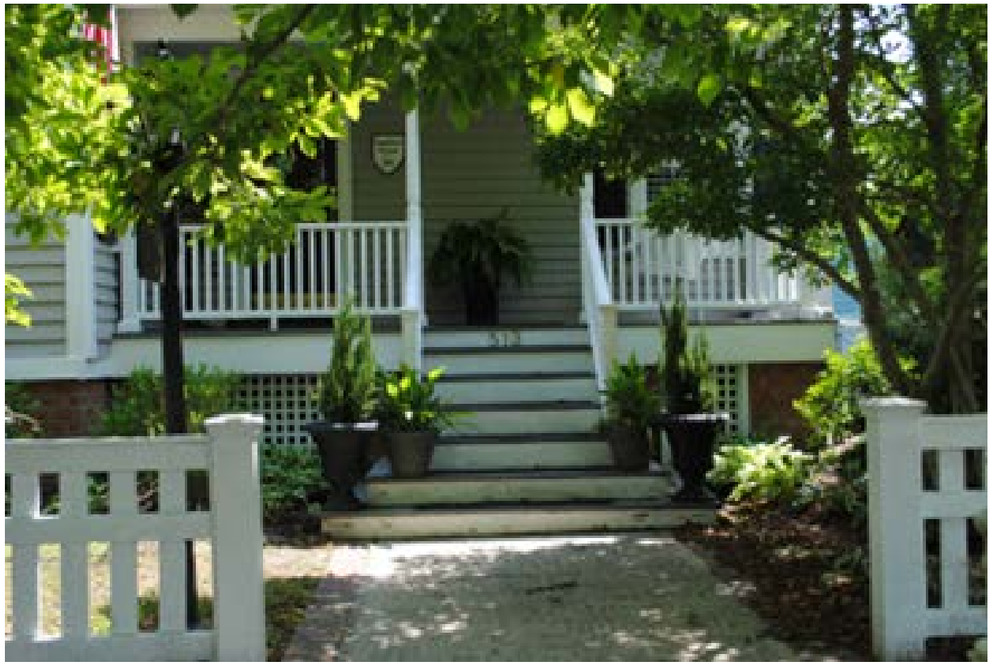
Stairs are often significant features leading to a front porch and the primary entrance. Elevating a dwelling will require a longer stair run to access the new living floor level. The new extended stairs should maintain the original orientation and design. The North Carolina Residential Building Code requires a minimum number of steps depending on the height of the first floor. There may be additional considerations, such as the historic setback of the dwelling to maintain the rhythm along the streetscape. It may be preferred to reconfigure the stairs in order to have the required number of steps rather than moving the dwelling back on the lot to maintain the front setback. Along with increased height, it may also be necessary to extend or add handrails where they did not previously exist and increase the width of the stairs. There may be some instances where an elevation project may not have sufficient setback to accommodate a strait run stair. If this is the case, a center/split linear staircase which provides access from the sides rather than front may be appropriate. Another alternative for a limited setback situation is to add an interior staircase to access the porch from below.

Stairs for Elevation Standards

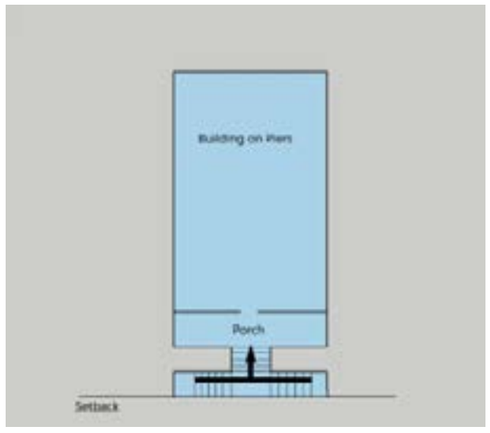
1. **Retain the historic entrances and the traditional approach to the dwelling.**
2. **A long run of stairs may need a break with a landing.**
3. **New stairs should be at least as wide as the original stairs**. The width of the new stairs may need to be increased to complement the overall appearance of the elevation increase.
4. **Match new stairs and railings with the style and features of the historic design.** Salvage and reuse the original stairs, balustrade, and railing materials where possible. If the increased building height requires installation of a metal guardrail above the historic handrail height, the guardrail should be simple in design and not detract from the historic stair and railing design.
5. **If the stairs did not originally have a handrail, new handrails should be designed to be appropriate to the building's age and style.** New handrails or balustrades should be simple in design. If constructed of wood, simple painted balusters and a top and bottom rail are recommended. Metal components can be painted black to not stand out. A combination top rail of wood and bottom rail of metal, with balusters in between, may be an appropriate alternative.
6. **Construct railings with traditional proportions, or, if a taller rail is necessary to meet building codes, retain a horizontal rail at the traditional railing height**.
7. **Adding new stair access to the side, rather than the front, of the house is not traditional in Wilmington and not appropriate.** In cases where the setback is limited, the addition of new center/split or interior porch staircases may be appropriate.
8. **Rebuild new stairs to match the historic alignment and orientation to the front door.**
9. **New railings and balustrades should be painted to match historic ones.** Guardrails that are meant to be visually subordinate can be painted black.

Rebuilt stairs should match the dwelling's original porch design and detailing.

The wood stair complements the dwelling's style and design.



This building elevation project has added wide stairs below the original stairs to assist in keeping the stair railing at its original location and maintaining the porch design.



Example of a center/linear split staircase for a high increase building elevation project.

E6. CHIMNEYS FOR ELEVATION PROJECTS

Background

The majority of historic chimneys in Wilmington are of brick construction. In some elevation projects it will be necessary to detach interior and exterior chimneys from their foundations. Chimneys should be retained, elevated along with the house and be at the original height above the roofline. Once elevated, the historic chimney will need to be supported by a new base, which should match the original base in configuration. New brick should match the original in size, texture, color, color variation, bond pattern, and other visual qualities. The mortar should match the historic in color, texture, joint width, and joint profile.

Chimneys for Elevation Standards

1. **Chimneys should be retained, elevated along with the house, and maintained at the original height above the roofline.** The historic relationship between the chimney and roofline and/or eaves should be maintained, as will the interior relationship between the firebox and the floor level.
2. **A new chimney base to support the elevated chimney should be constructed to match the historic configuration of the historic chimney base if visible from public view.**
3. **The brick of the new chimney base should match the historic brick.** New brick should match original brick in size, texture, color, color variation, bond pattern, and other visual qualities.
4. **The mortar in the new chimney base should match the historic mortar in color, texture, joint width, and joint profile.**
5. **It is appropriate to restore any missing of the historic chimney, such as shoulders, caps, historic wash), based on photographic or physical evidence.**

The elevation of this dwelling included rebuilding the base of the chimney with brick and mortar to match the original.

When elevating a dwelling a preferred option for an interior chimney is to retain the chimney and elevate it with the dwelling.

E7. ACCESSIBILITY FOR ELEVATION PROJECTS

Background

Elevation projects may require the addition of Americans with Disability Act (ADA) compliant ramps or chair lifts to meet the needs of the property owner. Wood ramps are recommended at side or rear elevations and should be screened with landscaping or wood screen panels. Chair lifts and elevators should be sited on rear elevations, or on side elevations not readily visible from the street. Added ADA features should be appropriately screened.

Chimneys for Elevation Standards

1. **Provide accessibility solutions of the highest level of access and the least impact on the building's historic character, including no damage to the historic fabric.** Avoid damage to significant features and materials. Ramp placement should not create moisture problems for the historic dwelling. Install gutters, drip caps, or other watering-diverting measures to prevent splash back of water on the historic buildings. ADA ramps, lifts, and elevators should be free-standing structures, not physically attached to the dwelling. Their installation may minimally conceal, but not damage or destroy, historic architectural features.

2. **Install accessibility ramps, chair lifts, or elevators on side or rear elevations to minimize their visual impact.** When an accessibility structure must be installed on a front elevation, it should be concealed with landscaping, retaining walls, or lattice.

3. **Ramps, guardrails, and balustrades should be simple in design, constructed of wood or metal, and painted in colors that are compatible with the house. Metal guardrails are best painted black to minimize their visual impact.**

ADA-compliant ramps should be added at rear elevations. Landscaping should be added to lessen the visual impact of the added structure.

Examples of appropriate chair lifts on elevated projects. These are located on the sides of the porches and screened through landscaping.

E8. UTILITIES FOR ELEVATION PROJECTS

Background

Utilities such as heating and cooling units and condensers are often located in a basement, on the first floor, or on an exterior slab at-grade. Utilities can be ruined even if they are exposed to floodwater for even just a short period of time. This can delay recovery after a flood as well as require additional expense for replacement. In any elevation increase project the utilities will be required to be relocated to at least the Design Flood Elevation (DFE). Utilities should be placed on rear or non-readily visible side elevations and screened with landscaping, wooden panels, or other screening elements.

Flood Vents for Elevation Standards

1. **Elevate HVAC units or any other exterior equipment as inconspicuously as possible**. Side and rear yards are appropriate locations.
2. **In addition to HVAC units, secondary elements such as electrical outlets, service panels, and meters, hot water heaters, generators, switches, junction boxes, and wiring must also be raised above the BFE.** When elevating a dwelling's plumbing system, installation of a backflow is recommended to block drainpipes and prevent flow into the building.
3. **HVAC units should be screened with landscaping, wooden lattice or slats or other screening elements.**
4. **If raised on platforms consider ladders and moveable screen panels for access and servicing.** The platform should be a free-standing structure, not physically attached to the historic building, which could result in lagging of sills and possible water entry.
5. **All utilities which are placed on elevated platforms must be securely anchored to meet wind-resistant requirements.**
6. **Propane and other fuel tanks should be screened and anchored so they do not float and become a hazard during a flood.**

Site HVAC units on platforms at the rear or not readily visible side locations.

Elevated HVAC units should be screened from view with wooden or lattice panels.

Resiliency Standards Overall Approach: Examples of Building Elevations

"Best Practices" include:

Porch columns and foundation piers align.
Wide skirt board divides porch and piers.
Stair landing is at the level of the original porch.

"Best Practices" include:

Lattice underpinning screening the area under the porch to lessen the visual impact.
Porch columns align with the center of the foundation pier.
Wide staircase based on the original design leads to the front porch.
Wide skirt board between porch floor and pier foundation.

"Best Practices" include:

Rebuilt wood staircase duplicates historic porch stairs.
Stone piers extended to ground and porch columns align with the center of the pier.
Slatted wood panels between the foundation piers are of an appropriate design used historically.
Porch column centerlines and foundation centerlines match.

"Best Practices" include:

Porch columns are centered over the brick piers.
Retention of the historically appropriate raised pier foundation design.
Stairs were reconstructed to match the original design.
Brick stairs match brick piers.

E9. COMMERCIAL BUILDING FLOODPROOFING AND HARDENING

Background

Property owners and tenants in Wilmington's historic commercial district are encouraged to install or retrofit floodproofing measures which have the least visual and physical impact to their historic buildings. The most common approaches are "dry floodproofing" and "wet floodproofing."
Dry floodproofing are methods which employ barriers to keep water out of a building. This is accomplished through creating a watertight seal on the building's foundation and perimeter walls below the flood risk level. All openings below the flood risk level must be designed to be temporarily or permanently closed. For downtown commercial buildings this could include the installation of temporary flood panels at door, storefront, window, and vent openings. It may also be appropriate to install small floodwalls to protect openings such as window wells at rear elevations.

The installation of temporary flood panels and other protective measures should not result in damage to original building materials and architectural features. Inappropriate installations include drilling holes into the individual bricks instead of the mortar joints to attach barriers or the jambs for barriers and removing original wooden storefront features for the installation of anchoring systems. The application of waterproof materials, masonry sealants and water-repellent coatings are not appropriate since these coatings will limit normal evaporation and prevent proper drying of the historic materials. These coatings may also drive moisture into the interior of the building and result in the deterioration of historic masonry and wooden materials.

For historic commercial buildings, it may be necessary to reinforce walls with new structural systems to withstand water pressure caused by flooding. Such reinforcement should not be visible from the street. If such systems are being considered, the building should be evaluated by a structural engineer to determine its ability to withstand hydrostatic and hydrodynamic forces.
"Wet floodproofing" is a method to reduce damage that typically involves three elements: allow floodwaters to enter and exit a building in such a manner that the flood waters exert equal pressure on both sides of a wall during a flood event, use flood damage-resistant materials when appropriate, and elevate utility service and equipment.

When evaluating a building for wet floodproofing it is important to assess how water flows and drains around the building. Property owners of commercial buildings which share brick party walls may need to develop an overall approach to drainage for their buildings or for an entire block of interconnected buildings. Appropriately sized and placed flood vents will need to be added in the foundation to allow floodwaters to enter and exit the building. This may require retrofitting storefronts with flood vents which are designed to both meet FEMA standards and be compatible with the building's design.

Wet floodproofing may be a less effective approach for historic commercial buildings than dry floodproofing. Allowing water to enter and exit a historic commercial building may result in substantial damage to floors, walls and structural systems. Historic commercial buildings often retain old-growth wood floors and plaster over wooden or brick walls. To some degree these historic materials are water resistant and can be dried, cleaned and maintained. However, repeated flood events may require the consideration of more water-resistant materials to meet flood insurance and FEMA standards.

In any wet floodproofing project it is important to relocate utilities from basements or at-grade exteriors and place them on roofs, upper floors or on exterior platforms elevated above the DFE. Such utilities may include electrical outlets, service panels, and meters, mechanical, plumbing, cable, and internet equipment. This action is essential to maintain business utilities during and after a flood event and to reduce replacement costs. Elevating utility service for a building will expedite recovery by allowing service to continue unimpeded or to be restored when services are back on-line.

Another floodproofing approach is to elevate the first-floor level of historic commercial buildings above the DFE if there are sufficient floor-to-ceiling heights. After entering the foyer of the building, patrons can either utilize stairs or an ADA compliant ramp to access the first-floor level. This allows the foyer of the building to be designed with water-resistant materials.

Foundations for Elevations Standards

1. **Dry floodproofing is typically recommended for areas where the flood risk is limited or where flooding is typically no more than three feet (3') deep.**
2. **Develop a strategy for resilience where the historic materials and features are not damaged during implementation/installation and where changes to facilitate floodproofing can easily be removed without damaging historic materials or features.**
3. **Use existing historic materials such as historic metal foundation vents as much as possible in any floodproofing project.**
4. **Dry floodproofing techniques, such as temporary barriers, shields, and panels that can be stored on site and quickly installed, are recommended.**
5. **A variation on flood panels is a barrier system that can be embedded in public sidewalks**. Temporary panels are attached to the anchors with a flex gasket at the bottom, installed prior to a pending flood event.
6. **Design and install temporary barriers of sufficient size to prevent a breach of flood water into the building.**
7. **Design and install temporary barriers in a manner where historic materials and features are not damaged during installation and where they can be easily removed without altering historic materials and features.**
8. **Temporary barriers should be stored on site, accessible, and easily installed.**
9. **Repair rather than replace damaged historic materials**. Repair damaged original materials that are flood-resistant such as old-growth wooden floors and plaster walls.
10. **Historic lime-based plaster walls should be repaired with similar materials.** This material has the ability to dry and be maintained. The removal of lime-based plaster and replacement with non-water resistant gypsum-based plaster is not appropriate.

Foundations for Elevations Standards

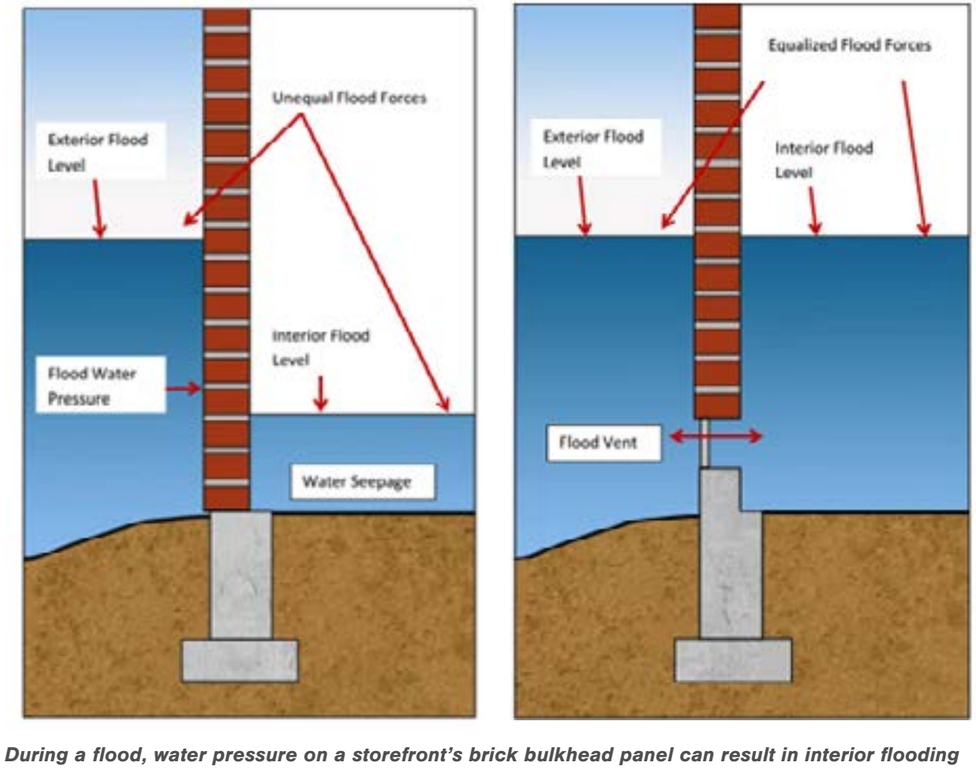
11. **If the extent of damage does not allow repair, replace with compatible water-resistant materials.** FEMA may require replacement using flood-resistant materials. Consult FEMA Technical Bulletin 2, "Flood Damage-Resistant Materials Requirements" if replacement is necessary.
12. **Relocate utilities that are below the DFE from basements and lower floor levels to upper floors, elevated platforms, roofs, or other appropriate locations above the DFE.**
13. **If located outside the building, utilities should be placed on rear elevations and on platforms appropriate for the building and its setting.** In some cases, metal may be an appropriate material for constructing utility platforms. Minimize through-wall connections and ensure they cause no damage to character-defining features.
14. **Exterior utilities should be screened with wood of metal panels, lattice, or possibly vegetation as much as possible**. Utilities placed on roofs should be recessed from the front façade and not be readily visible from the street.
15. **For wet floodproofing, select a compatible design and location for new flood vents, or paint existing vents to be visually compatible with the foundation material. If the storefront has historic foundation-level vents, use them as a model for the design of flood vents.**
16. **It is appropriate to raise the height of interior first floors on commercial buildings which have sufficient floor-to-ceiling heights to avoid repeated flooding**.

Dry floodproofing may include the installation of temporary flood panels at doorways and storefronts as shown above and below.

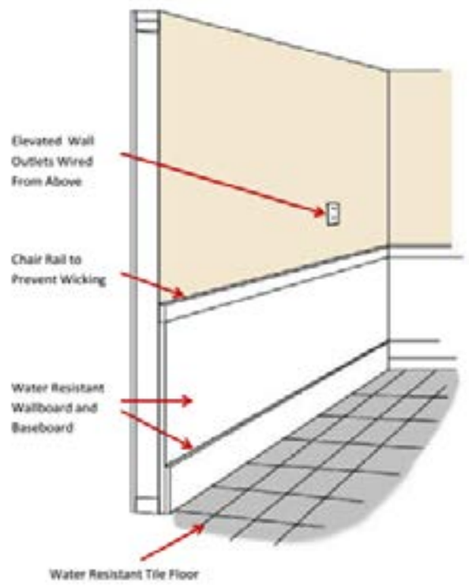
Floodproofing for commercial buildings can include the temporary addition of flood shields on doorways.

Temporary flood panels are now widely available to protect downtown commercial buildings. When high water events are anticipated these can be erected to minimize flood damage.

When planning for flooding, having flood shields available for deployment is recommended. This commercial building has individual flood shield panels stored near the entrance (left) so they can be quickly installed when needed (right).



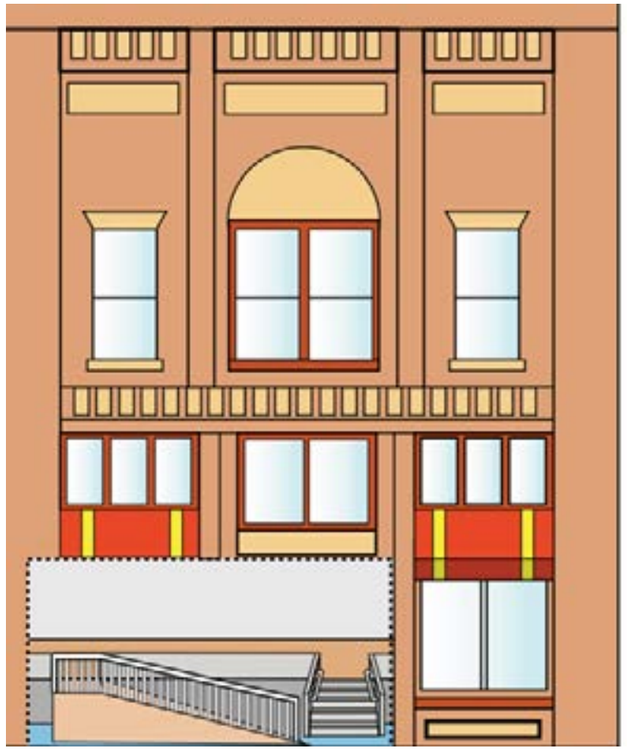
During a flood, water pressure on a storefront's brick bulkhead panel can result in interior flooding and damage (above) while wet floodproofing allows the water to enter and exit via flood vents.



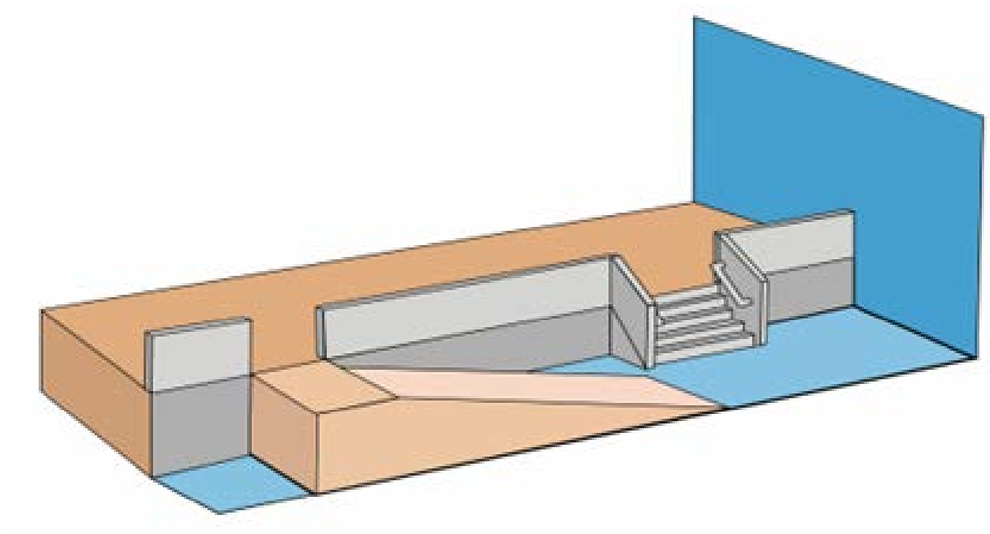
Wet floodproofing may include the addition of water-resistant surfaces and materials. Following a flood these materials should have the ability to be retained or replaced at minimal cost.

Utilities were removed from the basement of this historic commercial building and elevated on a rear platform beneath an added deck.

A strategy for floodproofing commercial buildings is to harden the storefront and raise the interior first floor level. In this approach the frame storefront bulkheads are replaced with concrete and a parged surface.
Photos courtesy of FEMA, Darlington, Wisconsin



This illustrates the approach for raising the first floor of a commercial building. After entering the storefront, shoppers can either go up the stairs to the new first floor level or use an ADA compliant ramp.



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