

Chapter 3

Maintenance, Repair, Preservation and Restoration of Existing Historic Buildings

Introduction

These design guidelines are intended to provide standards for a range of treatments to existing historic buildings within the Dover Historic District zone. It is hoped that while these guidelines will both suggest and require certain historic preservation practices, they will also educate the property owners of Dover as to the proper maintenance and care of their historic buildings.

These guidelines are a part of the process of raising the preservation 'consciousness' of Dover, a City with a very strong sense of its own history and a very strong desire to preserve its history. These guidelines are merely a tool by which Dover may preserve itself. Just as a city changes, so do ideas through which the citizens and government of Dover approach preservation. These guidelines will promote a certain sophistication to the level of discourse within the City regarding historic preservation, and that discourse will soon outreach these guidelines, requiring their revision. This is all a part of the process of preservation.

Because of the diversity of architectural periods, styles, building types and neighborhoods found in Dover, and because it

is not possible to write a recipe for good design, these guidelines are intended to be as flexible as possible. The flexibility of these guidelines recognizes that there are several solutions to most problems. Further, it is a fact that while one solution may be favorable over another, there may be circumstances, financial or otherwise, that make a particular treatment difficult or impossible to undertake. These guidelines thus recognize the financial constraints on any homeowner and that the favored preservation practice may be beyond the means of some homeowners.

The flexibility of the guidelines is linked to the building permit process. For most types of treatments, guidelines are grouped under the categories of "Recommended," "Not Recommended," and "Inappropriate." Guidelines that are "Recommended" represent the best preservation practice, that is, those treatments that are most respectful of existing historic fabric. Projects that follow the "Recommended" guidelines should receive an Architectural Review Certificate with little or no comment. Projects that employ treatments that are "Not Recommended" may or may not receive an Architectural Review Certificate, depending upon the evaluation and

determination by the Historic District Commission of the overall impact of those treatments on the character of the structure and the Dover Historic District zone as a whole. Projects that employ "Inappropriate" treatments should not receive an Architectural Review Certificate, unless there are extenuating circumstances that warrant approval.

The diversity of neighborhoods and building types within Dover has determined that another kind of flexibility be written into the guidelines. As discussed in Chapter 2, four historic contexts have been identified, each with its own preservation recommendations. There is a certain amount of overlap in the design guidelines to be followed within each district; mortar for repointing should always be as soft as existing historic mortar, for instance. There are also guidelines that are specific to individual historic contexts; vinyl siding is "Not Recommended" in the Victorian Context, but it is 'Inappropriate' within the Green, Loockerman and Capitol Square Contexts. These context-specific guidelines recognize that there are different preservation objectives for different parts of the Dover Historic District zone. They also recognize that more flexibility may be required in areas that contain low and middle income homeowners.

These guidelines recognize that healthy cities grow and change, that Dover will continue to grow into the 21st century, and that it is not, nor should it be, the intention of the City to restore Dover to an earlier period of time. These guidelines are based in the commitment that growth and change must be complementary to historic preservation, and vice versa. While preservation sometimes conflicts with growth and change, it has been the widespread experience in towns, small

cities and large cities around the United States that a downtown with a unique historic character will attract new development. Conversely, the financial resources that new development bring to a city or town can support the goals of historic preservation by providing jobs that make home ownership possible, attracting shoppers to local businesses, and contributing to the tax base.

These guidelines attempt to establish a balance between the mandate to preserve the historic character of Dover and the compelling forces of new development. A successful balance will be mutually beneficial to both preservation and new development.

The Design Guidelines for maintenance, repair, preservation and restoration of historic buildings presented here are intended to preserve the distinct historic character of the Dover Historic District zone. The preservation of the historic character of the District is largely a function of the preservation of the existing historic building fabric. Therefore, these guidelines stress the retention, repair and proper maintenance of existing historic architectural fabric.

The preservation philosophy underlying these guidelines is based on the *Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings* that are discussed in detail in Chapter 2 of this document. Those standards may be summarized as follows:

- The proper maintenance of historic building fabric underlies any recommendations with regard to historic preservation.
- It is always preferable to retain and repair existing historic building fabric, rather than replace it with new materials.

- When replacing historic building materials that are irreparably deteriorated, replacement should be in-kind, using materials and craftsmanship that match as closely as possible the existing historic fabric that is being removed.
- Restoration (returning a building to a specific, previous condition or appearance) should be undertaken only when sufficient documentation or evidence exists to determine historic conditions at a specific, significant period of a building's history. Because history accrues to buildings over time, it is recommended that later historic fabric should not be removed in order to restore a building to an earlier appearance.
- When adequate documentation is not available to restore a building accurately to a previous appearance, and the building has lost its historic integrity, speculative restoration should not be attempted. Rather, it is recommended that a contemporary design be developed that will be sympathetic and complementary to the existing building or adjacent structures.

Doors, Windows, and Shutters

Introduction

Doors, windows and shutters are the moving parts of building exteriors. As such, they are subject to hard and frequent use. They are also critical elements in regulating the passage of light, air, rain and people into the interior of the building.

These elements are also critical in determining the architectural character of individual

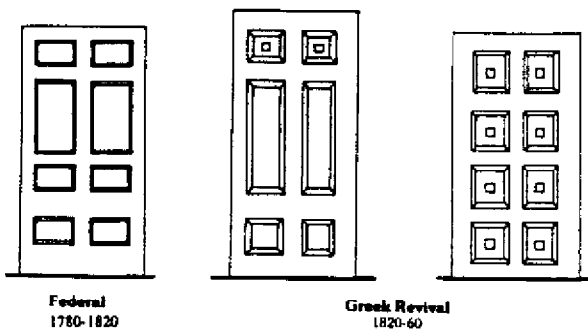
buildings. The correct preservation of existing historic doors, windows and shutters as well as the appropriate design of their replacements is absolutely essential to the maintenance of the character of individual buildings and their context within a historic district.

The repair and replacement of existing original or historic doors, windows and shutters should be in-kind, that is, to match existing conditions as close as possible. Attention should be paid to the size, species and profile of the piece or element requiring repair or replacement. Custom millwork may be required if stock millwork matching existing conditions is unavailable. Replacement of existing non-historic doors should be appropriate to the age and character of the building.

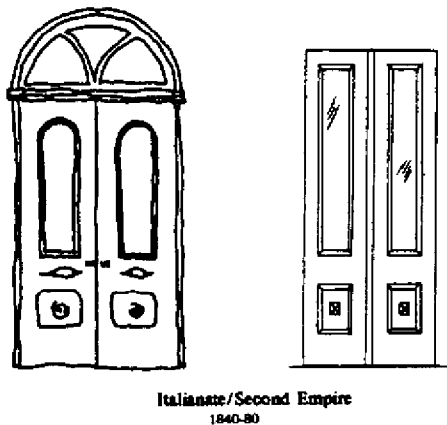
Doors

Paneled doors have been used during every period of Dover architecture, and in every building type found in the four historic contexts. The technology to produce flush doors is a very recent phenomenon, having mostly to do with the development of inexpensive glues. Panel trim and moldings have varied over time as have the configuration of the panels and the use of glazing in the panels.

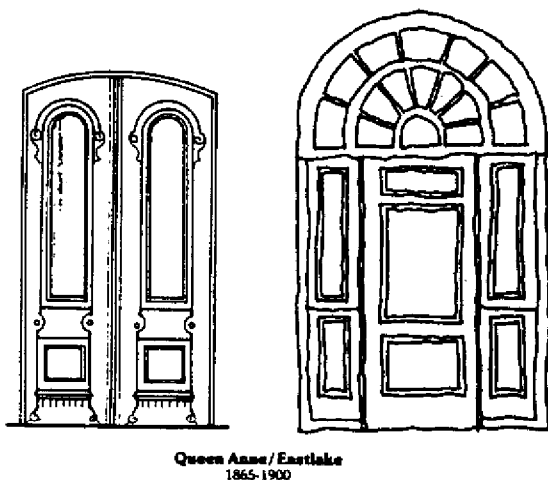
Typically, Federal style residential doors were divided simply into several rectangular panels in two sizes. The molding profiles on Federal style doors were usually limited to simple beads. Greek Revival doors tend to be highly stylized with the repetitive use of one panel size, often a square. Panel moldings are flat and a vertical center bead used occasionally to simulate two doors. Opening surrounds often had splayed trim.



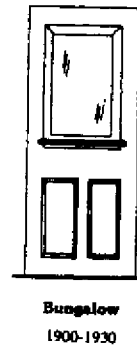
Italianate and Second Empire style residential doors were more ornate with elongated vertical panel shapes, glazed upper panels and deeper and more complex molding profiles.



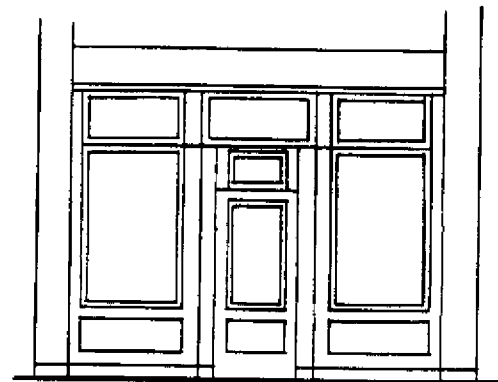
The Queen Anne and Eastlake styles of residential architecture introduced further levels of ornament, including gouged, carved and incised profiles, sometimes with arched and curved panel shapes.



The overall simplicity of the Bungalow style is evident in the design of doors. Bungalow doors were often single glazed doors with simple raised panels. Paneled doors also continued to be prevalent and had 4, 5, 6, or even 8 panels.



The design of doors for commercial establishments, such as those that are on Loockerman Street, typically remained consistent during the late 19th and early 20th centuries. Shop doors were either single or double doors, often with a transom above. The doors themselves were usually paneled below with a glass pane inset above. Steel and bronze frame storefront 'systems' began to appear after 1920. For a further discussion of doors for commercial buildings, see the discussion of storefronts and signage in Chapter 5.



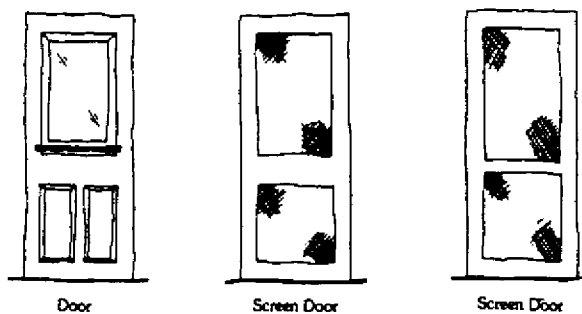
Typical design for late-19th/early-20th century storefront

Doors in the Capitol Square context have been and should remain wood panel doors.

Design Guidelines for doors are as follows:

Recommended

- Retain and repair as much historic door fabric as possible. Repair should be in-kind, to match existing size, species, profile and configuration.
- If existing historic doors or screen doors are deteriorated irreparably, replace in-kind, to match existing size, species, profile, and configuration.
- Replace inappropriate doors with doors appropriate to the period and style of the building.
- Screen and storm doors should be wood and kept as simple as possible, except in the cases of Queen Anne and Eastlake styles, which may be more elaborately composed and detailed. Except for screen doors that are a part of a screened porch enclosure, horizontal and vertical rails of screen doors should align and coincide with those of the door behind.



Door

Screen Door

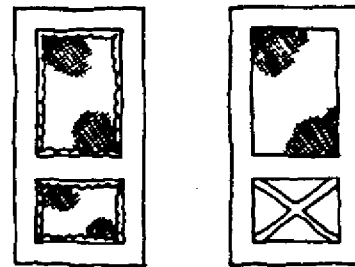
Screen Door

Screen Doors To Align With Doors

- Storm doors that are designed to have one large opening and that allow the door behind to be visible are recommended.

Not Recommended

- Aluminum doors and aluminum screen doors are not recommended in the Victorian and Loockerman historic contexts and in the Capitol Square context.



Not Recommended

Inappropriate

- Modern flush doors are inappropriate on the exterior of buildings within the Dover Historic District zone.



Inappropriate

- Doors of an earlier (or otherwise inappropriate) style than the building are inappropriate.
- Glazed doors containing windows with snap-in muntins or masking tape to simulate divided lights are

inappropriate in the Dover Historic District zone.

- Enclosure of existing transoms and sidelights is inappropriate.
- Aluminum doors and screen doors are inappropriate in the Green historic context.

Windows

The history of window design, until recently, can be seen as a continuous attempt to increase the size of glazed openings. Thus throughout the 19th century (especially in commercial design), opening sizes increased, glass panes got larger, and muntins got thinner. Only the Colonial Revival represents a significant departure from this trend, in which a compromise was struck between the large sheets of available plate glass and the 6-light sash with thick muntins common in Colonial buildings. The compromise was reached in the 6-over-1 window.

Although dimensional tendencies vary, the following is a rough guide to the increase in size of individual glass panes through the first half of the 19th century:

- Colonial 6" x 8" (1600-1700)
- Georgian 8" x 10" (1700-1800)
- Federal 8" x 10", 11" x 14", 11" x 16" (1780-1820)
- Greek Revival 11" x 16", 11" x 18", 12" x 20" (1820-1860)

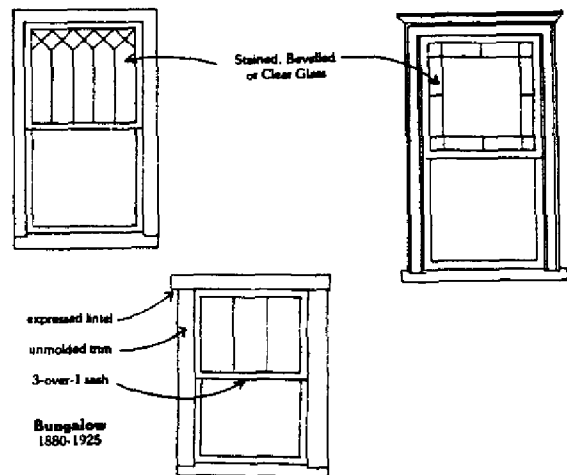
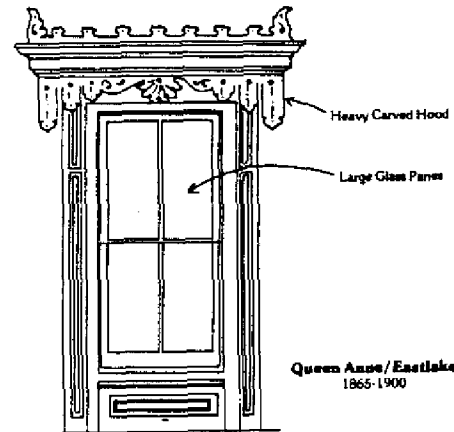
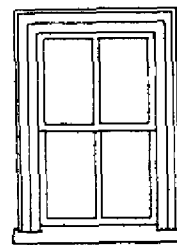
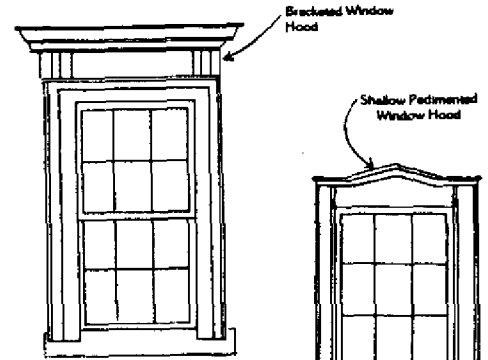
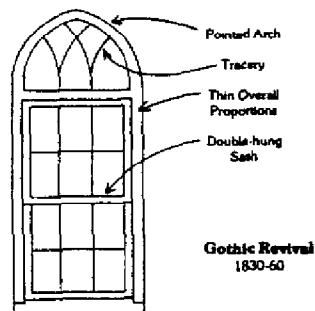
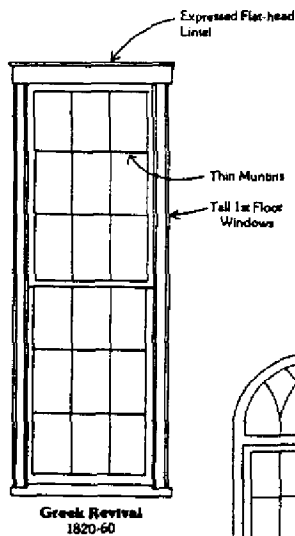
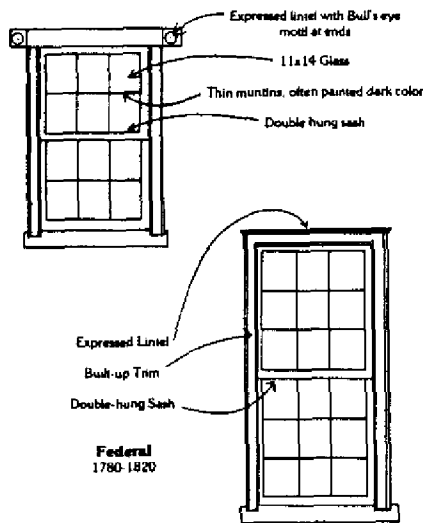
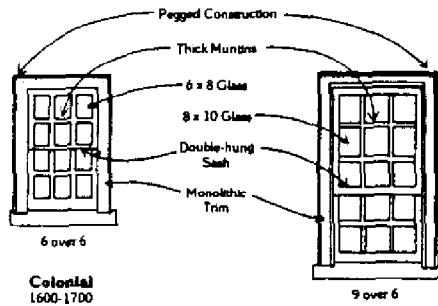
Early window casing was usually planed out of one piece; built-up moldings became commonplace in the Federal period and were virtually standardized by the end of the 19th century.

Typically, there was a wider range of sizes available in any given period, so the above summary should not be considered to be without exception. It is generally the case, however, that windows in any given period were proportioned so that the width was roughly 3/4 that of the height.

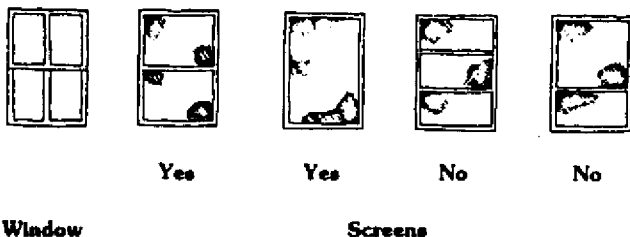
The following Design Guidelines should provide information relevant to deliberations of the Historic District Commission when considering applications for Architectural Review Certification in the Dover Historic District zone in which existing windows are affected.

Recommended

- Repairing existing historic windows with in-kind materials is always preferable to replacing windows.
- When existing historic windows are irreparable, replacement windows should replicate as closely as possible existing historic window details, including pane configuration and muntin, mullion, casing and trim profiles.
- Replacement windows should have the same operating characteristics as the original windows (i.e., double-hung windows should replace double-hung windows, casement windows should replace casement windows, etc.).
- Use only clear glass in existing historic or replacement windows.
- Window opening sizes and shapes should not be changed to accommodate replacement windows.



- Historic stained or leaded glass should be repaired or restored. This work should be accomplished by a trained leaded glass artisan, using the gentlest means possible. If leaded glass panels are irreparable, and if restoration is not possible, they should be removed and stored in a manner that will allow future restoration.
- The rails of window screens and storm windows should match the rails of windows behind.



Window

Screens

- New awnings should be attached in a manner that does not harm the existing building and should be of fabric and not of rigid material.

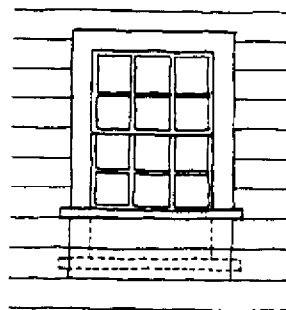
Not Recommended

- Replacing windows that are restorable is not recommended.
- Air conditioners should not be inserted in windows on the primary facade of buildings in the Dover Historic District zone.

Inappropriate

- Window opening sizes and shapes should not be changed to accommodate replacement windows or

to accommodate new interior furnishings or cabinetry.



Inappropriate Altering of Window Opening

- Contemporary picture windows are inappropriate in the Dover Historic District zone on buildings built before 1940.
- False muntins for divided lite wood windows are inappropriate. They are easily detectable from a distance.
- Smoked, tinted or reflective glass is inappropriate in existing historic or replacement windows.
- Slider windows are inappropriate.

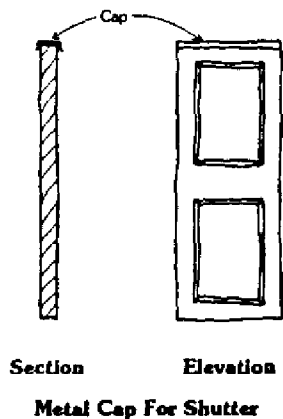
Shutters

Wood shutters are quite common on houses in the Victorian and Green historic contexts. Although few people presently put them to their intended use, their original purpose was to provide security and privacy, to permit ventilation while keeping rain and sunlight out, and acting as storm sash during heavy rains. Presently, shutters are most often fixed in place and serve as attractive elements in the designs of the facades of the residences of the Dover Historic District zone.

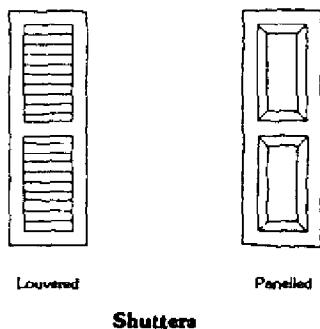
The following guidelines pertain to shutters on buildings in the Dover Historic District zone.

Recommended

- Shutters should be repaired in-kind. If shutters are irreparable, replacement shutters should match existing.
- Shutters should be made of wood and painted for protection. A non-obtrusive metal cap along the top edge will dramatically increase the longevity of the shutter.



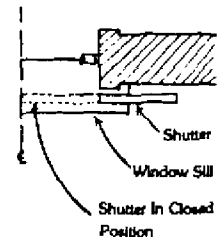
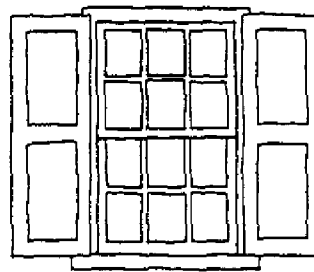
- Louvered or paneled wood shutters are appropriate (typically paneled shutters were used only on lower floors, for security reasons).



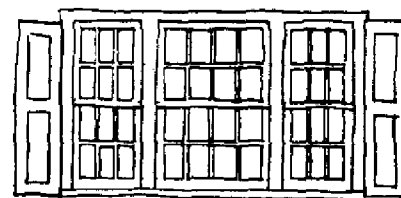
- Shutters should operate or at least give the appearance of being operable.

Inappropriate

- Shutters that are too narrow or too short to completely cover the window in a closed position are inappropriate.
- Vinyl and aluminum shutters are inappropriate.
- It is inappropriate to hang shutters in a location that fails to allow, or give the appearance of allowing, them to close completely over the window. Proper installation will entail partially covering the vertical window trim with the shutter.



Appropriately Proportioned And Installed Shutters



Inappropriately Proportioned And Hung Shutters

Roofing

There are a variety of historic roofing materials in the Dover Historic District zone: slate and cedar shingles, and metal roofing

including copper and tin. Asphalt and fiberglass shingles and cement shakes are non-historic materials that are also prevalent. It should be noted that roofing material is a wearing surface whose lifetime is finite and that various roofing materials have various lifetimes. A slate roof may be viable for more than 100 years. Cedar shingles can last 50 years. A good copper roof can last 60 years. It is unusual for historic buildings to retain their original roofs. There are, however, several basic steps that can be taken to prolong the lifetime of existing and new roofs.

The following guidelines should inform decisions regarding applications for Certificates of Architectural Review for roof work on buildings within the Dover Historic District zone.

Recommended

- Whenever possible, retain and repair historic roofing material in-kind and to match existing, whether original to the building or not. Reuse or replace in-kind historic decorative elements.
- Replacement roof materials should match those existing or verifiable historic conditions. Substitute materials are best limited to non-conspicuous roof areas.
- Flat seam and standing seam metal roofs are appropriate treatments for the replacement of existing non-repairable historic metal roofs.
- Appropriate metal roofing material includes copper, lead-coated copper, terne-coated stainless steel, and terne metal. Painted metal roofs are also appropriate, but the paint used must be

compatible with the metal roof. Colors should be limited to traditional roof colors such as red and green.

- Leave exposed eaves open and uncovered.
- When replacing non-repairable and/or non-historic roofing of any kind, existing roofing material should be removed. This will assist in prolonging the life of the replacement roof and will maintain the thickness of the roof edge and thus minimize the effect on the proportions of the facade.
- Maintain historic roof forms. New dormers and skylights should be limited to the rear slopes of buildings.
- Skylights on rear facades should have minimal curbs and flat glass. Dormers on rear facades should be appropriately scaled to maintain the dominance of the form of the existing roof.
- If a slate roof is beyond repair, there are several materials available that are slate substitutes. Of these, cement tiles are recommended. The owner should verify that the roof structure can support the weight of the cement tiles.
- Metal roofing should be installed in accordance with the recommendations of the Sheet Metal and Air Conditioning Contractors' National Association, Inc., 8224 Old Courthouse Road, Vienna, Virginia, (703) 790-9890. These recommendations pertain especially to flashing details at roof edges and intersections.

Not Recommended

- Asphalt, fiberglass and composition shingles are not recommended for existing historic buildings. When used, they should be monochromatic and a muted color to lessen their visual impact.
- Do not apply asphalt shingles over wood shingles. This will entrap moisture and accelerate the deterioration of the roof and roof structure.
- Do not place lath over existing asphalt to provide a nailing surface for new wood shingles. This will increase the thickness of the roof and entrap moisture.
- Pre-formed metal roofing panel systems are not recommended for historic buildings. The width of the cap and trim pieces are intended for large-scale commercial applications and appear thick and heavy and out of character with the massing of historic buildings.
- It is not recommended that a new roof be installed over an existing roof. Layering old and new roofing accelerates the deterioration of the new roof, and traps moisture that may accelerate the deterioration of the roof structure. It also visually thickens the roof and roof edge.

Inappropriate

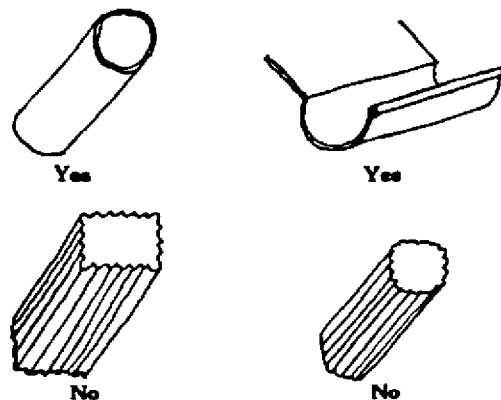
- It is inappropriate to remove historic decorative elements such as roof cresting or finials.
- It is inappropriate to change historic roof forms. New dormers and skylights should not appear on front or side roof slopes.

Flashing, Gutters and Down Spouts

The following guidelines should facilitate decisions regarding applications for architectural review certification for buildings within the Dover Historic District zone.

Recommended

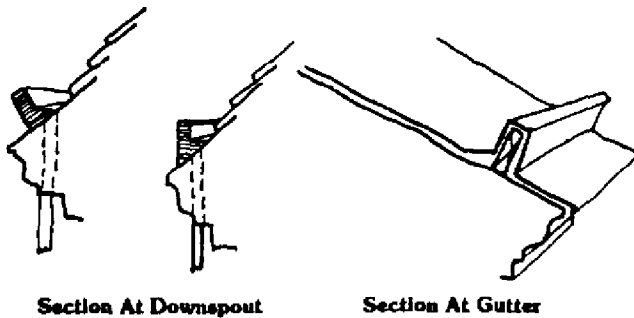
- Use 1/2-round or plain rectangular sheet metal gutters and plain round Down spouts. Metal may be copper, lead coated copper, terne coated stainless steel, terne metal, or aluminum.



Gutters And Downspouts

- Pole gutters and built-in gutters are often the original roofing condition,

especially on older structures, and therefore are recommended. These have the advantage of being historically compatible and are visibly less obtrusive than hung gutters. Some exploration will be required to determine the original gutter condition.



Section At Downspout

Section At Gutter

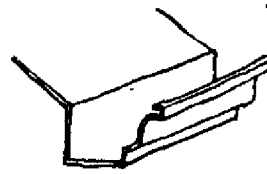
Pole Gutter

Not Recommended

- Extensive areas of visible metal flashing should be avoided. In some masonry and stucco conditions, metal flashing may be covered over by mortar or stucco.
- Galvanized steel gutters and Down spouts are not recommended as they rust and deteriorate quickly. The rust will stain adjacent surfaces. If used, galvanized steel gutters should be allowed to weather prior to the application of rust-inhibiting paint.

Inappropriate

- Corrugated Down spouts are inappropriate in the Dover Historic District zone.
- Architectural "K" style gutters are inappropriate in the Dover Historic District zone.



Inappropriate
"Architectural" Gutter

- Vinyl gutters and Down spouts are inappropriate for use in the Dover Historic District zone. Their life expectancy is short and their lower initial installation cost does not represent a long-term savings.

Walls: Masonry

Masonry has been used from the earliest period of building in Dover. Masonry is a strong, durable and attractive material that requires little maintenance. Brick, as found in the Ridgely House and the Old State House, has come to represent stability and is today the material of choice to represent the durability of government institutions, as at Legislative Hall, as well as private institutions such as the Bank of Delaware. Brick is the oldest and best preserved building material in the Dover Historic District zone. The inherent durability of masonry construction is dependent upon appropriate maintenance and repair methods.

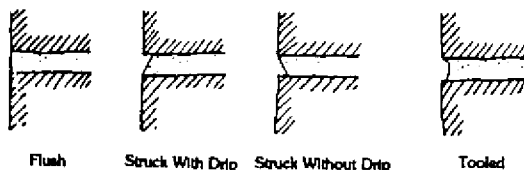
Guidelines for the repair, maintenance, restoration or rehabilitation of exterior masonry are as follows:

Recommended

- Where repointing is proposed, the mortar used for repointing should be equivalent to or softer than the original mortar in the masonry joints. To determine the composition for equivalent mortar, it is necessary to

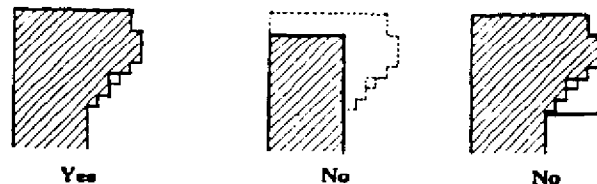
perform laboratory analysis of the mortar. In the absence of such analysis, a high lime content and low Portland cement content mortar will usually be compatible with most historic masonry. If Portland cement is to be included in the mortar mix to increase workability, no more than 20% of the combined total volume of lime and Portland cement should be Portland cement.

- In addition, repointed mortar joints should match the appearance, color, texture, joint size and tooling of the original or historic repointing, whichever predominates.



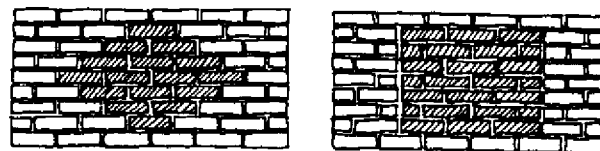
Masonry Mortar Joints

- Deteriorated and loose mortar should be removed manually, using non-mechanized hand tools, in order to minimize damage to surrounding masonry work. Remove mortar to a depth of 3/4" or equal to the width of the mortar joint, whichever is more.
- Pay particular attention to masonry and trim detailing on the facades of residences and commercial buildings. If rebuilding is required, full photographic and dimensional documentation should precede it. Projecting and decorative cornices should be retained and repaired in-kind, if possible, or replicated in-kind. They should neither be removed nor covered up.



Treatment Of Brick Cornice (Section View)

- Clean masonry using the gentlest means possible; often a prolonged saturation followed by brushing with bristle brushes will be sufficient.
- When replacement of an area of brick in a brick wall is required, that area should match the existing brick in bonding pattern, decorative pattern, coursing, color, size, strength, pointing and mortar, and should be toothed or keyed to existing brickwork. Replacement brick should never be substantially stronger than the existing.



Brick Replacement

- Prior to rebuilding any masonry wall, foundation or chimney, carefully document the structure by photography and actual measurement to facilitate accurate duplication. Reuse as many bricks as possible.
- Install sloping mortar wash surfaces at the tops of chimneys to protect the chimney walls.
- If a chimney cap is required, a stone or terra cotta cap is recommended.

Not Recommended

- Metal chimney caps generally are not recommended, especially on 18th and early 19th century chimneys. They are primarily mid-20th century developments.

Inappropriate

- Do not sandblast masonry for any reason.
- Do not change the size or tooling profile of the mortar joint when repointing brick.
- Prior to repointing, do not remove existing mortar with power equipment. Remove existing mortar using hand tools narrower than the width of the masonry joint.
- Do not use modern "antiqued" brick for new construction. It is too regular in its contrived variability, and easily distinguished by the discriminating eye.
- "Over cleaning" of brick with harsh chemicals and/or excessive water pressure will do more harm than good to the brick.
- Do not use masonry sealer, which traps moisture inside masonry walls, preventing them from breathing.

Walls: Wood Siding and Trim

Wood siding is the "skin" of a building. Its purpose is to shed water quickly and

thoroughly, thus preventing decay of the underlying structure and the deterioration of interior finishes, and to deflect sunlight and wind. Siding also plays an important visual role in establishing the scale of the building. Each clapboard or shingle casts a shadow line, adding some visual depth to the wall surface, while the size of the clapboard or shingle visually affects the mass and proportions of each building.

Directly associated with the wood siding, and with masonry as well, is the exterior trim of the building. Wood trim serves a critical visual purpose by providing architectural ornament and a functional purpose by sealing the structure at vulnerable locations. Corner boards, fascia boards, window caps and trim, architraves, and cornices are examples of trim elements that protect critical joints of a building from exposure.

The following guidelines for the repair, maintenance, restoration or rehabilitation of wood siding and trim are as follows:

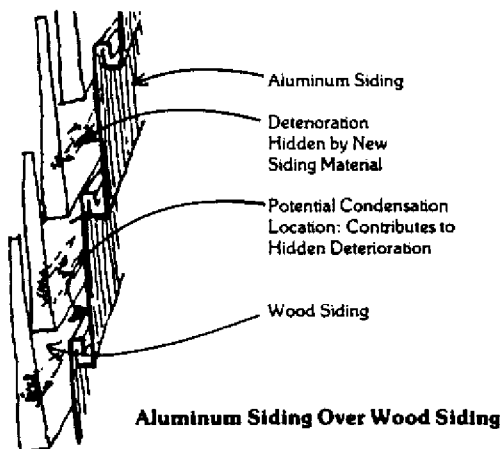
Recommended

- All siding and trim should be retained and repaired. For areas of partial deterioration, techniques utilizing in-kind and visually matching patches are preferable to total replacement, in the interest of retaining as much historic material as possible.
- If siding is severely deteriorated and re-siding is proposed, it should be done with horizontal siding or cedar shingles to match existing. Vertical siding is a more modern intrusion and would be more appropriate to secondary structures such as sheds and outbuildings.

- Existing historic asphalt shingle siding should be repaired and replaced in-kind, where it is character defining.
- All wood siding and trim should be painted.

Not Recommended

- Aluminum siding is not recommended for use on new or existing buildings in the Victorian historic context of the Dover Historic District zone, for reasons that have to do with its potentially destructive tendency to hide deterioration and to trap moisture against the existing wood siding. It also has a significant negative visual impact, in that it conceals historic fabric.



When it is proposed for use on existing buildings, steps should be taken to minimize its impact, such as:

Retain and leave exposed the wood trim at windows, doors and corners. Siding should butt the trim. This may require the removal and furring out of existing trim, in order to be in the correct plane in relation to the siding. This work should be accomplished in a

manner that will not damage existing trim.

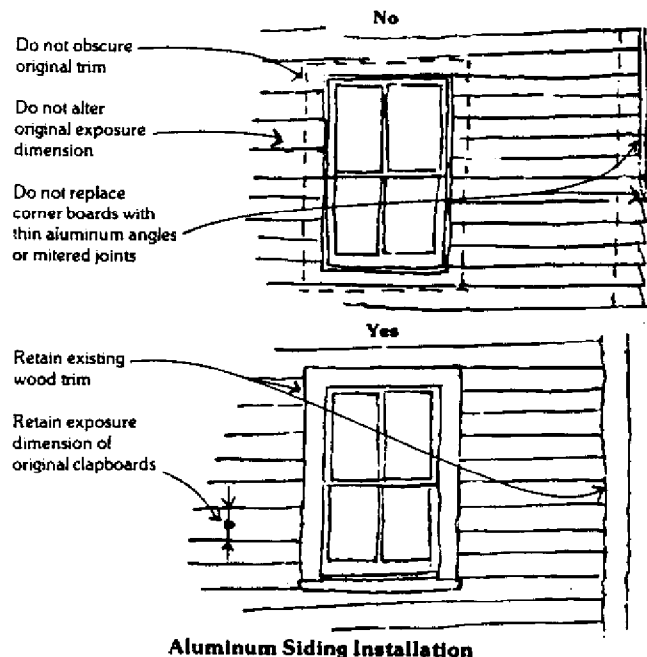
Retain and leave exposed decorative elements such as brackets, spindle work, cornices, etc.

If corner boards cannot be retained, use an aluminum corner that duplicates the width of the original corner board.

Do not use pastel or "ranch house" colors.

Match the width of the original wood siding; i.e. 4" exposure wood siding should be covered with 4" exposure aluminum siding.

Maintain constant ventilation to the inside surface of the aluminum siding. The effects of the condensation that will otherwise result will be prolonged, serious and invisible.



- Vinyl siding is not recommended for use in the Victorian Historic context of the Dover Historic District zone. Its

sheen is noticeable and it is nearly impossible to install without covering up or obliterating original architectural details. Its seams are visible, it tends to warp and deflect with changes in temperature, and its color will fade noticeably over time. It also traps and hides potentially damaging moisture within the walls of the house.

If it is proposed for use, certain steps must be taken to mitigate its effects:

Vinyl siding should be installed to allow ventilation to occur between it and the underlayment below.

Vinyl siding that is embossed with artificial wood grain should not be used.

Existing details at corners, windows, doors, eaves and elsewhere should not be covered over and in no case should they be removed or altered.

Match the width of the original wood siding.

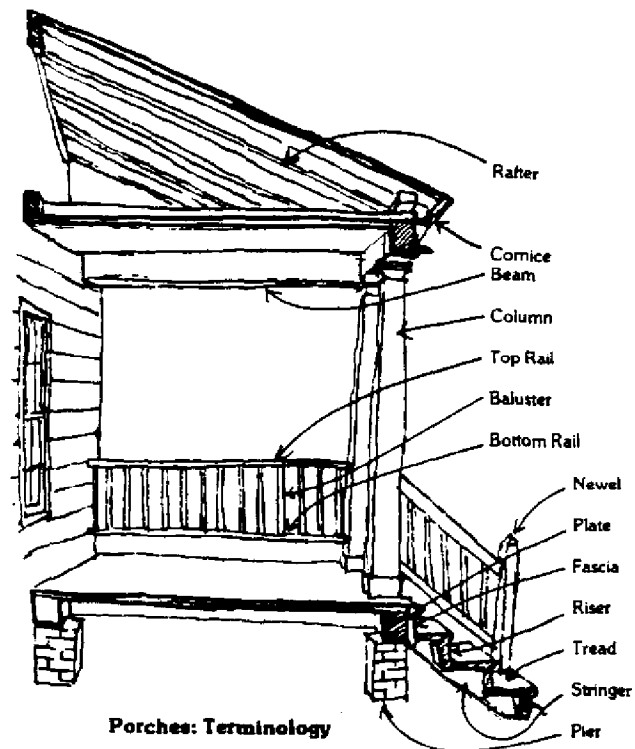
Inappropriate

- Vinyl siding is inappropriate for use on existing buildings in the Green and Commercial historic contexts and in the Capitol Square context of the District. Its sheen finish and artificial wood grain are easily visible. Details and installation are difficult to make compatible with the historic character of these contexts within the Dover Historic District zone.
- Wavy-edged shingles are inappropriate.

- Textured plywood (T-111) vertical siding should not be used on primary structures within the Dover Historic District zone.

Porches and Steps

Porches are critical architectural elements on many of the residential streets in the Dover Historic District zone. The porch is a unique outdoor living area that belongs to the house but partakes in the life of the street. The full extent of its lightweight structure and fine detailing is fully exposed to the weather, requiring the maintenance and repair of porches to be a constant process. The proper design of porches entails more than the correct architectural elements, proportions and materials, and includes proper construction detailing. This is true for all porches, whether they are historic or part of new construction.



Porches: Terminology

Steps nearly always extend beyond the roof line of buildings or porches and are thus exposed to the weather even more than porches. Steps are an important part of the streetscape, setting up rhythm and regularity. Proper detailing is as important to the correct design of steps as is the use of appropriate materials and style.

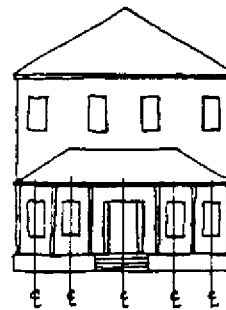
The following guidelines should assist with recommendations of the Historic District Commission when considering applications for Certificates for Architectural Review in the Dover Historic District zone in which porches are affected or proposed:

Recommended

- Retain as much existing historic porch fabric as possible. Repair with in-kind materials, almost always wood, with profiles to match existing as nearly as possible.
- The porch floor should be even with or a maximum of one-step below the corresponding floor of the house, unless historic conditions suggest differently.
- Porch ceilings should be the same height as that of adjacent interior rooms. Porches with exposed rafters and deck should not have ceilings installed. When re-roofing, nails should not be visible below the underside of the deck.
- It is appropriate to construct a porch on a house that historically had a porch that has been subsequently removed. The design of the new porch should be carefully researched. If photographic or other good historic documentation is

available, it should serve as a literal model for the new porch. If no such documentary evidence is available, the new porch should be of a contemporary design that is compatible and complementary to the existing building, and consistent with the design of porches typical to the period of the house. New porches should not be built to look 'old' when no evidence exists for the original porch design.

- For new porches on houses where documentary evidence for a historic porch is not available, the rhythm of the porch bays, as established by the regularity of columns and openings, should match that of the solids and voids of the house behind.



Rhythm Of Porch
And House Bays

- For new porches on houses where documentary evidence for a historic porch is not available, the height of the bottom of the porch fascia board should be at or very near the height of the window head of the house. This will vary slightly because of the rich variety of Dover porches. The intention of this guideline is to prevent inappropriately proportioned porches. The design of fascia boards should be appropriate to the style of the house.
- All visible porch components should be painted wood, unless there is historic precedent for the use of

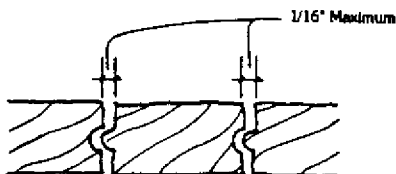
weathering wood such as cedar. Because of the amount of exposure to which wood porch components are subject, all painted parts should be "back-primed;" i.e., prime-painted on their concealed surfaces to discourage deterioration from moisture penetration.

- For new porches on houses where documentary evidence for a historic porch is not available, the porch should be at least 6' deep to allow comfortable seating. Maximum depths of porches are a function of the overall height of the house or porch ceiling.
- Leave open the spaces between porch piers so that ventilation can occur beneath the porch. This is best done using painted wood lattice or grillage.



Lattice Infill At
Porch Piers

- Replacement porch flooring should match existing tongue and groove flooring with 1/16" maximum gap between boards to allow for expansion. Wood edging should be applied to the exposed ends of floorboards.



Tongue And Groove Flooring
With Gap For Expansion



Yes



Yes



No

Porch Floor Edge

- Replacement porch railings should match existing as closely as possible. If a historic railing profile is not available, often a good replica may be constructed of a number of commonly available moldings.



Historic Profile

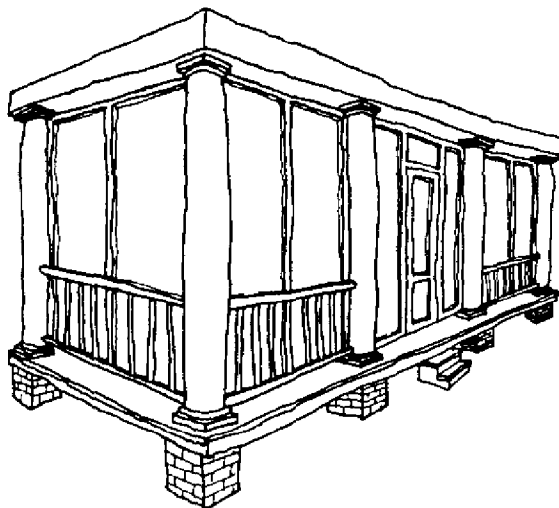


Profile Built-Up
From Stock Moldings

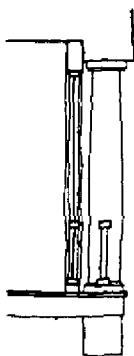
Replacement Porch Railings

- Porch columns should be retained or replaced in-kind, if beyond repair.
- For enclosures of side porches that are visible from the street, new construction should be placed behind the existing column and balustrade so as not to obscure existing architectural elements. The walls of the enclosure should reflect the massing, the relationship of solid-to-void, of the

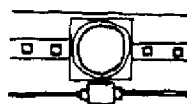
porch itself. This will require porch enclosures to have a large amount of glass. The wood framing of new porch enclosures should be painted a matte finish, a dark color compatible with the glass or screens. The color of the rest of the enclosure should contrast with the color of the original porch, to maintain the distinction between original and new construction.



Perspective View



Section



Plan

Details For Appropriate
Porch Enclosure

Not Recommended

- Use of composition and plastic moldings is not recommended.

Inappropriate

- It is inappropriate to add porches to the primary facades of historic structures that never had porches.
- It is inappropriate to remove the floor and framing of porches, leaving only the roof standing on columns.
- It is inappropriate to enclose porches on primary facades.
- It is inappropriate to use substitute materials, wrought iron piers should not be used in place of brick or wood columns.
- It is inappropriate to enclose the space between porch piers with continuous wood or masonry. This will discourage ventilation from occurring beneath the porch, hastening deterioration from moisture.
- It is inappropriate to add ornament to a porch from a style that is different from the house itself, unless there is historic precedent for it.
- Two-inch-thick boards are inappropriate for porch floors.
- Unpainted wood is inappropriate for use on porches in the Dover Historic District zone.

- It is inappropriate to replace porch columns with columns of an architectural order or character that is not compatible with the house.
- It is inappropriate to install a porch ceiling where none existed. The exposed rafters and deck are a part of the architectural expression of the porch. Care should be taken when re-roofing to use nails short enough not to protrude below the ceiling boards.

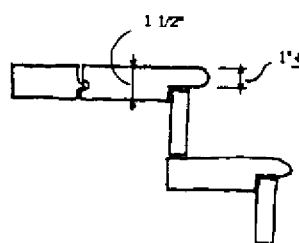
Steps

The prevalent materials of existing steps in the Dover Historic District zone are wood and brick. A few of the houses in the Green historic context and several of the government buildings and larger commercial buildings feature stone steps and stoops.

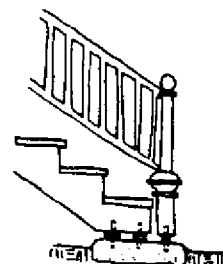
The following are guidelines that should assist with recommendations of the Historic District Commission when considering applications for Certificates of Architectural Review in the Dover Historic District zone in which steps are affected or proposed:

Recommended

- Wood steps should be retained or repaired in-kind. If replacement is unavoidable, it should be carried out by using wood of size, species and profile to match existing. Wood steps should be painted.
- If 2" lumber is used for treads on wood steps, the leading edge of the tread should be reduced to visually "lighten" the tread.



Detail For Reducing
Tread And Porch Floor
Edge Thickness



Stone Plinth For Wood Steps

- Wood steps and posts should not come in contact with the ground but should land on a stone or concrete plinth.
- Brick steps should be retained or repaired in-kind. In the residential context, brick steps may be a replacement for earlier wood steps. Thus, where brick steps are not integral to the design of the porch or house, wood steps may replace brick steps, but should be designed simply.
- Stone steps should be retained and repaired in-kind. Patching of existing stone steps should be of material to match existing. A concrete patch, tinted to match adjacent stone, is acceptable. If replacement is required, stone should be used.

Inappropriate

- Replacing wood steps with brick steps is inappropriate, unless there is historic precedent for it.
- Replacing historic stone steps is inappropriate unless the stone itself is unusable. Repairing stone steps is often a matter of re-setting existing

stone steps on a firm foundation with new mortar or sealant joints.

- Brick steps should not be sandblasted. Sealant should not be applied to mortar joints, as it will seal moisture within the brickwork.

Painting

Paint is the final layer of finish applied to a building's exterior. It plays an absolutely critical role in the appearance of a building and in protecting the building from rain, snow and sunlight. It is a sacrificial layer, requiring re-application every 5-10 years. As such, paint colors are also the aspects of a building's design that are the most subject to changes in taste over time. It is not unusual for a 100 year old building to have a paint build-up of 10 or more colors, several of which may be considered 'historic.' It is therefore difficult to prescribe paint colors rigidly.

Changes in tastes in color generally accompanied changes in architectural style, and so it is often most appropriate to paint a historic building in its original color scheme. The only way to be certain regarding original paint colors is to undertake a paint seriation study. This must be undertaken by specialists as it involves examining a cross section of paint chips under special light conditions to ascertain the specific color, hue and value of a paint layer.

The following guidelines are intended to give property owners some assistance in deciding upon an appropriate color scheme for their building. It should be understood that there is a great deal of overlap between specific architectural styles and specific paint schemes, and these brief guidelines are by no means a

substitution for paint seriation analysis. It should be further noted that the dates attributed to the architectural styles below are as suggested in A Field Guide to American Architecture (Rifkind, 1980); dates associated with particular styles may tend to be later in Dover.

Federal and Greek Revival (1780-1860). These architectural styles used a combination of light and intense colors to evoke the marble buildings from which their designs took their inspiration. The most popular scheme was white trim and siding with dark green shutters.

Gothic and Italianate (1840-1880). Wood was again painted to match its masonry predecessors. Softer earth tones were employed for Italianate buildings while Gothic buildings were often gray. Trim was painted in a contrasting shade of the basic colors such as drab browns, grays and fawns.

Second Empire (1860-1900). Similar to the Italianate style, Second Empire buildings were often painted to match masonry predecessors, usually softer earth tones. Trim was painted in contrasting colors, but somewhat bolder and darker colors. Occasionally, this theme was abandoned, and Second Empire buildings were painted in bold colors with lively contrast between the siding and the trim, which could be highlighted using two or even three colors.

Queen Anne (1865-1900). This style introduced increased boldness, liveliness and contrast both in architectural style and color. There was a great deal of variety. Several colors might appear on the same building, with trim being two colors and different volumes of the structure expressed with different colors. Often, different colors were used to articulate each story of a house.

Victorian Commercial (1870-1920). Although colors varied, dark hues such as forest green were predominant. On brick buildings, painting was limited to the wood trim and metal components that are often the ornamental features of the facade.

Colonial Revival (1900-1920). Colors returned to the white siding and green shutter paint schemes of the Greek Revival period.

Bungalow (1880-1925). Colors were still used to express the various parts of the structure, but they were less bold, darker versions of the earlier Italianate and Gothic styles.

Because of ongoing refinements and improvements in modern paint formulas, the difference in quality and longevity between oil-based and latex exterior paints has become minimal. It is still the case that latex may be applied over oil-based paints but the reverse is not true. Once latex paint is applied to a building, it must be stripped before oil-based paint can be applied satisfactorily. Both latex and oil-based paints are recommended in the Dover Historic District zone.

Energy Conservation and Heating, Cooling and Electrical Systems

It is the contention of these guidelines that historic preservation and energy conservation are completely compatible and mutually supportive. Moreover, some non-historic energy conservation innovations, such as storm windows and batt insulation, may be sympathetically incorporated in both historic buildings and new construction in the Dover Historic District zone.

Mechanical, electrical and communication systems are non-historic, though essential,

additions to the Dover Historic District zone. As such, they should be hidden or screened from view. Their undisguised presence is inappropriate.

The following guidelines should be considered in permit applications involving energy conservation measures and/or mechanical/electrical systems for buildings within the Dover Historic District zone.

Recommended

- Where increased thermal performance is required of existing windows, install interior thermal storm windows within existing openings. Allow for air circulation between the windows to prevent the build-up of condensation that will accelerate the deterioration of historic wood windows. Match the color of the existing window as well as the opening size and overall design. Metal thermal sash is recommended for metal windows, and wood, PVC or vinyl thermal sash is recommended for wood windows.
- Exterior storm windows are recommended. They should have slender frames and meeting rails that align with the historic windows behind, and should be painted to match the adjacent window frame.
- All glass in any window should be clear glass rather than tinted or reflective.
- Awnings are more appropriate in the commercial historic context and especially on Queen Anne and Bungalow style houses. These should be of canvas, and may be colored or

striped. Their shape should be simple, to conform to the configuration of the window.

- Air conditioning equipment should be screened by plantings, lattice, or brickwork, so as not to be visible from the street.
- All mechanical equipment, including TV antennas and satellite dishes, should be located so as not to be visible from the street. Where possible, consolidate several antennae on any one building into one antenna. If necessary, sight-line studies should be performed to assist in the selection of unobtrusive locations for such equipment.
- Roof-top solar panels should be located so as not to be visible from the street.

Not Recommended

- Replacement windows are not recommended for the purposes of energy conservation. Interior storm windows are more effective in conserving energy, and permit the historic wood windows to remain in place.
- The addition of aluminum and vinyl siding to existing structures is not recommended as an energy conservation strategy. In addition to the loss of historic character and features, the application of siding prevents inspection of underlying historic fabric, thus concealing the early indicators of what may be serious

deterioration due to moisture or insects.

Also, there is a great deal of controversy as to whether siding is in fact an effective insulator. A study performed by the U.S. Department of Housing and Urban Development in Providence, Rhode Island, showed an energy conservation related payback period of 30 years for aluminum siding, while the payback for storm doors, storm windows, and attic insulation was 4.5 years. For strategies for mitigating the damage caused by adding aluminum and vinyl siding to a historic structure, see "Wood Siding and Trim," above.

Inappropriate

- Do not add vestibules to the exterior of the house, unless there is historic precedent for a vestibule. The expense of the construction will probably not be recovered through energy savings, and the addition to the entrance facade will significantly alter the building's character, proportions and massing.
- Modern aluminum doors and storm doors are historically inappropriate and do much harm to the character of historic houses.

Preservation Recommendations

In addition to the above guidelines, the following recommendations are intended to serve as reminders of general considerations that should be brought to bear on the evaluation of proposed treatment of visible

energy conservation measures on structures within the Dover Historic District zone.

- Apply weather-stripping between windows and frames and doors and frames. Paint all metal weather-stripping to match windows, doors, and frames.
- Shutters should remain operable.
- Provide attic insulation. Provide an attic vent 1/300 the area of the attic. Install batt insulation with the vapor barrier face down between the floor joists in unheated attics. The vapor barrier should always be installed closest to the occupied space to prevent water vapor from passing through to unheated surfaces, where it will condense, resulting in moisture build-up. "Blow-in" insulation is appropriate for attic insulation.
- Insulate first floor at basement and crawl spaces. Install vapor barrier up, directly underneath floor boards. The vapor barrier should always be installed closest to the occupied space to prevent water vapor from passing through to unheated surfaces, where it will condense, resulting in moisture build-up. "Blow-in" insulation is appropriate for crawl space insulation.
- Whenever possible, relocate overhead wiring underground. Locate meters and exterior wiring on rear facades.
- Install caulking at joints that have opened up between siding and trim, and elsewhere on exterior.

- Do not add wall insulation to the air spaces within the exterior walls of wood frame construction. This will alter the ability of water vapor to pass in and out of the wall. This, combined with the susceptibility to condensation of wood frame construction, has the potential to cause irreversible damage to the walls as well as damage to historic fabric due to holes cut in historic siding and interior plaster during installation.
- Do not add insulation to masonry cavity walls. These walls have inherent insulation value and the elimination of the air cavity may cause condensation to form. It is also expensive.
- Interior storm windows, caulking, and weather-stripping will contribute significantly to the conservation of energy in historic buildings.

Landscaping and Site Amenities

Introduction

The image of each building in the Dover Historic District zone is in large part a function of the treatment of its immediate surroundings. Plantings and site amenities such as fences, retaining walls, paving and light fixtures provide the setting for individual buildings while helping to define the character of the District.

In addition to providing the setting for individual buildings, landscaping and site amenities also help define the relationship between structures. The overall relationship of structures in the Dover Historic District

zone is one of civility and sociability. Houses are sited with porches close enough to the street to permit and encourage conversation with passers-by. Landscape and site amenities should thus be low enough and transparent enough to permit and encourage this sociability.

It should be noted that in certain areas of the Dover Historic District zone there is a likelihood that excavation for landscaping and site amenities may involve archeological resources. The Planning Commission and applicants should be cognizant of the potential impact of excavating in archeologically sensitive areas.

The following design guidelines apply to all planting in the Dover Historic District zone.

Recommended

- Unless a deliberate contrast is desired, select and locate plant material so as to accent and enhance significant architectural forms, rather than to obscure them.
- Consider the "texture" of a plant, its branch structure and degree of transparency. Consider also its "habit," its form, be it round, columnar, or horizontal, etc.
- Combine finely textured, airy plants with fine architectural detail such as wood porches, and dense, coarse-textured plants with massive construction such as solid brick. Columnar plants complement vertical elements such as porch columns while lower rounded forms complement foundation features.
- Plantings at the perimeter of foundations should express or at least not obscure the rhythm of the building itself. Continuous foundation planting did not become popular until the early twentieth century, and was especially favored in the Colonial Revival and Bungalow styles.
- Select and locate plant material according to site conditions of sun, shade, soil, and adjacent plant material.
- Select plant material according to its mature size, to allow for the long-term impact of the mature plant.
- Select plant species appropriate to the climate and growing conditions of Dover.
- Every effort should be made to save large trees.
- Where planting to screen or complement masonry walls, provide a wire or wood frame for the vine or plant to cling to. This technique is known as "espalier."
- Do not "over plant." Allowing for the mature size of trees and shrubs is critical.
- Provide enough space between buildings and plantings that the structure will not be 'crowded.'

Not Recommended

It should be noted that without the advantage of either physical remains or documentary evidence, "historic" garden design is highly

speculative. As a rule the design of formal gardens should be as simple as possible, concentrating on location and groupings of planting material. In the absence of strong historic evidence, the introduction of paved garden walks, beds raised with retaining walls, and garden structures such as gazebos, pergolas, and arbors are not recommended.

- Continuous foundation planting is inappropriate for all architectural styles in Dover, except those of the Colonial Revival and Bungalow styles.

Preservation Recommendations

- Provide adequate drainage away from structures on the site.
- Do not permit plant material to destroy architectural fabric. Ground cover and vines that have grown on masonry walls may be accelerating the deterioration of the masonry. (See discussion of "espalier" technique, above.)

Fencing and Walls

Generally, site fences and walls in the Dover Historic District zone should not exceed 4'-0" in height. The following design guidelines should be considered in permit applications in which fencing and walls would be affected.

Recommended

- Wood picket fences of a wide range of designs are appropriate in the Dover Historic District zone.

- Cast iron fencing is appropriate for new fences. Existing cast iron fencing should be repaired or replaced in-kind. New cast iron fencing should be of relatively simple design; a typical earlier design was three horizontal bars with intermittent supporting posts and decorative pickets, with ornamentation at corners, gates, and picket tops.
- Wire fencing is inexpensive and easy to install. This fencing material is appropriate for more modest residences. It should be used as a plant support at property borders, and not left unadorned.

Not Recommended

- Chain link fencing is unattractive and suggestive of exclusion and confinement, and is not recommended for use in the Dover Historic District zone. Where it exists, it may be successfully planted out by encouraging vines to trail across and through it. Where a new installation is proposed it should be limited to side and rear yards. At side yards, chain link fence should not be placed forward of the front of the house. At corner properties, chain link fence should not be installed along either street frontage.
- Woven wood fencing and opaque wood fencing and any modern or "fancy" style fence is not recommended.
- Unpainted wood fences, whether made of treated lumber or not, are not recommended.

Inappropriate

- Concrete walls are inappropriate as a fencing material in the Dover Historic District zone and should be prohibited. Existing concrete walls should be stuccoed and painted, while "decorative" masonry screens should be painted black-green.

Paving and Bordering

The paving along or within the perimeter of a property provides the connection between the front door and the street. Providing the "carpet" to the door, it should be as graceful as the rest of the yard.

Recommended

- Brick, gravel, and compressed earth paths are appropriate for domestic walks and garden paths.
- Brick paving should be dry-laid in one of several patterns.



Brick Paving Patterns

- Concrete walks are acceptable in the Dover Historic District zone.
- Glazed brick borders are appropriate for planting bed borders in Victorian style gardens.

Not Recommended

- "Over-paving" to create formal gardens is not recommended in the Dover Historic District zone.
- Using concrete to replace brick, flagstone or other historic paving materials is not recommended.

Inappropriate

- Concrete block, painted rocks, and low wire fencing are inappropriate border materials in the Dover Historic District zone.

Parking Lots

Parking lots are the awkward by-product of a mobile culture. Their incorporation into historic districts is problematic. Parking lots should be screened from the street, their layout should include borders, and islands planted with trees and shrubs to break-up expanses of paved areas. Given any parking lot within the Dover Historic District zone, at least 20% of the area within it should be unpaved and planted.