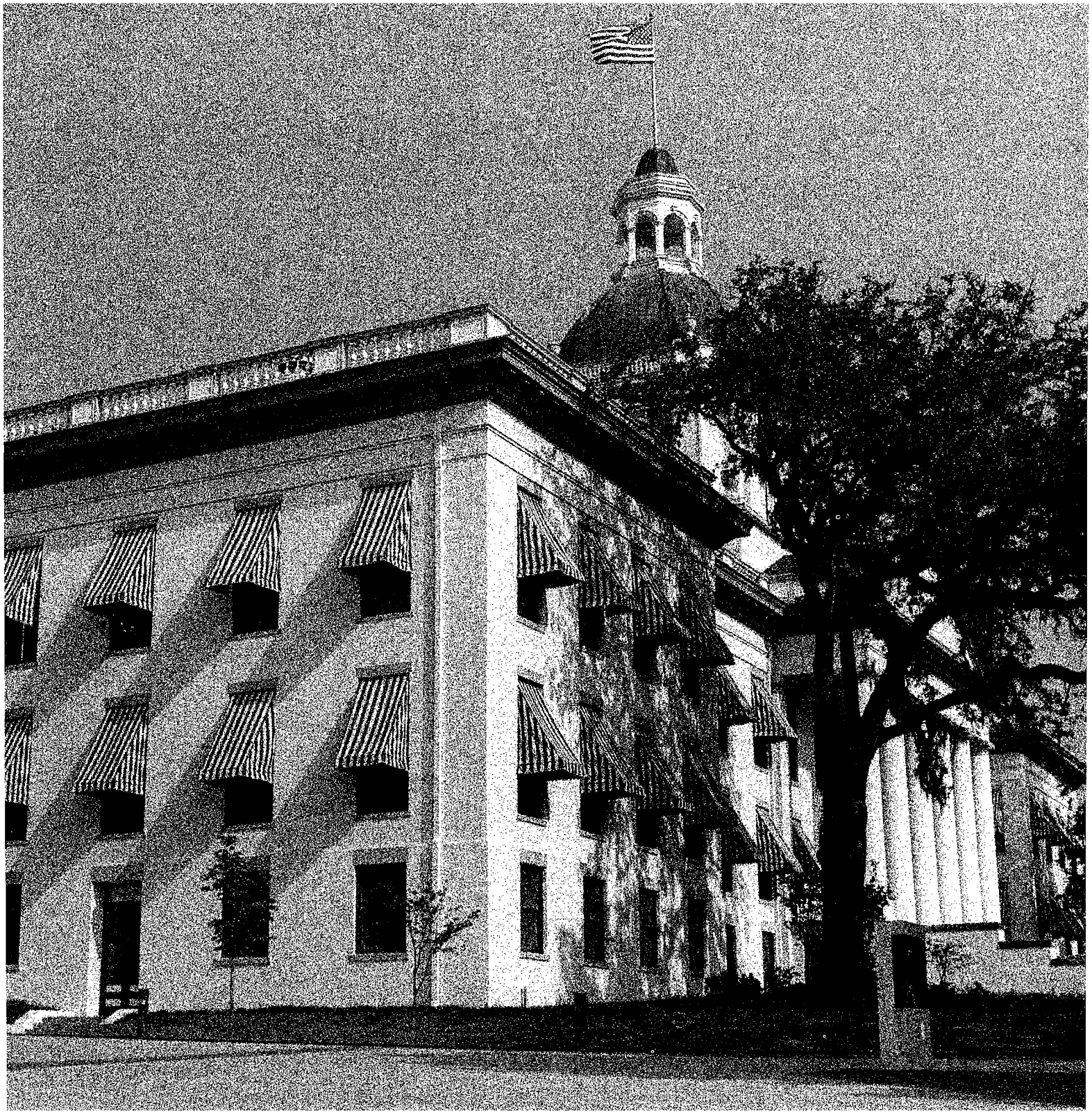
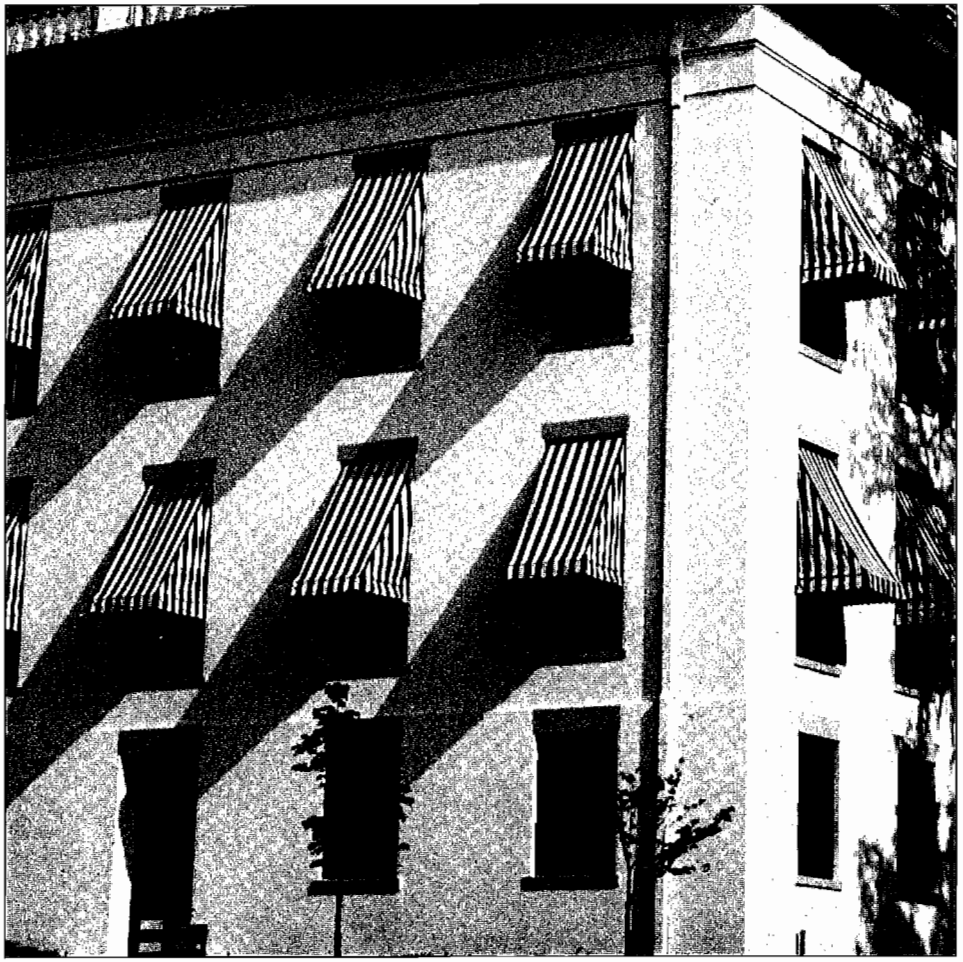


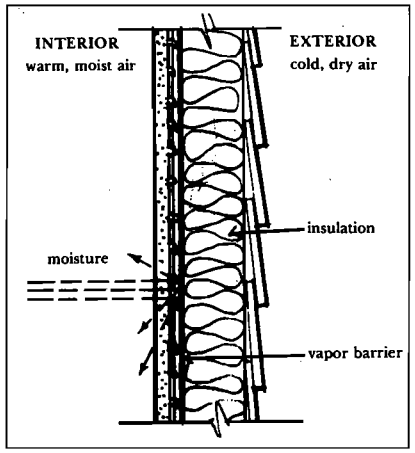
Energy Conservation

Energy Conservation

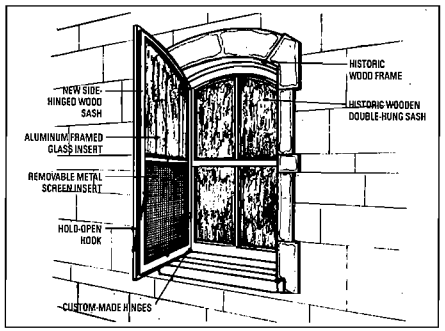
Some character-defining features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings also play a secondary, energy-conserving role. Therefore, prior to retrofitting historic buildings to make them more energy efficient, the first step should always be to identify and evaluate the existing historic features to assess their inherent energy-conserving potential. If it is determined that retrofitting measures are necessary, then such work needs to be carried out with particular care to insure that the building's historic character is preserved in the process of rehabilitation.



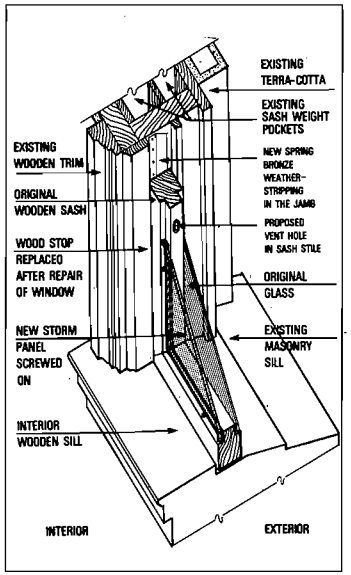
Recommended	Not Recommended
District/Neighborhood	
Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen windblocks, and lakes or ponds.	Stripping the setting of landscape features and landforms so that the effects of the wind, rain, and the sun results in accelerated deterioration of historic materials.
Building Site	
Retaining plant materials, trees, and landscape features, especially those which perform passive solar energy functions such as sun shading and wind breaks.	Removing plant materials, trees, and landscape features, so that they no longer perform passive solar energy functions.
Installing freestanding solar collectors in a manner that preserves the historic property's character-defining features.	Installing freestanding solar collectors that obscure, damage, or destroy historic landscape or archeological features.
Designing attached solar collectors, including solar greenhouses, so that the character-defining features of the property are preserved.	Locating solar collectors where they radically change the property's appearance; or damage or destroy character-defining features.
Masonry/Wood/Architectural Metals	
Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.	Applying thermal insulation with a high moisture content into wall cavities in an attempt to reduce energy consumption.
Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior molding around the window or other interior architectural detailing.	Resurfacing historic building materials with more energy efficient but incompatible materials, such as covering historic masonry with exterior insulation.



When installing insulation in the wall cavity of a historic wood-frame building, a vapor barrier must be placed facing-in toward the heated side of the wall. The vapor barrier prevents moisture from passing from the warm interior to the cold exterior, thus keeping the insulation and adjacent building materials dry.



Historic residential window—*appropriate storm window retrofit. The single casement, wooden storm window has two removable panels for screen and glass inserts. It is designed to minimize visual changes to the historic building.*

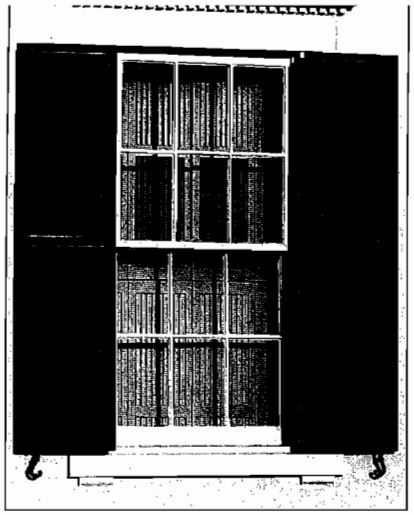


Historic commercial window—*appropriate storm window retrofit. This cutaway view shows how the historic sash would receive a recessed storm panel through routing or cutting an inside rabbet.*

Recommended	Not Recommended
Installing passive solar devices such as a glazed "trombe" wall on a rear or inconspicuous side of the historic building.	Installing passive solar devices such an attached glazed "trombe" wall on primary or other highly visible elevations; or where historic material must be removed or obscured.
Roofs	
Placing solar collectors on non-character-defining roofs or roofs of nonhistoric adjacent buildings.	Placing solar collectors on roofs when such collectors change the historic roofline or obscure the relationship of the roof features such as dormers, skylights, and chimneys.
Windows	
Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.	Removing historic shading devices rather than keeping them in an operable condition.
Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings.	Replacing historic multi-paned sash with new thermal sash utilizing false muntins.
Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.	Installing interior storm windows that allow moisture to accumulate and damage the window.
Installing exterior storm windows which do not damage or obscure the windows and frames.	Installing new exterior storm windows which are inappropriate in size or color. Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.

Recommended	Not Recommended
Considering the use of lightly tinted glazing on non-character-defining elevations if other energy retrofitting alternatives are not possible.	Using tinted or reflective glazing on character-defining or other conspicuous elevations.
Entrances and Porches	
Utilizing the inherent energy conserving features of a building by maintaining porches and double vestibule entrances in good condition so that they can retain heat or block the sun and provide natural ventilation.	Enclosing porches located on character-defining elevations to create passive solar collectors or airlock vestibules. Such enclosures can destroy the historic appearance of the building.

In hot climates, buildings were historically designed to minimize the heat gain from the summer sun. The wide roof overhangs, exterior porches, shutters, shade trees, and heavy masonry walls (painted white) are all energy saving characteristics.



Shutters were used to minimize temperature extremes. If interior or exterior shutters are present, they should be retained, preserved, and used as they were historically.

Recommended	Not Recommended
Interior Features	
Retaining historic interior shutters and transoms for their inherent energy conserving features.	Removing historic interior features which play a secondary energy conserving role.
New Additions to Historic Buildings	
Placing new additions that have an energy conserving function such as a solar greenhouse on non-character-defining elevations.	Installing new additions such as multi-story solar greenhouse additions which obscure, damage, or destroy character-defining features.
Mechanical Systems	
Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements.	Replacing existing mechanical systems that could be repaired for continued use.

This decorative cast-iron vent serves a useful passive energy conservation function by allowing air to circulate at basement level.