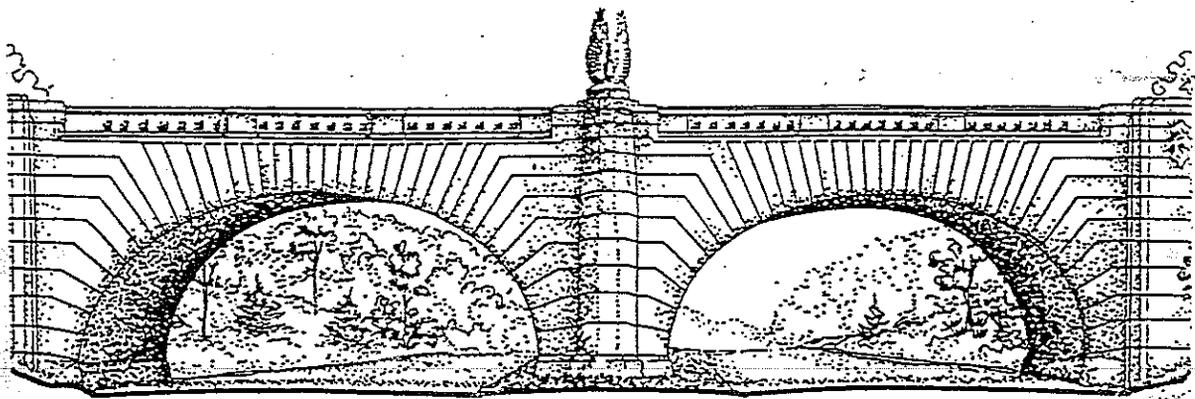


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MERRITT PARKWAY GUIDELINES

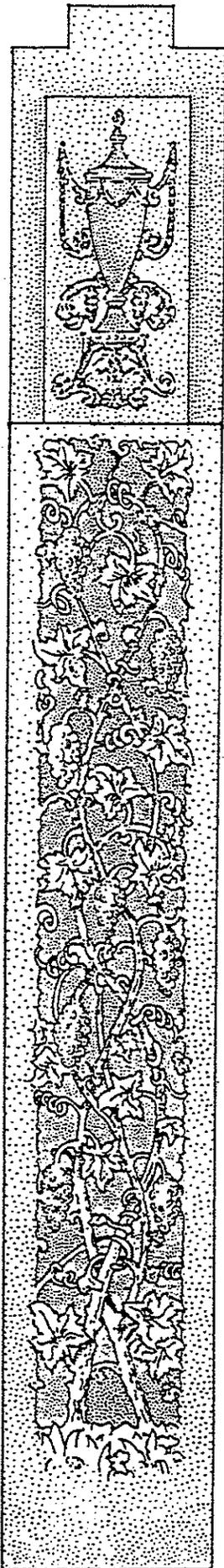
For
General Maintenance
and
Transportation Improvements



Prepared by:
The Merritt Parkway Working Group
June 1994

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"There is no more beautiful or more scenic parkway in America. See to it that it is preserved in its pristine beauty and glory."

*Governor Wilbur Cross
1938*

"I would suggest that highways can still be constructed in this way for preserving the natural beauty. There's no reason why they can't be utilitarian and beautiful . . . Now you answer me honestly, has anything been built in or out of our state as beautiful as the Merritt Parkway? With its lack of advertising, billboards, its plantings, its median strip, with its particular structure and architecture, it's a thing of great beauty."

*Governor Lowell Weicker
1993*

Introduction

Overview

The Merritt Parkway was constructed in the 1930s to alleviate congestion problems on the Old Post Road (U.S. 1) and to open Fairfield County to broader settlement and development. It was Connecticut's first parkway. When it opened in 1940, the Merritt was noted for the innovative approach used in the engineering of the roadway and for its unique bridge architecture. Today, as in the past, the Merritt Parkway continues to be appreciated for its park-like setting, its majestic bridges, and its scenic landscaping. These are the major elements of its unique character.

The Merritt Parkway, originally constructed through areas which were predominantly farm land, offered a variety of splendid vistas in the early years: rolling hills, sprawling fields, an occasional rustic farm house. Over time, however, the overall landscape of the Parkway has matured and changed. The Parkway's dense tree cover now largely hides the homes, offices, and shopping centers that have developed around it. Traffic on the Parkway, while once relatively light, now averages more than 50,000 cars a day.

In early 1992, Emil Frankel, Commissioner of the Connecticut Department of Transportation, created the Merritt Parkway Working Group. The Working Group is comprised of members from within the Department of Transportation who represent the areas of engineering, traffic, landscape design, maintenance, construction, and planning; and outside experts who represent the fields of architecture, landscape architecture, and preservation.

The overall purpose of the Working Group has been to advise the Commissioner of Transportation of ways in which the unique character of the Merritt Parkway can be preserved and enhanced, while continuing to maintain this important transportation artery as a safe and efficient roadway.

An important goal of the Group has been to establish the premise that the Parkway is a distinct type of roadway, having an aesthetic as well as a transportation function, and should not necessarily receive the same type of treatments as Connecticut's expressways, particularly in the areas of design and landscape. All of the elements of the roadway, including the landscaping, bridge architecture, signs, guiderails, grass shoulders, curbing, rest area lighting, etc., are parts of the Merritt's character and should be viewed in a parkway context.

The Working Group has been meeting on a monthly basis to discuss the major issues facing the Parkway. The exchange of ideas about how aesthetics, safety, and operational efficiency can be balanced within the context of the Parkway has proved to be a learning experience for all the members of the group.

The Working Group has made no review of, nor judgements about, the operational future of the Merritt Parkway. However, the group has observed that the Parkway's future, as it relates to its capacity to carry vehicles, cannot be separated from the land uses that are allowed, or encouraged, by local zoning entities and towns. The Group noted that the pressures for an expanded transportation facility and the desire for increased local development are not separate and unrelated. Quite the contrary: they are inextricably linked. As a result of these factors, the future of the Merritt Parkway will be determined as much by the incremental decisions of the towns through which it passes as by the Department of Transportation and the rest of the State.

A central question raised in any discussion of the Merritt Parkway is whether it should be primarily a transportation artery or primarily a beautiful place. The Working Group strongly supported the view, as did those who had conceived the roadway, that both can be accommodated. The Working Group expects that more attention will be given to enhancing the Parkway as a beautiful place, within the context of what the road and the surrounding areas are today. The Parkway will not be again exactly what it was when it first opened. Too much of the surrounding landscape has changed. However, the Merritt Parkway may be enhanced, if focus is given to the possibilities that do exist to maintain and improve its unique aesthetic character.

The Working Group strongly urges that a deep sense of commitment, a high level of energy, and ample resources be devoted to this end.

Public Review

This document represents the Merritt Parkway Working Group's recommendations on how the Department of Transportation can better manage and enhance this important State resource. The Working Group recognized the importance of public input and encouraged the public's review and comment on the proposals presented in the draft document. In an effort to obtain this public input a draft of this document was made available for public review and comment to an extensive mailing list which included Fairfield County's State Legislators, all first officials and public libraries within Fairfield County and the Towns of New Haven, Orange and Milford, as well as the Greater Bridgeport and South Western Regional Planning Organizations. Copies of the document were also sent to local Historical Commissions within Fairfield County and various other groups and individuals who had previously expressed an interest in the Merritt Parkway.

Two public informational meetings were held to discuss the proposals presented in the draft document. The first meeting was held on October 13, 1993 in Trumbull and the second meeting was held on October 20, 1993 in Stamford. Notification of these meetings was made through news releases and display advertisements in major daily and weekly newspaper publications within Fairfield County. In addition, separate meetings were held to discuss the draft Guidelines, with representatives from the Connecticut Chapter of the American Society of Landscape Architects, the Connecticut Historical Commission and the Connecticut Trust for Historic Preservation.

As a result of this public review process, numerous comments were received regarding the Merritt Parkway. All comments received were reviewed by the Merritt Parkway Working Group and major areas of concern relative to the proposed Guidelines were identified and addressed. The areas of major concern which were expressed by numerous individuals include:

- 1) The excessive speeds on the Parkway and the need to increase State Police enforcement of the speed limit.
- 2) The use of the Parkway by trucks and vehicles with combination plates.
- 3) The need to develop special design standards for Parkways.
- 4) The need to legislatively establish a Merritt Parkway Commission.
- 5) The specific plant materials proposed.

- 6) The guiderail systems being used on the Parkway.
- 7) The placement, color and size of signs along the Parkway.
- 8) The need to strengthen the public review and Department decision-making process relative to proposed projects and exceptions to Guidelines.

As these subjects were repeatedly noted, a separate section to address these concerns has been included in this final document (Section VIII. Response to Major Concerns).

Issue Areas

There are several elements of the character of the Merritt Parkway where engineering and operational factors interact with aesthetic enhancement goals. Five broad areas received particular attention from the Working Group. These areas included highway design standards, the landscape, the bridges, the median, and the roadside area. In each of these areas, critical issues were defined and discussed, guidelines were developed, and recommendations were made on how to proceed.

The following are some of the major issues that were identified in these areas:

o Design standards. AASHTO (American Association of State Highway and Transportation Officials) engineering standards for expressways serve as the reference point for the design of all Parkway work, although the Department seeks exceptions on a case-by-case basis. While the National Park Service has developed a draft for park road standards (which have informed the group's discussions), no generally accepted parkway standards currently exist, although many efforts appear to be in the early stages.

o The landscape. The landscape is a central element of the Parkway's unique character. Resources have not been available for some time to afford an overall landscape approach. The original plantings on the Parkway are now more than fifty years old. The bridges have been hidden by overgrowth, and vines have covered trees in many areas. While in stark contrast, portions of the roadway where modern interchanges have been constructed are still largely bare.

o The bridges. The bridges contribute greatly to the aesthetic character of the Parkway. Many of these rigid frame, concrete and/or steel structures are more than fifty years old. Maintaining them, restoring architectural detail, and replicating structures where deterioration is extensive is a great challenge.

o The median. Hazardous traffic conditions limit the maintenance of the grass and plantings in the median areas. The trees in the median have grown to or beyond maturity and have grown into the surrounding beam rail. Cross-over accidents have necessitated the installation of guide rail. A central challenge now is how to maintain a "green" median that is aesthetically acceptable, but which also protects the motorist from median hazards and cross-over accidents.

o The roadside area. Numerous trees have grown to maturity only a short distance from the travelway posing potential hazards. Guide rail has been installed to protect motorists from roadside hazards, including trees and rock ledge. The signing in the roadside area has also been a concern. The grass area

adjacent to the roadway not only creates the park like setting for the roadway, it also provides a safe area for vehicle breakdowns and should be maintained.

These are the major issues in five important areas. In addition, the group spent considerable time discussing the design of signs and facilities.

As stated, most of the Group's work focused on the drafting of these Guidelines which have been recommended to and adopted by the Commissioner as a definitive guide for the Department planners, designers, maintainers, and the construction, traffic, and facilities personnel involved in day-to-day work on the Parkway. The Group also recommended ideas to the Commissioner, for enhancing the Parkway's scenic and historic character over time.

Many of the recommendations for enhancement were approved by the Commissioner and the Department is currently undertaking several activities which may lead to further revision of these Guidelines, including: 1) a Landscape Master Plan (completion anticipated in Fall 94), which may affect the landscape Guidelines; 2) a Bridge Conservation Plan (Spring 95), which may affect the design and bridge sections of the Guidelines; and 3) a study of alternative guiderail systems for scenic and historic roads (Summer 94), which may affect relevant portions of the design Guidelines.

Acknowledgements

Many individuals have contributed to this effort. They include the members of the Working Group from outside State government with various areas of expertise: Nancy Campbell (preservation), Herbert Newman (architecture), Shavaun Towers (landscape architecture), and Jacqueline Salame (preservation); the members of the Working Group from the Connecticut Department of Transportation: Emil Frankel, Commissioner of Transportation; James Sullivan, Deputy Commissioner, Bureau of Engineering and Highway Operations; Peter S. Szabo, Deputy Commissioner, Bureau of Policy and Planning; Carl Bard, Executive Assistant, Bureau of Engineering and Highway Operations; Norman Hanibal, Maintenance District Manager, Bureau of Engineering and Highway Operations; Paul Breen, Assistant District Engineer, Bureau of Engineering and Highway Operations; Brad Smith, Manager of State Design, Bureau of Engineering and Highway Operations; William Bonaminio, Landscape Designer, Bureau of Engineering and Highway Operations; Walter Coughlin, Manager of Traffic Engineering, Bureau of Engineering and Highway Operations; Maribeth Demma, Assistant Planning Director, Bureau of Policy and Planning; Arthur Keating, Director of Property and Facilities Services, Bureau of Finance and Administration; and from the Federal Highway Administration: Gary Hamby, former Division Administrator for Connecticut, and David Price, Assistant Division Administrator.

Important contributions have also been made by others from the Federal Highway Administration, Connecticut Division Office, and from the Federal Highway Administration in Washington, including the Federal Lands Highway Office; the National Park Service; the National Park Service Historic American Building Survey/Historic American Engineering Record team which documented the Merritt Parkway in the summer of 1992; the Merritt Parkway Advisory Committee; the State Historic Preservation Office, the Connecticut Trust for Historic Preservation, and the Connecticut Chapter of the American Society of Landscape Architects.

History

On July 1, 1934, Oscar Tuthill, the First Selectman of Greenwich, turned a spade of earth at King Street near the Connecticut-New York border to begin construction of the Merritt Parkway, which was among the first parkways in the nation and the first median-divided, limited-access highway in Connecticut. (Its name was changed from Merritt Highway to Merritt Parkway one year after construction began.) On September 2, 1940, just over six years later, the final section of the roadway was completed and the entire Parkway opened to traffic.

Built at a total cost of approximately \$21 million, the 38-mile roadway stretches across Fairfield County from the Town of Greenwich to the Housatonic River in the Town of Stratford. The stately, and neatly landscaped parkway, connects the Hutchinson River Parkway at the New York state line with the Wilbur Cross Parkway at Stratford. Together, the Merritt and Wilbur Cross Parkways form part of Route 15 in Connecticut.

Described by one historian as "one of the most beautiful and best-engineered highways of the time," the Parkway was named in honor of Schuyler Merritt, the prominent Stamford resident and distinguished nine-term Congressman who spearheaded the drive to get the State Legislature to authorize the financing necessary to build a new inland highway parallel to Route 1. Following World War I, traffic along Route 1 (also known from colonial days as the Boston Post Road) increased at a very rapid pace and caused a related rise in traffic accidents and fatalities. Local motorists and long distance travelers were forced to compete for the same highway space. Drivers could move only at slow speeds. Merchants in communities along the route were upset because their customers were unable to find convenient parking.

The growth of traffic caused by the increased use of passenger cars and trucks created greater traffic problems along Route 1, which had also become the main truck route between the port of New York and the industrial centers of Connecticut and other New England states. A number of plans for alternate routes were implemented or studied by the Regional Plan Association, the Fairfield County Planning Association, and the Connecticut State Highway Department beginning in 1923, in an effort to ease "bottlenecks" and relieve congestion along the Boston Post Road and to spur the development of Fairfield County.

In 1925, the so-called "Parallel Post Road" plan attracted increased public support and won endorsement from Governor John Trumbull. Fairfield County Legislators introduced four bills to the General Assembly that year to build a new highway, but no action was taken. During the next three legislative sessions, several bills were introduced to the General Assembly which dealt with the construction of a highway

General Assembly which dealt with the construction of a highway through Fairfield County. However, no additional State appropriations, beyond those in the yearly budget were made available for the highway's construction. It was the 1930-31 session of the Legislature that passed three key bills affecting the future of what was then know as the Merritt Highway. In early May 1931, Bill 660 was passed which directed the Highway Commissioner to layout a highway from Stratford to Greenwich. Towards the end of May, two additional bills passed, one appropriating \$1 million to purchase right-of-way and begin preliminary construction of the highway, and another creating the Merritt Highway Commission. The Commission consisted of nine members which were appointed by the Governor to control the use of the road after its completion.

Despite the \$1 million appropriation made in 1931, work on the Merritt proceeded slowly in the following years through "pay-as-you-go" financing. In 1934, the State received two Public Works Administration grants totalling \$438,077 for grading and bridges along 7 miles of the highway in Greenwich and Trumbull. The following year, the General Assembly granted authority to Fairfield County to issue \$15 million in bonds to complete the highway's construction.

The original plans called for the new highway to tie-in with the widened Route 1 at the Washington Bridge over the Housatonic River between Stratford and Milford. However, further legislation was passed changing the path of the Merritt Parkway to its present course over the Housatonic River Bridge. Access was provided over the length of the Parkway by twenty major roadway crossings with short on/off ramps.

The first construction contract, involving a three and one-half mile section of highway between King Street and Round Hill Road in Greenwich, was awarded to the firm of Peter Mitchell, Inc. of Riverside in Greenwich. The cost was \$714,131.

A direct product of a period in American road building history when there was a great deal of interest in linking urbanized regions with graceful highways set in natural surroundings, the Merritt Parkway quickly emerged as a national model. To insure a natural parkway appearance, long, gradual vertical curves were designed with maximum 7 percent grades and forty-six horizontal curves were designed with 1.5 to 7 degree arcs over the length of the Parkway. Rock cuts were rounded and landscaped to produce a natural setting. The Merritt Parkway's designers attempted to integrate the traveled way into the roadside, and its surroundings. The landscaping of the Parkway followed closely upon construction, attempting to heal the scars of construction.

The travel portion of the Merritt Parkway encompasses two lanes in each direction separated by a landscaped dividing strip. Prior to the start of construction, the route was marked by landscape engineers to protect all trees not actually in the path of construction. Trained foresters supervised the logging operations of the road building contractors. Thayer Chase, the Connecticut Highway Department landscape architect for the Parkway, prepared the planting plans, giving primary consideration to the use of plants native to the Connecticut countryside. In his landscape design scheme for the median and side slopes, Chase used mountain laurel, white birch, cedars, dogwoods, oaks, and other native materials. Provisions for proper sight lines and the elimination of cross-headlight glare in the median were given special attention as well. A host of vistas occurred over the length of the Parkway and afforded motorists views of the beautiful countryside.

Six decades later, millions of motorists from all over the nation still enjoy the scenic beauty of the Parkway, especially its brilliant spring displays and its rich autumn foliage.

In addition to the roadside beauty that can be viewed while driving along the Merritt Parkway, motorists also are treated to a unique exhibition of ornamental bridges. These structures were the creation of George Dunkelberger, the innovative bridge designer and architect employed by the Connecticut Highway Department. The bridges originally 72 in number, with 35 carrying the Parkway under intersecting roads and railroad tracks and 37 carrying the Parkway over intersecting roads and rivers, were designed primarily in the Art Moderne and Art Deco styles with no two alike.

It is important to note that while the design schemes were being created for these bridges, the architect was faced with the economic reality of the Depression. Tough times demanded that Dunkelberger control construction costs and heightened the challenge of trying to create a series of bridges that were neither ordinary nor identical. The nature of their rigid frame construction, engineered for strengths far beyond what was needed for commercial loads at the time, accounts largely for the appearance of the bridges. But the variety of individual detail comes from the resourceful architectural talent of the bridge designer.

In the fifty years since the Parkway's completion, three of the original bridges have been replaced and a number of others have been altered in response to needed maintenance and repair.

While over the years the Merritt Parkway has experienced incremental changes, it still remains one of the most stunning of this Department's many achievements. Its constantly changing geometry, its unique and beautiful bridges, and its park-like setting all contribute to the Merritt Parkway's special character. In 1991, the Parkway was listed on the National Register of Historic Places, a statement that it is a nationally recognized cultural resource, in addition to being a valued part of Connecticut's heritage and a critical transportation facility for the southwestern part of the State. In early 1992, the Parkway was designate as a State Scenic Road, further highlighting its importance to Connecticut's character.

In the summer of 1992, a team from the National Park Service came to Connecticut to study and prepare documentation on the history of the Merritt Parkway. The team, from the Park Service's Historic American Building Survey and Historic American Engineering Record (HABS/HAER) offices, carefully documented the planning, politics, bridge and roadway design, landscape design, and construction of the Merritt Parkway. The work of the HABS/HAER team represents the most comprehensive study ever conducted of the Parkway's history.

The completed document which includes numerous historic and contemporary photographs has been placed in the U.S. Library of Congress. A copy of this document is also available for review at the Library of the Department's Administrative Office Building in Newington.

Operational Statistics

Its park like environment and unique ornamental bridges not withstanding, the Merritt Parkway was originally designed and has continued to function as a key component of the State's transportation system, especially within the State's southwest corridor. When the Parkway was conceived and design work undertaken during the early to mid 1930s, design-hour volumes, design speeds, and geometric design standards were significantly different from current American Association of State Highway and Transportation Officials (AASHTO), Federal Highway Administration (FHWA), and Connecticut Department of Transportation (ConnDOT) standards. The original designers engineered the road for a more relaxed time; they never envisioned 70 mile per hour (mph) speeds or Average Daily Traffic (ADT) volumes exceeding 60,000 vehicles per day (vpd) in some sections of the Parkway, or the level of congestion that occurs on a daily basis during the morning and evening peak commuter periods. The following Tables present a statistical sketch of the traffic operations on the Merritt Parkway.

I. Average Daily Traffic Volumes (ADT)*

<u>Year</u>	Greenwich*	Trumbull/Fairfield**
1940	15,422	n.a.
1945	8,081	n.a.
1950	23,713	n.a.
1955	32,041	n.a.
1960	20,781***	n.a.
1965	21,039	n.a.
1970	23,014	n.a.
1972	21,559	35,800
1976	21,500	34,900
1980	22,900	39,300
1984	27,500	47,700
1988	31,100	56,100
1992	39,800	58,900

Percentage increase 1992 over 1972: 85 percent

*Measured at (former) Greenwich toll location

**Measured at Exit 47

***Connecticut Turnpike opened January 1, 1958

II. Speed

Eastbound

	<u>1980</u>		<u>1993</u>	
	Avg.	85%*	Avg.	85%
Greenwich	55.8	59.0	61.8	66.3
New Canaan	55.9	60.8	60.0	64.1
Fairfield	57.8	62.5	62.8	66.7
Stratford	55.1	60.8	64.1	68.4

*85% means that 15% of traffic is travelling faster than the given figure.

Westbound

	<u>1980</u>		<u>1993</u>	
	Avg.	85%	Avg.	85%
Greenwich	55.3	59.8	62.8	66.9
New Canaan	58.5	63.3	63.7	68.0
Fairfield	56.5	62.0	62.5	67.0
Stratford	58.1	63.3	61.5	67.0

III. Accidents and Fatalities

Merritt Parkway

Year	Fatal Accidents	# Fatalities	Injury Accidents	# Injuries	Total Accidents
1989	7	8	366	487	1230
1990	6	6	346	447	1141
1991	6	7	343	483	1070
1992	4	5	363	485	1087
Total	23	26	1418	1902	4528

For 1986 through 1990 there was...

- One accident every eight hours
- One injury every 20 hours
- One fatality every 52 days
- One tree hit every nine days
- One rear-end accident every 14 hours
- One side-swipe accident every three days
- One guide rail hit every 36 hours

IV. Accident and Fatality Rates - Merritt Parkway vs. I-95

	Merritt Parkway		I-95	
	Accident Rate*	Fatality Rate*	Accident Rate	Fatality Rate
1988	199.5	0.81	247.5	0.75
1989	197.8	1.29	200.0	0.74
1990	182.0	0.96	207.8	0.58
1991	169.0	1.10	187.6	0.14
1992	171.5	0.79	169.0	0.57

*Per 100 million vehicle miles of travel

As shown on the preceding Tables, traffic volumes on the roadway have increased significantly since its opening in 1940. While the opening of the Connecticut Turnpike in 1958 stemmed the growth in traffic, volumes expanded rapidly in the 1980s. Prevailing speeds also increased in the 1980s. Both speeds and volumes exceed what originally anticipated by the Parkway's designers. While the Department continually attempts to address dangerous conditions on the Merritt, accidents and fatalities are still numerous: for the period 1986 through 1990 there was one fatality every 52 days and one accident every eight hours. Accident rates are lower on the Merritt Parkway than on I-95, however, fatality rates are higher.

In addition, in evaluating the design of the Merritt Parkway, it becomes clear that the standards employed by the Connecticut Highway Department (predecessor to the Connecticut Department of Transportation) in designing the Merritt Parkway were significantly different than the currently used 60 mph minimum and 70 mph desirable design speed that is generally used for most current upgrading of limited access highways, including the Merritt Parkway. While some of the main-line geometry of the Parkway approaches current minimum design standards relative to general horizontal and vertical alignment, there are numerous sections of the Parkway that fall short of these standards, most notably, the median design, lateral clearances, and many of the unimproved interchanges.

The Guidelines articulated in the following sections of this document will allow the unique character of the Merritt Parkway to be preserved and enhanced while continuing to improve the safety and efficiency of this important transportation artery.

Guidelines

I. Landscaping

Objective: The natural landscape is a central element of the unique character of the Merritt Parkway. The objective for landscaping the Parkway is to restore and maintain a naturalistic and park-like landscape within the entire right-of-way that is consistent with the vision of the Parkway's original landscape architect: Integrating the Parkway into the surrounding landscape and creating a progression of individual and changing vistas.

A. General

1. All landscape work shall follow the design and maintenance practices outlined in this Section until such time that the Merritt Parkway Landscape Master Plan, which is currently being undertaken, is adopted. Adoption of the Landscape Master Plan is anticipated by the Fall of 1994. Upon adoption of the Landscape Master Plan, these Guidelines will be revised to reflect its recommendations.
2. Landscaping plans shall be required as part of any improvement project and must be compatible with Landscaping Guidelines for the Parkway.
3. Landscape design shall be approved by the Facilities and Landscape Design Unit.

B. Plant Materials and Installation

1. All new plantings shall be sited naturalistically, in small groups or clumps, with occasional single specimens, not in straight lines. Materials of varying height shall be used.
2. Plant materials to be used along the Parkway shall be selected from the recommended species list contained in Appendix A.
3. Use species selected for site specific soils, micro climate, exposure and ecosystem association.
4. Use a full pallet of understory plants.
5. Use chloride and ozone-tolerant plants close to the roadway.

6. Use wood chip or shredded bark mulch on all initial plantings to retard weed growth and retain moisture, but such mulch shall not be renewed.
7. Prior to new planting, remove weed trees and volunteer growth.

C. Roadside

1. Combine large shrubs, flowering trees, shade trees, low growing grasses and wildflowers to reduce mowing.
2. Ornamental and small flowering trees should be planted in non-linear groups for maximum effect.
3. Shade trees should be planted in groups of mixed species as they might naturally grow. These trees shall be planted beyond a safe distance from the travelway or the deflection distance of guide railing.
4. Unless a view corridor is specifically desired, use landscaping to screen buildings adjacent to right of way from Parkway travelers.

D. Median

1. The planted median is an important element of the Parkway's design. Use plantings, such as shrubs and ground cover, for headlight screening and reduced maintenance, particularly in center island areas. Retain originally designed scheme of understory and canopy trees. When deflection distances require, plant with multi-stemmed and/or small calipered species.

E. Bridge Abutments

1. The entire bridge structure is an important element of the Parkway's character. Design and maintain plantings so they do not obstruct views of the structure's abutments. For example, use larger type species at top of slope and lower species for toe of slope and continually remove volunteer growth.

II. Design

Objective: The Merritt Parkway is one of Connecticut's most important cultural and historic resources. The character of this roadway is defined by the aggregation of numerous elements. While safety of travel must be insured, designers should view the details of design decisions as opportunities to maintain and enhance the Parkway's aesthetics.

A. Design Approach

1. Design for projects on the Parkway will respect the scenic and historic character of the road by following the various Guidelines in this document, as well as established AASHTO standards, and by documenting and seeking exceptions to AASHTO standards on a case-by-case basis.

B. Roadside and Median Areas

1. Protection devices to guard against collisions with man-made fixed objects, such as bridge piers and abutments and culvert endwalls, and to prevent vehicle crossover accidents shall follow guidance on guiderail treatments contained in Section II.C.
2. Trees. An adequate vehicle recovery area should be provided adjacent to the travelway. Review of run-off-the road accidents is required before trees are removed. The position of the tree to other surrounding trees and obstacles, as well as the condition and species of the tree should also be considered. After a careful review of accident history, roadway alignment, embankment geometry, etc., trees may be retained without guide rail. A tree, or group of trees, in a vulnerable location which aesthetically cannot be removed, can be protected by a properly designed barrier provided the severity of striking the barrier is less than striking the tree. Within median area sufficient deflection distance shall be provided between guiderail and any tree.
3. Pull-off areas. The provision of pockets of clearing to allow grass areas for disabled vehicles and enforcement actions to pull safely off the travelway are highly desirable. There are many such areas presently on the roadway. They should be maintained.

4. Rock ledge. Rock cuts close to the travelway must be evaluated, and shielded if their potential for snagging, pocketing, or overturning a vehicle is high. Guiderail or concrete barriers should be used only after a careful analysis of all other methods of protection, including careful, naturalistic cut back of rock face. If rock face is cut back, every effort should be made to make drill markings indiscernible. Where concrete barrier is required, it should be tinted to more nearly match the color of the surroundings (i.e., dark brown or grey).

C. Guiderail

1. The Department is presently studying various alternative guiderail systems for possible use on scenic or historic roads. The Department will consider using such a system on the Merritt Parkway. Alternatives being considered include: 1) "rusted" metal/rail on "rusted" metal posts, 2) "rusted" metal rail on wood posts, 3) painted rail (green) on painted posts (green), 4) painted rail (brown) on wood posts, 5) painted box beam (gray) on metal posts, 6) galvanized box beam on metal posts, 7) steel-backed wooden rail on wood posts, and 8) steel-backed wooden rail on "rusted" metal posts. The Department has also initiated formal testing of the steel backed wooden rail on metal posts with curbing options.

For the narrow median areas of the Merritt Parkway additional barrier options are being studied, including a concrete barrier with architectural treatment and a concrete barrier with a stone fence-like facade.

2. Until the studies and testing noted above are completed and these Guidelines are revised to reflect the recommendations, galvanized Box Beam guiderail on metal posts or standard precast concrete barriers shall be used on the Parkway.
3. Along roadside areas, galvanized Box Beam on metal posts shall be utilized where guiderail is required.

4. In median areas of sufficient width galvanized Box Beam guiderail shall be utilized. This guiderail shall be placed along both edges of median rather than a single run down the center of the median. In narrow median areas, standard precast concrete barriers shall be used.

D. Curbing and Drainage

1. Park curbing shall be utilized where required for drainage purposes. The curbing will have a maximum height of 4" and shall be concrete. Curbing along the edges of the median is desirable as it serves to delineate median from travelway.
2. Many of the existing catch basins are offset from the curb line which, along with the narrow one foot gutter strip causes flooding in the travelway during heavy rainfalls. These inlets should be reset and the curbing and pavement extended in a smooth transition to include the setback basins.
3. Hydraulic capacities of existing cross culverts should be analyzed as part of any improvements to prevent flooding.

E. Pavement

1. It is important that uniform support be provided beneath any type of pavement structure.
2. Paving is to be accomplished in accordance with current Department standards. The drainage appurtenances and curbing installation will be accomplished as required by these Guidelines. Care shall be taken, during repaving operations, not to increase the width of the existing paved surface.

F. Shoulders

1. The present Parkway consists of 26 feet of concrete pavement, or bituminous overlay, and grass shoulders in most areas. In several areas, the paved shoulders were widened to open up the inlets to the catch basins in conjunction with resurfacing improvements. In the interest of safety and improved incident management, consideration should be given to providing additional grass shoulder areas.

G. Utilities

1. Whenever bridge reconstruction or rehabilitation projects are undertaken, utilities should be relocated underground or in the structure.

H. Noise Walls

1. Noise abatement structures shall not be constructed along the Parkway.

I. Right of Way

1. The Department shall maintain ownership of all land within the current Parkway right of way, including interchange areas.
2. All lease and/or easement requests for property within the Parkway right of way shall be reviewed by the Scenic Road Advisory Committee, the Merritt Parkway Advisory Committee, and the Department's Chief Engineer to determine whether proposed action associated with such request will have an impact on the character of the Parkway. Requests which will have an impact shall not be approved by the Department.

III. Bridges

Objective: The bridges, both overpasses and underpasses, are a central component of the unique character of the Merritt Parkway. While the bridges on most other parkways are made of stone, those on the Merritt are nearly all made of concrete, employing Art Moderne, Art Deco and other styles, and often making playful and celebratory statements with their details. The bridges are a unique man-made resource and represent one of this Department's greatest achievements in design and construction. Designers should use bridge projects as opportunities to restore and maintain original treatments of the bridges.

A. General

1. All work undertaken on the Parkway's bridges shall follow the design and rehabilitation principles and practices outlined in this section, until such time that the Merritt Parkway Bridge Conservation Plan is completed. The Bridge Conservation Plan should be completed by Spring 1995, at which time these Guidelines will be revised to reflect the Plan's recommendations.
2. Prior to any bridge rehabilitation/replication actions, designers shall review in detail the bridge's original construction plans and the bridge reports developed by the Historic American Buildings/Historic American Engineering Record (HABS/HAER) study team. These documents shall direct the project's development. The original construction plans are on file in the Department's Map File Section located at Pascone Place in Newington and the HABS/HAER documentation on the Merritt and its bridges can be reviewed in the Library of the Department's Headquarters in Newington.
3. All work undertaken on the bridges shall be performed in accordance with the Secretary of Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings." (See Appendix B).
4. Preservation of original material/details shall always first be considered.
5. When preservation of original materials and details is determined not feasible, replication of forms, textures, colors and other visual qualities is mandated.

6. The spatial relationship and proportions between bridge and roadways shall be maintained under any bridge rehabilitation/replication plan.
7. Temporary removal of ornamental features shall be considered prior to rehabilitation. Record photos and field measurements shall be performed prior to removal to assure correct replacement.
8. Metal surfaces shall be kept painted to minimize rust. When painting of a structure's entire metal surface is proposed, efforts to determine original color(s) shall be undertaken. These efforts shall include review of HABS/HAER documentation and, if necessary, material analysis. If treatment is required to remove rust and prior paint, techniques which would be the least damaging to the surfaces shall be used and the adjacent concrete sections shall be protected.
9. Removal of graffiti from bridges shall be accomplished within a two week time period. The removal method shall be the least destructive to the original fabric. If covering the graffiti with a coating is required, the coating shall match the color and texture of the existing finish of the bridge.

B. Patch and Repair of Concrete and Metal Surfaces
(Minor Rehabilitation)

1. Minor repair and cleaning of concrete should follow accepted historic masonry guidelines.
2. Cleaning of concrete should avoid using high-pressure water spray and strong chemicals (acidic cleaning agents will affect the surface of limestone, marble, and concrete).
3. Abrasive cleaning techniques such as sand-blasting, surface grinding, or wire brushes are destructive and should not be used.
4. Moisture problems should be addressed by insuring adequate roadway drainage, well-maintained pointing, and repair of surface cracks.
5. The use of waterproof coatings shall be avoided.

C. Parapet Replacement/Replication (Intermediate Rehabilitation)

1. The designed effect of light passing through bridge parapets is an important aesthetic element and should be preserved.
2. When preservation of existing parapets is not feasible, the original design and effect shall be replicated. If required, the parapets shall be protected with the least visually obstructive guiderail system, keeping in mind the volume and speeds of traffic crossing the bridge and the need for safe transitions with any existing rail systems on the approach roadways to the structure.

D. Deck or Superstructure Replacement/Replication (Major Rehabilitation)

1. Structural forms, such as the shape of an arched opening, shall be carefully repaired or remolded, including all details such as scoring and bevels.
2. The proper concrete color for surfaces, including decorative mixes, shall be determined through well-cured test batches using different mineral pigments.
3. The proper concrete texture for surfaces, including decorative treatments, shall be determined through float sampling.
4. The replacement superstructure shall replicate the dimension and appearance of the original bridge from all views. This does not preclude the use of pre-cast concrete sections. If pre-cast sections are used, they shall be cast to conform to the shape and dimension of the original superstructure and leave no evidence of false work.

E. Total Bridge Replacement

1. Original architectural fabric or ornamentation shall be salvaged and reused in the new structure's design.
2. When the total replacement of a bridge is required, the new structure shall maintain the appearance of the original structure's proportion, horizontal and vertical dimension, as well as its forms, textures, colors and architectural detail.

F. New Bridge Construction

1. The design of any new bridge on the Merritt Parkway should be as unobtrusive as possible, and complement the Parkway's aesthetic character.
2. The State Historic Preservation Officer (SHPO) and the Advisory Council On Historic Preservation (ACHP) shall be consulted with in determining the appropriate design for any new bridge.
3. Early in the preliminary design phase, bridge concepts under consideration shall be reviewed by the Scenic Road Advisory Committee and the Merritt Parkway Working Group.

IV. Facilities

Objective: Facilities on the Merritt Parkway include service areas, maintenance garages and salt sheds. As this is a parkway, it is important that these structures blend in with the natural environment. Designers should seek to preserve, restore and enhance the historic and/or aesthetic appearance of these facilities and to insure that any new facilities are compatible with the character of the Merritt Parkway. It is noted that the primary purpose of the Merritt Parkway service areas is to provide necessary services to motorists using the Parkway.

A. General

1. Any structural improvements or additions to existing historic buildings must be accomplished in accordance with the Secretary of Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings." (See Appendix B).
2. All site plans for improvements shall incorporate the same roadway appurtenances specified in the Design Section of this report, unless deviation results in a more aesthetically compatible treatment.

B. Service Areas

1. When alterations or expansion of a service area is determined necessary by the Department, architectural plans shall be compatible with the original design for the facility. Particular attention shall be given to the treatment of architecturally sensitive features, such as canopies.
2. When expansion of parking areas is determined necessary, the design for such improvements shall be accomplished in a manner which will shield these areas from the view of the motoring public.
3. Improvements to the illumination of the service areas shall incorporate lighting fixtures which are compatible with the character of the Parkway, and designed to minimize glare to motorists.

C. Maintenance Garages and Salt Sheds

1. The architectural design of new maintenance garages and any auxiliary buildings shall be compatible with the overall character of the Parkway.
2. Rehabilitation of existing maintenance garages shall employ architectural features which enhance the facility's compatibility with the Parkway's character.
3. The Department's standard architectural design for salt sheds shall be enhanced to be less visible/intrusive and more compatible with the Parkway's character and the character of existing neighborhoods.
4. Maintenance Facilities shall be appropriately screened from the view of the Parkway and adjacent residential areas.
5. Landscaping plans shall be required as part of any major improvement project. These plans must be compatible with the Landscaping Guidelines for the Parkway.

V. Traffic Control

Objective: Traffic controls on the Merritt Parkway include numerous elements, from signs and sign supports to delineators and pavement markings to signals at the end of exit ramps. Together, these elements have a significant impact on the unique character of the Parkway. Choices with respect to traffic control treatments on the Merritt Parkway should be made with the goal of enhancing the Parkway's aesthetics in mind. Functional needs must be met in the process.

A. General

1. Traffic control devices will respect the scenic and historic character of the road, while following the guidance of the Manual on Uniform Traffic Control Devices and other Federal standards.
2. No new signs shall be added to the Merritt Parkway until after a review for appropriateness is undertaken by the Department's Division of Traffic Engineering.

B. Guide Signs

1. The background color for guide signs shall be Middle Brunswick Green.
2. All signs shall be side-mounted except when specific field conditions absolutely mandate overhead mounting, such as closely spaced successive exits or limited sight distance, or where the impact of the removal of vegetation or rock ledge is not acceptable.
3. All guide sign supports, and the backs of all new guide signs, shall be painted charcoal grey.
4. Legend size shall be 13.33"/10" (u.c./l.c.) in the Stone type face.
5. Side borders of all guide signs shall have a white uniform saw-tooth pattern, with a standard white border at the top and bottom. (See Appendix C).
6. Guide signs will not be mounted within 500 feet prior to a bridge, unless field conditions make this not feasible.

7. Signs for attractions of recreational, cultural or historical interest shall be brown.

C. Regulatory and Warning Signs

1. Regulatory and warning signs shall be mounted on standard galvanized steel sign posts and neither the posts nor the sign backs will be painted.
2. Speed limit signs shall be installed after each entrance ramp and repeated at approximately two-mile intervals.
3. Only special-purpose signs may be installed in the median, e.g., signs warning of median side-depressed catch basins.
4. Signs not directly related to the driving task will not be installed on the Parkway, e.g., Ride Together, sports recognition, town promotional signs.

D. Service Area Signs

1. The background color for service area signs shall be Interstate Blue.
2. Service area signs shall be side-mounted.
3. The signs supports and the backs of the service area signs shall be painted charcoal grey.
4. Legend size shall be 10" capital letters in the Stone type face.
5. Side borders of the service area signs shall have a white uniform saw-tooth pattern, with a standard what border at the top and bottom. (See Appendix C).

E. Town Line Signs

1. The color for town line signs shall be Middle Brunswick Green.
2. All signs shall be side mounted and the backs of all signs and sign supports shall be painted charcoal grey.
3. Signs shall contain only the town's name with a legend size of 8"/6" (u.c./l.c.) in the Stone type face.

4. Side borders of these signs shall have a white uniform saw-tooth pattern. (See Appendix C).

F. Merritt Parkway Trail Blazer and Route Marker Signs

1. The Merritt Parkway Trail Blazer sign will be in the shape of the official State shield (22" x 22").
2. The shield will have a dark blue background with white borders and legend.
3. The shield will feature the words Merritt Parkway with legend size 2"/1½" (u.c./l.c.) in the Stone format, and a stylized white Mountain Laurel, with pink and red highlights and green leaves. (See Appendix C).
4. The standard route marker sign shall be placed below the trail blazer sign.
5. The trail blazer and route marker signs shall be side mounted on standard galvanized steel sign posts, and shall be placed approximately 500 feet after every on-ramp.
6. The trail blazer signs shall be manufactured by the Department's Sign Shop. The Sign Shop should be contacted if specifications are required.

G. Bridge Overpass Signs

1. Signs identifying overpass structures will be mounted adjacent to the roadway immediately prior to the bridge and will not be mounted on the bridge.
2. The color of these signs shall be Middle Brunswick Green.
3. Depending upon length of the overpass or street name, the signs shall be 12" x 60" or 24" x 60".
4. The standard Federal alphabet shall be used as type face.
5. Standard white borders will be used on these signs. (See Appendix C).

H. Variable Message Signs

1. As part of the Department's corridor incident management program, variable message signs are scheduled to be installed by September 30, 1994 at the following five locations along the Merritt Parkway: 1) Northbound west of Silvermine Avenue in Norwalk, 2) Southbound east of Route 33 in Westport, 3) Northbound west of Frenchtown Road in Trumbull, 4) Northbound west of Huntington Road in Stratford and 5) Southbound east of Cutspring Road in Stratford. Beyond the sites noted above, no additional variable message signs will be installed along the Parkway.
2. The variable message signs to be installed shall be approximately 4.5 feet high set on a single post making the maximum height of signs approximately 11.5 feet above the pavement. These signs shall be mounted on the side of the road. The post and the sign shall be colored charcoal grey and the sign shall utilize a glare minimizing plastic covering. The signs shall be positioned among existing plant material and if necessary, landscaping will be employed to soften the visual effect of the signs. The signs shall be operated only when conditions, such as a traffic management situation, dictate.
3. The Office of Traffic shall continue to review new incident management technologies as they are developed to determine if a system, more suitable to the aesthetic character of the Parkway, can be obtained. If a technology develops that would eliminate the signs or further minimize the visual impact on the Parkway, the feasibility of replacing the existing system shall be investigated.

I. Illumination

1. The Parkway is not currently illuminated. Some interchanges have intersecting roads and connecting roadways that are lighted, but the Parkway is unlighted except at ramps at modern interchanges. Service areas are illuminated.
 - a. The Parkway, including interchange areas not currently illuminated, will not be illuminated.

- b. Signs on the Parkway will not be illuminated.
- c. Service areas will continue to be illuminated.

J. Pavement Markings

- 1. Pavement markings will follow normal state practice.

K. Delineation

- 1. Roadside delineators will be placed at normal freeway intervals.
- 2. Colors shall be standard.
- 3. Recessed retro-reflective pavement markers will be used for lane lines only.

L. Traffic Signals

- 1. Green signal heads will be used for all signals installed or replaced at Parkway interchanges.
- 2. Span poles will be selected to be as unobtrusive as possible. Existing utility poles will be used for supports where feasible. Galvanized steel poles will be the standard pole when utility poles are not available and depending upon the setting, either charcoal grey or dark green painted poles will be used when galvanized poles are not appropriate for the environment.

VI. Maintenance

Objective: Over time, daily maintenance decisions and activities can have the most significant influence on the overall character of the Merritt Parkway. Maintenance activities should strive to maintain and enhance the naturalistic character of the Parkway.

A. General

1. Annual and routine maintenance on the Parkway shall follow the maintenance practices outlined in this Section, and as appropriate, those contained in the Landscape and Bridge Sections (Sections I and III) of this document until such time that the Merritt Parkway Landscape Master Plan and Bridge Conservation Plan, which are being undertaken, are completed. The Landscape Master Plan is anticipated by the Fall 1994 and the Bridge Conservation Plan is anticipated by Spring 1995. Upon adoption of these Plans the appropriate section of the Guidelines will be revised to reflect the recommendations of these Plans.
2. Unless directed otherwise by these guidelines, annual and routine maintenance on the Merritt Parkway shall be undertaken in accordance with the Manual of Organization Function and Procedures Policy.

B. Inspection of the Merritt Parkway

1. A maintenance supervisor will regularly patrol the entire Parkway (in each direction) a minimum of once a week. The supervisor shall make observations and note on his or her Weekly Supervisor Report on Deficiencies all deficiencies observed as to location of damaged guide rail, pavement conditions, pavement markings, graffiti, damaged or destroyed signs, brush, grass, tree growth or other obstructions which interfere with a clear view of highway signs and sightlines on curves and ramps.
2. After any adverse weather condition the Parkway will be inspected for washout of shoulders or slopes, blockage of drainage systems and structures, fallen trees or limbs, and during the winter season, sightline problems created by windrows of snow or by drifting.

3. After each inspection, the supervisor shall arrange for immediate corrections on all hazardous conditions. Other defects recorded will be addressed at the following bi-weekly scheduling meeting for repairs.
4. Care shall be taken by the supervisor on this regular patrol to detect any potential situation that could develop into a hazardous or dangerous condition.

C. Cleaning

1. Maintenance crews shall keep the travelway, shoulders, drainage system and structures, and roadside areas clean and free of debris and/or obstruction. This shall include, but not be limited to, branches, dead animals, litter, and any foreign material.

D. Sweeping

1. Immediately after the winter season, roadway sweeping will be performed. Emphasis will be placed on pollution control by applying sufficient moisture so as not to produce dusty conditions and to properly dispose of sand and foreign debris before it can be washed in water courses or become airborne.

E. Drainage

The drainage lies within three main categories:

1. Free flow of natural watercourses through the Parkway right-of-way.
2. Collection of surface runoff to prevent flooding and erosion of shoulders and slopes.
3. The control of subsurface flow to maintain the stability of the roadway.

All three categories will be maintained, cleaned, and/or replaced in like, in an environmentally sound manner to preserve the existing character of the Parkway.

F. Mowing

1. Mowing will be a continuing seasonal activity in strict adherence to the statewide mowing policy

(revised 1991), unless otherwise dictated by the Landscape Master Plan.

G. Graffiti

1. Graffiti will be eradicated from structures within a reasonable time frame, generally a two-week period, except during extended adverse weather conditions. In removal procedure, the least destructive method to original fabric will be used. Every effort will be made to match both color and texture to the existing condition.

H. Tree and Vegetation Removal

1. The District Landscape Technician, or equally qualified person, will develop an annual vegetation control program. The program will address weedy and volunteer undergrowth at the following:
 - a. Median areas.
 - b. Structure abutments, wingwalls and piers.
 - c. Area from ROW line to roadway shoulder line.
2. Selected tree removal or pruning of woody vegetation will only be permitted after being reviewed by the District Landscape Technician, or equally qualified employee, as outlined in the following guidelines:
 - a. The roadway users' sightline is obstructed to warning, regulatory, or directional signs.
 - b. Limbs or branches overhanging the travelway encroach upon the minimum vertical clearance requirement of 16 feet.
 - c. Dead limbs or branches are found on State or privately-owned trees whose limbs overhang the travelway and are deemed hazardous.
 - d. The standard sightline is restricted on the inside of horizontal curves, vertical curves, ramp intersections, or approved crossovers.
 - e. When free flow of water is restricted in drainage channels.

- f. Dead, dying or structurally impaired major trees that are hazardous to the motoring public.

I. Snow and Ice Control

1. The main objective of snow and ice control is to provide an acceptable standard of winter maintenance that will provide reasonably safe roads during and after adverse weather conditions, as outlined in the current Snow and Ice Control Policy. Under no condition will the use of chlorides be allowed other than as specified by policy.

J. Bridge Maintenance

1. Merritt Parkway bridges will be inspected annually by the District Bridge Section and bi-annually by Bridge Safety Unit in accordance with Federal Regulations. The identified deficiencies shall be placed in three categories:
 - a. Corrective maintenance.
 - b. Preventative maintenance.
 - c. Cosmetic treatments.
2. In addressing any of the three categories, Bridge Maintenance will follow Bridge Guidelines (Section III of this document) and standards and procedures articulated in the Bridge Conservation Plan (Spring 1995). No visual changes to the architecture or character of the structure will be made. Every effort will be made to match color and texture and duplicate all falsework or cosmetic work to the structure's original condition.

K. Adopt A Ramp

1. The continuation of the Adopt-a-Ramp Program is temporarily interrupted pending the completion of the Landscape Master Plan for the Parkway.
2. Thereafter, the Adopt-a-Ramp Program shall again be fully encouraged, consistent with the enhanced Guidelines.
3. Existing adopted ramps shall be required to conform to the enhanced Guidelines.

VII. Review Process

Objective: To insure that Department activities on the Merritt Parkway are carried out in accordance with the Guidelines presented in this document, and to provide the many stakeholders in the future of the Parkway the opportunity to be informed about, comment on, and affect improvements proposed for this facility.

A. General

1. The Commissioner shall designate an individual within the Department who shall be assigned the responsibility to review and monitor all work proposed for the Parkway.
2. These Guidelines do not preclude the Federal requirements of project review and coordination with the Office of the State Historic Preservation Officer (SHPO), and if necessary, the Advisory Council on Historic Preservation, during the early stages of project development.
3. The Commissioner of Transportation shall reorganize the membership structure and duties and responsibilities of the existing Merritt Parkway Advisory Committee (MPAC). The membership of the MPAC shall be expanded and the responsibilities to review and comment on significant Department activities on the Parkway shall be strengthened.
 - a. The membership on the MPAC shall include a representative from each of the Parkway's corridor towns, a representative from the Greater Bridgeport and South Western Regional Planning Organizations, a representative from the Connecticut Trust for Historic Preservation, and the Connecticut Chapter of the American Society of Landscape Architects and a representative from the Federal Highway Administration and the Connecticut Historic Commission. Representation of the Connecticut Society of Architects shall also be considered. In addition, the Commissioner of Transportation or his/her designee as well as representatives from the Department's offices of Traffic, Design, Bridge, Maintenance, Facilities, Planning, Construction and Landscape Design shall be members of the MPAC.

- b. The Commissioner of Transportation shall serve as Chairperson of the MPAC.
- c. The MPAC shall meet at least four times a year to review and discuss topics relative to the Parkway including the Department's planned and current projects and practices.

B. Internal Review

1. Requests for exceptions from the Guidelines established in the Landscaping, Design, Bridge, Facilities, or Traffic Control Sections of this document must be approved in writing by the Department's Chief Engineer. These requests must detail the reasons why Guidelines cannot be followed.
2. Requests for exceptions from the Guidelines established in the Maintenance Section of this document must be approved in writing by the Maintenance Manager of District III, the Director of Maintenance and the Department's Chief Engineer. These requests must detail the reasons why Guidelines cannot be followed.

C. Review by Advisory Committees

1. Preliminary concept plans and written documentation for requests for exceptions from Guidelines for all proposed construction projects and maintenance procedures shall be forwarded for review and comment to the Scenic Roads Advisory Committee and the Merritt Parkway Advisory Committee.
2. All concerns raised and mitigation measures suggested by these advisory groups must be addressed prior to project advancement.

D. Public Review

1. The Department will at a minimum, hold a public informational meeting for the following types of improvements proposed for the Parkway:
 - a. Major expansion,
 - b. Interchange modifications including the provisions of acceleration and deceleration lanes,

- c. Bridge reconstruction,
 - d. New bridge construction,
 - e. Major safety improvements which involve the removal of significant amounts of vegetation, installation of extensive guiderail systems, and/or substantial increases in pavement width for drainage purposes,
 - f. Expansion of existing Service Areas and/or Maintenance Facilities, and
 - g. Construction of new maintenance facilities and/or salt sheds.
2. The informational meeting shall be held in the town affected by the proposed project. The meeting shall be scheduled early in the project's preliminary design stage.
 3. Notification of public informational meetings shall be made through display advertisements and news releases in major newspaper publications serving the appropriate corridor towns.
 4. Copies of news releases and display advertisements shall also be forwarded to the first officials and legislators of affected corridor towns, the South Western and Greater Bridgeport Regional Planning Agencies, and local Historic District Commissions, members of the Merritt Parkway Advisory Committee and special interest groups including but not limited to the Connecticut Trust for Historic Preservation and the Connecticut Chapter of American Society of Landscape Architects.
 5. Input received at the public informational meeting shall be evaluated in writing and forwarded to the Commissioner of Transportation for a determination relative to the project's advancement.

E. Revisions to Guidelines

1. When considering revisions to the Guidelines for the Merritt Parkway, the Commissioner shall consult first with the State Historic Preservation Office, the Scenic Roads Advisory Committee, and the Merritt Parkway Advisory Committee.

VIII. Response to Major Concerns

In an effort to obtain the public's views on the measures being considered by the Working Group, for preserving and enhancing the character of the Merritt Parkway, a draft of the Guideline document was made available for public review and comment to an extensive mailing list. In addition, two public informational meetings were held to discuss the proposals presented in the draft document.

As a result of this public review process, numerous comments were received regarding the Merritt Parkway. All comments received were reviewed and discussed by the Working Group, and many revisions were made to this final document based upon the public's comments. Several areas of concerns were repeatedly noted by numerous individuals. These areas of major concern expressed by the public and the Working Group's response to them follows:

1. The excessive speeds on the Parkway and the need for increased enforcement of the speed limit.

The responsibility for speed enforcement lies with the State's Department of Public Safety and the concerns raised relative to the excessive speeds on the Parkway have been brought to that Department's attention. However, excessive speeds of motorists is not unique to the Merritt Parkway. This is a problem which has been identified on all major roadways within the State. Unfortunately, this is a problem which is not easily addressed. To more effectively address the problem of speeding would require an almost constant patrol of the Parkway by numerous State Police Troopers. Given the fiscal constraints of the State, it is doubtful that the additional resources necessary to provide for the tremendous increase in manpower which would be required to resolve the problem of speeding will be made available.

Another problem which hampers the ability of the State Police to enforce speed on the Parkway is that there are limited areas where State Troopers can safely set up radar units and ticket violators. This problem may be lessened with the completion and implementation of the Merritt Parkway Landscape Master Plan. As part of the Master Plan's development, provisions for areas where enforcement actions can safely be undertaken will be considered.

2. The use of Parkway by trucks and vehicles with combination plates.

The State Traffic Commission (STC) is overseeing a review of the use of both the Merritt and Wilbur Cross Parkways by vehicles which include small trucks and vans, bearing combination plates. Currently, STC regulations allow such vehicles on the Parkways, providing their weight does not exceed 7,500 pounds, and their dimensions do not exceed one of the following: length - twenty-four feet, width - seven feet, six inches and height - eight feet.

Preliminary meetings have been held between representatives from the STC, the Department of Motor Vehicles and the Department of Public Safety, to discuss the concerns being expressed by the public regarding this issue. There are several interrelated statutes and regulations which must be addressed uniformly in order to arrive at a recommendation which will protect the integrity of the Parkways, yet deal with issues such as the tremendous increase in the use of utility vehicles and small pick-up trucks as personal vehicles.

Meetings between the STC, DMV and DPS will continue in an effort to resolve outstanding issues and to finalize a recommendation.

3. The need to develop special design standards for Parkways.

In designing roadway improvements, engineers are guided by current American Association of State Highway and Transportation Officials (AASHTO) and State design standards. These standards represent nationally accepted design principles which are intended to provide operational comfort, safety and convenience for the motorists. AASHTO has developed specific standards for various classifications of roadways. These classifications are based upon the operating characteristics of the roadway. Since there are no specific design standards for Parkways, due to the speeds and volume of traffic carried on the Merritt the AASHTO design standards used for this facility are those specified for limited access expressway type facilities. In designing improvements for the Merritt, the Department does, on a case by case basis, seek exceptions to the AASHTO standards.

However, the Department is extremely supportive of the development and approval of specific design standards for Parkways. On April 11, 1994, the AASHTO Board of Directors approved Policy Resolution PR-2-94 (See Appendix D) in which it was recommended that design standards for National Highway System (NHS) routes which includes the Merritt Parkway be delegated to each State and that the member Departments of AASHTO will work through AASHTO's design standards committees, with DOT, and with interested parties on design criteria and a design process for NHS routes that integrate safety, environmental, scenic, historic, community and preservation concerns.

The Connecticut Department of Transportation strongly supports this resolution and is committed to work through AASHTO's design standards committees to develop special design standards which provide design solutions that respect the integrity and value of historic Parkways such as the Merritt.

4. The need to legislatively establish a Merritt Parkway Commission.

The Merritt Parkway is a major component of the State's transportation system and the ultimate decisions relative to maintaining it as a safe and efficient roadway must remain with the Commissioner of Transportation. As such, this document does not recommend the establishment of a Merritt Parkway Commission.

However, recognizing that there are numerous stakeholders concerned with the future of the Merritt Parkway, the Working Group has recommended the expansion of the Merritt Parkway Advisory Committee (MPAC) membership and the strengthening of their responsibilities to review and provide input on Department activities relative to the Parkway. Section VII. of this document outlines the structure and project review responsibilities of the reorganized MPAC whose membership will include not only Department staff but also local officials from the Parkway's corridor towns, and individuals with expertise in landscaping and historic preservation.

It is felt that this group, working together will provide the Commissioner of Transportation with the advise needed to preserve and enhance the character of the Merritt Parkway, while maintaining this important transportation artery as a safe and efficient roadway.

5. The specific plant materials proposed.

Numerous comments were received from the public concerning the types of plant materials which the draft of this document proposed for use on the Parkway. Based upon these comments, Section I. Landscaping and the recommended list of plant materials contained in Appendix A has been revised to strengthen the objectives of restoring and maintaining a naturalistic setting and to use species selected for site specific soils, exposure and ecosystem association.

It is also anticipated that the Landscaping Section will be revised again once the Merritt Parkway Landscape Master Plan is completed in the Fall of 1994.

6. The guiderail systems being used on the Parkway.

Presently, various types of metal guiderail systems and concrete barrier treatments are used along the Parkway. While the use of guiderail is necessary to guard against collisions with fixed objects, such as trees, bridge piers and abutments and to prevent vehicle crossover accidents, the conglomeration of the different types presently being used detracts from the Parkway's aesthetic character.

The Department is currently studying and/or testing various alternative guiderail systems for possible use along the Parkway and other scenic roads. However, pending the completion of these studies, and in an effort to provide a more consistent approach to the guiderail systems use on the Parkway, any new guiderail systems installed shall be either galvanized Box Beam on metal posts or standard precast concrete barriers. Section II.C. of this document has been revised to provide guidance on guiderail treatments.

7. The number, placement, color and size of signs along the Parkway.

During the initial meetings of the Working Group, all types of traffic control devices placed along the Merritt Parkway were reviewed for efficacy and those deemed unneeded were removed.

The Working Group also consulted with a graphic designer hired by the Department to develop prototype signs specifically for the Merritt Parkway. These signs were presented at the informational meetings where they were well received. Section V. of this document outlines the recommendations of the Working Group relative to signs along the Parkway. These recommendations include the usage of Middle Brunswick Green for the background color for all signs except for regulatory and warning signs. This color is a darker green than what is currently used. In addition, the lettering on the signs will be reduced 16%, the minimum which will meet Federal standards, and will use the Stone type face format. These design changes in the signs will result in smaller signs with a more refined and distinctive look.

The graphic designers also developed a new trail blazer sign. This sign which is in the shape of the Connecticut shield features a white stylized mountain laurel on a dark blue background.

8. The need to strengthen the public review and the Department decision-making process relative to proposed projects and exceptions to Guidelines:

As a result of the public comments received, the Review Process Section proposed in the draft document was completely revised. These revisions which are outlined in Section VII. include specific requirements and procedures for project reviews by Department staff, Advisory Committees, and the general public.

APPENDIX A

RECOMMENDED PLANT MATERIALS

LIST OF RECOMMENDED PLANT MATERIALS

Major Deciduous Trees

Acer platanoides - Norway Maple
Acer saccharum - Sugar Maple
*Acer rubrum - Red Maple
Carpinus caroliniana - American Hornbeam
Fagus grandifolia - American Beech
Fraxinus pennsylvanica lanceolata - Green Ash
Larix decidua - European Larch
Liquidambar styraciflua - Sweet Gum
Quercus alba - White Oak
Quercus borealis - Northern Red Oak
Quercus coccinea - Scarlet Oak
Quercus palustris - Pin Oak
Ulmus americana - American Elm
Salix niobe - Niobe Willow
Zelkova serrata - Japanese Zelkova

EVERGREEN TREES

Juniperus virginiana (Eastern Red Cedar) was used as an accent plant and can tolerate chlorides very well. There are many cedars with trunks of 12" diameter on the Merritt Parkway. These trees should be used, but only as accent plants in areas of full sun.

Pinus strobus (Eastern White Pine) was used very extensively, and should still be used extensively. It is the only pine that can be used in Fairfield County because of scale and other pine diseases. It should be used in areas of full sun.

Thuja occidentalis nigra (Dark American Arborvitae) slender evergreen, is not tolerant to chloride; could be used in protected areas. However, it is attractive to deer and should be used in limited quantities.

MINOR DECIDUOUS TREES

* Amelanchier canadensis (Shadblow Serviceberry) native minor tree/large shrub, excellent anywhere.

Cornus kousa (Kousa Dogwood) the only dogwood tree to replace the native flowering dogwood Cornus florida originally used on the Parkway, but which now survive in only limited quantities.

Crataegus phaenopyrum (Washington Hawthorn) multistem or tree form. Attractive white flowers, red berry in fall.

EVERGREEN SHRUBS

Kalmia latifolia (Mountain Laurel) should be planted on roadsides but far enough away from roadside chloride applications.

Ilex glabra compacta (Compact Inkberry) a small leafed evergreen that was used on later years, and still flourishes on the Merritt Parkway. This plant should be used extensively where evergreen foliage is required because of its attractiveness and tolerance to chlorides.

Rhododendron maximum (Rosebay Rhododendron) was also used and should be again used in limited quantities. Some still exist around bridges in protected areas.

Viburnum rhytidophyllum (Leatherleaf Viburnum) a very attractive evergreen Viburnum but should be used only in protected areas.

Juniperus chinensis "sargentii" (Sargent Juniper) larger type juniper could be used on abutments in limited quantities. Salt tolerant likes full sun.

Japanese yews were used in the median areas and were destroyed by chlorides. Although some abutment planting could be accomplished with Japanese yews, they should be used in very limited quantities as they are one of the favorite forage plants of deer.

Note: Chloride "salt" is applied to the road during a winter storm and is rendered airborne by cars. The "mist" is then carried by wind onto the foliage. This is the major cause of damage to Mountain Laurel and broad leafed evergreens in general, chlorides on the roots are probably the secondary cause of injury.

Deciduous Shrubs and Minor Trees

* *Alnus incana* (Speckled Alder) use adjacent to brooks or streams. Attractive catkins in spring.

Aronia arbutifolia (Brilliant Chokeberry) brilliant red berries in fall, good used with evergreens.

- * *Clethra alnifolia* (Summer Sweet) very attractive fragrant white blooms in July/August.

Cornus alba sibirica (Siberian Dogwood) excellent red stems in winter.

Comptonia peregrina (Sweetfern) native plant for slope establishment, fernlike leaf. Likes dry areas.

Euonymus alatus compactus (Dwarf Winged Euonymus) excellent fall color. Naturalizes with evergreens. Will grow most anywhere.

- * *Hamamelis virginiana* (Common Witch Hazel) use adjacent to brooks, attractive yellow flowers in fall.

- * *Ilex verticillata* (Common Winterberry) use adjacent to brooks. Attractive red berry in fall

Ligustrum ibolium (Ibolium Privet) upright spreading plant, good for headlight screen plantings, blue/black berry in fall.

Ligustrum obtusifolium regelianum (Regals Border Privet) spreading habitat, blue/black berry in fall.

- * *Lindera benzoin* (Common Spicebush) very attractive yellow/green flower early in spring.

Myrica pennsylvanica (Northern Bayberry) native shrub noted for its blue/gray berry, can get leggy, but was used and should still be used in limited quantities.

Rhododendron nudiflorum (Pinxterbloom Azalea) a native azalea that would be attractive used in groups. The Exbury hybrid varieties, could also be used. They have the same growth habitat, but have larger, more attractive blooms.

- * *Rhododendron viscosum* (Swamp Azalea) similar to the Pinxterbloom Azalea but will grow in wet areas.

Ramnus frangula (Glossy Buckthorn) good upright spreading plant for medians

Rosa rugosa (Rugosa Rose) flowers and fruit attractive.

Rhus aromatica (fragrant Sumac) colonizes, holds slope well - good fall color.

- * *Vaccinium corymbosum* (Highbush blueberry) attractive fall color, blue fruit.

Viburnum acerifolium (Maple Leaf Viburnum) good for shady areas; good fall color.

Viburnum dentatum (Arrowwood Viburnum) native shrub fairly showy white blossoms, blue/black berries in fall.

Viburnum dilatatum (Linden Viburnum) large white flowers, attractive red berries in fall.

Viburnum lentago (Nannyberry Viburnum) very large shrub, good for medians, blue/black berry in fall.

Viburnum opulus (European Cranberry) very large shrub, large white flowers, large red berries, good fall color.

Viburnum opulus nanum (Dwarf Cranberry Bush) only 24" height, good for abutments.

Viburnum prunifolium (Blackhaw Viburnum) good fall color, blue/black berries.

- * *Vaccinium corymbosum* (Highbush Blueberry) attractive fall color, blue fruit.

Vines and Ground Covers

Parthenocissus tricuspidata veitchii - Boston Ivy

Parthenocissus tricuspidata - Virginia Creeper

Hedera helix baltica - Baltic Ivy

Vinca minor 'Bowles' - Bowles Myrtle

- * Plants that like moist areas.

APPENDIX B

**THE SECRETARY OF INTERIOR'S
"STANDARDS FOR REHABILITATION"**

The Secretary of the Interior's Standards for Rehabilitation

and Guidelines for
Rehabilitating Historic Buildings

U.S. Department of the Interior
National Park Service
Preservation Assistance Division
Washington, D.C.

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

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INTRODUCTION

The Secretary of the Interior is responsible for establishing standards for all program under Departmental authority and for advising Federal agencies on preservation of historic properties listed or eligible for listing in the National Register of Historic Places. In partial fulfillment of this responsibility, the Secretary of the Interior's Standards for Historic Preservation Projects have been developed to guide work undertaken on historic buildings—there are separate standards for acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction. The Standards for Rehabilitation (codified in 36 CFR 67) comprise that section of the overall preservation project standards and addresses the most prevalent treatment. "Rehabilitation" is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Initially developed by the Secretary of the Interior to determine the appropriateness of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the Standards for Rehabilitation have been widely used over the years—particularly to determine if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes. In addition, the Standards have guided Federal agencies in carrying out their historic preservation responsibilities for properties in Federal ownership or control; and State and local officials in reviewing both Federal and nonfederal rehabilitation proposals. They have also been adopted by historic district and planning commissions across the country.

The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction. To be certified for Federal tax purposes, a rehabilitation project must be determined by the Secretary to be consistent with the historic character of the structure(s), and where applicable, the district in which it is located.

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The following Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

- (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 archeological 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.

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As stated in the definition, the treatment "rehabilitation" assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however, these repairs and alteration must not damage or destroy materials, features or finishes that are important in defining the building's historic character. For example, certain treatments—if improperly applied—may cause or accelerate physical deterioration of historic building. This can include using improper repointing or exterior masonry cleaning techniques, or introducing insulation that damages historic fabric. In almost all of these situations, use of these materials and treatments will result in a project that does not meet the Standards. Similarly, exterior additions that duplicate the form, material, and detailing of the structure to the extent that they compromise the historic character of the structure will fail to meet the Standards.

Technical Guidance Publications

The National Park Service, U.S. Department of the Interior, conducts a variety of activities to guide Federal agencies, States, and the general public in historic preservation project work. In addition to establishing standards and guidelines, the Service develops, publishes, and distributes technical information on appropriate preservation treatments, including Preservation Briefs, case studies, and Preservation Tech Notes.

A Catalog of Historic Preservation Publications with stock numbers, prices, and ordering information may be obtained by writing: Preservation Assistance Division, Technical Preservation Services, P.O. Box 37127, Washington, D.C. 20013-7127.

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

The Guidelines were initially developed in 1977 to help property owners, developers, and Federal managers apply the Secretary of the Interior's "Standards for Rehabilitation" during the project planning stage by providing general design and technical recommendations. Unlike Standards, the Guidelines are *not* codified as program requirements. Together with the "Standards for Rehabilitation" they provide a model process for owners, developers, and Federal agency managers to follow.

It should be noted at the outset that the Guidelines are intended to assist in applying the Standards to projects generally; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell an owner or developer which features of their own historic building are important in defining the historic character and must be preserved—although examples are provided in each section—or which features could be altered, if necessary, for the new use. This kind of careful case-by-case decisionmaking is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archeologists, and others who are skilled in the preservation, rehabilitation, and restoration of historic properties.

The Guidelines pertain to historic buildings of all sizes, materials, occupancy, and construction types; and apply to interior and exterior work as well as new exterior additions. Those approaches, treatments, and techniques that are consistent with the Secretary of the Interior's "Standards for Rehabilitation" are listed in the "Recommended" column on the left; those approaches, treatments, and techniques which could adversely affect a building's historic character are listed in the "Not Recommended" column on the right.

To provide clear and consistent guidance for owners, developers, and federal agency managers to follow, the "Recommended" courses of action in each section are listed in order of historic preservation concerns so that a rehabilitation project may be successfully planned and completed—one that, first, assures the preservation of a building's important or "character-defining" architectural materials and features and, second, makes possible an efficient contemporary use. Rehabilitation guidance in each section begins with protection and maintenance, that work which should be maximized in every project to enhance overall preservation goals. Next, where some deterioration is present, repair of the building's historic materials and features is recommended. Finally, when deterioration is so extensive that repair is not possible, the most problematic area of work is considered: replacement of historic materials and features with new materials.

To further guide the owner and developer in planning a successful rehabilitation project, those complex design issues dealing with new use requirements such as alterations and additions are highlighted at the end of each section to underscore the need for particular sensitivity in these areas.

Identify, Retain, and Preserve

The guidance that is basic to the treatment of all historic buildings—**identifying, retaining, and preserving** the form and detailing of those architectural materials and features that are important in *defining the historic character*—is always listed first in the "Recommended" column. The parallel "Not Recommended" column lists the types of actions that are most apt to cause the diminution or even loss of the building's historic character. It should be remembered, however, that such loss of character is just as often caused by the cumulative effect of a series of actions that would seem to be minor interventions. Thus, the guidance in *all* of the "Not Recommended" columns must be viewed in that larger context, e.g., for the total impact on a historic building.

Protect and Maintain

After identifying those materials and features that are important and must be retained in the process of rehabilitation work, then **protecting and maintaining** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic material through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, protective plywood, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair

Next, when the physical condition of character-defining materials and features warrants additional work **repairing** is recommended. Guidance for the repair of historic materials such as masonry, wood, and architectural metals again begins with the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods. Repairing also includes the limited replacement in kind—or with compatible substitute material—of extensively deteriorated or missing *parts* of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design as well as the substitute material itself convey the visual appearance of the remaining parts of the feature and finish.

Replace

Following repair in the hierarchy, guidance is provided for **replacing** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair (for example, an exterior cornice; an interior staircase; or a complete porch or storefront). If the essential form and detailing are still evident so that the physical evidence can be used to re-establish the feature as an integral part of the rehabilitation project, then its replacement is appropriate. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind, that is, with the same material. Because this approach may not always be technically or economically feasible, provisions are made to consider the use of a compatible substitute material.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature under certain well-defined circumstances, they *never* recommend removal and replacement with new material of a feature that—although damaged or deteriorated—could reasonably be repaired and thus preserved.

Design for Missing Historic Features

When an entire interior or exterior feature is missing (for example, an entrance, or cast iron facade; or a principal staircase), it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the proc-

ess of carefully documenting the historical appearance. Where an important architectural feature is missing, its recovery is always recommended in the guidelines as the *first* or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desirable to re-establish the feature as part of the building's historical appearance, then designing and constructing a new feature based on such information is appropriate. However, a *second* acceptable option for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic building. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created.

Alterations/Additions to Historic Buildings

Some exterior and interior alterations to the historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character.

The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the guidelines that such new additions should be avoided, if possible, and considered *only* after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

Additions to historic buildings are referenced within specific sections of the guidelines such as Site, Roof, Structural Systems, etc., but are also considered in more detail in a separate section, NEW ADDITIONS TO HISTORIC BUILDINGS.

Health and Safety Code Requirements; Energy Retrofitting

These sections of the rehabilitation guidance address work done to meet health and safety code requirements (for example, providing barrier-free access to historic buildings); or retrofitting measures to conserve energy (for example, installing solar collectors in an unobtrusive location on the site). Although this work is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of protecting or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to radically change, obscure, damage, or destroy character-defining materials or features in the process of rehabilitation work to meet code and energy requirements.

Specific information on rehabilitation and preservation technology may be obtained by writing to the National Park Service, at the addresses listed below:

Preservation Assistance Division
National Park Service
P.O. Box 37127
Washington, D.C. 20013-7127

Preservation Services Division
Southeast Regional Office
National Park Service
75 Spring St. SW., Room 1140
Atlanta, GA 30303

National Historic Preservation
Programs
Western Regional Office
National Park Service
450 Golden Gate Ave.
Box 36063
San Francisco, CA 94102

Office of Cultural Programs
Mid-Atlantic Regional Office
National Park Service
Second and Chestnut Streets
Philadelphia, PA 19106

Division of Cultural Resources
Rocky Mountain Regional Office
National Park Service
655 Parfet St.
O. Box 25287
Denver, CO 80225

Cultural Resources Division
Alaska Regional Office
National Park Service
2525 Gambell St.
Anchorage, AK 99503

BUILDING EXTERIOR

Masonry: Brick, stone, terra cotta, concrete, adobe, stucco and mortar

Masonry features (such as brick cornices and door pediments, stone window architraves, terra cotta brackets and railings) as well as masonry surfaces (modelling, tooling, bonding patterns, joint size, and color) may be important in defining the historic character of the building. It should be noted that while masonry is among the most durable of historic building materials, it is also the most susceptible to damage by improper maintenance or repair techniques and by harsh or abrasive cleaning methods. Most preservation guidance on masonry thus focuses on such concerns as cleaning and the process of repointing.

Recommended

Identifying, retaining, and preserving masonry features that are important in defining the overall historic character of the building such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and joint and unit size, tooling and bonding patterns, coatings, and color.

Protecting and maintaining masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.

Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.

Recommended

Carrying out masonry surface cleaning tests after it has been determined that such cleaning is necessary. Tests should be observed over a sufficient period of time so that both the immediate effects and the long range effects are known to enable selection of the gentlest method possible.

Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes.

Inspecting painted masonry surfaces to determine whether repainting is necessary.

Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., handscraping) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are historically appropriate to the building and district.

Not Recommended

Removing or radically changing masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing or rebuilding a major portion of exterior masonry walls that could be repaired so that, as a result, the building is no longer historic and is essentially new construction.

Applying paint or other coatings such as stucco to masonry that has been historically unpainted or uncoated to create a new appearance.

Removing paint from historically painted masonry.

Radically changing the type of paint or coating or its color.

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.

Cleaning masonry surfaces when they are not heavily soiled to create a new appearance, thus needlessly introducing chemicals or moisture into historic materials.

Not Recommended

Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.

Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.

Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.

Applying high pressure water cleaning methods that will damage historic masonry and the mortar joints.

Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.

Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting.

Failing to follow manufacturers' product and application instructions when repainting masonry.

Using new paint colors that are inappropriate to the historic building and district.

Recommended

Evaluating the overall condition of the masonry to determine if more than protection and maintenance are required, that is, if repairs to the masonry features will be necessary.

Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.

Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.

Duplicating old mortar in strength, composition, color, and texture.

Duplicating old mortar joints in width and in joint profile.

Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.

Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.

Recommended

Repairing masonry features by patching, piecing-in, or consolidating the masonry using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters.

Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.

Replacing in kind an entire masonry feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples can include large sections of a wall, a cornice, balustrade, column, or stairway. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features



Not Recommended

Failing to undertake adequate measures to assure the preservation of masonry features.

Removing nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.

Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.

Repointing with mortar of high portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic material and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.

Repointing with a synthetic caulking compound.

Using a "scrub" coating technique to repoint instead of traditional repointing methods.

Changing the width or joint profile when repointing.

Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.

Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.

Not Recommended

Replacing an entire masonry feature such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the masonry feature or that is physically or chemically incompatible.

Applying waterproof, water-repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.

Removing a masonry feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Creating a false historical appearance because the replaced masonry feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new masonry feature that is incompatible in size, scale, material and color.

Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements

Because it can be easily shaped by sawing, planing, carving, and gouging, wood is the most commonly used material for architectural features such as clapboards, cornices, brackets, entablatures, shutters, columns and balustrades. These wooden features—both functional and decorative—may be important in defining the historic character of the building and thus their retention, protection, and repair are of particular importance in rehabilitation projects.

Recommended

Identifying, retaining, and preserving wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.

Protecting and maintaining wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Wood (continued)

Recommended

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

Using chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped.

Applying compatible paint coating systems following proper surface preparation.

Not Recommended

Removing or radically changing wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic wood from a facade instead of repairing or replacing only the deteriorated wood, then reconstructing the facade with new material in order to achieve a uniform or "improved" appearance.

Radically changing the type of finish or its color or accent scheme so that the historic character of the exterior is diminished.

Stripping historically painted surfaces to bare wood, then applying clear finishes or stains in order to create a "natural look."

Stripping paint or varnish to bare wood rather than repairing or reapplying a special finish, i.e., a grained finish to an exterior wood feature such as a front door.

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.

Not Recommended

Using chemical preservatives such as creosote which can change the appearance of wood features unless they were used historically.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as a propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.

Using thermal devices improperly so that the historic woodwork is scorched.

Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.

Failing to follow manufacturers' product and application instructions when repainting exterior woodwork.

Recommended

Not Recommended

Identifying the overall condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.

Repairing wood features by patching, piecing-in, consolidating, or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features where there are surviving prototypes such as brackets, moldings, or sections of siding.

Replacing in kind an entire wood feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples of wood features include a cornice, entablature or balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Failing to undertake adequate measures to assure the preservation of wood features.

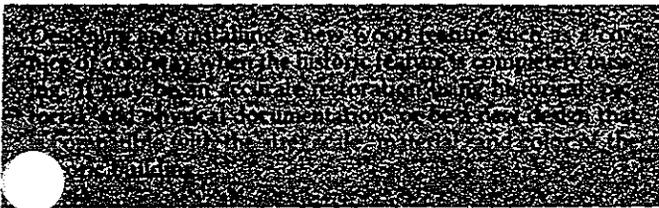
Replacing an entire wood feature such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

Using substitute materials for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.

Removing an entire wood feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted because it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features



Creating a false historic appearance because the replaced wood feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new wood feature that is incompatible in size, scale, material, and color.

Architectural Metals: Cast iron, steel, pressed tin, copper, aluminum, and zinc

Architectural metal features—such as cast-iron facades, porches, and steps; sheet metal cornices, roofs, roof cresting and storefronts; and cast or rolled metal doors, window sash, entablatures, and hardware—are often highly decorative and may be important in defining the overall historic character of the building. Their retention, protection, and repair should be a prime consideration in rehabilitation projects.

Recommended

Not Recommended

Identifying, retaining, and preserving architectural metal features such as columns, capitals, window hoods, or stairways that are important in defining the overall historic character of the building; and their finishes and colors.

Removing or radically changing architectural metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic architectural metal from a facade instead of repairing or replacing only the deteriorated metal, then reconstructing the facade with new material in order to create a uniform, or "improved" appearance.

Radically changing the type of finish or its historical color or accent scheme.

Protecting and maintaining architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters.

Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin, and aluminum.

Cleaning architectural metals, when necessary, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Exposing metals which were intended to be protected from the environment.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Recommended

Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.

Using the gentlest cleaning methods for cast iron, wrought iron, and steel—hard metals—in order to remove paint buildup and corrosion. If handscraping and wire brushing have proven ineffective, low pressure dry grit blasting may be used as long as it does not abrade or damage the surface.

Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.

Repainting with colors that are appropriate to the historic building or district.

Applying an appropriate protective coating such as lacquer to an architectural metal feature such as a bronze door which is subject to heavy pedestrian use.

Evaluating the overall condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

Recommended

Repairing architectural metal features by patching, splicing, or otherwise reinforcing the metal following recognized preservation methods. Repairs may also include the limited replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balusters, column capitals or bases; or porch cresting.

Replacing in kind an entire architectural metal feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples could include cast iron porch steps or steel sash windows. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new architectural metal feature as a sheet metal cornice or cast iron capital when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

Not Recommended

Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.

Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.

Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.

Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.

Using new colors that are inappropriate to the historic building or district.

Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.

Failing to undertake adequate measures to assure the preservation of architectural metal features.

Not Recommended

Replacing an entire architectural metal feature such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the architectural metal feature or that is physically or chemically incompatible.

Removing an architectural metal feature that is unrepairable and not replacing it; or replacing it with a new architectural metal feature that does not convey the same visual appearance.

Creating a false historic appearance because the replaced architectural metal feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new architectural metal feature that is incompatible in size, scale, material, and color.

Roofs

The roof—with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material—can be extremely important in defining the building's overall historic character. In addition to the design role it plays, a weathertight roof is essential to the preservation of the entire structure; thus, protecting and repairing the roof as a "cover" is a critical aspect of every rehabilitation project.

Recommended

Identifying, retaining, and preserving roofs—and their functional and decorative features—that are important in defining the overall historic character of the building. This includes the roof's shape, such as hipped, gambrel, and mansard; decorative features such as cupolas, cresting, chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.

Protecting and maintaining a roof by cleaning the gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Recommended

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

Repairing a roof by reinforcing the historic materials which comprise roof features. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing, or slates, tiles, or wood shingles on a main roof.

Replacing in kind an entire feature of the roof that is too deteriorated to repair—if the overall form and detailing are still evidence—using the physical evidence to guide the new work. Examples can include a large section of roofing, or a dormer or chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Not Recommended

Radically changing, damaging, or destroying roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the roof or roofing material that is repairable, then reconstructing it with new material in order to create a uniform, or "improved" appearance.

Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.

Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.

Applying paint or other coatings to roofing material which has been historically uncoated.

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.

Not Recommended

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs.

Replacing an entire roof feature such as a cupola or dormer when repair of the historic materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.

Removing a feature of the roof that is unrepairable, such as a chimney or dormer, and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Design for Missing Historic Features

Creating and constructing a new feature when the historic feature is completely missing, such as a chimney or cupola. It may be an accurate restoration using historical, pictorial and physical documentation, or be a new design that is compatible with the size, scale, material, and color of the historic building.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new roof feature that is incompatible in size, scale, material, and color.

Recommended

Not Recommended

Alterations/Additions for the New Use

Installing mechanical and service equipment on the roof such as air conditioning, transformers, or solar collectors when required for the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

Designing additions to roofs such as residential, office, or storage spaces; elevator housing; decks and terraces; or dormers or skylights when required by the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

Installing mechanical or service equipment so that it damages or obscures character-defining features; or is conspicuous from the public right-of-way.

Radically changing a character-defining roof shape or damaging or destroying character-defining roofing material as a result of incompatible design or improper installation techniques.

Windows

A highly decorative window with an unusual shape, or glazing pattern, or color is most likely identified immediately as a character-defining feature of the building. It is far more difficult, however, to assess the importance of repeated windows on a facade, particularly if they are individually simple in design and material, such as the large, multi-paned sash of many industrial buildings. Because rehabilitation projects frequently include proposals to replace window sash or even entire windows to improve thermal efficiency or to create a new appearance, it is essential that their contribution to the overall historic character of the building be assessed together with their physical condition before specific repair or replacement work is undertaken.

Recommended

Not Recommended

Identifying, retaining, and preserving windows—and their functional and decorative features—that are important in defining the overall historic character of the building. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.

Protecting and maintaining the wood and architectural metal which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Removing or radically changing windows which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Changing the number, location, size or glazing pattern of windows, through cutting new openings, blocking-in windows, and installing replacement sash which does not fit the historic window opening.

Changing the historic appearance of windows through the use of inappropriate designs, materials, finishes, or colors which radically change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.

Obscuring historic window trim with metal or other material.

Stripping windows of historic material such as wood, iron, cast iron, and bronze.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the windows results.

Recommended

Making windows weathertight by recaulking and replacing or installing weatherstripping. These actions also improve thermal efficiency.

Assessing the overall condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.

Repairing window frames and sash by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind of those parts that are either extensively deteriorated or are missing when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds.

Replacing in kind an entire window that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing new windows when the historic windows (frame, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.

Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation.

Introducing a new design that is incompatible with the historic character of the building.

Recommended

Alterations/Additions for the New Use

Designing and installing additional windows on rear or other non-character-defining elevations if required by the new use. New windows openings may also be cut into exposed party walls. Such design should be compatible with the overall design of the building but not duplicate the fenestration pattern and detailing of a character-defining elevation.

Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.

Not Recommended

Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.

Failing to undertake adequate measures to assure the preservation of historic windows.

Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse serviceable window hardware such as brass lifts and sash locks.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.

Removing a character-defining window that is unrepairable and blocking it in; or replacing it with a new window that does not convey the same visual appearance.

Not Recommended

Installing new windows, including frames, sash, and muntin configuration that are incompatible with the building's historic appearance or obscure, damage, or destroy character-defining features.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.

Entrances and Porches

Entrances and porches are quite often the focus of historic buildings, particularly when they occur on primary elevations. Together with their functional and decorative features such as doors, steps, balustrades, pilasters, and entablatures, they can be extremely important in defining the overall historic character of a building. Their retention, protection, and repair should always be carefully considered when planning rehabilitation work.

Recommended

Identifying, retaining, and preserving entrances—and their functional and decorative features—that are important in defining the overall historic character of the building such as doors, fanlights, sidelights, pilasters, entablatures, columns, balustrades, and stairs.

Protecting and maintaining the masonry, wood, and architectural metal that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to entrance and porch features will be necessary.

Recommended

Repairing entrances and porches by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs.

Replacing in kind an entire entrance or porch that is too deteriorated to repair—if the form and detailing are still evident—using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and constructing a new entrance or porch if the historic entrance or porch is completely missing. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building.

Creating a false historical appearance because the replaced entrance or porch is based on insufficient historical, pictorial, and physical documentation.

Introducing a new entrance or porch that is incompatible in size, scale, material, and color.

Alterations/Additions for the New Use

Designing enclosures for historic porches when required by the new use in a manner that preserves the historic character of the building. This can include using large sheets of glass and recessing the enclosure wall behind existing scrollwork, posts, and balustrades.

Enclosing porches in a manner that results in a diminution or loss of historic character such as using solid materials such as wood, stucco, or masonry.

Not Recommended

Removing or radically changing entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Stripping entrances and porches of historic material such as wood, iron, cast iron, terra.cotta, tile and brick.

Removing an entrance or porch because the building has been re-oriented to accommodate a new use.

Cutting new entrances on a primary elevation.

Altering utilitarian or service entrances so they appear to be formal entrances by adding panelled doors, fanlights, and sidelights.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.

Failing to undertake adequate measures to assure the preservation of historic entrances and porches.

Not Recommended

Replacing an entire entrance or porch when the repair of materials and limited replacement of parts are appropriate.

Using a substitute material for the replacement parts that does not convey the visual appearance of the surviving parts of the entrance and porch or that is physically or chemically incompatible.

Removing an entrance or porch that is unrepairable and not replacing it; or replacing it with a new entrance or porch that does not convey the same visual appearance.

Recommended

Designing and installing additional entrances or porches as required for the new use in a manner that preserves the historic character of the building, i.e., limiting such alteration to non-character-defining elevations.

Not Recommended

Installing secondary service entrances and porches that are incompatible in size and scale with the historic building or obscure, damage, or destroy character-defining features.

Storefronts

Storefronts are quite often the focus of historic commercial buildings and can thus be extremely important in defining the overall historic character. Because storefronts also play a crucial role in a store's advertising and merchandising strategy to draw customers and increase business, they are often altered to meet the needs of a new business. Particular care is required in planning and accomplishing work on storefronts so that the building's historic character is preserved in the process of rehabilitation.

Recommended

Identifying, retaining, and preserving storefronts—and their functional and decorative features—that are important in defining the overall historic character of the building such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures.

Not Recommended

Removing or radically changing storefronts—and their features—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Changing the storefront so that it appears residential rather than commercial in character.

Removing historic material from the storefront to create a recessed arcade.

Introducing coach lanterns, mansard overhangings, wood shakes, nonoperable shutters, and small-paned windows if they cannot be documented historically.

Changing the location of a storefront's main entrance.

Protecting and maintaining masonry, wood, and architectural details which comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of storefront features results.

Recommended

Not Recommended

Protecting storefronts against arson and vandalism before work by boarding up windows and installing alarm systems that are connected into local protection agencies.

Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged through exposure to weather or through vandalism.

Evaluating the overall condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

Stripping storefronts of historic material such as wood, cast iron, terra cotta, carrara glass, and brick.

Repairing storefronts by reinforcing the historic materials. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs.

Failing to undertake adequate measures to assure the preservation of the historic storefront.

Replacing in kind an entire storefront that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered.

Replacing an entire storefront when repair of materials and limited replacement of its parts are appropriate.

Using substitute material for the replacement parts that does not convey the same visual appearance as the surviving parts of the storefront or that is physically or chemically incompatible.

Removing a storefront that is unrepairable and not replacing it; or replacing it with a new storefront that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Design for Missing Historic Features

Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building. Such new design should generally be flush with the facade; and the treatment of secondary design elements, such as awnings or signs, kept as simple as possible. For example, new signs should fit flush with the existing features of the facade, such as the fascia board or cornice.

Creating a false historical appearance because the replaced storefront is based on insufficient historical, pictorial, and physical documentation.

Introducing a new design that is incompatible in size, scale, material, and color.

Using new illuminated signs; inappropriately scaled signs and logos; signs that project over the sidewalk unless they were a characteristic feature of the historic building; or other types of signs that obscure, damage, or destroy remaining character-defining features of the historic building.

BUILDING INTERIOR

Structural System

If features of the structural system are exposed such as loadbearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building's overall historic character. Unexposed structural features that are not character-defining or an entire structural system may nonetheless be significant in the history of building technology; therefore, the structural system should always be examined and evaluated early in the project planning stage to determine both its physical condition and its importance to the building's historic character or historical significance. See also Health and Safety Code Requirements.

Recommended

Identifying, retaining, and preserving structural systems—and individual features of systems—that are important in defining the overall historic character of the building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or loadbearing brick or stone walls.

Not Recommended

Removing, covering, or radically changing features of structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Putting a new use into the building which could overload the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Demolishing a loadbearing masonry wall that could be augmented and retained and replacing it with a new wall (i.e., brick or stone), using the historic masonry only as an exterior veneer.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.

STRUCTURAL SYSTEM (continued)

Recommended

Protecting and maintaining the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and assuring that structural members are free from insect infestation.

Examining and evaluating the physical condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.

Repairing the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be spliced, braced, or otherwise supplemented and reinforced.

Replacing in kind—or with substitute material—those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of loadbearing walls. Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its loadbearing capabilities.

Not Recommended

Failing to provide proper building maintenance on a cyclical basis so that deterioration of the structural system results.

Utilizing destructive probing techniques that will damage or destroy structural material.

Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

Installing a replacement feature that does not convey the same visual appearance, e.g., replacing an exposed wood summer beam with a steel beam.

Using substitute material that does not equal the loadbearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Alterations/Additions for the New Use

Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings.

Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features.

Designing and installing new mechanical or electrical systems when required for the new use which minimize the number of cutouts or holes in structural members.

Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes.

Creating an atrium or a light well to provide natural light when required for the new use in a manner that assures the preservation of the structural system as well as character-defining interior spaces, features, and finishes.

Carrying out excavations or regrading adjacent to or within a historic building which could cause the historic foundation to settle, shift, or fail; or could have a similar effect on adjacent historic buildings.

Radically changing interior spaces or damaging or destroying features or finishes that are character-defining while trying to correct structural deficiencies in preparation for the new use.

Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the structural members.

Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features, or finishes.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.

Damaging the structural system or individual features; or radically changing, damaging, or destroying character-defining interior spaces, features, or finishes in order to create an atrium or a light well.

Interior: Spaces, Features, and Finishes

An interior floor plan, the arrangement of spaces, and built-in features and applied finishes may be individually or collectively important in defining the historic character of the building. Thus, their identification, retention, protection, and repair should be given prime consideration in every rehabilitation project and caution exercised in pursuing any plan that would radically change character-defining spaces or obscure, damage or destroy interior features or finishes.

Recommended

Not Recommended

Interior Spaces

Identifying, retaining, and preserving a floor plan or interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial use spaces.

Radically changing a floor plan or interior spaces—including individual rooms—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Altering the floor plan by demolishing principal walls and partitions to create a new appearance.

Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls.

Relocating an interior feature such as a staircase so that the historic relationship between features and spaces is altered.

Recommended

Interior Features and Finishes

Identifying, retaining, and preserving interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantles, paneling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

Protecting and maintaining masonry, wood, and architectural metals which comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coatings systems.

Recommended

Protecting interior features and finishes against arson and vandalism before project work begins, erecting protective fencing, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.

Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.

Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.

Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.

Repainting with colors that are appropriate to the historic building.

Limiting abrasive cleaning methods to certain industrial or warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should *only* be considered after other, gentler methods have been proven ineffective.

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.

Not Recommended

Removing or radically changing features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Installing new decorative material that obscures or damages character-defining interior features or finishes.

Removing paint, plaster, or other finishes from historically finished surfaces to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece).

Applying paint, plaster, or other finishes to surfaces that have been historically unfinished to create a new appearance.

Stripping historically painted wood surfaces to bare wood, then applying clear finishes or stains to create a "natural look."

Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling.

Radically changing the type of finish or its color, such as painting a previously varnished wood feature.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.

Not Recommended

Permitting entry into historic buildings through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or through vandalism.

Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.

Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.

Failing to take new use patterns into consideration so that interior features and finishes are damaged.

Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.

Using new paint colors that are inappropriate to the historic building.

Changing the texture and patina of character-defining features through sandblasting or use of other abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.

Failing to undertake adequate measures to assure the preservation of interior features and finishes.

Recommended

Repairing interior features and finishes by reinforcing the historic materials. Repair will also generally include the limited replacement of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood paneling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.

Replacing in kind an entire interior feature or finish that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples could include wainscoting, a tin ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new interior feature or finish if the historic feature or finish is completely missing. This could include missing partitions, stairs, elevators, lighting fixtures, and wall coverings, or even entire rooms if all historic spaces, features, and finishes are missing or have been destroyed by inappropriate renovations. The design may be a restoration based on historical, pictorial, and physical documentation, or be a new design that is compatible with the historic character of the building, district, or neighborhood.

Not Recommended

Replacing an entire interior feature such as a staircase, panelled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible.

Removing a character-defining feature or finish that is unrepairable and not replacing it; or replacing it with a new feature or finish that does not convey the same visual appearance.

Recommended

Alterations/Additions for the New Use

Accommodating service functions such as bathrooms, mechanical equipment, and office machines required by the building's new use in secondary spaces such as first floor service areas or on upper floors.

Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door moulding, panelled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement.

Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior spaces.

Enclosing an interior stairway where required by code so that character is retained. In many cases, glazed fire-rated walls may be used.

Placing new code-required stairways or elevators in secondary and service areas of the historic building.

Not Recommended

Dividing rooms, lowering ceilings, and damaging or obscuring character-defining features such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.

Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas.

Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes.

Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

Recommended

Not Recommended

Creating an atrium or a light well to provide natural light required for the new use in a manner that preserves character-defining interior spaces, features, and finishes as well as the structural system.

Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well.

Adding a new floor if required for the new use in a manner that preserves character-defining structural features, and interior spaces, features, and finishes.

Inserting a new floor within a building that alters or destroys the fenestration; radically changes a character-defining interior space; or obscures, damages, or destroys decorative detailing.

**Mechanical Systems:
Heating, Air Conditioning,
Electrical, and Plumbing**

The visible features of historic heating, lighting, air conditioning and plumbing systems may sometimes help define the overall historic character of the building and should thus be retained and repaired, whenever possible. The systems themselves (the compressors, boilers, generators and their ductwork, wiring and pipes) will generally either need to be upgraded, augmented, or entirely replaced in order to accommodate the new use and to meet code requirements. Less frequently, individual portions of a system or an entire system are significant in the history of building technology; therefore, the identification of character-defining features or historically significant systems should take place together with an evaluation of their physical condition early in project planning.

Recommended

Not Recommended

Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.

Removing or radically changing features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Protecting and maintaining mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.

Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.

Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.

Maintaining mechanical systems by augmenting or upgrading system components, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.

Replacing a mechanical system or its functional parts when it could be upgraded and retained.

Replacing in kind—or with compatible substitute material—those visible features of mechanical systems that are either extensively deteriorated or are missing when there are surviving prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.

Installing a replacement feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Alterations/Additions for the New Use

Installing a completely new mechanical system if required for the new use so that it causes the least alteration possible to the building's floor plan, the exterior elevations, and the least damage to historic building material.

Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.

Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.

Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features.

Installing air conditioning units if required by the new use in such a manner that the historic materials and features are not damaged or obscured.

Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of historic building material.

Installing heating/air conditioning units in the window frames in such a manner that the sash and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.

Installing "dropped" acoustical ceilings to hide mechanical equipment when this destroys the proportions of character-defining interior spaces.

Cutting through features such as masonry walls in order to install air conditioning units.

Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames.

BUILDING SITE

The relationship between a historic building or buildings and landscape features within a property's boundaries—or the building site—helps to define the historic character and should be considered an integral part of overall planning for rehabilitation project work.

Recommended

Not Recommended

Identifying, retaining, and preserving buildings and their features as well as features of the site that are important in defining its overall historic character. Site features can include driveways, walkways, lighting, fencing, signs, benches, fountains, wells, terraces, canal systems, plants and trees, berms, and drainage or irrigation ditches; and archeological features that are important in defining the history of the site.

Removing or radically changing buildings and their features or site features which are important in defining the overall historic character of the building site so that, as a result, the character is diminished.

Retaining the historic relationship between buildings, landscape features, and open space.

Removing or relocating historic buildings or landscape features, thus destroying the historic relationship between buildings, landscape features, and open space.

Removing or relocating historic buildings on a site or in a complex of related historic structures—such as a mill complex or farm—thus diminishing the historic character of the site or complex.

Moving buildings onto the site, thus creating a false historical appearance.

Lowering the grade level adjacent to a building to permit development of a formerly below-grade area such as a basement in a manner that would drastically change the historic relationship of the building to its site.

Protecting and maintaining buildings and the site by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; nor erode the historic landscape.

Failing to maintain site drainage so that buildings and site features are damaged or destroyed; or, alternatively, changing the site grading so that water no longer drains properly.

Recommended

Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying unknown archeological materials.

Surveying areas where major terrain alteration is likely to impact important archeological sites.

Protecting, e.g. preserving in place known archeological material whenever possible.

Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.

Protecting the building and other features of the site against arson and vandalism before rehabilitation work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Providing continued protection of masonry, wood, and architectural metals which comprise building and site features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and continued protection and maintenance of landscape features, including plant material.

Recommended

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.

Repairing features of buildings and the site by reinforcing the historic materials. Repair will also generally include replacement in kind—with a compatible substitute material—of those extensively deteriorated or missing parts of features where there are surviving prototypes such as fencing and paving.

Replacing in kind an entire feature of the building or site that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. This could include an entrance or porch, walkway, or fountain. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

Introducing heavy machinery or equipment into areas where their presence may disturb archeological materials.

Failing to survey the building site prior to the beginning of rehabilitation project work so that, as a result, important archeological material is destroyed.

Leaving known archeological material unprotected and subject to vandalism, looting, and destruction by natural elements such as erosion.

Permitting unqualified project personnel to perform data recovery so that improper methodology results in the loss of important archeological material.

Permitting buildings and site features to remain unprotected so that plant materials, fencing, walkways, archeological features, etc. are damaged or destroyed.

Stripping features from buildings and the site such as wood siding, iron fencing, masonry balustrades; or removing or destroying landscape features, including plant material.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site features results.

Not Recommended

Failing to undertake adequate measures to assure the preservation of building and site features.

Replacing an entire feature of the building or site such as a fence, walkway, or driveway when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or site feature or that is physically or chemically incompatible.

Removing a feature of the building or site that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation project work and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

De . . . for Missing Historic Features

Designing and constructing a new feature for a building or site when the historic feature is completely missing, such as an outbuilding, terrace, or driveway. It may be based on historical, pictorial, and physical documentation or be a new design that is compatible with the historic character of the building and site.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new building or site feature that is out of scale or otherwise inappropriate.

Introducing a new landscape feature or plant material that is visually incompatible with the site or that destroys site patterns or vistas.

Alterations/Additions for the New Use

Designing new onsite parking, loading docks, or ramps when required by the new use so that they are as unobtrusive as possible and assure the preservation of character-defining features of the site.

Placing parking facilities directly adjacent to historic buildings where automobiles may cause damage to the buildings or landscape features or be intrusive to the building site.

Designing new exterior additions to historic buildings or adjacent new construction which is compatible with the historic character of the site and which preserve the historic relationship between a building or buildings, landscape features, and open space.

Introducing new construction onto the building site which is visually incompatible in terms of size, scale, design, materials, color and texture or which destroys historic relationships on the site.

Removing nonsignificant buildings, additions, or site features which detract from the historic character of the site.

Removing a historic building in a complex, a building feature, or a site feature which is important in defining the historic character of the site.

DISTRICT/
NEIGHBORHOOD

The relationship between historic buildings, and streetscape and landscape features within a historic district or neighborhood helps to define the historic character and therefore should always be a part of the rehabilitation plans.

Recommended

Not Recommended

Identifying, retaining, and preserving buildings, and streetscape, and landscape features which are important in defining the overall historic character of the district or neighborhood. Such features can include streets, alleys, paving, walkways, street lights, signs, benches, parks and gardens, and trees.

Removing or radically changing those features of the district or neighborhood which are important in defining the overall historic character so that, as a result, the character is diminished.

Retaining the historic relationship between buildings, and streetscape and landscape features such as a town square comprised of row houses and stores surrounding a communal park or open space.

Destroying streetscape and landscape features by widening existing streets, changing paving material, or introducing inappropriately located new streets or parking lots.

Protecting and maintaining the historic masonry, wood, and architectural metals which comprise building and streetscape features, through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective painting systems; and protecting and maintaining landscape features, including plant material.

Removing or relocating historic buildings, or features of the streetscape and landscape, thus destroying the historic relationship between buildings, features and open space.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building, streetscape, and landscape features results.

Protecting buildings, paving, iron fencing, etc. against arson and vandalism before rehabilitation work begins by erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Permitting buildings to remain unprotected so that windows are broken; and interior features are damaged.

Stripping features from buildings or the streetscape such as wood siding, iron fencing, or terra cotta balusters; or removing or destroying landscape features including plant material.

DISTRICT/NEIGHBORHOOD (continued)

Recommended

Evaluating the overall condition of building, streetscape and landscape materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

Repairing features of the building, streetscape, or landscape by reinforcing the historic materials. Repair will also generally include the replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balustrades, paving materials, or streetlight standards.

Replacing in kind an entire feature of the building, streetscape, or landscape that is too deteriorated to repair—when the overall form and detailing are still evident—using the physical evidence to guide the new work. This could include a storefront, a walkway, or a garden. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

Failing to undertake adequate measures to assure the preservation of building, streetscape, and landscape features.

Replacing an entire feature of the building, streetscape, or landscape such as a porch, walkway, or streetlight, when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building, streetscape, or landscape feature or that is physically or chemically incompatible.

Removing a feature of the building, streetscape, or landscape that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

DISTRICT/NEIGHBORHOOD (continued)

The following work is highlighted because it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Design for Missing Historic Features

Designing and constructing a new feature of the building, streetscape, or landscape when the historic feature is completely missing, such as row house steps, a porch, streetlight, or terrace. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the district or neighborhood.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

Introducing a new building, streetscape or landscape feature that is out of scale or otherwise inappropriate to the setting's historic character, e.g., replacing picket fencing with chain link fencing.

Alterations/Additions for the New Use

Designing required new parking so that it is as unobtrusive as possible, i.e., on side streets or at the rear of buildings. "Shared" parking should also be planned so that several business can utilize one parking area as opposed to introducing random, multiple lots.

Placing parking facilities directly adjacent to historic buildings which cause the removal of historic plantings, relocation of paths and walkways, or blocking of alleys.

Designing and constructing new additions to historic buildings when required by the new use. New work should be compatible with the historic character of the district or neighborhood in terms of size, scale, design, material, color, and texture.

Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the district or neighborhood.

Removing nonsignificant buildings, additions, or streetscape and landscape features which detract from the historic character of the district or the neighborhood.

Removing a historic building, building feature, or landscape or streetscape feature that is important in defining the overall historic character of the district or the neighborhood.

Although the work in these sections is quite often an important aspect of rehabilitation projects, it is usually *not* part of the overall process of preserving character-defining features (maintenance, repair, replacement); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of rehabilitation work to meet new use requirements.

HEALTH AND SAFETY CODE REQUIREMENTS

As a part of the new use, it is often necessary to make modifications to a historic building so that it can comply with current health, safety and code requirements. Such work needs to be carefully planned and undertaken so that it does not result in a loss of character-defining spaces, features, and finishes.

Recommended

Identifying the historic building's character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.

Complying with health and safety code, including seismic codes and barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Working with local code officials to investigate alternative life safety measures or variances available under some codes so that alterations and additions to historic buildings can be avoided.

Providing barrier-free access through removable or portable, rather than permanent, ramps.

Providing seismic reinforcement to a historic building in a manner that avoids damaging the structural system and character-defining features.

Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.

Installing sensitively designed fire suppression systems, such as a sprinkler system for wood frame mill buildings, instead of applying fire-resistant sheathing to character-defining features.

Not Recommended

Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.

Making changes to historic buildings without first seeking alternatives to code requirements.

Installing permanent ramps that damage or diminish character-defining features.

Reinforcing a historic building using measures that damage or destroy character-defining structural and other features.

Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.

Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

Recommended

Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.

Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.

Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition. Such an addition should be located at the rear of the building or on an inconspicuous side; and its size and scale limited in relationship to the historic building.

Not Recommended

Using fire-retardant coatings if they damage or obscure character-defining features.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.

Constructing a new addition to accommodate code-required stairs and elevators on character-defining elevations highly visible from the street; or where it obscures, damages or destroys character-defining features.

**ENERGY
RETROFITTING**

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 wind-blocks, and lakes or ponds.

Stripping the setting of landscape features and landforms so that the effects of the wind, rain, and the sun result 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.

Installing 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 urea of formaldehyde foam or any other thermal insulation with a water content into wall cavities in an attempt to reduce energy consumption.

ENERGY RETROFITTING (continued)

Recommended

Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior moulding around the window or other interior architectural detailing.

Installing passive solar devices such as a glazed "trombe" wall on a rear or inconspicuous side of all the historic building.

Roofs

Placing solar collectors on noncharacter-defining roofs or roofs of nonhistoric adjacent buildings.

Windows

Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.

Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and, if historically appropriate, blinds and awnings.

Installing interior storm windows with airtight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.

LTH AND SAFETY CODE REQUIREMENTS (continued)

Recommended

Installing exterior storm windows which do not damage or obscure the windows and frames.

Considering the use of lightly tinted glazing on non-character-defining elevations if other energy retrofitting alternatives are not possible.

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.

Interior Features

Retaining historic interior shutters and transoms for their inherent energy conserving features.

New Additions to Historic Buildings

Adding new additions that have an energy conserving function such as a solar greenhouse on non-character-defining elevations.

Mechanical Systems

Installing thermal insulation in attics and in unheated cellars and crawlspaces to conserve energy.

Not Recommended

Resurfacing historic building materials with more energy efficient but incompatible materials, such as covering historic masonry with exterior insulation.

Installing passive solar devices such as an attached glazed "trombe" wall on primary or other highly visible elevations; or where historic material must be removed or obscured.

Placing solar collectors on roofs when such collectors change the historic roofline or obscure the relationship of the roof to character-defining roof features such as dormers, skylights, and chimneys.

Removing historic shading devices rather than keeping them in an operable condition.

Replacing historic multi-paned sash with new thermal sash utilizing false muntins.

Installing interior storm windows that allow moisture to accumulate and damage the window.

Not Recommended

Installing new exterior storm windows which are inappropriate in size or color, which are inoperable.

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.

Using tinted or reflective glazing on character-defining or other conspicuous elevations.

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.

Removing historic interior features which play a secondary energy conserving role.

Installing new additions such as multistory solar greenhouse additions which obscure, damage, destroy character-defining features.

Apply urea formaldehyde foam or any other thermal insulation with a water content or that may collect moisture into wall cavities.

NEW ADDITIONS TO HISTORIC BUILDINGS

An attached exterior addition to a historic building expands its "outer limits" to create a new profile. Because such expansion has the capability to radically change the historic appearance, an exterior addition should be considered only after it has been determined that the new use cannot be successfully met by altering non-character-defining interior spaces. If the new use cannot be met in this way, then an attached exterior addition is usually an acceptable alternative. New additions should be designed and constructed so that the character-defining features of the historic building are not radically changed, obscured, damaged, or destroyed in the process of rehabilitation. New design should always be clearly differentiated so that the addition does not appear to be part of the historic resources.

Recommended

Placing functions and services required for the new use in non-character-defining interior spaces rather than installing a new addition.

Constructing a new addition so that there is the least possible loss of historic materials and so that character-defining features are not obscured, damaged, or destroyed.

Locating the attached exterior addition at the rear or on an inconspicuous side of a historic building; and limiting its size and scale in relationship to the historic building.

Designing new additions in a manner that makes clear what is historic and what is new.

Not Recommended

Expanding the size of the historic building by constructing a new addition when the new use could be met by altering non-character-defining interior spaces.

Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed.

Designing a new addition so that its size and scale in relation to the historic building are out of proportion, thus diminishing the historic character.

Duplicating the exact form, material, style, and detailing of the historic building in the new addition so that the new work appears to be part of the historic building.

Imitating a historic style or period of architecture in new additions, especially for contemporary uses such as drive-in banks or garages.

NEW ADDITIONS TO HISTORIC BUILDINGS (continued)

Recommended

Considering the attached exterior addition both in terms of the new use and the appearance of other buildings in the historic district or neighborhood. Design for the new work may be contemporary or may reference design motifs from the historic building. In either case, it should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.

Placing new additions such as balconies and greenhouses on non-character-defining elevations and limiting the size and scale in relationship to the historic building.

Designing additional stories, when required for the new use, that are set back from the wall plane and are as inconspicuous as possible when viewed from the street.

Not Recommended

Designing and constructing new additions that result in the diminution or loss of the historic character of the resource, including its design, materials, workmanship, location, or setting.

Using the same wall plane, roof line, cornice height, materials, siding lap or window type to make additions appear to be a part of the historic building.

Designing new additions such as multistory greenhouse additions that obscure, damage, or destroy character-defining features of the historic building.

Constructing additional stories so that the historic appearance of the building is radically changed.

APPENDIX C

EXAMPLES OF SIGNS

Exit 52

8

108

Bridgeport
Waterbury
1 mile

GUIDE SIGNS



GUIDE SIGNS



TOWN LINE SIGNS



BRIDGE OVERPASS SIGNS

Service Area

Food

Open

Phone

24

Fuel **Mobil**

Hours

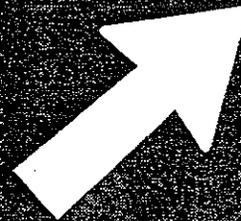
1/2 Mile

Service Area

Food

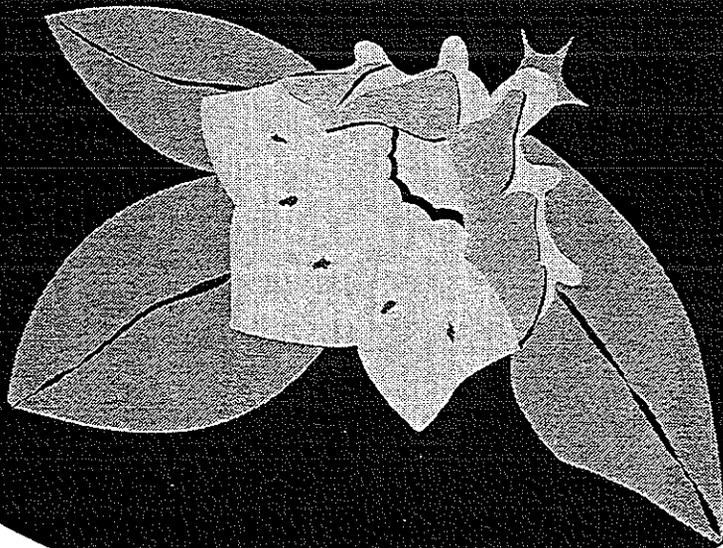
Phone

Fuel **Mobil**



SERVICE AREA SIGNS

Merritt Parkway



MERRITT PARKWAY TRAIL BLAZER

APPENDIX D

AASHTO POLICY RESOLUTION
PR-2-94

As approved by the AASHTO Board
of Directors on April 11, 1994

POLICY RESOLUTION PR-2-94

TITLE: NATIONAL HIGHWAY SYSTEM DESIGN STANDARDS

WHEREAS, AASHTO supports the National Highway System (NHS), which is comprised of a cross-section of rural and urban roads in a wide variety of natural and cultural settings; and

WHEREAS, the application of Interstate design standards across all NHS routes or the application of a design standard higher than warranted by the type of traffic using the particular NHS route would be inappropriate and counterproductive; and

WHEREAS, the application of design standards for NHS components should be flexible, based on functional classification, type of traffic, and a wide variety of specific project circumstances; and

WHEREAS, while safety is a paramount concern, environmental, scenic, historic, community and preservation concerns should also be integrated into design standards for the NHS, with State flexibility to incorporate such concerns; and

WHEREAS, design solutions should be encouraged that respect the integrity and value of historic preservation, communities, rivers, streams, lakes, and coastal areas, wetland preservation, other environmental, scenic, and aesthetic considerations, and impacts on agricultural lands; and

WHEREAS, design standards on NHS routes should seek to preserve and enhance access for bicycle and pedestrian traffic;

WHEREAS, each state is the appropriate judge of the balance among these factors.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the American Association of State Highway and Transportation Officials (AASHTO) is not in favor of any Federal requirement to establish a single standard for the NHS.

BE IT FURTHER RESOLVED, that AASHTO recommends that design standard determinations for NHS routes be delegated to each State, with the goal that each State's selected standards be in accordance with AASHTO design standards as appropriate.

BE IT FURTHER RESOLVED, that the Member Departments of AASHTO will work through AASHTO's design standards committees, with DOT, and with interested parties on design criteria and a design process for NHS routes that integrate safety, environmental, scenic, historic, community and preservation concerns, and on standards which also foster access for bicycles and pedestrian traffic along with other transportation modes.