

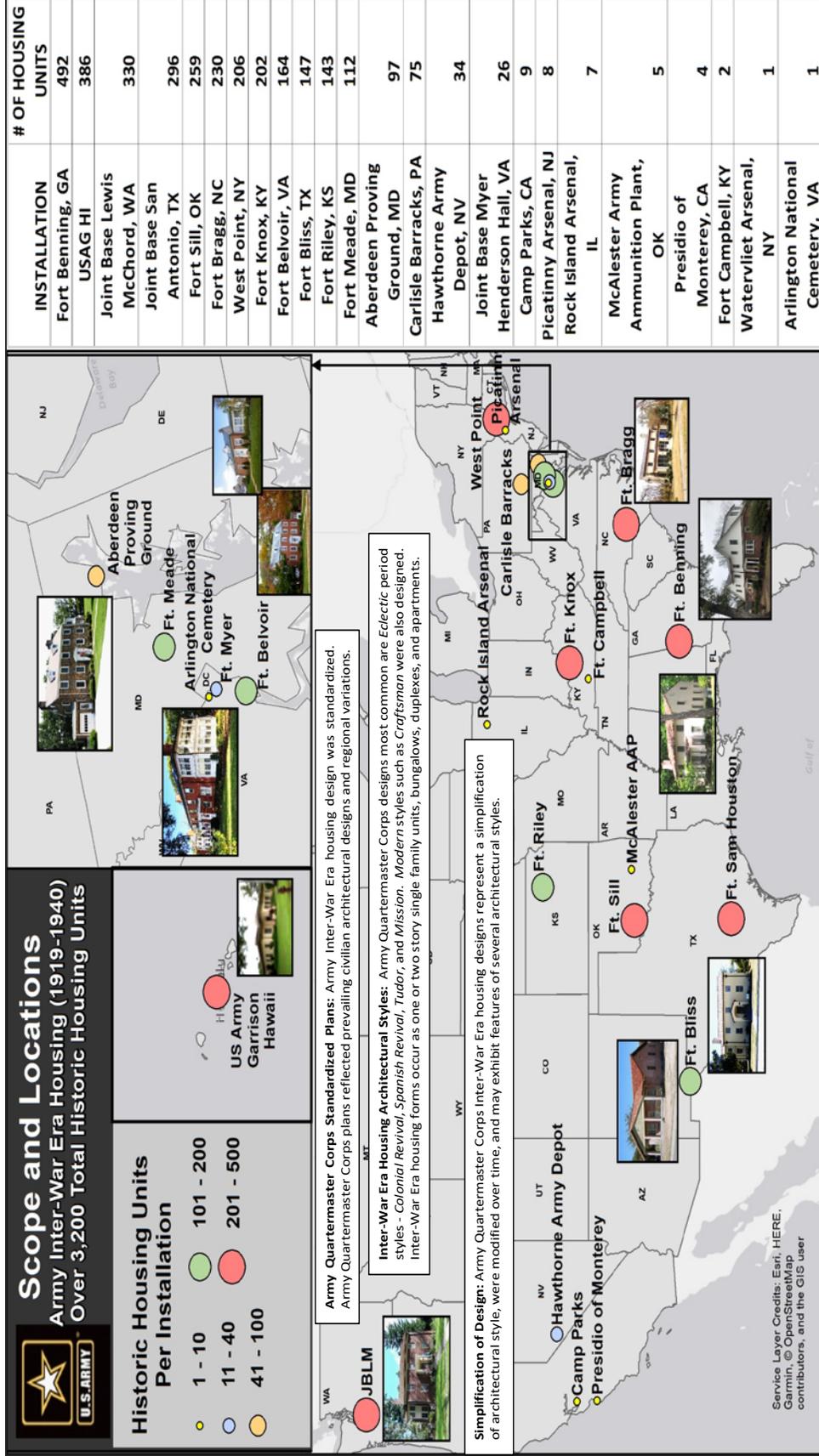


Appendix A

DESIGN GUIDELINES FOR

ARMY INTER-WAR ERA HOUSING

(1919-1940)



This information represents the best available Inter-War Era housing inventory information as of the date of this document.

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I. Introduction

PROGRAM COMMENT INTENT AND APPLICABILITY: The intent of the *Department of the Army Program Comment for Inter-War Era Housing, Buildings and Structures, and Landscape Features 1919-1940* (Program Comment) is to address the Army's National Historic Preservation Act (NHPA) compliance requirements by establishing procedures for management of the Army's nation-wide inventory of over 3,200 Inter-War Era housing units that balance historic preservation requirements with the Army's responsibility to provide the thousands of military families who live in this historic housing with the quality of life, health, and safety they require.

The Program Comment for Inter-War Era Housing applies to and provides treatment measures for the effects of management actions on Army constructed housing built between 1919 and 1940, and the associated buildings and structures, and landscape features. Management actions is the category of undertaking addressed by the Program Comment that includes: maintenance, repair, rehabilitation, renovation, abatement, mothballing, demolition, replacement construction, new construction, and lease and conveyance of these properties. Associated buildings and structures, and landscape features as used in these Guidelines includes neighborhoods, landscapes, associated buildings and structures, and historic districts. The Program Comment and these Design Guidelines supersede and replace the processes, procedures, and requirements in installation Programmatic Agreements, Memoranda of Agreement, and any procedures, development agreements, lease and conveyance documents, environmental management plans, guidelines, reporting requirements, Integrated Cultural Resources Management Plans, and any and all other installation documents, standards, procedures, or guidelines pertaining to the preservation and management of Inter-War Era housing, associated buildings and structures, and landscape features.

The Program Comment and therefore, these Design Guidelines do not apply to Inter-War Era housing that has been formally designated by the National Park Service as a National Historic Landmark, or housing that has been formally designated by the National Park Service as a contributing building within a National Historic Landmark District, nor do they apply to the Inter-War Era housing at Fort Meade MD, that is subject to a Deed of Easement. Refer to the Program Comment for definitions of terms used in these Guidelines.

INTER-WAR ERA HOUSING: The Inter-War Era (1919-1940) includes Army housing of several architectural styles, which fall into the categories of *Eclectic* houses and *Modern* houses (see *A Field Guide to American Houses*, McAlester, V. S., 2017). Standardized plans, developed by the Army Quartermaster Corps, were followed for the construction of Inter-War Era Army housing. Army standardized plans reflected prevailing civilian architectural designs and community planning trends of the time, with regional style variations and use of locally available materials. Regional style variations among Inter-War housing are exterior in nature, the interior layouts are generally very similar, corresponding to military rank. Since Army housing standardization was driven by cost analysis and efficiency of construction, Army Inter-War Era housing exteriors lack some of the design features and ornamentation associated with similar architectural styles in the civilian sector. The Army Quartermaster Corps also developed standardized plans for landscaping, neighborhood layout, and the design of entire installations, all of which may now constitute or be part of a historic district or districts. The result of Army Quartermaster Corps standardization is that the same general housing designs, administrative buildings, landscape and neighborhood designs, and overall installation layouts are repeated, one after the other, on Army installations.

PROGRAM COMMENT TREATMENT MEASURES: Army installations are part of the country's built environment. Similar to civilian towns and cities, Army installations are a record of their time and development history, and represent the planning and architectural concepts associated with the times in which they were established and modified. The Army-wide history, development, designs and evolution of Army standardized planning, and Inter-War Era housing, neighborhoods, other built areas and historic districts on installations have been extensively documented and recorded. Additionally, the history of the Inter-War Era housing itself, its exterior designs and styles, interior designs and floorplans, and landscapes have also been extensively documented and recorded. Treatment measures in the NHPA Section 106 process address and mitigate the effects of management actions on historic properties. This existing set of documentation serves as a Program Comment treatment measure by documenting the historic context, recording exterior and interior housing designs and plans, and the designs of neighborhoods, landscapes, and the historic districts where the housing occurs. The documentation is referenced below¹, and is consolidated and available on the Army's Program Comment website: <https://denix.osd.mil/army-pchh/home/>. Individual Army installations have also identified and recorded their Inter-War Era housing, historic districts, and landscapes in specific installation-level documentation. Installation-level documentation includes the installation Cultural Resource Management Plans that contain historic contexts, a comprehensive inventory of all historic properties, electronic recordation of the location of these housing areas and historic districts in installation Geographic Information Systems, and often extensive documentation prepared in the context of installation NHPA Section 106 compliance activities that identifies and documents this housing and its associated buildings and structures, and landscape features. Examples of such detailed installation-level treatment measures from Army installations in Hawaii (HABS and HALS documents) are located on the Program Comment website. Additional treatment measures, such as these Design Guidelines, are included in the proposed Program Comment. The Program Comment treatment measures address the effects of management actions (maintenance, repair, rehabilitation, renovation, lay-away and mothballing, demolition, replacement construction, new construction, and lease and conveyance) on all Army constructed housing built between 1919 and 1940 and its associated buildings and structures, and landscape features.

DESIGN GUIDELINES²: The purpose of these Design Guidelines is to maintain the historic and architectural character of Inter-War Era housing and its associated buildings and structures, and landscape features while addressing quality of life, health, and safety issues faced by the military families who live in the historic housing. The Army must balance quality of life issues, health risks associated with lead-based paint and

¹ A. *National Historic Context for DoD Installations, 1790-1940, Volumes I-4*. DoD Legacy Resource Management Program Project 92-0075 (1995).

B. *A Study of United States Army Family Housing Standardized Plans, Volumes 1-5.*, Grashof, B. (1986).

C. *Historic Context Study US Army Quartermaster General Standardized Plans 1866-1942*. Army Corps of Engineers, Seattle District (1997).

D. *Historic Context Study of Historic Military Family Housing in Hawaii*. DoD Legacy Resource Management Program Project 115 (2003).

E. *Design Guidelines for DoD Historic Buildings and Districts*. DoD Legacy Resource Management Program Project 07-382 (2008).

² After: *Design Guidelines for DoD Historic Buildings and Districts*. DoD Legacy Resource Management Program Project 07-382 (2008).

other hazards in historic housing, and the high costs associated with historical building materials with the requirement to preserve the historic and architectural character of historic housing. This balance among these critically important issues is accomplished through implementation of these Design Guidelines and the use of both in-kind historical building materials and / or imitative substitute building materials.

According to the Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties (SOI Standards), imitative substitute building materials ("imitative materials" as used in the SOI Standards) have a long history in American building construction. As defined for the purposes of the Program Comment for Inter-War Era housing (1919-1940) and these Guidelines, imitative substitute building materials are: *modern, readily available, industry standard, natural, composite, and synthetic materials that simulate the appearance of and substitute for more expensive historical building materials*. The use of imitative substitute building materials is not new, yet it continues to raise philosophical questions among some preservationists who believe that the use of imitative substitute building materials in historic buildings should be avoided. According to the National Park Service's Preservation Brief 16³, imitative substitute building materials (the terms "imitative" and "substitute" materials are used interchangeably in Preservation Brief 16) should be used with caution, but can be cost-effective, can permit the accurate visual duplication of historic materials, last a reasonable time, and with proper planning as provided by these Design Guidelines, modern imitative substitute building materials can be successfully used to maintain the appearance of historic properties. Imitative substitute building materials will be considered for use where the quality of life, health, and safety of housing occupants is at issue or where the costs of in-kind historical building materials and / or the costs of specialized craftsman make the use of in-kind historical building materials not financially or otherwise feasible. The selection of appropriate imitative substitute materials will also be assisted by the Army's materials catalog for Inter-war Era Housing.

These Design Guidelines, with the use of either in-kind historical building materials or imitative substitute building materials, establish the guidance and appropriate methods that will maintain the historical and architectural appearance of Inter-War Era housing and its associated buildings and structures, and landscape features, address lead-based paint hazards in historic housing by encapsulation or allowing replacement of historical building materials containing lead-based paint, and reduce the high costs associate with historical building materials. Encapsulation or the use of imitative substitute building materials to address the lead-based paint hazards in housing is critical to the health and safety of our military family members. Additionally, the cost efficiencies resulting from the use of imitative substitute building materials improves the quality of life for our military families by allowing upgrades and improvements to the housing that have not otherwise been possible due to excessive expenditures on high cost historical building materials and specialized craftsmen.

The use of imitative substitute building materials is appropriate for Army Inter-War Era housing. The Army has over 3,200 actively occupied Inter-War Era housing units that serve an institutional housing function for soldiers and their families. None of this housing is planned or is intended to be restored and preserved as historic house museums open to the public. This housing and the installation neighborhoods where it occurs has restricted access and is not open to the general public.

³ *Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors*. Technical Preservation Services, National Park Service (1988).

With the appropriate choice and proper installation, imitative substitute building materials, when used following these Design Guidelines, will maintain the overall character-defining appearance that conveys historical, cultural, and architectural values of Inter-War Era housing and its associated buildings and structures, and landscape features, while improving the quality of life, health and safety of the military families who occupy Army Inter-War Era housing.

CHARACTER-DEFINING FEATURES⁴: The character of a historic building is established by its form, size, scale, and decorative features. Character-defining features include the overall shape, style and design of the building, decorative details, interior spaces and features, as well as its associated buildings and structures, and landscape features. When identifying a building's character-defining features it is important to understand the features associated with a particular architectural style. The Inter-War Era (1919-1940) architectural style commonly found on Army installations is defined by the Eclectic⁴ house styles. Eclectic houses are varied and draw on Classical, Medieval, and Renaissance architectural traditions, resulting in historical or "period" styles that are variously termed Colonial Revival, Spanish Revival, Tudor, and Mission. Additionally, Modern⁴ house styles of American origin such as Craftsman are also present on Army installations. Eclectic and Modern styles have character-defining elements such as their forms and shapes, structural systems, roofs, and architectural details (most importantly windows, doors, chimneys, porches, and decorative details).

It is important to understand that any given Army example of Inter-War Era housing may not exhibit all character-defining features or materials of its architectural style. In fact, a feature of Army housing from the Inter-War Era is a simplification of architectural style, it will not exhibit all character-defining features or materials, will have been modified over time, and may exhibit features of several different architectural styles. The architectural styles are also manifested in a number of building forms, one or two story single family, duplexes, and apartment buildings. The Army's intent in applying these Design Guidelines is to maintain the overall appearance of existing character-defining features rather than attempt to recreate missing features, create a style or appearance that no longer exists, or to restore the housing to a certain period in time or for purposes of visitation by the general public.

⁴ *A Field Guide to American Houses*, McAlester, V. S., (Alfred A. Knopf 2017) for character-defining features and house styles as used in these Guidelines.

II. House Styles And Character-defining Features⁵:



Fort Myer, VA Duplex



Aberdeen Proving Ground, MD

Colonial Revival

Character-defining Features:

- Hipped or gabled roof
- Mostly symmetrical in form
- 2-stories, sometimes 1-story,
- Side wings may be present
- Central and accentuated entry door
- Decorative crown (pediment) on main doorway supported by pilasters
- Facade usually has a center door and symmetrical windows
- Double-hung windows, multi-pane glazing
- Dormers

⁵ The house styles presented in this section are representative of the Army's Inter-War Era housing inventory. This is not intended to be exhaustive review of all Inter-War Era house styles, subtypes, and forms.

Spanish Revival

Character-defining Features:

- Symmetrical or asymmetrical form
- Low pitched roof
- Little or no eave overhang
- Stucco covered wall surface
- Red clay tile roof covering usual but may have been replaced with other materials
- Arches may be present above main doors and beneath porch roofs



Fort Bragg, NC



Fort Bliss, TX

Mission

Character-defining Features:

- Wood-framed hipped roof
- Wide overhanging eaves
- Open soffit
- Shingle or red clay tile roofing
- Deep-set windows
- Arched doorways
- Smooth stucco wall surface



Wheeler Army Airfield, HI



*Wheeler Army Airfield, HI
Duplex*

Tudor

Character-defining Features:

- Steeply pitched roof
- Facade with front facing gables
- Tall, narrow windows, often in pairs or groupings
- Double-hung or casement windows with multi-pane glazing
- Decorative half timbering may or may not be present



Joint Base Lewis McChord, WA



*Fort Benning, GA
Duplex*

This style is referred to locally at Fort Benning, GA as "Dutch Colonial".

Craftsman

Character-defining Features:

- Low pitched hipped or gabled roof
- Unenclosed eave overhang
- Exposed roof rafter ends (no fascia board)
- Decorative (false) beams or braces common
- Bracket-supported roof extension
- Double-hung windows



Schofield Barracks, HI

III. Guidelines for Building Rehabilitation, Renovation, Alteration, New Additions, and New and Replacement Construction:

1. The appearance and character defining features of Inter-War Era housing and associated buildings and structures will be maintained with in-kind historical building materials or with imitative substitute building materials during rehabilitation, alteration (renovation), new additions, and new construction.
2. Where the existing housing does not accommodate current quality of life requirements, interior floorplan alterations, exterior alterations, new additions, and new construction are acceptable when implemented in accordance with these Guidelines.
3. Exterior alterations and new additions will maintain the character of the historic housing and associated buildings and structures, and will be compatible with the mass, form, character-defining features, and architectural style of the historical housing and setting. Ensure the size and scale of new additions in relationship to the building do not diminish, obscure or overwhelm the view and character of the historic building and / or viewshed out from or in to any historic district(s).
4. New additions will be placed in the rear and on secondary elevations of the housing to maintain the front character-defining elevation and will be compatible with the scale, character-defining features, and architectural style of the historical housing and the associated buildings and structures, and landscape features.
5. New and replacement housing construction will be compatible with the mass, form, character-defining features and architectural style of the existing historical housing, associated buildings and structures, and the setting so as not to obstruct views out from or in to any historic district(s).
6. New compatible construction that occurs as infill within the existing pattern of neighborhood development serves to preserve the historic character of the associated buildings and structures, and landscape features.
7. New and replacement housing construction may accommodate additional square footage (i.e., square footage beyond that of the surrounding historic housing) in the rear and on secondary elevations of the housing. New and replacement construction will maintain compatibility of the front elevation with the scale, setback, and spacing of the surrounding historic housing and associated buildings and structures, and landscape features.
8. Where removal of exterior and interior character-defining historic building materials or features is believed to be required, during building rehabilitation or renovation, either in-kind historical building materials or imitative substitute building materials that simulate the appearance and design of the historical materials may be used for replacement of removed or deteriorated or unsafe historical building materials. Guideline XIX will be applied where removal of exterior and interior character-defining historic building materials or features is believed to be required.

Examples of Considerations in Building Rehabilitation, Alteration, New Additions, and New Construction

- Compatibility with surrounding buildings and landscape features
- Adding additional square footage on rear or secondary elevations
- Maintaining of exterior historic character

9. Design new construction to maintain the overall historic character of a historic landscape and / or historic district(s) including such elements as the site, topography, landscape features and historic views and vistas.
10. Design new construction to be compatible with the surrounding buildings and landscape features of a historic property and / or district(s) in terms of height, form, massing, scale, size, proportion, roof type and architectural details.
11. Select materials and finishes for new construction that are compatible with the historic materials and finishes of surrounding historic buildings.
12. Design new construction to be compatible and sensitive to the historic buildings but may not exactly replicate existing historic buildings.
13. Guideline XX will be followed in the event of discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects during construction activities.

IV. Guidelines for Windows and Doors

1. Maintain windows and their functional and decorative features including but not limited to the following: frames, sashes, muntins, sills, decorative jambs and moldings, hardware, shutters and detail materials such as stained glass, beveled glass, textured glass or tracery to the extent possible. If windows and their functional and decorative features present a lead-based paint or other hazard, encapsulate or replace with in-kind historical building materials or imitative substitute building materials.
2. Maintain historic doors and their functional and decorative features including but not limited to the following: frames, panels, glazing, sidelights, fanlights, surrounds, thresholds, hardware and screen doors to the extent possible. If doors and their functional and decorative features present a lead-based paint or other hazard, encapsulate or replace with in-kind historical building materials or imitative substitute building materials.
3. When an entire window or door requires replacement, replace with in-kind historical building materials or with imitative substitute building materials, ensure a similar size and configuration. Guideline XIX will be applied in such instances.
4. It is inappropriate to apply new features (such as shutters or molding) where none currently exist unless they are historically documented to have existed during the Inter-War Era (1919-1940).

Examples of Decorative Features of Windows and Doors:

- Transoms
- Sidelights
- Fanlights
- Decorative brackets and hoods
- Architectural trim, molding, panels, thresholds and surrounds
- Stained or colored glass, textured glass, beveled glass
- Hardware
- Screens or storm windows and doors
- Shutters
- Awnings

5. Awnings may be installed over windows and doors but should not obscure or damage the windows, doors, or other character-defining features.
6. Storm windows can be installed but should not obscure character defining features of the window. For example, if a window is a double-hung sash, install a storm window with a horizontal divider that matches the location of the divider on the existing window.
7. Storm doors can be installed so that they do not obscure or damage the existing door and frame. Select storm doors compatible with the color and character of the existing door.
8. If entirely new window openings or door openings are required, they should be installed on secondary elevations (rear elevation or elevations not visible from the street). The new windows should be compatible with, but not duplicate, the building's historic windows and fenestration to avoid creating a false historical appearance. Guideline XIX will be applied in such instances.
9. Windows or doors that have to be covered for security and other purposes should be locked, cleaned, and covered on the exterior or interior rather than infilled with a permanent material such as brick or concrete, where security requirements allow. Covering on the interior is preferred.

V. Guidelines for Entrances, Porches and Details

1. Maintain historic entrances, porches and their functional and decorative features including: columns, pilasters, piers, entablatures, sidelights, transoms, steps/stairs, railings, floors and ceilings.
2. Maintain and repair historic entrances, porches and their features through appropriate methods. If repair or replacement of historical materials presenting a lead-based paint or other hazard is required, encapsulate, or replace with in-kind historical building materials or imitative substitute building materials.
3. If a portion of an entrance, porch or feature is deteriorated beyond repair, replace using in-kind historical building materials or imitative substitute building materials that match the original in size, design, and scale. If replacement of historical materials presenting a lead-based paint or other hazard is required, replace with in-kind historical building materials or with imitative substitute building materials. Guideline XIX will be applied in such instances.
4. If replacement of an entire entrance, porch or feature is necessary, replace by simulating the original in size, design, and scale using in-kind historical building materials or imitative substitute building materials.
5. It is inappropriate to enclose a historic front or primary entrance or porch. If enclosure of a historic entrance or porch on a secondary elevation is necessary, design the enclosure to maintain the historic character of the entrance or porch, building and district. For instance, recess the enclosure behind columns, balustrades and other features and/or consider using glass instead of solid materials.

Examples of Features of Entrances, Porches, and Details:

- Supports
- Railings
- Porch Coverings
- Awnings
- Port-Cochere
- Decking
- Stairs

VI. Guidelines for Roofs

1. Maintain historic roof coverings, functional and decorative features (including but not limited to: cresting, dormers and chimneys) whenever possible.
2. Protect and maintain roofing materials through regular maintenance using appropriate methods, including removal of debris from roofs and cleaning and maintenance of gutter systems.
3. If a portion of a historic roof covering or feature is deteriorated beyond repair, it is appropriate to replace using imitative substitute materials where in-kind materials are not technically or economically feasible. Guideline XIX will be applied in such instances.
4. If replacement of an entire historic roof covering or feature is needed, it is appropriate to replace using imitative substitute materials where in-kind materials are not technically or economically feasible. Guideline XIX will be applied in such instances.
5. Gutter systems should be compatible with the historic character of the building and/or historic district. In-kind historical building materials or imitative substitute gutter materials may be used and should avoid concealing other architectural features to the extent possible. Guideline XIX will be applied in such instances.
6. Non-functional concealed, built-in gutter systems may be repaired with in-kind historical building materials or replaced with modern exposed gutters similar to others in common use within the neighborhood or historic district. Installation of exposed gutters should avoid concealing other architectural features to the extent possible.
7. It is inappropriate to apply new features (such as balustrades, cupolas and cresting) where none currently exists unless they are historically documented to have existed during the Inter-War Era (1919-1940).
8. New roof features such as skylights, vents, solar panels, antennas, satellite dishes and mechanical equipment should be installed in areas not visible from the street.
9. Dormers and additions to roofs will be compatible with the character of the historic building in size, design and scale, and will be located in areas not visible from the street if possible.
10. It is inappropriate to use temporary measures long term, such as exposed tarpaper as a finished roofing material. In addition, tar or asphalt products should not be used to patch clay tiles, slate, wood or metal roofs. In-kind historical building materials or imitative substitute material may be used as patch treatment.
11. If historic roofing material has previously been replaced with a different material, i.e., if a slate, wood shingle, or clay tile roof has been replaced at some earlier point in time with for example asphalt shingles, it is permissible to re-roof with asphalt shingles, i.e., with the currently existing materials.

Examples of Features of Roofs:

- Shingles (including asbestos, clay tile, and slate tile)
- Drainage (including gutters)
- Pediments
- Cornices
- Brackets
- Flashing
- Chimneys

VII. Guidelines for Foundations and Walls

1. Maintain historic foundations and exterior walls that contribute to the historic character of a building, including their functional and decorative features such as cornices, bays, piers and pediments.
2. Maintain and repair materials, details and features of foundations and exterior walls through appropriate methods.
3. If a portion of a foundation, exterior wall or feature is deteriorated beyond repair, replace with in-kind historical building materials or imitative substitute building materials. Guideline XIX will be applied in such instances.
4. If replacement of an entire foundation, exterior wall, or feature is necessary, replace with in-kind historical building materials or imitative substitute building materials. Guideline XIX will be applied in such instances.
5. It is generally inappropriate to introduce new features such as windows, doors, and vents to front elevation exterior walls. If new features are required, features should be installed on secondary elevations (rear or side elevations, or elevations that are not visible from the street) whenever possible.
6. When required, it is appropriate to remove and replace exterior wall materials or features including but not limited to: panels, pediments, bargeboard and cornices with in-kind historical building materials or imitative substitute building materials.
7. In-kind historical building materials or imitative substitute materials (including but not limited to vinyl or composite siding) may be used on exterior walls. Imitative substitute materials will simulate the dimensions and finish of the historical building materials. Guideline XIX will be applied in such instances. Guideline XX will be followed in the event of discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects during foundation repair or replacement activities.

Examples of Decorative Features of Foundations and Exterior Walls:

- Windows, various types
- Doors, various types
- Pediments, cornices and entablatures
- Brackets
- Quoins
- Patterning of brick or shingles
- Corbelling
- Latticework

VIII. Guidelines for Interiors

1. Where the existing interior floor-plan does not accommodate current quality of life requirements, floor-plan alterations, reconfigurations, and use of in kind historical building materials or imitative substitute building materials in making those alternations or reconfigurations are acceptable when implemented in accordance with these Guidelines for Interiors and Guideline XIX.
2. Retain interior features that are important in defining the overall historic character of the building to the extent possible, or replace in-kind historical building materials or with imitative substitute building materials in accordance with Guideline XIX. Interior character-defining features are: columns, cornices, baseboards,

crown molding, fireplaces and mantels, stairs, and ceiling height. If interior features present a lead-based paint or other hazard, either encapsulate or remove the feature and replace with in-kind historical building materials or imitative substitute building materials.

3. Retain wallpaper, plaster, and finishes such as stenciling, marbleizing, and graining; and other decorative materials to the extent possible. If such decorative finishes present a lead-based paint or other hazard, remove and replace in-kind historical building materials or with imitative substitute building materials. Plaster walls may be repaired and / or replaced with dry-wall.
4. Avoid installing dropped ceilings below ornamental ceilings or in rooms with high ceilings. If dropped ceilings are necessary, they should be installed in a manner set back from the windows so they are not visible from the exterior and avoid damage to historic decorative features to the extent possible.
5. Retain stairs in their historic configuration and location whenever possible. If a second means of egress is required, construct new stairs in secondary spaces if possible.
6. The installation of security features and fire suppression systems should be implemented in a manner to permit retention of character-defining features.
7. Features of outdated or obsolete mechanical and electrical systems, such as radiators, vents, fans, grilles, plumbing fixtures, wiring, fuse boxes, switch plates, and lights, may be removed. Any damage resulting from systems removal will be repaired using appropriate methods in accordance with these Guidelines and in a timely manner.
8. If new heating, air conditioning, lighting and plumbing systems are installed, or if wood burning fireplaces are replaced with natural gas fireplaces, they should be done in a way that does not destroy character-defining features and finishes to the extent possible. Ducts, pipes, and wiring should be installed as inconspicuously as possible, in secondary spaces, in the attic or basement if possible, or in closets if possible.
9. If a portion of an interior feature or finish is deteriorated beyond repair, it is appropriate to replace the damaged portion using imitative substitute building materials or in-kind historical building materials.
10. If replacement of an entire interior feature or finish is necessary, replace with in-kind historical building materials or imitative substitute building materials. If interior doors require replacement for security purposes, replace with imitative substitute building materials where imitative substitute building materials meet security requirements.
11. It is inappropriate to apply new interior features and finishes where none currently exist unless they are historically documented to have existed during the Inter-War Era (1919-1940). Such features include but not limited to decorative finishes such as stenciling or marbling, columns and moldings.

Examples of Interior features and finishes:

- Columns
- Cornices
- Baseboards
- Fireplaces and mantels
- Built-in cabinets and bookcases
- Paneling (bead board, wainscoting)
- Light fixtures
- Flooring (wood, terrazzo)
- Plaster
- Decorative finishes (stenciling, graining, and marbling)

12. Avoid removal of any character-defining historic interior feature or finish in a primary interior space to the extent possible. If removal cannot be avoided replacement with imitative substitute building materials is acceptable.
13. Remove loose and damaged plaster and replace with either in-kind historical building materials or imitative substitute building materials, replacement of plaster walls with drywall is appropriate.

IX. Interior Structural Systems

1. Maintain historic character-defining visible interior structural systems and their features to the extent possible through regular inspections and appropriate repair methods.
2. Repair original interior structural systems and their features either by augmenting or upgrading individual parts or features.
3. If an original structural system or feature requires replacement, replace with materials with similar functional characteristics.
4. Remove visible features of an interior structural system only when necessary when due to use requirements or other issues. Replace removed visible features or structural system with features or a structural system that meets functional requirements.
5. Design and install mechanical and electrical systems to minimize the alteration or damage to a structural system or feature. For example, limit the number of cutouts or holes in a structural member or feature to the extent possible.
6. If a structural feature or system has been previously replaced, it is unnecessary to attempt to restore or recreate what is believed to be original features or systems.

Features of Interior Structural Systems:

- Brick walls (load-bearing)
- Interior columns
- Roof trusses
- Posts and beams
- Stone foundation walls

X. Guidelines for Historic Designed Landscapes and Features¹

1. Maintain features of historic designed landscapes to the extent possible including but not limited to: the relationship and spatial arrangement of the various components of the landscape, water features, circulation patterns, topography, vegetation, structures, site furnishings and objects. Avoid removing, obscuring or concealing such historic landscape features to the extent possible.
2. Maintain historic designed landscape features including but not limited to: fountains, sculpture, site and street furnishings, monuments and gravestones, walkways, sidewalks, fences, walls, and hills, trenches and terraces to the extent possible. If all or a portion of a historic designed landscape feature requires replacement, it is appropriate to replace with in-kind materials or with imitative substitute building mate-

¹Historic Designed Landscapes and Features are landscapes and their features that are 50 year old or older, were consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles, and retain significant character-defining features of their original design

rials, where such materials are appropriate. Installation of new fencing in historic housing areas to meet quality of life or other functional needs where none currently exists and replacement of existing fencing should be limited to side and back yards and is not subject to any specific design requirements or other criteria being impermanent and removable. Repair and replace historic fencing with in-kind materials or imitative substitute building materials.

3. Maintain historic plant materials² through appropriate methods to the extent possible. If replacement of historic plant materials is necessary, replace with the same or similar species where possible and practicable, or with selections from an installation's approved plant material list (if such a list is available). Removal of historic plant material may occur when there is a threat of or ongoing impacts to housing and infrastructure. It is acceptable to remove historic plant material, including non-native species that are not compatible with and impact significant environmental factors such as water availability.
4. If a portion of a historic landscape feature is deteriorated beyond repair, replace the damaged portion using in-kind historical materials or imitative substitute building materials, if economically or otherwise feasible.
5. Replacement of a historic landscape feature that is not currently existing is not required.
6. Guideline XX will be followed in the event of discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects during landscaping activities.

Historic Designed Landscape Features:

- Fences, walls, hedgerows
- Water features
- Topography features
- Parks, and other open spaces

Vegetation Features:

- Individual plants, trees
- Groupings of plants such as woodlands, planting beds, gardens

Topography Features:

- Terraces
- Hills
- Berms
- Bluffs
- Trenches or Ditches

Site Furnishing Features:

- Bridges
- Gazebos
- Recreational structures
- Monuments and statues
- Benches
- Lighting

Circulation Features:

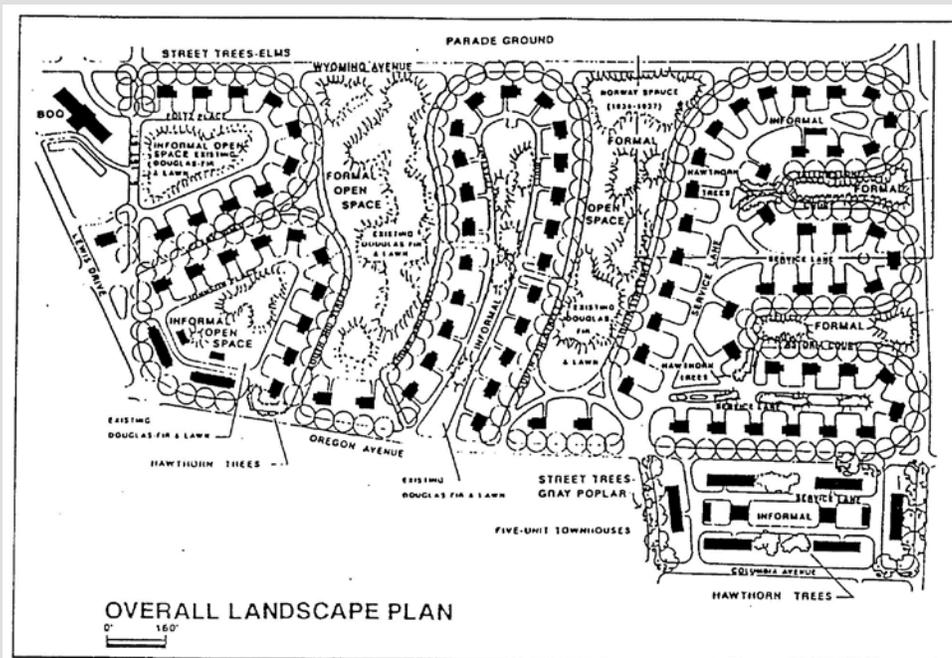
- Walkways, paths, sidewalks
- Transportation corridors such as railroads, roadways

Water Features:

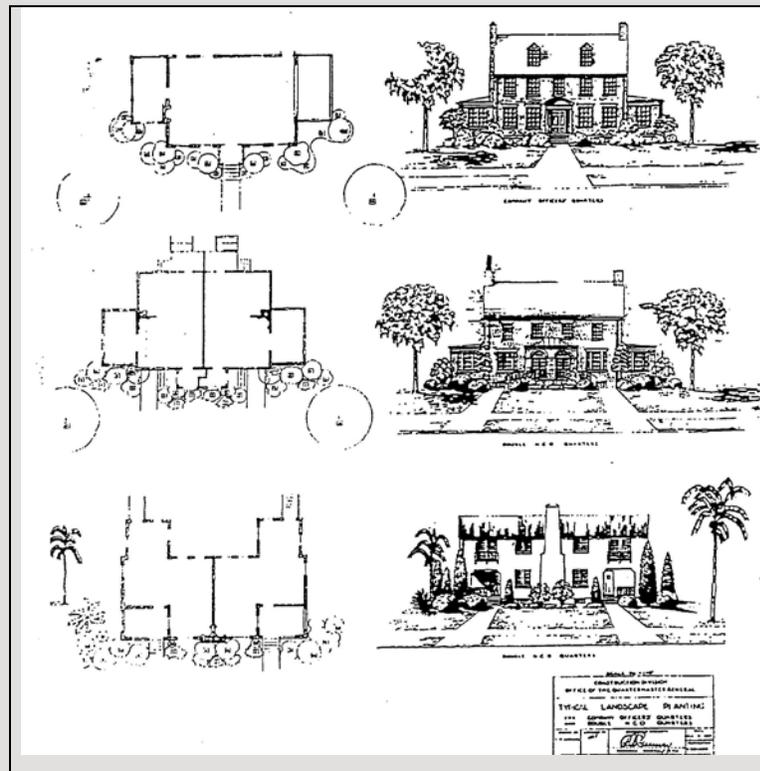
- Ponds
- Lakes, streams and creeks
- Pools
- Canals
- Fountains

²Historic plant materials are plants that have historical or botanical significance. Historic plant materials are those plants directly associated with a historic figure or event, or part of a notable landscape design 50 years old or older. Such historic plant materials may be a non-native or uncommon cultivar, exceptional in size, age, and/or rare and commercially unavailable. Definitions reference: Preservation Brief 36 *Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes*, Technical Preservation Services, National Park Service (1994)

Historically Documented Examples of Inter-War Era Designed Landscapes¹:



Historic Quartermaster Corps Designed Landscape Plan, Broadmoor Neighborhood, Joint Base Lewis/McCord, WA



Historic Quartermaster Corps Standardized Landscape Planting Plan for Officer Quarters and NCO Duplexes

¹ For historical and documentary purposes only, not a guideline

Examples of Existing Inter-War Era Housing Landscapes:



Fort Myer, VA



Fort Bragg, NC

XI. Guidelines for Historic Districts Containing Inter-War Era Housing

1. Maintain historic views and view sheds into and out of historic buildings and historic districts including scenic vistas and open space by implementing these Design Guidelines.
2. Plan new and replacement construction adjacent to historic buildings and within the boundaries of a historic district to be compatible with the historic character of the building and/or district in scale, size, design and setback.
3. Retain the historic community plan of historic districts including but not limited to cultural or man-made features such as circulation systems, streetscapes and furnishings, designed landscapes, setbacks, and monuments and statues, as well as the natural features such as open space, wooded areas, rivers and landforms, to the extent possible.
4. Design and locate new features, such as new and replacement housing construction and associated structures, streets, parking areas, street furniture and monuments, to be compatible with the historic community plan and character of the historic district in terms of scale, size, design, and setback.
5. To meet quality of life or other functional needs for residents of historic districts, installation of new fencing surrounding side and back yards where none currently exists, and replacement of existing fencing surrounding side and back yards is acceptable and not subject to additional review or design considerations (see Guideline X).



Example Historic District

- Red lines depict the Main Post Historic District boundaries
- Yellow lines depict Inter-War Era housing
- Orange lines depict historic non-Inter-War Era housing

XII. Guidelines for Circulation Systems and Paving Patterns

1. Maintain historic circulation patterns including but not limited to: streets, sidewalks, alleyways, driveways, bridges and green space along with their features such as curbing, surface materials, orientation, and landscaping, to the extent possible.
2. Maintain features of historic circulation and paving pattern during construction projects.
3. Maintain historic planting strips between the sidewalk and street as well as medians, and avoid paving over existing planting strips or medians, to the extent possible.
4. If a portion of a historic circulation or paving pattern or feature is deteriorated, replacement with in-kind historical building materials or imitative substitute building materials is appropriate. Guideline XIX will be applied in such instances.
5. If replacement of an entire historic circulation or paving pattern or feature is necessary, replacement with in-kind historical building materials or imitative substitute building materials is appropriate. Guideline XIX will be applied in such instances.
6. Design new circulation and paving patterns such as street extensions, new bridges and parking lots to be compatible with the character of a historic building and/or district in regard to design, scale, and size whenever possible.
7. Locate new parking lots in the same location as seen within the historic district and screen with appropriate walls or landscaping in keeping with the character of the historic building and/or district.
8. Locate new parking decks on side streets rather than main thoroughfares if possible and design them to be compatible with the character of the historic building and/or district in regard to design, size, and scale.
9. If necessary, introduce street furniture, trash receptacles, mailboxes and other similar elements in locations that do not detract from the character of a historic building and/or district. Make sure street furniture, trash receptacles and other elements are compatible in design and scale with the character of the building and/or district. Imitative substitute building materials are appropriate for introduced features.
10. Avoid removing, obscuring or concealing a feature of a historic circulation or paving pattern such as granite curbing or stamped curbing when repaving streets to the extent possible.
11. Avoid removing, obscuring or concealing significant landscape or topographical features to construct a new circulation or paving pattern such as a street extension or parking lot to the extent possible.
12. If a street, alleyway or other paving pattern must be permanently closed off from vehicular traffic for security and force protection purposes, use bollards or barricades if possible.

Examples of Features of Circulation Systems and Paving Patterns

- Streets
- Sidewalks
- Alleyways
- Driveways
- Bridges
- Green space

13. If new lighting is necessary, incorporate new lighting that is compatible with the character of the historic building and/or district.
14. Guideline XX will be followed in the event of discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects during construction activities associated with circulation systems repair or replacement.

XIII. Guidelines for Associated Buildings and Structures

1. Maintain and repair historic associated buildings and structures and their features through appropriate methods.
2. If a feature or element of a historic associated building or structure is deteriorated, replace the damaged portion with in-kind historical building materials or imitative substitute building materials that match the original in size, design and scale. Guideline XIX will be applied in such instances.
3. If a historic associated building or structure is missing entirely, it is unnecessary to replace it.
4. It is inappropriate to apply new features, where none currently exist to a historic associated building or structure unless they are historically documented to have existed during the Inter-War Era (1919-1940).
5. Design exterior changes to non-historic associated buildings or structures such as garages in a manner that preserves the character of the historic property and/or district in terms of the size, design and scale using in-kind building materials or imitative substitute building materials.
6. Locate, site and design new and replacement construction for accessory buildings and structures such as garages to be compatible with surrounding buildings, structures and landscape features of a historic property and/or district, including but not limited to the following: size, design and scale, setback, spacing, and placement or distance from adjacent buildings and orientation. Guideline XX will be followed in the event of discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects during construction activities.
7. New storage sheds may be installed in back yards, and in a manner that limits visibility from the street to the extent possible.

Examples of Features of Associated Buildings and Structures

- Garages
- Storage sheds

XIV. Guidelines for Force Protection

1. Comply with force protection standards in a manner that maintains character-defining interior and exterior spaces, materials, and features.
2. Install force protection systems and equipment such as security systems, cameras and surveillance equipment, lighting and other equipment in a manner that maintains character-defining features and materials.
3. Locate and site new and replacement buildings, structures and infrastructure for force protection, including but not limited to: access control points, bollards, fencing and barrier walls, in a manner that preserves the historic character of a building and setting.
4. If possible, locate small components of sensor and surveillance technologies under building eaves or inside light fixtures to minimize the impact to the historic fabric and visual impact of a building, district and associated buildings and structures, and landscape features.
5. Locate ventilation equipment or other force protection utilities on inconspicuous elevations, such as on the rear façade, to limit the visibility from the public right-of-way and, if possible, screen from view utilizing landscaping or fences and walls appropriate to the character of the historic building and/or district.
6. If possible, construct new force protection measures such as security bars, grilles, and ventilation equipment in a reversible manner so that the system can be removed in the future with minimal damage to the historic building.
7. It is inappropriate to remove, conceal, damage or destroy historic materials, features and finishes of historic buildings or landscapes for force protection purposes unless it cannot otherwise be avoided. If interior alterations are necessary, contain alterations to secondary and other non-character-defining interior spaces if possible. If interior doors require removal and replacement for security purposes, replace with imitative substitute building materials if possible and where imitative substitute building materials meet security requirements. Historical interior doors that are removed should be salvaged for possible reuse.

Examples of Features of Force Protection

- Security systems (cameras, keypads)
- Lighting
- Sensor technology

XV. Guidelines for Routine Maintenance

1. Inspect the roof to ensure it is weather tight. Missing roofing materials should be replaced and holes repaired according to appropriate methods. In-kind historical building materials or imitative substitute building materials may be used for replacement and repairs.
2. Inspect walls and foundations for insect and vermin infestation, moisture, cracks, deterioration and settlement. If problems occur, repair according to appropriate methods.

3. Inspect the windows and doors to make sure they are operable and sealed properly to prevent water intrusion.
4. Inspect potential points for water intrusion such as crawl space openings, foundations and basement windows to make sure water is being diverted away from the building.
5. Inspect potential points for moisture intrusion such as masonry wicking in moisture, and condensation from poorly ventilated attics.
6. Gutter systems should be routinely cleaned and inspected to ensure they discharge water away from the building and do not leak.
7. Ensure that painted surfaces have a sound non-lead based paint film, including but not limited to the following: walls, windows, doors, and architectural details.
8. Avoid painting or sealing unpainted masonry, glass or metal surfaces since this could accelerate deterioration.
9. Repair loose architectural features according to appropriate methods, including but not limited to the following: brackets, rafters, pediments, cornices, balustrades, shutters, storm windows and doors, and siding, to the extent possible.
10. Repair damaged structural features, such as masonry settling, eaves and porch posts, using appropriate methods in a timely manner before further structural damage occurs. In-kind historical building materials or imitative substitute building materials may be used following Guidelines XIX.
11. Vegetation around the historic property should be maintained and pruned back from the walls and foundations at least 12 inches. Remove ivy or other vegetation from walls and remove overhanging tree limbs and branches.
12. Remove trees and other vegetation when necessary to prevent gutter clogging, drainage issues, damage to infrastructure, or for safety purposes. Guideline XX will be followed in the event of discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects during tree or vegetation removal activities.
13. Mechanical, electrical and plumbing systems should be routinely inspected to make sure they are operating efficiency and correctly.

Examples of Considerations in Routine Maintenance

- Points of moisture or water leaks
- Addressing poor ventilation leading to condensation
- Identifying building structural settlement issues
- Inspecting gutter condition

XVI. Guidelines for Emergency Repairs and Disasters

1. It is appropriate to make temporary repairs to a historic property. The repairs should be done in a manner that will cause minimal harm to the historic property where possible. Appropriate temporary repairs include the use of tarpaulins, plywood and bracing timbers to stabilize and secure the building.
2. Remove standing water from basements and crawl spaces; however, ensure that pumping water will not collapse foundations when groundwater is high.
3. Remove all water-soaked materials including insulation, wallboard and wall coverings.
4. Air dry the building with ventilation. Avoid systems that pump in super-dry air.
5. Remove debris from and around the historic property including damaged trees and overhanging tree limbs.
6. Remove loose and damaged plaster and replace with in-kind historical building materials or imitative substitute building materials, replacement of plaster with dry-wall is acceptable.
7. Clean and sanitize historic features using non-abrasive cleaners.
8. Avoid harming historic features when treating non-historic features.
9. Features that are deteriorated or damaged beyond repair may be replaced with in-kind historical building materials or imitative substitute building materials, replacing only the damaged portion.
10. Conduct an inventory of found items, loose decorative elements, furnishings and collections. These items should be saved for reuse when possible.

Examples of Conditions of Emergency Repair and Disasters

- Standing water
- Water-saturated materials (insulation, wallboard, and coverings)
- Loose or damaged plaster
- Landscape debris outdoors

XVII. Guidelines for Mothballing and Layaway of Housing

1. Ensure that roofs are weather tight by replacing missing shingles or tiles and repair openings in an acceptable method. In-kind historical building materials or imitative substitute building materials may be used for missing roofing materials.
2. Gutters should be cleaned and inspected to ensure they do not leak and that they discharge water away from the building. Additionally, potential points of water intrusion such as basement windows and crawlspaces should be inspected and blocked to divert water away from the building.

3. Walls and foundations should be inspected for deterioration and damage. Make appropriate repairs to prevent moisture and water penetration. This includes re-pointing of masonry surfaces and repainting of wood siding. Portland cement was in widespread use by the Inter-War Era period and is an appropriate mortar material for this era housing.
4. Entry points should be sealed by closing door and window openings.
5. The installation of infill materials should not damage door and window openings.
6. Exterior doors should be reinforced and secured. If the historic doors would be damaged by adding reinforcement, temporarily remove the doors and replace with secure modern doors. Store historic doors on site for reuse if possible, and ensure proper labeling and inventory.
7. Shut off water utilities to the building and drain the pipes.
8. If the building has monitoring and alarm devices such as fire suppression systems, fire alarms and security alarms, they should remain operational—especially functional sprinkler systems.
9. Disconnect all electrical systems not necessary for security, fire prevention and/or ventilation.
10. Loose architectural and structural features such as brackets, porch posts, balustrades and mantels should be repaired. If repair is not feasible, document, and remove the features. Inventory and store the features in a manner that prevents deterioration if the features can be reused.
11. Pest infestations should be exterminated and properly seal off their access to the building, which includes properly screening chimneys, vents, grills and louvers with a heavy duty wire mesh and termite treatments.
12. The building should be adequately vented. This will vary depending on the building, the climate and the building's freeze-thaw cycle. Solutions range from the covering of small openings with heavy duty wire mesh to forced air ventilation in humid climates.
13. Vegetation around the building should be pruned back from the walls at least 12 inches and remove overhanging tree limbs and branches.
14. A monitoring plan should be developed to ensure these measures remain effective.

Examples of Actions for Mothballing and Layaway of Housing

- Secure weather-tight roofing
- Clean gutters
- Seal entry points
- Shut off water utilities
- Ensure adequate ventilation
- Disconnect all electrical systems not necessary for security, fire prevention, or ventilation
- Prune vegetation back at least one foot from building
- Develop monitoring plan

XVIII. Demolition Procedures

For proposed demolition of Inter-War Era housing, apply specific overarching criteria, procedures, and decision-making to address health, safety, and quality of life considerations for military families living in this housing. The overarching criteria are: Inter War Era housing will be considered for demolition when it is highly deteriorated, and/or vacant for 12 months or longer due to underutilization, and/or if potentially hazardous materials or unsafe conditions are present. Specific procedures will be followed to address demolition proposals for Inter-War Era housing. The Army or, where Inter-War Era housing has been privatized, Army housing partners, will implement the following step-by-step demolition procedure, decision-making procedure, and digital photographic standards when proposing the demolition of Inter-War Era housing:

Demolition Procedure:

- a. Determine and characterize the housing unit's current condition and use, including if it is in a highly deteriorated condition, and/or vacant for 12 months or longer due to underutilization, and/or if potentially hazardous materials or unsafe conditions are present.
- b. Evaluate prudent and feasible alternatives to demolition including: rehabilitation, renovation, reuse, lay-away and mothballing, or return of privatized housing to Army ownership. Develop a cost estimate associated with each evaluated alternative. Cost estimates will include the costs of abatement of potentially hazardous materials and unsafe conditions, costs to layaway and mothball the housing, per square foot costs to rehabilitate or renovate the housing, per square foot costs to demolish the housing and to construct new or replacement housing. Determine if the costs to rehabilitate or renovate the Inter-War Era housing that is highly deteriorated exceeds the combined costs of demolition and new or replacement construction, on a per square foot basis.
- c. Determine if there are, or are not, any prudent and feasible alternatives to demolition based on the evaluation of alternatives.
- d. Prepare a Building Disposition Report (Report) if it is determined that there are no prudent and feasible alternatives to demolition. The Report will evaluate each prudent and feasible alternative to demolition and will include: the housing unit's current condition including if it is in a highly deteriorated condition; determination if it has been vacant due to underutilization for 12 months or longer, the likelihood for re-utilization as housing in the next five years, and the feasibility and costs of long-term layaway and mothballing; the presence of potentially hazardous materials or unsafe conditions and cost estimates for remediation; estimates of the costs to rehabilitate or renovate housing that is highly deteriorated and estimates of the costs for demolition and new or replacement construction of such housing on a per square foot basis; a determination if the costs to rehabilitate or renovate housing that is highly deteriorated exceeds the combined costs of demolition and new or replacement construction on a per square foot basis; preparation of appropriate state/SHPO-specific historic property inventory form; interior and exterior photographic documentation of the housing by means of digital photography meeting the standards specified below; plans for salvage, inventory, and storage (in a manner that prevents deterioration) of any significant ar-

Examples of Features of Demolition:

- No feasible alternatives to demolition
- Deteriorated, vacant condition

chitectural elements for reuse elsewhere on similar housing units; measures for protection of adjacent historic buildings, sites, landscape features, and archeological resources from damage during demolition activities; the procedures defined in Guideline XX to address the discovery of archeological resources or human remains during ground disturbing activities (discovery procedures in Guideline XX may be cited and incorporated by reference for this purpose); and basic design concept for any new construction or replacement construction to ensure that it will be in accordance with Design Guidelines for new and replacement construction.

- e. Publish a public notice of availability for the Report in appropriate local media. The public notice will also elicit public comments regarding the action. The public notice will specify a 30-day comment period and a deadline date for receipt of any comments. The public notice must describe any steps required to obtain the Report; this can include a reference to a website location, a POC and mailing address, an email, phone number, or other equivalent mechanism for Report distribution.
- f. Provide the Report to the responsible SHPO, ACHP, and appropriate Indian tribes or NHOs for a 30 day comment period. The 30-day SHPO, Indian tribe and NHO comment period should coincide with the public comment period. The Report and request to the SHPO, Indian tribes and NHOs for their comments will be provided by the installation where the housing has not been privatized, or by the privatized housing partner holding title to the housing where the housing has been privatized.
- g. SHPO, ACHP, Indian tribe, NHO, and interested public party comments should identify if they believe there is a major deficiency in following the Demolition Procedure specified in a-f.
- h. Where a SHPO, ACHP, Indian tribe, NHO, or interested party comment indicates that there may be a major deficiency in following the Demolition Procedure specified in a-f, the installation or privatized housing partner (as applicable) will coordinate with the commenting party and take appropriate action, as necessary, to resolve the deficiency. The installation, or privatized housing partner where housing has been privatized, will notify the commenting party in writing regarding how the major deficiency has been or will be addressed.
- i. ACHP review. If any interested public party or relevant SHPO, Indian tribe, or NHO believes that a major deficiency has not been addressed in accordance with h., they may request ACHP review and comment regarding the major deficiency. The ACHP will notify the Army FPO when it has received a request for ACHP review under this Section within 3 days of its receipt of the request. The Army FPO will consult with the ACHP regarding the major deficiency and will provide any additional documentation requested by the ACHP. Within 30 days after receipt of a request for ACHP review under this Section, the ACHP will either provide the Army FPO with recommendations which the Army will take into account in reaching a decision on the proposed demolition, or will notify the Army FPO that it will not comment pursuant to the Program Comment. The Army FPO will respond, as appropriate to any ACHP comments and indicate how the Army has or will take ACHP recommendations into account in reaching its final decision. The ACHP will notify the interested public party or relevant SHPO, Indian tribe, or NHO regarding the results of the ACHP review.

Decision-making Procedure for Proposed Demolition of Inter War Era Housing:

- a. Demolition proposals for Inter-War Era housing require preparation of a Major Decision (MD) package and its submission to Headquarters, Department of the Army for final decision. The MD package will include: an executive overview; scope of the demolition action with cost and justification / rationale for demolition; financial assessment of the impacts on development costs for the overall housing project; a schedule; the Building Disposition Report; all public, SHPO, Indian tribe or NHO comments and how each comment was been addressed or adjudicated; a summary of any major deficiency in following Demolition Procedure a-f identified in the public and SHPO, Indian tribe or NHO review and actions taken to resolve the deficiency.
- b. Army FPO Review. The MD package shall include the Army FPO's concurrence that the Program Comment Demolition Procedure has been followed. If the FPO determines that a major deficiency in following Demolition Procedure identified by a SHPO, Indian tribe, NHO, or interested party has not been adequately resolved, the MD package will be returned for further resolution of the deficiency and re-submission.
- c. Army Decision. MD packages with Army FPO concurrence will be provided to the Deputy Assistant Secretary of the Army for Installations, Housing and Partnerships, or an equivalent or higher Army authority, for the final decision to approve or disapprove the proposed demolition (demolition decision).

Digital Photographic Standards:

The Army will implement the following National Park Service standards for digital photography:

- a. Digital photographic documentation of housing proposed for demolition will use Tag Image File format (TIFF), RAW format images, or JPEGs converted to TIFFs for the best image resolution. RGB color digital TIFFs are preferred.
- b. Digital camera resolution will be set to the maximum or largest pixel dimension the camera allows, two megapixels (1200 x 1600 pixel image) to six megapixels or greater (2000 x 3000 pixel image) is recommended.
- c. Photographs will be clear, well-lit, well-composed, include each façade, and provide an accurate visual representation of the housing and its significant features.
- d. The number of photographs depends on the size and complexity of the housing, but will include as many as needed to depict the current condition and significant features of the property. A few photographs may be sufficient to document a single house; larger or multi-unit housing may require a number of photos.
- e. Photographs will show the principal facades and the setting in which the property is located. Additions, alterations, and associated structures will appear in the photographs. The photographs will include views of interiors, outbuildings, landscaping, or unusual features of the property.
- f. All digital photographs will be archived on site with either the installation or housing partner (as appropriate), as part of the administrative record for the project.

XIX. Criteria and Procedure for Building Materials Selection

The Army, or Army privatized housing partner where housing has been privatized, will apply the following criteria and selection procedure when considering the replacement of historic building materials with in-kind building materials or imitative substitute building materials during building rehabilitation or renovation.

Building Materials Selection Criteria

The Army, or Army privatized housing partner where housing has been privatized, will apply an overarching criteria for the selection of replacement building materials. These criteria address the need to maintain the historic and architectural character of Inter-War Era housing in balanced priority with the health, safety, and quality of life considerations for military families living in this housing. The overarching criteria for building materials selection are: When health and safety of military families is of concern, or when the initial or on-going use of historic building materials and in-kind building materials impacts the Army's ability to fully implement quality of life improvements to housing for military families, imitative substitute building materials will be considered for use only in a manner that maintains the historic and architectural character of the historic housing and when consistent with the results of the following building materials selection procedure.

Building Materials Selection Procedure

The Army, or Army privatized housing partner where housing has been privatized, will implement the following step-by-step procedure for the selection of appropriate replacement building materials for the rehabilitation or renovation of Inter-War Era housing. Where Inter-War Era housing has been privatized, Army housing partners will implement the procedure. The building materials selection procedure will also be applied to purchases of bulk or stock materials used in maintenance and repair actions. This will facilitate implementation of maintenance and repair actions and will appropriately standardize the materials used in this standardized design housing stock. The step-by-step procedure for selection of building materials is:

- a. Characterize historic building materials currently present in terms of: design, material properties, condition, performance, safety, and presence of hazards such as lead-based paint, asbestos, and other hazardous materials.
- b. Determine if the health and safety of housing occupants is a concern due to unsafe or hazardous historic building materials.
- c. Determine if the costs associated with initial or continued use of historic building materials impacts the ability to fully implement quality of life improvements to the housing.
- d. Determine if a historic building material must be replaced due to deterioration, health and safety considerations, or financial impacts to quality of life improvements. (If historic building material replacement is required due to the material's deterioration, determine the cause of the failure to ensure that the new replacement in-kind or imitative substitute material will not fail for the same reasons that caused the historic building material to fail).

- e. If replacement of historic building materials is required, determine if there are material characteristics of the historic building materials that should be improved upon with use of in-kind building materials or imitative substitute building materials.
- f. Evaluate replacement in-kind building materials and imitative substitute building materials (i.e., replacement building materials) with respect to design and material properties using the Design Guidelines and Building Materials Catalog. Evaluate the expected performance, costs, and short and long-term cost/benefit considerations of the replacement building materials. Determine if the costs associated with use of in-kind building materials impacts the ability to fully implement planned quality of life, health, and safety improvements to the housing.
- g. Based on the analysis in f. above, compile a short list of replacement building materials from the Building Materials Catalog.
- h. Determine and select the appropriate replacement building material from the short list of materials. When an in-kind building material is determined to be the appropriate replacement building material, the in-kind building material will be selected and used. Exterior vinyl siding will only be selected and used after other replacement building materials are evaluated and determined not to be the appropriate replacement building material in accordance with these procedures.
- i. Document the evaluation and selection process.
- j. Write specifications for design and installation, and oversee project planning and implementation.

Before removing interior walls that are original to the historic floorplan or that would result in a loss of original historic features such as mantels, staircases, and molding, the Army or Army housing partner will first consider options to retain those original historic walls and features. If the Army or Army housing partner decides to proceed with the removal of such interior walls, they will consider retaining original historic features. If these features and materials will be retained, the selection of building materials for management actions subsequently affecting them will proceed in accordance with the process outlined above in this section. When such original historic features are not retained, the Army or Army housing partner will consider salvage of such historic features for possible reuse on other similar housing at that location.

XX. Discovery Procedures for Historic Properties and Native American and Native Hawaiian Human Remains and Funerary Objects

The Army, or Army privatized housing partner where housing has been privatized, will provide sufficient information to contractors and staff involved in implementing management actions on Inter-War Era housing regarding these procedures for discovery of historic properties, and Native American or Native Hawaiian human remains and funerary objects. If there is a discovery of or unanticipated effects to historic properties during the conduct of management actions for Inter-War era housing, a report of findings describing the events leading to and immediately following the reporting of the inadvertent discovery will be prepared within thirty (30) calendar days of each inadvertent discovery. This report shall be provided to the SHPO and, as appropriate, Indian tribes and NHOs.

Discoveries of and Unanticipated Effects to Historic Properties

The following procedures will be followed during the implementation of a management action under this Program Comment where there is a discovery of or unanticipated effects to historic properties.

- a. Should the Army or, where Inter-War Era housing has been privatized, Army housing partners, find that a management action is having an adverse effect that was not anticipated, make a discovery of archeological artifacts, archeological features or other archaeological materials, human remains, or other previously unknown properties that, in the opinion of the Army agency official (Army installation commander, garrison commander, or their official designee), may be a historic property, the agency official will ensure: all work activity is immediately stopped within a 75 foot radius buffer zone around the discovered property; the discovered property is protected from looting and vandalism; and the relevant SHPO, Indian tribes or NHOs are notified of the discovery within twenty four (24) hours. All management actions may continue outside the 75 foot buffer zone.
- b. If human remains and/or funerary objects that may be Native American or Native Hawaiian in origin are discovered, the section below titled **Discovery of Native American and Native Hawaiian Human Remains and Funerary Objects** will be followed. If discovered human remains are historic but are not of Native American or Native Hawaiian origin, and are not part of a crime scene, the Army agency official, in consultation with the SHPO, will have an archaeologist assess the area where the remains were found to determine the nature and extent of the remains, determine if a cemetery is present, and will evaluate the feasibility of preserving remains in place or whether they will be exhumed and re-located. The Army acknowledges that the respectful treatment of all human remains is a paramount concern and that an appropriate treatment is to protect and preserve human remains in situ, if possible.
- c. The Army agency official has five working days following notification of the discovery to consult with the SHPO and, as applicable, Indian tribes or NHOs to determine if the discovered property is a historic property eligible for listing in the National Register of Historic Places (NRHP). The Army may also assume the newly discovered property to be eligible for the NRHP for the purposes of Section 106 pursuant to 36 CFR 800.13(c).
- d. If the Army agency official determines, in coordination with the SHPO and, as applicable, Indian tribes or NHOs that the discovered property is not a historic property eligible for listing in the NRHP, all management actions and construction activities may immediately resume within the area of the discovery and the buffer zone upon such determination.
- e. If the Army agency official determines that the discovery is a historic property, the Army will consult with the SHPO and (as appropriate) Indian tribes or NHOs regarding appropriate treatment measures to avoid, minimize, or mitigate adverse effects that may occur once the management actions are resumed. The SHPO, and Indian Tribes or NHOs will have five working days to review and comment on the proposed treatment measures. The Army agency official shall take all comments received into account in finalizing and implementing the treatment plan. Treatment measures may include, but are not limited to archaeological evaluation of the

Examples of Unanticipated Discoveries:

- Archaeological artifacts
- Archaeological features of materials
- Human remains
- Any previously unknown properties

site, exploration of potential alternatives to avoid the site; and preparation and implementation of a limited data recovery plan to retrieve important information from the site.

Discovery of Native American and Native Hawaiian Human Remains and Funerary Objects

The Army acknowledges that the respectful treatment of Native American and Native Hawaiian human remains and funerary objects is a paramount concern and that an appropriate treatment is to protect and preserve Native American or Native Hawaiian human remains and funerary objects in situ, if possible.

If human remains and/or funerary objects that may be Native American or Native Hawaiian in origin are discovered during the conduct of management actions under this Program Comment, the Army agency official will immediately apply the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA), implement NAGPRA compliance procedures, and will notify the relevant SHPO, Indian tribe(s) or NHO(s), and the Army FPO of the discovery within 24 hours.

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