

\1\New Chapter\1/
CHAPTER 16
PRESERVATION OF HISTORIC STRUCTURES

TABLE OF CONTENTS

1. GENERAL	<u>16-3</u>
2. FEDERAL LAWS, REGULATIONS, AND EXECUTIVE ORDERS.....	<u>16-3</u>
a. The National Historic Preservation Act of 1966 (NHPA)	<u>16-3</u>
b. National Environmental Policy Act (NEPA) of 1969	<u>16-3</u>
c. Archeological and Historic Preservation Act of 1974	<u>16-4</u>
d. Public Buildings Cooperative Use Act of 1976	<u>16-4</u>
3. DEFINITIONS.....	<u>16-4</u>
4. FEDERAL, STATE AND LOCAL PARTICIPANTS.....	<u>16-7</u>
a. Advisory Council on Historic Preservation (ACHP).....	<u>16-7</u>
b. Department of the Interior (DOI).....	<u>16-7</u>
c. State Historic Preservation Officer (SHPO).....	<u>16-7</u>
d. Local and Regional Preservation Association.....	<u>16-7</u>
5. DOD INSTRUCTION AND ARMY AND ENGINEERING REGULATIONS.....	<u>16-7</u>
a. DoD Instruction 4715.3, Environmental Conservation Program	<u>16-7</u>
b. AR 200-4, Cultural Resources Management	<u>16-7</u>
c. AR 200-2, Environmental Quality, Environmental Effects of Army Actions	<u>16-7</u>
d. ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies	<u>16-7</u>
6. TECHNICAL CRITERIA.....	<u>16-8</u>
a. Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings	<u>16-8</u>
b. Guidelines for Treatment of Historic Landscapes	<u>16-8</u>
c. Federal Standard 795, Uniform Federal Accessibility Standards (UFAS)	<u>16-8</u>
d. Fire Protection.....	<u>16-8</u>
7. HEALTH HAZARDS.....	<u>16-8</u>
a. Asbestos.....	<u>16-8</u>
b. Radon.....	<u>16-9</u>
c. Lead Based Paint.....	<u>16-9</u>
d. Bird and Bat Deposits (Guano).....	<u>16-9</u>
8. DESIGN ISSUES.....	<u>16-9</u>
a. Adaptive Use Plan.....	<u>16-9</u>
b. Substitute Materials.....	<u>16-9</u>
c. Seismic Design.....	<u>16-10</u>
d. Historic Family Housing Quarters.....	<u>16-10</u>
9. TREATMENT RESOURCES.....	<u>16-10</u>
a. Preservation Briefs	<u>16-10</u>
b. Preservation Case Studies	<u>16-11</u>

c. Preservation Tech Notes [16-11](#)

10. REFERENCES. [16-11](#)

\1\New Chapter/1/
CHAPTER 16
PRESERVATION OF HISTORIC STRUCTURES

1. GENERAL. The purpose of this chapter is to provide a working awareness of historic preservation policies and procedures followed by the Army and U. S. Army Corps of Engineers (USACE) activities. The primary focus is to provide design information for properly identifying, preserving, and maintaining historic structures. This chapter provides guidance on Federal statutes, laws, and regulations. It defines the interrelationships among Federal, state and local governments required to achieve a successful undertaking on a historic property. It provides guidance concerning process and technical issues which are important when working with historic structures.

2. FEDERAL LAWS, REGULATIONS, AND EXECUTIVE ORDERS. Executive Order 11593 (reference 16-1) requires Federal agencies to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation. They are required to ensure the preservation of historic resources; to locate, inventory, and nominate to the National Register all properties under their control that meet the criteria for nomination; and to ensure that historic resources are not inadvertently damaged, destroyed, or transferred before the completion of inventories and evaluation for the National Register. The provisions of the following statutes and their implementing regulations outline a comprehensive national policy to promote the preservation of prehistoric and historic properties.

a. The National Historic Preservation Act of 1966 (NHPA) (reference 16-2). This law is the primary act governing historic preservation today. It establishes historic preservation as a national policy and defines it as the protection, rehabilitation, and restoration of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, or engineering. Amendments of 1980 and 1992 established statutory requirements for nationally significant properties, curation of artifacts, documentation of historic properties, and preservation of Federally-owned historic sites. The act requires designation of a preservation officer in each Federal agency, authorizes the inclusion of historic preservation costs in project costs, and authorizes the withholding of sensitive data on historic properties when necessary.

(1) Section 106 of the NHPA requires Federal agencies to take into account the effect of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. Regulations implementing Section 106 of the NHPA are found in 36 CFR 800 (reference 16-3). The regulations outline a process for Federal agencies to use in meeting their responsibilities. Documentation that the Section 106 process was completed, such as a Memorandum of Agreement (MOA) or ACHP letter, should be completed for each project. The master plan should either itself be the subject of a compliance document, typically a Programmatic Agreement (PA), or should include provisions for compliance with Section 106 during the design of any project envisioned by the master plan.

(2) Section 110 of the NHPA requires Federal agencies to locate, inventory, and nominate properties which they own or control that may qualify for the National Register of Historic Places (reference 16-4). Implementing regulations contained in 36 CFR 78 (reference 16-5) provide for waiver of Section 110 responsibilities for Federal agencies in the event of a major natural disaster or imminent threat to national security. Section 106 responsibilities for taking into account the effects of emergency activities on properties included in or eligible for the National Register of Historic Places cannot be waived.

(3) Section 111 of the NHPA requires Federal agencies to ensure preservation of historic properties not currently needed for agency purposes in agreements for outleasing or exchange.

b. National Environmental Policy Act (NEPA) of 1969, (reference 16-6). This law states the policy of the Federal government to preserve important historic, cultural, and natural aspects of our national heritage and requires consideration of environmental concerns during project planning and execution. This act requires Federal

agencies to prepare either an Environmental Impact Assessment (EIA) or an Environmental Impact Statement (EIS) for every major Federal action that significantly affects the quality of the human environment, including both cultural and historic resources. Implementing regulations are issued by the Council on Environmental Quality in 40 CFR 1502-08 (reference 16-7), and by the Army in AR 200-2 (reference 16-8).

c. Archeological and Historic Preservation Act of 1974 (reference 16-9). This law directs Federal agencies to notify the Secretary of the Interior when they find that any Federal construction project or Federally-licensed activity or program may cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archeological data. It also provides criteria for funding historical and archeological protection for such projects.

d. Public Buildings Cooperative Use Act of 1976 (reference 16-10). This law encourages adaptive reuse of historical buildings as administrative facilities for Federal agencies or activities.

3. DEFINITIONS.

a. Adverse Effect. A project, activity, or other undertaking has an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

b. Affected Property. A property which is or is about to be subjected to a major impact that will change the quality of the resources, which affect its eligibility for National Historic Landmark or National Register of Historic Places designation.

c. Area of Potential Effect. The geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if such properties exist.

d. Assessment of Effect. A process to determine whether an undertaking may affect in any way the qualities of a property that make it eligible for the National Register. The assessment is made in consultation with the State Historic Preservation Officer (SHPO).

e. Associated Records. Original records (or copies thereof) that are prepared, assembled and document efforts to locate, evaluate, record, study, preserve, or recover a prehistoric or historic resource.

f. Building. A created shelter for any form of human activity, such as a house, barn, church, or hotel. Building may also refer to a historically related complex such as a courthouse and jail, or a house and barn.

g. Cultural Historic Property or Historic Resource. Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register, including artifacts, records, and material remains related to such a property or resource.

h. Determination of Eligibility. A process to determine if a property is eligible for listing on the National Register of Historic Places. If a property is determined eligible, it is treated as if it were on the National Register.

i. Effect. Any condition of a project or undertaking that may cause change in the quality of the architectural, archaeological, or historic character of a property that qualifies for the National Register or that may be affected by an undertaking. An undertaking is considered to have an effect when any aspect of the undertaking changes the integrity of location, design, setting, materials, workmanship, feeling, or association of the property that contributes to its significance according to the National Register criteria. Direct effects are caused by the undertaking, and occur at the place and time of the undertaking. Indirect effects are those caused by the undertaking that are later in time or further removed in distance, but are still reasonably foreseeable.

j. Federal Agency Official. Any officer, employee, or agent officially representing the secretary of the department or the head of any agency or instrumentality of the United States having primary management authority over a collection of cultural and historic resources. At Army installations, the Federal agency official is the installation commander.

k. Historic Context. An organizational format that groups historic properties sharing similarities of time, theme, and geography. Historic contexts are linked to actual resources and are used by public and private agencies and organizations to develop management plans based upon actual resource needs and information.

l. Historic District. A historic district is a definable area possessing a significant concentration, linkage, or continuity of buildings, structures, objects, or archeological sites. A district is defined by the association of its parts with past events, its looks, its layout, or its physical development. A district may also be composed of individually significant architectural resources separated geographically but linked by historic associations.

m. Historic Element. Items such as a lighting fixture or plaster cornice which may be found within the context of a feature.

n. Historic Fabric. Material and its characteristics, composition, and elements. An example is a stairway including its form, treads, risers, railing and newel post.

o. Historic Feature. A prominent or important characteristic of a building, such as a lobby, which contributes to the definition of a building's historic character.

p. Historic Landscape. A geographic area, including both historic and natural features, associated with an event, person, activity, or design style that is significant in American history. They include historic designed landscapes, vernacular landscapes, and sites. Historic landscapes are a subset of the more inclusive term, cultural landscapes.

q. Historic Preservation. Identification, evaluation, recordation, documentation, curation, acquisition, protection, rehabilitation, restoration, management, stabilization, maintenance, research, interpretation, conservation, and education and training with respect to the foregoing activities.

r. Integrated Cultural Resources Management Plan. A working document used for management of prehistoric and historic resources. This plan is a contributing element of the installation master plan.

s. Inventory. A systematic process to identify all historic properties located on project lands. Inventories are accomplished by means of documentary and archival review, systematic field reconnaissance, and, or survey investigation.

t. Memoranda of Agreement (MOA). The agreement resulting from consultation, that states measures the agency will take to avoid or reduce the effects on historic properties as the agency carries out its undertaking. The MOA is signed by the agency, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP).

u. Mitigation. An action to minimize, ameliorate, or compensate for the degradation and, or loss of those characteristics of a property that make it eligible for the National Register.

v. National Historic Landmark. A district, site, building, structure or object, in public or private ownership, judged by the Secretary of the Interior to possess national significance in American history, archeology, architecture, engineering and culture, and is so designated by the Secretary.

- w. National Natural Landmark. An area of national significance located within the boundaries of the United States or on the Outer Continental Shelf designated by the Secretary of the Interior that contains an outstanding representative example of the nation's heritage, including terrestrial communities, landforms, geological features, habitats of native plant and animal species, or fossil evidence of the development of life on earth.
- x. National Register of Historic Places (National Register). The listing of districts, sites, buildings, structures, and objects of national, state, or local significance in American history, architecture, archeology, or culture that is maintained by the Secretary of the Interior.
- y. Nominate. The process of completing and submitting a National Register of Historic Places form proposing that a resource be included in the National Register. Nominations can be made for individual resources, multiple resources, or thematic groups.
- z. Object. A man-made feature that may be movable, but is related historically to a specific setting or environment. Examples include sculptures, mounted aircraft, monuments, foundations, and above-ground remains of a human event or activity.
- aa. Programmatic Agreement (PA). An agreement document typically developed for a large or complex project, or a class of undertakings that would otherwise require numerous individual requests for ACHP comments under Section 106. Procedures for developing a Programmatic Agreement are delineated in 36 CFR 800.13 (reference 16-3).
- bb. Rehabilitation. 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.
- cc. Restoration. The act or process of accurately recovering the form and details of property and its setting as it appeared at a particular period of time by means of the removal of later work or by the replacement of missing earlier work.
- dd. Significant. Having a characteristic that makes a property eligible for listing on the National Register
- ee. Site. The location of a human event, prehistoric or historic, occupation or activity, or structure. Examples of sites include battlefields and the locations of demolished buildings.
- ff. Structure. A functional construction for purposes other than shelter, such as a bridge, tunnel, or canal.
- gg. Treatment. The way an installation maintains, repairs, uses, protects, excavates, documents, or alters a cultural resource.
- hh. Undertaking. Any project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including the following:
- (1) Those carried out by or on behalf of the agency.
 - (2) Those carried out with Federal financial assistance.
 - (3) Those requiring a Federal permit, license, or approval
 - (4) Those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency.

4. FEDERAL, STATE AND LOCAL PARTICIPANTS.

a. Advisory Council on Historic Preservation (ACHP). The ACHP was established by Title II of the National Historic Preservation Act of 1966 (reference 16-2) to advise the President and Congress, to encourage private and public interest in cultural preservation, and to comment on Federal agency action under Section 106 of the act. If a historic property will be affected by an undertaking, ACHP must review the project. The review may follow consultation with the State Historic Preservation Officer (SHPO), or ACHP may participate fully in the consultation process.

b. Department of the Interior (DOI). Within the DOI, the National Park Service (NPS) is responsible for administering historic and cultural resource programs, including the National Register of Historic Places (reference 16-4). Activities should use published NPS standards for maintenance, repair, rehabilitation, and restoration of historic resources.

c. State Historic Preservation Officer (SHPO). The SHPO is the official who is responsible for administering the NHPA (reference 16-2) within the state of jurisdiction. The SHPO is appointed by the governor of each state or U.S. territory to be the technical and administrative point of contact for historic preservation issues within the state. His or her jurisdiction applies to Federal properties as well as state, local, or territory properties. The SHPO coordinates state participation in the implementation of the NHPA and is a key participant in the Section 106 process. The role of the SHPO is to consult with and assist the agency official when identifying historic properties, assessing effects upon them, and considering alternatives to avoid or reduce those effects. Activities should consider SHPO's advice in the process of selecting technical experts and in preparing scopes of work.

d. Local and Regional Preservation Association. Local and regional associations can have a significant influence on historic preservation activities in their area. While they are not regulating bodies, they can influence public sentiment relative to preservation projects within their jurisdiction. Working with local associations when planning projects that may affect historic resources is beneficial to achieving the best solution in a timely manner.

5. DOD INSTRUCTION AND ARMY AND ENGINEERING REGULATIONS.

a. DoD Instruction 4715.3, Environmental Conservation Program (reference 16-11). The instruction assigns responsibilities and prescribes procedures for the integrated management of natural and cultural resources on property under DoD control. Specifically sections D.3.e and F.3.c. require economic analyses be conducted on eligible historic properties that are being considered for demolition and replacement.

b. AR 200-4, Cultural Resources Management (reference 16-12). This regulation and its implementing DA Pamphlet prescribe management responsibilities and standards for the treatment of historic properties, including buildings, structures, objects, districts, sites, archeological materials, and landmarks, on land controlled or used by the Army.

c. AR 200-2, Environmental Quality, Environmental Effects of Army Actions (reference 16-8). Chapter 5, Environmental Assessments (EA), should be consulted to determine whether the proposed action requires an Environmental Impact Statement (EIS). The EA is the examination of new and continuing activities which do not normally require an EIS, are not categorically excluded from environmental examination, or are not excluded from environmental review by law. The EA is defined in 40 CFR 1508.9 (reference 16-7). Completion of an EA, although it provides useful documentation, does not relieve Federal agencies of responsibilities to complete the Section 106 review process defined in 36 CFR 800 (reference 16-3).

d. ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies, Chapter 6 (reference 16-13) provides the regulatory policy for storage and curation of archeological and historic data, materials, and records. EP 1130-2-540, Environmental Stewardship Operations and Maintenance Guidance and Procedures, Chapter 6,

(reference 16-14) includes basic facility requirements and should be consulted when planning curation facilities.

6. TECHNICAL CRITERIA.

a. Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (reference 16-15). These standards and guidelines will be used to plan, design, and execute Army projects involving historic structures. This document defines the ten standards, 36 CFR 67.7 (reference 16-16), and includes extensive guidelines developed by the National Park Service which state preservation goals and offer approaches, treatments, and techniques for a number of significant design problems.

b. Guidelines for Treatment of Historic Landscapes (reference 16-17). These guidelines will be used to design and execute Army projects involving historic landscapes. This document defines the standards, and includes extensive guidelines developed by the National Park Service which state preservation goals and offer approaches, treatments, and techniques for a number of significant landscapes problems.

c. Federal Standard 795, Uniform Federal Accessibility Standards (UFAS) (reference 16-18). Accessibility provisions defined in the UFAS should be applied to historic facilities to the maximum practical extent. Designs for historic facilities should meet all or most provisions. In cases where accessibility modifications threaten significant historic features, the SHPO or the ACHP should be requested to review the case to determine whether a lesser standard is acceptable.

(1) UFAS requires that five percent of the family housing inventory on an installation be accessible or readily modifiable. Where UFAS compliance in historic family quarters would permanently alter significant elements, relocation of the family to more suitable quarters should be considered.

(2) The Americans with Disabilities Act Accessibility Guidelines (ADAAG) (reference 16-19) and UFAS define the same minimum requirements for historic structures in paragraph 4.1.7. Since the ADAAG are more recent, and because they may offer additional clarification or guidance to assist in modifying historic structures to be accessible, the ADAAG may be consulted. See chapter 7 of this document for clarification on the applicability of the ADAAG to Federal construction.

d. Fire Protection. Army facilities must comply with MIL-HDBK 1008 (reference 16-20). MIL-HDBK 1008 requires compliance with NFPA 101 (reference 16-21) and contains other fire protection requirements, depending on the construction type, size and occupancy of the building. To some degree, many historic buildings fail to meet modern code requirements for materials, methods of construction, and exit systems. Complying with modern standards for fire and life safety may present a challenge to successful preservation and continued use of historic buildings. If codes are strictly applied, alterations may damage the historic character of a building. The intent of codes should be considered when attempting to establish an equivalent level of protection without damaging historic character. In preparing fire safety analyses for historic buildings, HUD Rehabilitation Guidelines #8 (reference 16-22) may be used to determine fire ratings of existing systems. When the requirements of MIL-HDBK 1008 cannot be met without degradation of historic character, HQUSACE (CEMP-E) will consider waivers based on equivalent level of protection on a case-by-case basis.

7. HEALTH HAZARDS. Old buildings that appear to be in good condition may hide a variety of threats to the health of occupants and maintenance personnel. Building materials, deposits, alterations to the building and its systems, and even restoration techniques may result in health hazards. Appropriate precautions should be taken during renovation construction. Designs should eliminate hazards using methods which preserve the historic character of the building.

a. Asbestos. Between 1890 and the early 1970s, asbestos was commonly used as insulation in buildings and in

many other building products such as: spray-on fireproofing, sound proofing, piping, pipe insulation, floor tiles, ceiling tiles, and some types of shingles. When asbestos-containing materials become friable (i.e., powdery or easily crumbled), dangerous asbestos fibers may be released into the air. The fibers can then be carried through the entire building by the ventilating system. Whenever the presence of asbestos is suspected, it should be reported, tested, and the appropriate treatment determined.

b. Radon. Radon is a colorless, odorless, radioactive gas that occurs when uranium breaks down. U.S. Public Health Service studies have shown a link between some types of cancer and long-term exposure to radon gas. Buildings in areas where the earth contains uranium deposits are likely to have radon contamination. Since radon rises through the soil, it is most often found in basements, but it can be distributed throughout a building by the ventilation system. Unaltered historic buildings are less likely than new buildings to have radon contamination above the basement level because they have more cracks and better natural ventilation. Renovations which change these characteristics can create a problem where none previously existed. Radon testing should be performed when installation data for that area indicate that radon presence is likely. Based on test results, renovation designs should provide the appropriate level of radon protection. Corrective measures for radon may include sealing cracks in foundation walls and insulating and ventilating basement areas to keep the gas from rising to the inhabited areas.

c. Lead Based Paint. Most structures built before 1978 contain lead based paint. The paint and even its removal technique may present health hazards. Removal of all lead based paint is desirable, but is not always prudent. The use of the facility, the condition of the paint and substrate, the extent of the renovation, and the installation's lead abatement plan must be considered when determining how lead based paint should be treated. Selection of treatment techniques which do not damage the substrate are especially important in maintaining and renovating historic structures.

d. Bird and Bat Deposits (Guano). Many old buildings contain large amounts of bird or bat droppings in attic or roof areas. These deposits can cause a number of infectious and potentially fatal diseases of the lungs and central nervous system. Renovation projects should address the removal of these deposits and should block points of entry to prevent future deposits. Removing the deposits requires procedures such as protective clothing and breathing masks to decontaminate areas without risking human infection. A sample of the material should be tested before work begins in order to assess the level of risk and to decide on the appropriate precautions.

8. DESIGN ISSUES.

a. Adaptive Use Plan. The Army policy is to rehabilitate historic buildings and structures rather than to restore them. Good maintenance is the essence of preservation. Structures with important historic or architectural aspects may also be modified to meet new space or use requirements. Careful planning is necessary to ensure that new missions are accommodated without sacrificing the historic features of the facility. The following four-step process is recommended to identify appropriate solutions to functional, criteria compliance, and technical engineering support issues:

(1) Identify the architectural materials, features, and spaces that convey the significance of the historic facility.

(2) Evaluate the historic property for compliance with codes and criteria.

(3) Evaluate alternative solutions within the preservation context using the Secretary of the Interior's Standards for Treatment of Historic Properties (reference 16-15).

(4) Design and execute the best treatment possible.

b. **Substitute Materials.** In the event that replacement of materials is necessary, the new materials should match the original materials in composition, design, color, texture, and other visual properties. Substitute materials should be used only on a limited basis and only when they will match the appearance and general properties of the historic material, and when they will not damage the historic character. Most of the time, closely matching materials are available, although research is necessary to locate them. Carefully chosen substitute materials are acceptable under the following circumstances:

(1) The historic materials are no longer available, or the skilled craftsmen needed to fabricate or install them cannot be found.

(2) The historic materials are of poor quality or are inappropriate to the use. For example, early sheet metal roofs were made of tin-plate, which corroded easily. The closest modern equivalent of tinplate is terne-coated steel, but this material also corrodes when the terne coating is scratched. More durable materials which wear better and look very much like the original tinplate should be considered.

(3) Building or life safety codes require the use of specific modern materials or prohibit using the historic ones.

(4) The cost of the original material has become cost prohibitive. The use of methods and materials that are approved for use on historic buildings should be evaluated on the basis of life-cycle cost. For example, slate roofs can last sixty years or more with minimal maintenance.

c. **Seismic Design.** Seismic upgrade of existing buildings must be considered in all zones in accordance with TM 5-809-10-2 (reference 16-23). TM 5-809-10-2 (reference 16-23) addresses the requirements for seismically upgrading non-historic buildings built after 1945. Historic buildings, in general, should meet the same minimum life safety goals as other buildings. The seismic evaluation of historic buildings should be based on the National Earthquake Hazards Reductions Program (NEHRP) Handbook for the Seismic Evaluation of Existing Buildings (reference 16-24), also known as FEMA-178. The NEHRP Handbook (reference 16-24) is based on recent research sponsored by the Federal Emergency Management Agency (FEMA). The NEHRP Handbook is consensus-backed and provides a very clear, simple, systematic procedure for evaluating the seismic capacity of existing structures and for identifying deficiencies. A fundamental feature of the NEHRP Handbook is that it allows a reduction in seismic force levels from NEHRP requirements for new construction. It attempts to balance the constraints of acceptable levels of risk against financial feasibility. A companion document to the NEHRP Handbook, *Techniques for Seismically Rehabilitating Existing Buildings* (reference 16-25), provides descriptions of generally accepted rehabilitation techniques for deficiencies in a broad spectrum of building types. Considerable flexibility is allowed to preserve essential historic features, and HQUSACE (CEMP-E) will consider waiver of TI 809-05 criteria on a case-by-case basis as an interested participant in the Section 106 process.

d. **Historic Family Housing Quarters.** Historic family housing quarters should be maintained in a way which preserves their historic significance, integrity, and military history. Although the primary objective of housing renovation is to provide and maintain habitable quarters for the soldiers, integrated cultural resource management plans should establish preservation standards for interior and exterior maintenance including materials, spaces, and features. To do this, significant interior and exterior features must be identified and documented to assure that all concerned parties, including housing occupants, participate in the retention and preservation of these building components. In developing maintenance, repair, rehabilitation or improvement projects, the application of criteria for family housing must be balanced with the historic preservation requirements and guidelines in this chapter.

9. **TREATMENT RESOURCES.** The Department of the Interior, Preservation Assistance Division publishes technical information that provides guidance regarding evaluation, documentation, and treatment of particular property types. In addition to buildings and structures, the technical information also addresses landscapes and traditional cultural properties.

- a. Preservation Briefs (reference 16-26). These briefs are a series of publications that explain recommended methods and approaches for rehabilitating historic buildings in a manner consistent with their historical character.
- b. Preservation Case Studies (reference 16-27). These case studies are practical, solution-oriented information concerning courses of action taken in the preservation of buildings.
- c. Preservation Tech Notes (reference 16-28). These tech notes are a series of publications that identify specific preservation problems and describe actions taken to resolve the problems consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (reference 16-15).

10. REFERENCES.

- 16-1 Executive Order 11593, Protection and Enhancement of the Cultural Environment, published in Title 3, Code of Federal Regulations, Part 154, May 13, 1971, and reprinted in Title 16 U.S. Code, Part 470, note
- 16-2 Public Law 89-665, National Historic Preservation Act of 1966, October 15, 1966, as amended by Title 16, U.S. Code 470-470h-2, 1992
- 16-3 Title 36, Code of Federal Regulations, Part 800, Protection of Historic and Cultural Properties
- 16-4 Title 36, Code of Federal Regulations, Part 60, National Register of Historic Places
- 16-5 Title 36, Code of Federal Regulations, Part 78, Waiver of Federal Agency Responsibilities Under Section 110 of the National Historic Preservation Act
- 16-6 Public Law 91-190, National Environmental Policy Act (NEPA) of 1969, January 1, 1970, published in Title 42, U.S. Code, Parts 4321-4347
- 16-7 Title 40, Code of Federal Regulations, Part 1502-08, Environmental Impact Statement
- 16-8 AR 200-2, Environmental Effects of Army Actions, Chapter 5, Environmental Assessments, 23 December 1988
- 16-9 Public Law 93-291, Archeological and Historic Preservation Act of 1974, May 24, 1974, amends Public Law 86-523. See Title 16, U.S. Code, Parts 469-469c
- 16-10 Public Law 95-541, Public Buildings Cooperative Use Act of 1976, October 18, 1976, published in Title 40, U.S. Code 490, 601a, 606, 611 and 612a
- 16-11 DoD Instruction 4715.3, Environmental Conservation Program, May 3, 1996
- 16-12 AR 200-4 and DAPam 200-4, Cultural Resources Management, 1 October 1998
- 16-13 ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies, Chapter 6, 15 November 1996
- 16-14 EP 1130-2-540, Environmental Stewardship Operations and Maintenance Guidance and Procedures, Chapter 6, 15 November 1996
- 16-15 The Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, Superintendent of Documents, U.S.

Government Printing Office, Washington, DC 20402, 1992

- 16-16 Title 36, Code of Federal Regulations, Part 67.7, Standards for Rehabilitation
- 16-17 Guidelines for the Treatment of Historic Landscapes, May 1992, Preservation Assistance Division (424), National Park Service, P.O. Box 37127, Washington, DC 20013-7127
- 16-18 Federal Standard 795, Uniform Federal Accessibility Standards, April 1, 1988
- 16-19 36 CFR 1191, Americans with Disabilities Act Accessibility Guidelines (ADAAG) for Buildings and Facilities, Current Version, U.S. Architectural and Transportation Barriers Compliance Board, Suite 1000, 1331 F Street, N.W., Washington, DC 20004-1111, telephone (202) 272-5434
- 16-20 Military Handbook MIL-HDBK 1008C, Fire Protection for Facilities, 10 June 1997 (or more recent edition)
- 16-21 NFPA 101, Life Safety Code, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
- 16-22 HUD Rehabilitation Guidelines #8, Guidelines on Fire Ratings of Archaic Materials and Assemblies, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Also available from HUD User, P.O. Box 6091, Rockville, MD 20850
- 16-23 TM 5-809-10-2, Seismic Design Guidelines for Upgrading Existing Buildings, 1 September 1988
- 16-24 FEMA 178, A Handbook for the Seismic Evaluation of Existing Buildings (Preliminary), Federal Emergency Management Agency, June 1992. Available from FEMA; call 800-480-2520.
- 16-25 FEMA 172, Techniques for Seismically Rehabilitating Existing Buildings, Federal Emergency Management Agency, June 1992. Available from FEMA; call 800-480-2520.
- 16-26 Preservation Briefs, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402
- 16-27 Preservation Case Studies, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402
- 16-28 Preservation Tech Notes, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402