CITY OF DULUTH

REQUEST FOR PROPOSALS FOR

DESIGN SERVICES FOR PRILEY CIRCLE RESTORATION

RFP NUMBER 25-AA08

ISSUED – Friday, June 6, 2025

PROPOSALS DUE – Wednesday, July 23, 2025 by 3:00 pm

SUBMIT TO

CITY OF DULUTH
ATTN: PURCHASING DIVISION
CITY HALL, ROOM 120
411 WEST 1ST STREET
DULUTH, MN 55802

PART I - GENERAL INFORMATION

I-1. Introduction. This project seeks proposals from firms to provide design services for restoration of the civil and landscape architectural features of Priley Circle in downtown Duluth.

The selected firm will lead the design process through multiple levels of historic preservation and architectural design review, complete design development through construction documents, assist with bidding and permitting, and perform construction administration services. The Architect/Engineer (A/E) is to consider the following historic and/or modern elements as part of the design fabric: sidewalks, curbs, vehicular pavement, lighting, landscape features, plant materials, outdoor seating, handicapped accessibility, wayfinding, metered parking and electric vehicle (EV) charging.

The final design solution should pay homage to the 1909 Burnham design, with consideration given to modern materials and construction methods. It is expected that the completed project's aesthetic will prevail against time and be of minimal maintenance to the property owners.

I-2. Project Background. Priley Circle, designed by architect Daniel Burnham in 1909 and located within the Duluth Civic Center Historic District, is the primary access route, parking zone, and central landscape venue for three government facilities in downtown Duluth. Today, comprehensive site improvements are needed to renew the various asset conditions and lifespans, maintain unity with the original design intent, and to further activate the historic civic area for greater public use and enjoyment.

Due to the site's listing in the National Register of Historic Places, this project is subject to review under Section 106 of the National Historic Preservation Act, the process of consultation with the Minnesota State Historic Preservation Office, and Duluth's Heritage Preservation Commission. This project is funded by local and federal funds. The supplementary provisions included in Appendix B shall apply.

Additional details are provided in **Part IV** of this RFP.

I-3. Calendar of Events. The City will make every effort to adhere to the following schedule:

Activity	Date
Request for Proposals is posted	Thursday, June 5, 2025
Pre-proposal conference (mandatory)	Wednesday, June 25, 2025
Deadline to submit Questions via email to purchasing@duluthmn.gov	Wednesday, July 2, 2025
Answers to questions will be posted to the City website no later than this date.	Friday, July 11, 2025
Proposals must be received in the Purchasing Office by 3:00 PM on this date.	Wednesday, July 23, 2025
Interviews tentatively scheduled for the week of:	August 4-8, 2025

I-4. Rejection of Proposals. The City reserves the right, in its sole and complete discretion, to reject any and all proposals or cancel the request for proposals, at any time prior to the time a contract is fully executed, when it is in its best interests. The City is not liable for any costs the A/E incurs in preparation and submission of its proposal, in participating in the RFP process or in anticipation of award of the contract.

I-5. Pre-proposal Conference. The City will hold a mandatory pre-proposal conference at 2:00 pm on Wednesday, June 25th, 2025. Interested architects/engineers (A/E's) can attend via MS TEAMS through the link available at https://www.duluthmn.gov/purchasing/bids-requestfor-proposals/ or in-person at City Hall, 411 West 1st Street, Duluth, MN in the Lakeside Conference Room 430.

I-6. Questions & Answers. Any questions regarding this RFP must be submitted by e-mail to the Purchasing Office at purchasing@duluthmn.gov **no later than** the date indicated on the Calendar of Events. Answers to the questions will be posted as an Addendum to the RFP.

I-7. Addenda to the RFP. If the City deems it necessary to revise any part of this RFP before the proposal response date, the City will post an addendum to its website http://www.duluthmn.gov/purchasing/bids-request-for-proposals/ . Although an e-mail notification will be sent, it is the A/E's responsibility to periodically check the website for any new information. Please acknowledge receipt of any addenda on the provided cover page, Exhibit A.

I-8. Proposals. To be considered, a hard copy of the proposal must be received by the City on or before the time and date specified in the RFP Calendar of Events. The City will not accept proposals received via email. The City reserves the right to deduct points or reject proposals received after the deadline.

Proposals must be signed by an authorized official. If the official signs the Proposal Cover Sheet attached as Appendix A, this requirement will be met. Proposals must remain valid for 60 days or until a contract is fully executed.

Please submit one (1) unbound paper copy of the Technical Submittal and one (1) unbound paper copy of the Cost Submittal. **The Cost Submittal is to be sealed in an envelope separate from the technical proposal.**

All materials submitted in response to this RFP will become property of the City and will become public record after the evaluation process is completed and an award decision made.

I-9. Small Diverse Business Information. The City encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran-owned and other disadvantaged business entities as subcontractors and suppliers**.** A list

of certified Disadvantaged Business Enterprises is maintained by the Minnesota Unified Certification Program at http://mnucp.metc.state.mn.us/ .

I-10. Award and Agreement. The award amount will be based on the time and materials submitted in the proposal; however, the agreement will be a lump-sum, not-to-exceed agreement. A/E should anticipate executing the landscape architect agreement substantially in the form of that attached as Appendix E. Questions about the agreement must be submitted by the question deadline included in the calendar of events.

I-11. Term of Contract. The term of the contract will begin once the contract is fully executed and is anticipated to end by December of 2027. The selected A/E shall not start the performance of any work nor shall the City be liable to pay the selected A/E for any service or work performed or expenses incurred before the contract is executed.

I-12. Prompt Payment of Subconsultants. Per MN Statute 471.425, Subd. 4a., Each contract of a municipality must require the prime contractor to pay any subcontractor within ten days of the prime contractor's receipt of payment from the municipality for undisputed services provided by the subcontractor. The contract must require the prime contractor to pay interest of 1-1/2 percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of $100 or more is $10. For an unpaid balance of less than $100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

I-13. Mandatory Disclosures. By submitting a proposal, each A/E understands, represents, and acknowledges that:

A. Their proposal has been developed by the A/E independently and has been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor or suppliers of materials, supplies, equipment, or services described in the Request for Proposals, designed to limit independent bidding or competition, and that the contents of the proposal have not been communicated by the A/E or its employees or agents to any person not an employee or agent of the A/E.

B. There is no conflict of interest. A conflict of interest exists if an A/E has any interest that would actually conflict, or has the appearance of conflicting, in any manner or degree with the performance of work on the project. If there are potential conflicts, identify the municipalities, developers, and other public or private entities with whom your company is currently, or have been, employed and which may be affected.

C. It is not currently under suspension or debarment by the State of Minnesota, any other state or the federal government.

D. The company is either organized under Minnesota law or has a Certificate of Authority from the Minnesota Secretary of State to do business in Minnesota, in accordance with the requirements in M.S. 303.03.

I-14. Notification of Selection. A/Es whose proposals are not selected will be notified in writing.

PART II - PROPOSAL REQUIREMENTS

Technical Proposal

1. Proposal cover sheet attached as Appendix A
2. Cover letter that includes a description of specifically why A/E is a good fit for this project and a restatement of the goals and objectives to demonstrate understanding of the project details
3. Scope of work envisioned, including but not limited to:
    a. Specific objectives
    b. Detailed deliverables
    c. Timeline of services
    d. A breakdown of the hours by task for each employee without cost
    e. A work plan and detail on the scope of services and deliverables for the initial phase of predesign
4. Background of firm that demonstrates successful completion of comparable projects (commensurate in size and scope to the proposed project) whose designs have been submitted for review under Section 106 of the National Historic Preservation Act and/or a state or local historic district ordinance and have received concurrence and/or approval from the National Park Service, and/or a Municipal government with Certified Local Government status
5. Resumes of key personnel responsible for deliverables, including lead designer for the proposed project team, including landscape architects, who at a minimum meets the professional qualifications for historic architecture as defined by the National Park Service.
6. Five examples of similar project experience of team.
7. References.
8. The technical proposal shall be limited to 20 single-sided 11-point minimum font size on 8 ½ x 11 pages. The front and back covers, and any additional documents required by the City, are not included in the 20-page limit. The separate cost proposal can be an 11” x 17” sheet.

Cost Proposal

9. Provide one copy of the cost proposal in a separate envelope, clearly marked on the outside with “Cost Proposal”. The terms of the proposal as stated must be valid for the length of the project. The responder must also include a total not-to-exceed project cost inclusive of any miscellaneous and sub-consultant fees, along with the following information:

a. A breakdown of the hours by task for each employee, including hourly rates for each phase of work as indicated in the agreement attached as Appendix E.
b. Identification of anticipated direct expenses.
c. Miscellaneous charges such as mileage and copies.
d. Identification of any assumptions made while developing the cost proposal.
e. Any cost information related to additional services or tasks, to be included as additional costs and not part of the total project cost.

PART III - CRITERIA FOR SELECTION

The proposals will be reviewed by City Staff. The intent of the selection process is to review proposals and make an award based upon qualifications as described therein. A 100-point scale will be used to create the final evaluation recommendations. The factors and weight on which the proposals will be judged are:

30% Qualifications of the A/E and Personnel
30% Prior experience with historic/preservation design work
20% Objectives, deliverables and work plan
20% Cost

The top three (3) scoring candidates will be requested to schedule an interview before a final decision is made by the evaluators. Both in-person and virtual interviews will be available.

PART IV – PROJECT DETAIL

(1) Description of Services

The A/E Professional Services for this project shall consist of, but not be limited to preparing a design, cost estimate, and specifications required to deliver fully executed contract documents. Additionally, the A/E shall provide historic preservation design expertise to facilitate the project's adherence with the Secretary of the Interior's Standards for Rehabilitation along with administrative support services as needed to expedite the Section 106 consultation process, the Federal implementation regulations for the National Historic Preservation Act (36 CFR Part 800) as described in Appendix C. The A/E's responsibilities shall also include participation in public meetings, preparation and delivery of presentations, and communications with government officials and community stakeholders as required to complete the Section 106 consultation process. The project shall consist of the following:

Background

The A/E along with any specialists and/or consultants shall design and produce construction documents for the following historic and/or modern

elements and design: sidewalks, curbs, vehicular pavement, pedestrian and street lighting, landscape features and design, plant materials, outdoor seating, handicapped accessibility, wayfinding, metered parking and EV charging.

The final design solution should pay homage to the 1909 Burnham design, with consideration given to modern materials and construction methods. It is expected that the completed project will include modern construction methods and materials, meet all code requirements and be of minimal maintenance/repairs to the owners.

Expectation

The project will entail alterations and restoration of Priley Circle. The awarded A/E will bring to the project the best design principles as permitted by the site infrastructure and budget, while adhering to the Secretary of the Interior's Standards for Rehabilitation. In so doing, the final design will qualify for a No Adverse Effect on Historic Properties Determination by GSA's Historic Preservation Officer and subsequently a concurrence with that determination from the Minnesota State Historic Preservation Office (SHPO).

Scope of Work

Prior to award of this contract, the A/E is required to attend a pre-proposal meeting to be held at Duluth City Hall, 411 W 1st St. Duluth, MN 55802. This meeting will be held with the City, County and Federal Project Managers and Property Managers. The A/E should be prepared to ask pertinent questions relating directly to scope requirements, specialty items, historic components and other related topics. If necessary, the scope of work will be amended to incorporate any pertinent changes and/or modifications. The A/E shall prepare minutes of this meeting and every subsequent meeting thereafter and shall deliver them to the project managers for distribution within three (3) working days of the meeting.

A follow-up meeting shall be planned with the City team on-site to discuss the project parameters and stakeholder expectations. The City will coordinate the final location with the stakeholders.

The A/E shall prepare a preliminary cost estimate for the project in order that the City has sufficient time to process the request for funding. Estimates will be required to reflect improvement costs and are due at 50% design/construction document (CD) submission. An updated cost estimate shall be provided at 90% design with a final estimate at the completion of contract documents.

The A/E shall include services of an Architectural Historian and Landscape Architect in the planning, design and execution phases of the project to provide the team with expertise and direction. These persons shall meet the Secretary of the Interior's Professional Qualifications standards for Architectural History, shall be involved throughout the design phases of the project, and shall provide guidance and oversight of the process.

Color renderings are expected at the 50% design/CD's review and shall include three (3) unique schemes unless otherwise directed. A final color rendering and 3D fly-through shall be presented at 90% design/CD's and shall indicate further development of the scheme. Graphic Rendering of each scheme shall be provided to the City for consideration at 50% and 90% design.

Accessibility of each building should be considered in any design. Additional ramps or other accessibility options should be considered for each building where possible.

Special attention and detail will be required with regard to the historic fabric. City will review costs and aesthetics of proposed products and notify the A/E of the desired finish selections.

The A/E shall conduct all meetings and provide meeting minutes.

The AIA Masterspec shall be used as the basis for developing the bidding documents. For Division 15 and 16 specification sections, the A/E shall develop his/her own specifications edited to full extent necessary for this specific project. Any available specifications (AIA, Navy, Military, NASA, etc.) may be used as a guide in developing the individual specifications for Sections 15 and 16; however, the specifications shall be prepared using the AIA Masterspec Format. Design shall comply with the U.S. General Service Administration (GSA) design guide PBS-P100

(2) Computer Aided Design (CAD) Drawings and Specifications

(2.1) All drawings and specifications shall be developed through computer-based media. All drawings shall be drawn using AutoCAD Release 16 or more current version, operating under MS Windows. AutoCAD (vector) drawing files in format DWG shall be submitted via CD-ROM disk. Layering shall follow the guidelines issued by the American Institute of Architects (AIA). Please refer to www.gsa.gov/greatlakescadpolicy. Only standard AutoCAD fonts shall be used, (i.e. Simplex or Romand). No customized menus. Only standard AutoCAD menus shall be submitted. Also, the .dwf format of all drawing files are to be submitted in addition to the .dwg format for transmission of the drawings in web format. In addition to normal statements of scale for plans, details, etc. such as ¼" = 1'-0", a graphic scale shall be added at each

adjacent to or underneath stated scale. All drawing files shall be stand alone with no required external references.

(2.2) Specifications shall be prepared on Microsoft Word and saved as the current version of MS Word operating under Microsoft Windows, using font Times New Roman 10cpi. The specifications shall include a Table of Contents that indicates all boilerplate and technical specification sections used. All specification sections shall be combined into one complete file.

(3) Scope of Services - Design and Construction Documents

(3.1) Pre-proposal Meeting with GSA and a separate post award-proposal meeting with the stakeholders. The design effort(s) and timeline need to include deliverables, time for Section 106 coordination and any coordination requirements for local historic districts.

(3.2) The A/E shall provide conceptual drawings of three (3) distinct designs. Design Development shall further develop the selected design and once approved the Construction Document phase shall begin.

(3.3) 50% Documents shall include drawings, specification outline, and estimate.

(3.4) 90% construction documents shall include developed drawings, specifications and estimates.

(3.5) 100% completion A/E will provide all documents via email. Provide drawings in .dwg and .pdf formats.

(4) Option 1 - Pre-Construction Contract Award Negotiation Services

The A/E shall there upon perform the following additional professional services:

The A/E shall assist the stakeholders in evaluating proposal(s) received from potential contractor(s). This option shall be exercised after the A/E has reconciled the variances in the proposal(s) received and the A/E's estimate. This shall encompass the following:

(4.1) The A/E shall attend one pre-proposal meeting, on-site with the stakeholders and bidding contractors.

(4.2) The A/E shall, within 7 days of request by the Contracting Officer, provide a written report of variances and/or discrepancies of the proposal(s) in comparison to the Independent Government Estimate (IGE), by CSI division to establish pre-negotiation objectives.

(4.3) The A/E shall assist in negotiations with the offeror(s) by attending all conference calls and/or meetings, as requested by the Contracting

Officer, to address any concerns pertaining to the IGE, specifications or drawings.

(4.4) The A/E shall, within 7 days of request by the Contracting Officer, prepare a written report to the Contracting Officer to determine whether or not the selected proposal(s) is/are considered fair and reasonable.

(4.5) Prior to the performance of work, under this option, the A/E will be required to sign and return to the Contracting Officer a “Non-Disclosure” document.

(5) Option 2 - Post Construction Contract Award Services

Pricing for this option is to be provided at the time of the base bid for A/E Services.

The A/E shall perform the following professional services:

(5.1) Review Construction Contractor coordinated and approved shop drawings, equipment lists, and data submittals as called for in the Construction Contract Documents. Any action shown is subject to the requirements of the Construction Contract Documents. Review shall be completed within ten (10) working days of receipt of shop drawings. All shop drawings shall be stamped with Government furnished approval stamp and transmitted on Government furnished transmittal forms.

(5.2) The A/E Project Manager(s) shall attend a pre-construction conference at the site.

(5.3) The A/E shall review general operating instructions, including copies of posted specific instructions and maintenance instructions, followed by tabulated manufacturers' descriptive literature, shop drawings, performance curves and rating data, spare parts lists and contractor's maintenance manuals. Submit one (1) electronic copy to GSA for review and distribution.

(6) Option 3 - Construction Observation Services

Pricing for this option is to be provided at the time of the base bid for the A/E Services

Stakeholders’ sole discretion to exercise this option shall be given within 24 months of the stakeholders’ acceptance of final deliverables required by this project. The A/E shall there upon perform the following additional professional services:

The A/E shall provide the following construction inspection services for a period of time stated by the construction contract (provided that stated time period may be extended by mutual agreement by both parties hereto), commencing with the

approval of this modification or issuance of Notice to Proceed with the Construction Contract, whichever is later. The A/E will provide written meeting minutes for any meeting held on site or conference call.

(6.1) INSPECTION FOR COMPLIANCE: Make sufficient observation of the performance and progress of the contractor to ascertain compliance with plans, specifications, and other construction performance requirements of the contract.

(6.2) REQUESTS FOR INFORMATION: Respond promptly to all questions from responsible prime contractors regarding the requirements of the construction contract documents; provided, however, that any question which cannot be readily answered by reference to the contract documents or which involves an interpretation of the contract documents shall be referred, together with the comments and recommendations of the A/E, to the Contractor of Record (COR) who shall, as promptly as may be feasible, furnish the contractor with a response to the question, an interpretation of the contract documents, or such instruction or directive as he may deem appropriate.

(6.3) MATERIALS: Inspect materials delivered on site and promptly thereafter notify the COR of any materials which do not meet the requirements of the contract documents.

(6.4) CHANGE ORDERS & ESTIMATING: The A/E shall make recommendations to the COR for change orders that could reasonably be anticipated for this type of project. Prepare scopes of work including sketches, narratives, and product descriptions as required for construction contract modifications using government standard forms. The A/E shall also review the construction cost submitted from the contractor for each proposal.

(6.5) FINAL INSPECTION: Conduct a Final Inspection and prepare the Omissions and Defects List

(6.6) TESTING SERVICES: The A/E is to review all testing required by the construction contract. Testing services beyond those required by the construction contract will be requested of the A/E through a separate modification of this contract.

(7) Schedule of Submissions:

(7.1) The A/E shall complete the services required under paragraph (3.2) for the 50% submittal within 12 weeks after the pre-design meeting.

(7.2) The A/E shall complete the services required under paragraph (3.3) for the 90% submittal within eight (8) weeks after approval of the 50% drawings.

(8) Fee and Payment (Part of Cost Proposal)

(1) **Base**: In consideration of the A/E's performance of the services required by this project (except those covered by options), the government shall pay the A/E a fixed fee of

$_____.

Prior to the final payment under this project, the A/E shall furnish the Government with a release of claims against the Government under this portion of the contract, other than such claims as the A/E may except. They shall describe and state the amount of each accepted claim.

(2) **Option 1 - Pre-Construction Contract Award Negotiation Services**: Pricing for this option is to be provided at the time of the base bid for the A/E Services. The Government shall pay the A/E a fixed fee of:

$_____.

(3) **Option 2 - Post Construction Contract Award Services**: Pricing for this option is to be provided at the time of the base bid for the A/E Services. The Government shall pay the A/E a fixed fee of:

$_____.

(4) **Option 3 - Construction Observation Services**: Pricing for this option is to be provided at the time of the base bid for the A/E Services. The Government shall pay the A/E a fixed fee of:

$_____.

Appendices

Appendix A: Cover Sheet

Appendix B: Supplementary Provisions – State & Federal Funding

Appendix C: National Park Service – Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines

Appendix D: The Secretary of the Interior's Standards for the Treatment of Historic Properties; Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings

Appendix E: Landscape Architect Agreement Template

APPENDIX A - PROPOSAL COVER SHEET
CITY OF DULUTH
RFP# 25-AA08 DESIGN SERVICES FOR PRILEY CIRCLE RESTORATION

A/E Information:	
A/E Name	
Mailing Address	
Contact Person	
Contact Person's Phone Number	
Contact Person's E-Mail Address	
Federal ID Number	
Authorized Signature	
Title of Authorized Signer	
Email of Authorized Signer	

ACKNOWLEDGMENT OF ADDENDA

ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE

APPENDIX B – SUPPLEMENTARY PROVISIONS
CITY OF DULUTH
RFP# 25-AA08 DESIGN SERVICES FOR PRILEY CIRCLE RESTORATION

City of Duluth
Supplementary Provisions – State & Federal Funding

1. Disbursements
   a. No money under this Contract shall be disbursed by the City to any Contractor unless the Contractor is in compliance with the Federal Agency requirements with regard to accounting and fiscal matters to the extent they are applicable.
   b. Unearned payments under this Contract may be suspended or terminated upon the Contractor's refusal to accept any additional conditions that may be imposed by the Federal Agency at any time; or if the grant, if applicable, to the City under which this Contract is made is suspended or terminated.

2. Subcontracting Requirements
   a. The Contractor shall include in any subcontract the clauses set forth in these City of Duluth Supplementary Provisions in their entirety and shall also include a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.
   b. The Contractor shall not subcontract any part of the work covered by this Contract or permit subcontracted work to be further subcontracted without the City's prior written approval of the subcontractors. The City will not approve any subcontractor for work covered by this Contract who is at the time ineligible under the provisions of any applicable regulations issued by a Federal Agency or the Secretary of Labor, United States Department of Labor, to receive an award of such subcontract.

3. Breach of Contract.

The City may, subject to the Force Majeure provisions below and in addition to its other rights under the Contract, declare the Contractor in breach of the Contract by written notice thereof to the Contractor, and terminate the Contract in whole or in part, in accordance with Section 4, Termination, for reasons including but not limited to any of the following:

   a. Failure to begin the Work within the time specified in the Contract;
   b. Failure to perform the Work with sufficient labor, equipment, or material to insure the completion of the specified Work in accordance with the Contract terms;
   c. Unsatisfactory performance of the Work;
   d. Failure or refusal to remove material, or remove and replace any Work rejected as defective or unsatisfactory;
   e. Discontinuance of the Work without approval;
   f. Failure to resume the Work, which has been discontinued, within a reasonable time after notice to do so;
   g. Insolvency or bankruptcy;
   h. Failure to protect, to repair, or to make good any damage or injury to property;
   i. Breach of any provision of the Contract;
   j. Misrepresentations made in the Contractor's bid/proposal; or
   k. Failure to comply with applicable industry standards, customs, and practice.

4. Termination

If the Contractor is in breach of the Contract, the City, by written notice to the Contractor, may

terminate the Contractor's right to proceed with the Work. Upon such termination, the City may take over the Work and prosecute the same to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any additional cost incurred by the City in its completion of the Work and they shall also be liable to the City for liquidated damages for any delay in the completion of the Work as provided below. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the Work such materials, tools, equipment, and plant as may be on the site of the Work and necessary therefore.

City shall have the right to terminate this contract immediately without other cause in the event that all or a portion of the funds that the City intends to use to fund its obligations under the contract have their source with the State or Federal government or any agency thereof and said source reduces or eliminates their obligation to provide some or all of the funds previously committed by it to fund City's payment obligations under the Contract. The City agrees that termination hereunder will not relieve the City of its obligation to pay Contractor for Work satisfactorily performed and reasonable costs incurred prior to the effective date.

Notwithstanding anything herein to the contrary, the City may terminate this Contract at any time upon written notice given by the City (for any reason, including the convenience of the City) to the Contractor at least thirty (30) days prior to the effective date of the termination of this Contract. The City agrees that termination hereunder will not relieve the City of its obligation to pay Contractor for Work satisfactorily performed and reasonable costs incurred prior to the effective date of the termination provided that Contractor has not committed a breach of this Contract. Nothing contained in this section shall prevent either party from pursuing or collecting any damages to which it may be entitled by law.

5. Force Majeure.

The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the Work due to any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency; any acts of the City; causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, acts of another Contractor in their performance of some other contract with the City, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones, and other extreme weather conditions; nor to any delay of any Subcontractor occasioned by any of the causes specified above. The Contractor shall promptly notify the City in writing within ten (10) days of the delay. Upon receipt of such notification, the City shall ascertain the facts and the cause of the delay. If, upon the basis of facts and the terms of the Contract, the delay is properly excusable, the City shall extend the time for completing the Work for a period of time commensurate with the period of excusable delay.

6. Contracting with Small and Minority Businesses, Women's Business Enterprises, and Labor Surplus Area Firms.

Per 2 CFR 200.321, prime contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms (collectively referred to as socioeconomic firms) are used when possible. The affirmative steps must include:

a. Placing qualified socioeconomic firms on solicitation lists;
b. Assuring that socioeconomic firms are solicited whenever they are potential sources;
c. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by socioeconomic firms;

d. Establishing delivery schedules, where the requirements permit, which encourage participation by socioeconomic firms; and

e. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

7. Clean Air Act and Federal Water Pollution Control Act

Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA). Contractor agrees to include this provision in any subcontract exceeding $150,000 that is financed in whole or in part with Federal funds.

8. Energy Standards.

Contractor shall comply with all mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201).

9. Suspension and Debarment.

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945. The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into. A contract award must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM.gov), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 19898 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

10. Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended)

Contractors must certify that that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352.

11. Telecommunications and Video Surveillance Services or Equipment

In the performance of this contract, Contractor/Supplier shall comply with Public Law 115-232, Section 889, which prohibits the procurement or use of covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, use of video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities) is prohibited.

In addition, telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country is prohibited.

12. Domestic Preferences for Procurements

As appropriate and to the extent consistent with law, Contractor shall, to the greatest extent practicable under a Federal award, supply and/or use goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). For purposes of this section, "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

Contractors shall include the preceding language in all subcontracts.

APPENDIX C – NATIONAL PARK SERVICE – ARCHAEOLOGY AND HISTORIC PRESERVATION; SECRETARY OF THE INTERIOR'S STANDARDS AND GUIDELINES
CITY OF DULUTH
RFP# 25-AA08 DESIGN SERVICES FOR PRILEY CIRCLE RESTORATION

Federal Register

Thursday
September 29, 1983

Part IV

Department of the Interior

National Park Service

Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines

DEPARTMENT OF THE INTERIOR

National Park Service

Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: This notice sets forth the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. These standards and guidelines are not regulatory and do not set or interpret agency policy. They are intended to provide technical advice about archeological and historic preservation activities and methods.

DATE: These Standards and Guidelines are effective on September 29, 1983.

FOR FURTHER INFORMATION CONTACT: Lawrence E. Aten, Chief, Interagency Resources Division, National Park Service, United States Department of the Interior, Washington, D.C. 20240 (202-343-9500). A Directory of Technical Information listing other sources of supporting information is available from the National Park Service.

SUPPLEMENTARY INFORMATION: The Standards and Guidelines are prepared under the authority of Sections 101(f), (g), and (h), and Section 110 of the National Historic Preservation Act of 1966, as amended. State Historic Preservation Officers; Federal Preservation Officers including those of the Department of Agriculture, Department of Defense, Smithsonian Institution and General Services Administration; the Advisory Council on Historic Preservation; the National Trust for Historic Preservation; and other interested parties were consulted during the development of the Standards and Guidelines; additional consultation with these agencies will occur as the Standards and Guidelines are tested during their first year of use.

Purpose

The proposed Standards and the philosophy on which they are based result from nearly twenty years of intensive preservation activities at the Federal, State, and local levels.

The purposes of the Standards are:

To organize the information gathered about preservation activities.

To describe results to be achieved by Federal agencies, States, and others when planning for the identification, evaluation, registration and treatment of historic properties.

To integrate the diverse efforts of many entities performing historic preservation into a systematic effort to preserve our nation's cultural heritage.

Uses of the Standards

The following groups or individuals are encouraged to use these Standards:

Federal agency personnel responsible for cultural resource management pursuant to Section 110 of the National Historic Preservation Act, as amended, in areas under Federal jurisdiction. A separate series of guidelines advising Federal agencies on their specific historic preservation activities under Section 110 is in preparation.

State Historic Preservation Offices responsible under the National Historic Preservation Act, as amended, for making decisions about the preservation of historic properties in their States in accordance with appropriate regulations and the Historic Preservation Fund Grants Management Manual. The State Historic Preservation Offices serve as the focal point for preservation planning and act as a central state-wide repository of collected information.

Local governments wishing to establish a comprehensive approach to the identification, evaluation, registration and treatment of historic properties within their jurisdictions.

Other individuals and organizations needing basic technical standards and guidelines for historic preservation activities.

Organization

This material is organized in three sections: Standards; Guidelines; and recommended technical sources, cited at the end of each set of guidelines. Users of this document are expected to consult the recommended technical sources to obtain guidance in specific cases.

Review of the Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation have recently undergone extensive review and their guidelines made current after 5 years of field use. Users and other interested parties are encouraged to submit written comments on the utility of these Standards and Guidelines except for the Rehabilitation Standards mentioned above. This edition will be thoroughly reviewed by the National Park Service (including consultation with Federal and State agencies), after the end of its first full year of use and any necessary modifications will be made. Subsequent reviews are anticipated as needed. Comments should be sent to Chief, Interagency Resources Division, National Park Service, United States Department of the Interior, Washington, D.C. 20240.

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Secretary of the Interior's Standards for Preservation Planning

Preservation planning is a process that organizes preservation activities (identification, evaluation, registration and treatment of historic properties) in a logical sequence. The Standards for Planning discuss the relationship among these activities while the remaining activity standards consider how each activity should be carried out. The Professional Qualifications Standards discuss the education and experience required to carry out various activities.

The Standards for Planning outline a process that determines when an area should be examined for historic properties, whether an identified property is significant, and how a significant property should be treated.

Preservation planning is based on the following principles:

—Important historic properties cannot be replaced if they are destroyed. Preservation planning provides for conservative use of these properties, preserving them in place and avoiding harm when possible and altering or destroying properties only when necessary.

—If planning for the preservation of historic properties is to have positive effects, it must begin before the identification of all significant properties has been completed. To make responsible decisions about historic properties, existing information must be used to the maximum extent and new information must be acquired as needed.

—Preservation planning includes public participation. The planning process should provide a forum for open discussion of preservation issues. Public involvement is most meaningful when it is used to assist in defining values of properties and preservation planning issues, rather than when it is limited to review of decisions already made. Early

and continuing public participation is essential to the broad acceptance of preservation planning decisions.

Preservation planning can occur at several levels or scales: in a project area; in a community; in a State as a whole; or in the scattered or contiguous landholdings of a Federal agency. Depending on the scale, the planning process will involve different segments of the public and professional communities and the resulting plans will vary in detail. For example, a State preservation plan will likely have more general recommendations than a plan for a project area or a community. The planning process described in these Standards is flexible enough to be used at all levels while providing a common structure which promotes coordination and minimizes duplication of effort. The Guidelines for Preservation Planning contain additional information about how to integrate various levels of planning.

Standard I. Preservation Planning Establishes Historic Contexts

Decisions about the identification, evaluation, registration and treatment of historic properties are most reliably made when the relationship of individual properties to other similar properties is understood. Information about historic properties representing aspects of history, architecture, archeology, engineering and culture must be collected and organized to define these relationships. This organizational framework is called a "historic context." The historic context organizes information based on a cultural theme and its geographical and chronological limits. Contexts describe the significant broad patterns of development in an area that may be represented by historic properties. The development of historic contexts is the foundation for decisions about identification, evaluation, registration and treatment of historic properties.

Standard II. Preservation Planning Uses Historic Contexts To Develop Goals and Priorities for the Identification, Evaluation, Registration and Treatment of Historic Properties

A series of preservation goals is systematically developed for each historic context to ensure that the range of properties representing the important aspects of each historic context is identified, evaluated and treated. Then priorities are set for all goals identified for each historic context. The goals with assigned priorities established for each historic context are integrated to produce a comprehensive and consistent set of goals and priorities for all historic contexts in the geographical area of a planning effort.

The goals for each historic context may change as new information becomes available. The overall set of goals and priorities are then altered in response to the changes in the goals and priorities for the individual historic contexts.

Activities undertaken to meet the goals must be designed to deliver a usable product within a reasonable period of time. The scope of the activity must be defined so the work can be completed with available budgeted program resources.

Standard III. The Results of Preservation Planning Are Made Available for Integration Into Broader Planning Processes

Preservation of historic properties is one element of larger planning processes. Planning results, including goals and priorities, information about historic properties, and any planning documents, must be transmitted in a usable form to those responsible for other planning activities. Federally mandated historic preservation planning is most successfully integrated into project management planning at an early stage. Elsewhere, this integration is achieved by making the results of preservation planning available to other governmental planning bodies and to private interests whose activities affect historic properties.

Secretary of the Interior's Guidelines for Preservation Planning

Introduction

These Guidelines link the Standards for Preservation Planning with more specific guidance and technical information. They describe one approach to meeting the Standards for Preservation Planning. Agencies, organizations or individuals proposing to approach planning differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Managing the Planning Process
Developing Historic Contexts
Developing Goals for a Historic Context
Integrating Individual Historic Contexts—Creating the Preservation Plan
Coordinating with Management Frameworks
Recommended Sources of Technical Information

Managing the Planning Process

The preservation planning process must include an explicit approach to implementation, a provision for review and revision of all elements, and a mechanism for resolving conflicts within the overall set of preservation goals and between this set of goals and other land use planning goals. It is recommended that the process and its products be described in public documents.

Implementing the Process

The planning process is a continuous cycle. To establish and maintain such a process, however, the process must be divided into manageable segments that can be performed within a defined period, such as a fiscal year or budget cycle. One means of achieving this is to define a period of time during which all the preliminary steps in the planning process will be completed. These preliminary steps would include setting a schedule for subsequent activities.

Review and Revision

Planning is a dynamic process. It is expected that the content of the historic contexts described in Standard I and the goals and priorities described in Standard II will be altered based on new information obtained as planning proceeds. The incorporation of this information is essential to improve the content of the plan and to keep it up-to-date and useful. New information must be reviewed regularly and systematically, and the plan revised accordingly.

Public Participation

The success of the preservation planning process depends on how well it solicits and integrates the views of various groups. The planning process is directed first toward resolving conflicts in goals for historic preservation, and second toward resolving conflicts between historic preservation goals and other land-use planning goals. Public participation is intergral to this approach and includes at least the following actions:

1. Involving historians, architectural historians, archeologists, historical architects, folklorists and persons from related discipline to define, review and revise the historic contexts, goals and priorities;

2. Involving interested individuals, organizations and communities in the planning area in identifying the kinds of historic properties that may exist and suitable protective measures;

3. Involving prospective users of the preservation plan in defining issues, goals and priorities;

4. Providing for coordination with other planning efforts at local, state, regional and national levels, as appropriate; and

5. Creating mechanisms for identifying and resolving conflicts about historic preservation issues.

The development of historic contexts, for example, should be based on the professional input of all disciplines involved in preservation and not be limited to a single discipline. For prehistoric archeology, for example, data from fields such as geology, geomorphology and geography may also be needed. The individuals and organizations to be involved will depend, in part, on those present or interested in the planning area.

Documents Resulting from the Planning Process

In most cases, the planning process produces documents that explain how the process works and that discuss the historic contexts and related goals and priorities. While the process can operate in the absence of these documents, planning documents are important because they are the most effective means of communicating the process and its recommendations to others. Planning documents also record decisions about historic properties.

As various parts of the planning process are reviewed and revised to reflect current information, related documents must also be updated. Planning documents should be created in a form that can be easily revised. It is also recommended that the format, language and organization of any documents or other materials (visual aids, etc.) containing preservation planning information meet the needs of prospective users.

Developing Historic Contexts

General Approach

Available information about historic properties must be divided into manageable units before it can be useful for planning purposes. Major decisions about identifying, evaluating, registering and treating historic properties are most reliably made in the context of other related properties. A historic context is an organizational format that groups information about related historic properties, based on a theme, geographic limits and chronological period. A single historic context describes one or more aspects of the historic development of an area, considering history, architecture, archeology, engineering and culture; and identifies the significant patterns that individual historic properties represent, for example, Coal Mining in Northeastern Pennsylvania between 1860 and 1930. A set of historic contexts is a comprehensive summary of all aspects of the history of the area.

The historic context is the cornerstone of the planning process. The goal of preservation planning is to identify, evaluate, register and treat the full range of properties representing each historic context, rather than only one or two types of properties. Identification activities are organized to ensure that research and survey activities include properties representing all aspects of the historic context. Evaluation uses the historic context as the framework within which to apply the criteria for evalution to specific properties or property types. Decisions about treatment of properties are made with the goal of treating the range of properties in the context. The use of historic contexts in organizing major preservation activities ensures that those activities result in the preservation of the wide variety of properties that represent our history, rather than only a small, biased sample of properties.

Historic contexts, as theoretical constructs, are linked to actual historic properties through the concept of property type. Property types permit the development of plans for identification, evaluation and treatment even in the absence of complete knowledge of individual properties. Like the historic context, property types are artifical constructs which may be revised as necessary.

Historic contexts can be developed at a variety of scales appropriate for local, State and regional planning. Given the probability of historic contexts overlapping in an area, it is important to coordinate the development and use of contexts at all levels. Generally, the State Historic Preservation Office possesses the most complete body of information about historic properties and, in practice, is in the best position to perform this function.

The development of historic contexts generally results in documents that describe the prehistoric processes or patterns that define the context. Each of the contexts selected should be developed to the point of identifying important property types to be useful in later preservation decision-making. The amount of detail included in these summaries will vary depending on the level (local, state, regional, or national) at which the contexts are developed and on their intended uses. For most planning purposes, a synopsis of the written description of the historic context is sufficient.

Creating a Historic Context

Generally, historic contexts should not be constructed so broadly as to include all property types under a single historic context or so narrowly as to contain only one property type per historic context. The following procedures should be followed in creating a historic context.

1. Identify the concept, time period and geographical limits for the historic context

Existing information, concepts, theories, models and descriptions should be used as the basis for defining historic contexts. Biases in primary and secondary sources should be identified and accounted for when existing information is used in defining historic contexts.

The identification and description of historic contexts should incorporate contributions from all disciplines involved in historic preservation. The chronological period and geographical area of each historic context should be defined after the conceptual basis is established. However, there may be exceptions, especially in defining prehistoric contexts where drainage systems or physiographic regions often are outlined first. The geographical boundaries for historic contexts should not be based upon contemporary political, project or other contemporary boundaries if those boundaries do not coincide with historical boundaries. For example, boundaries for prehistoric contexts will have little relationship to contemporary city, county or state boundaries.

2. Assemble the existing information about the historic context

a. *Collecting information:* Several kinds of information are needed to construct a preservation plan. Information about the history of the area encompassed by the historic context must be collected, including any information about historic properties that have already been identified. Existing survey or inventory entries are an important source of information about historic properties. Other sources may include literature on prehistory, history, architecture and the environment; social and environmental impact assessments; county and State land use plans; architectural and folklife studies and oral histories; ethnographic research; State historic inventories and registers; technical reports prepared for Section 106 or other assessments of historic properties; and and direct consultation with individuals and organized groups.

In addition, organizations and groups that may have important roles in defining historic contexts and values

should be identified. In most cases a range of knowlegeable professionals drawn from the preservation, planning and academic communities will be available to assist in defining contexts and in identifying sources of information. In other cases, however, development of historic contexts may occur in areas whose history or prehistory has not been extensively studied. In these situations, broad general historic contexts should be initially identified using available literature and expertise, with the expectation that the contexts will be revised and subdivided in the future as primary source research and field survey are conducted. It is also important to identify such sources of information as existing planning data, which is needed to establish goals for identification, evaluation, and treatment, and to identify factors that will affect attainment of those goals.

The same approach for obtaining information is not necessarily desirable for all historic contexts. Information should not be gathered without first considering its relative importance to the historic context, the cost and time involved, and the expertise required to obtain it. In many cases, for example, published sources may be used in writing initial definitions of historic contexts; archival research or field work may be needed for subsequent activities.

b. *Assessing information:* All information should be reviewed to identify bias in historic perspective, methodological approach, or area of coverage. For example, field surveys for archeological sites may have ignored historic archelolgical sites, or county land use plans may have emphasized only development goals.

3. Synthesize information

The information collection and analysis results in a written narrative of the historic context. This narrative provides a detailed synthesis of the data that have been collected and analyzed. The narrative covers the history of the area from the chosen perspective and identifies important patterns, events, persons or cultural values. In the process of identifying the important patterns, one should consider:

a. Trends in area settlement and development, if relevant;

b. Aesthetic and artistic values embodied in architecture, construction technology or craftsmanship;

c. Research values or problems relevant to the historic context; social and physical sciences and humanities; and cultural interests of local communities; and

d. Intangible cultural values of ethnic groups and native American peoples.

4. Define property types

A property type is a grouping of individual properties based on shared physical or associative characteristics. Property types link the ideas incorporated in the theoretical historic context with actual historic properties that illustrate those ideas. Property types defined for each historic context should be directly related to the conceptual basis of the historic context. Property types defined for the historic context "Coal Mining in Northeastern Pennsylvania, 1860–1930" might include coal extraction and processing complexes; railroad and canal transportation systems; commercial districts; mine workers' housing; churches, social clubs and other community facilities reflecting the ethnic origins of workers; and residences and other properties associated with mine owners and other industrialists.

a. *Identify property types:* The narrative should discuss the kinds of properties expected within the geographical limits of the context and group them into those property types most useful in representing important historic trends.

Generally, property types should be defined after the historic context has been defined. Property types in common usage ("Queen Anne houses," "mill buildings," or "stratified sites") should not be adopted without first verifying their relevance to the historic contexts being used.

b. *Characterize the locational patterns of property types:* Generalizations about where particular types of properties are likely to be found can serve as a guide for identification and treatment. Generalizations about the distribution of archeological properties are frequently used. The distribution of other historic properties often can be estimated based on recognizable historical, environmental or cultural factors that determined their location. Locational patterns of property types should be based upon models that have an explicit theoretical or historical basis and can be tested in the field. The model may be the product of historical research and analysis ("Prior to widespread use of steam power, mills were located on rivers and streams able to produce water power" or "plantation houses in the Mississippi Black Belt were located on sandy clay knolls"), or it may result from sampling techniques. Often the results of statistically valid sample surveys can be used to describe the locational patterns of a representative portion of properties belonging to a particular property type. Other surveys can also provide a basis for suggesting locational patterns if a diversity of historic properties was recorded and a variety of environmental zones was inspected. It is likely that the identification of locational patterns will come from a combination of these sources. Expected or predicted locational patterns of property types should be developed with a provision made for their verification.

c. *Characterize the current condition of property types:* The expected condition of property types should be evaluated to assist in the development of identification, evaluation and treatment strategies, and to help define physical integrity thresholds for various property types. The following should be assessed for each property type:

(1) Inherent characteristics of a property type that either contribute to or detract from its physical preservation. For example, a property type commonly constructed of fragile materials is more likely to be deteriorated than a property type constructed of durable materials; structures whose historic function or design limits the potential for alternative uses (water towers) are less likely to be reused than structures whose design allows a wider variety of other uses (commercial buildings or warehouses).

(2) Aspects of the social and natural environment that may affect the preservation or visibility of the property type. For example, community values placed on certain types of properties (churches, historic cemeteries) may result in their maintenance while the need to reuse valuable materials may stimulate the disappearance of properties like abandoned houses and barns.

It may be most efficient to estimate of the condition of property types based on professional knowledge of existing properties and field test these estimates using a small sample of properties representative of each type.

5. Identify information needs

Filling gaps in information is an important element of the preservation plan designed for each historic context. Statements of the information needed should be as specific as possible, focusing on the information needed, the historic context and property types it applies to, and why the information is needed to perform identification, evaluation, or treatment activities.

Developing Goals for a Historic Context

Developing Goals

A goal is a statement of preferred preservation activities, which is

generally stated in terms of property types.

The purpose of establishing preservation goals is to set forth a "best case" version of how properties in the historic context should be identified, evaluated, registered and treated. Preservation goals should be oriented toward the greatest possible protection of properties in the historic context and should be based on the principle that properties should be preserved in place if possible, through affirmative treatments like rehabilitation, stabilization or restoration. Generally, goals will be specific to the historic context and will often be phrased in terms of property types. Some of these goals will be related to information needs previously identified for the historic context. Collectively, the goals for a historic context should be a coherent statement of program direction covering all aspects of the context.

For each goal, a statement should be prepared identifying:

1. The goal, including the context and property types to which the goal applies and the geographical area in which they are located;
2. The activities required to achieve the goal;
3. The most appropriate methods or strategies for carrying out the activities;
4. A schedule within which the activities should be completed; and
5. The amount of effort required to accomplish the goal, as well as a way to evaluate progress toward its accomplishment.

Setting priorities for goals

Once goals have been developed they need to be ranked in importance. Ranking involves examining each goal in light of a number of factors.

1. General social, economic, political and environmental conditions and trends affecting (positively and negatively) the identification, evaluation, registration and treatment of property types in the historic context.

Some property types in the historic context may be more directly threatened by deterioration, land development patterns, contemporary use patterns, or public perceptions of their value, and such property types should be given priority consideration.

2. Major cost or technical considerations affecting the identification, evaluation and treatment of property types in the historic context.

The identification or treatment of some property types may be technically possible but the cost prohibitive; or techniques may not currently perfected (for example, the identification of submerged sites or objects, or the evaluation of sites containing material for which dating techniques are still being developed).

3. Identification, evaluation, registration and treatment activities previously carried out for property types in the historic context.

If a number of properties representing one aspect of a historic context have been recorded or preserved, treatment of additional members of that property type may receive lower priority than treatment of a property type for which no examples have yet been recorded or preserved. This approach ensures that the focus of recording or preserving all elements of ths historic context is retained, rather than limiting activities to preserving properties representing only some aspects of the context.

The result of considering the goals in light of these concerns will be a list of refined goals ranked in order of priority.

Integrating Individual Contexts—Creating the Preservation Plan

When historic contexts overlap geographically, competing goals and priorities must be integrated for effective preservation planning. The ranking of goals for each historic context must be reconciled to ensure that recommendations for one context do not contradict those for another. This important step results in an overall set of priorities for several historic contexts and a list of the activities to be performed to achieve the ranked goals. When applied to a specific geographical area, this is the preservation plan for that area.

It is expected that in many instances historic contexts will overlap geographically. Overlapping contexts are likely to occur in two combinations—those that were defined at the same scale (i.e., textile development in Smithtown 1850–1910 and Civil War in Smithtown 1855–1870) and those defined at different scales (i.e., Civil War in Smithtown and Civil War in the Shenandoah Valley). The contexts may share the same property types, although the shared property types will probably have different levels of importance, or they may group the same properties into different property types, reflecting either a different scale of analysis or a different historical perspective.

As previously noted, many of the goals that the formulated for a historic context will focus on the property types defined for that context. Thus it is critical that the integration of goals include the explicit consideration of the potential for shared property type membership by individual properties. For example, when the same property types are used by two contexts, reconciling the goals will require weighing the level of importance assigned to each property type. The degree to which integration of historic contexts must involve reconciling property types may be limited by the coordinated development of historic contexts used at various levels.

Integration with Management Frameworks

Preservation goals and priorities are adapted to land units through integration with other planning concerns. This integration must involve the resolution of conflicts that arise when competing resources occupy the same land base. Successful resolution of these conflicts can often be achieved through judicious combination of inventory, evaluation and treatment activities. Since historic properties are irreplaceable, these activities should be heavily weighted to discourage the destruction of significant properties and to be compatible with the primary land use.

Recommended Sources of Technical Information

Resource Protection Planning Process. State and Plans Grants Division, 1980. Washington, D.C. Available from Survey and Planning Branch, Interagency Resources Division, National Park Service, Department of the Interior, Washington, D.C. 20240. Outlines a step-by-step approach to implementing the resource protection planning process.

Resource Protection Planning Process Case Studies. Available from Survey and Planning Branch, Interagency Resources Division, National Park Service, Department of the Interior, Washington, D.C. 20240. Reports prepared by State Historic Preservation Offices and other using the planning process.

Planning Theory. Andreas Faludi, 1980. Oxford: Pergamon Press. Constructs a model of planning using concepts borrowed from general systems theory.

SECRETARY OF THE INTERIOR'S STANDARDS FOR IDENTIFICATION

Identification activities are undertaken to gather information about historic properties in an area. The scope of these activities will depend on: existing knowledge about properties; goals for survey activities developed in the planning process; and current management needs.

Standard I. Identification of Historic Properties Is Undertaken to the Degree Required To Make Decisions

Archival research and survey activities should be designed to gather the information necessary to achieve defined preservation goals. The

objectives, chosen methods and techniques, and expected results of the identification activities are specified in a research design. These activities may include archival research and other techniques to develop historic contexts, sampling an area to gain a broad understanding of the kinds of properties it contains, or examining every property in an area as a basis for property specific decisions. Where possible, use of quantitative methods is important because it can produce an estimate, whose reliability may be assessed, of the kinds of historic properties that may be present in the studied area. Identification activities should use a search procedure consistent with the management needs for information and the character of the area to be investigated. Careful selection of methods, techniques and level of detail is necessary so that the gathered information will provide a sound basis for making decisions.

Standard II. Results of Identification Activities are Integrated Into the Preservation Planning Process

Results of identification activities are reviewed for their effects on previous planning data. Archival research or field survey may refine the understanding of one or more historic contexts and may alter the need for additional survey or study of particular property types. Incorporation of the results of these activities into the planning process is necessary to ensure that the planning process is always based on the best available information.

Standard III. Identification Activities Include Explicit Procedures for Record-Keeping and Information Distribution

Information gathered in identification activities is useful in other preservation planning activities only when it is systematically gathered and recorded, and made available to those responsible for preservation planning. The results of identification activities should be reported in a format that summarizes the design and methods of the survey, provides a basis for others to review the results, and states where information on identified properties is maintained. However, sensitive information, like the location of fragile resources, must be safeguarded from general public distribution.

Secretary of the Interior's Guidelines for Identification

Introduction

These Guidelines link the Standards for Identification with more specific guidance and technical information. The Guidelines outline one approach to meet the Standards for Identification. Agencies, organizations and individuals proposing to approach identification differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Role of Identification in the Planning Process
Performing Identification
Integrating Identification Results
Reporting Identification Results
Recommended Sources of Technical Information

Role of Identification in the Planning Process

Identification is undertaken for the purpose of locating historic properties and is composed of a number of activities which include, but are not limited to archival research, informant interviews, field survey and analysis. Combinations of these activities may be selected and appropriate levels of effort assigned to produce a flexible series of options. Generally identification activities will have multiple objectives, reflecting complex management needs. Within a comprehensive planning process, identification is normally undertaken to acquire property-specific information needed to refine a particular historic context or to develop any new historic contexts. (See the Guidelines for Preservation Planning for discussion of information gathering to establish plans and to develop historic contexts.) The results of identification activities are then integrated into the planning process so that subsequent activities are based on the most up-to-date information. Identification activities are also undertaken in the absence of a comprehensive planning process, most frequently as part of a specific land-use or development project. Even lacking a formally developed preservation planning process, the benefits of efficent, goal-directed research may be obtained by the development of localized historic contexts, suitable in scale for the project area, as part of the background research which customarily occurs before field survey efforts.

Performing Identification

Research Design

Identification activities are essentially research activities for which a statement of objectives or research design should be prepared before work is performed. Within the framework of a comprehensive planning process, the research design provides a vehicle for integrating the various activities performed during the identification process and for linking those activities directly to the goals and the historic context(s) for which those goals were defined. The research design stipulates the logical integration of historic context(s) and field and laboratory methodology. Although these tasks may be performed individually, they will not contribute to the greatest extent possible in increasing information on the historic context unless they relate to the defined goals and to each other. Additionally, the research design provides a focus for the integration of interdisciplinary information. It ensures that the linkages between specialized activities are real, logical and address the defined research questions. Identification activities should be guided by the research design and the results discussed in those terms. (See Reporting Identification Results)

The research design should include the following:

1. *Objectives* of the identification activities. For example: to characterize the range of historic properties in a region; to identify the number of properties associated with a context; to gather information to determine which properties in an area are significant.

The statement of objectives should refer to current knowledge about the historic contexts or property types, based on background research or assessments of previous research. It should clearly define the physical extent of the area to be investigated and the amount and kinds of information to be gathered about properties in the area.

2. *Methods* to be used to obtain the information. For example: archival research or field survey. Research methods should be clearly and specifically related to research problems.

Archival research or survey methods should be carefully explained so that others using the gathered information can understand how the information was obtained and what its possible limitations or biases are.

The methods should be compatible with the past and present environmental character of the geographical area under study and the kinds of properties most likely to be present in the area.

3. *The expected results* and the reasons for those expections.

Expectations about the kind, number, location, character and condition of historic properties are generally based on a combination of background research, proposed hypotheses, and analogy to the kinds of properties known to exist in areas of similar environment or history.

Archival Research

Archival or background research is generally undertaken prior to any field survey. Where identification is undertaken as part of a comprehensive planning process, background research may have taken place as part of the development of the historic contexts (see the Guidelines for Preservation Planning). In the absence of previously developed historic contexts, archival research should address specific issues and topics. It should not duplicate previous work. Sources should include, but not be limited to, historical maps, atlases, tax records, photographs, ethnographies, folklife documentation, oral histories and other studies, as well as standard historical reference works, as appropriate for the research problem. (See the Guidelines for Historical Documentation for additional discussion.)

Field Survey

The variety of field survey techniques available, in combination with the varying levels of effort that may be assigned, give great flexibility to implementing field surveys. It is important that the selection of field survey techniques and level of effort be responsive to the management needs and preservation goals that direct the survey effort.

Survey techniques may be loosely grouped into two categories, according to their results. First are the techniques that result in the characterization of a region's historic properties. Such techniques might include "windshield" or walk-over surveys, with perhaps a limited use of sub-surface survey. For purposes of these Guidelines, this kind of survey is termed a "reconnaissance." The second category of survey techniques is those that permit the identification and description of specific historic properties in an area; this kind of survey effort is termed "intensive." the terms "reconnaissance" and "intensive" are sometimes defined to mean particular survey techniques, generally with regard to prehistoric sites. The use of the terms here is general and is not intended to redefine the terms as they are used elsewhere.

Reconnaissance survey might be most profitably employed when gathering data to refine a developed historic context—such as checking on the presence or absence of expected property types, to define specific property types or to estimate the distribution of historic properties in an area. The results of regional characterization activities provide a general understanding of the historic properties in a particular area and permit management decisions that consider the sensitivity of the area in terms of historic preservation concerns and the resulting implications for future land use planning. The data should allow the formulation of estimates of the necessity, type and cost of further identification work and the setting of priorities for the individual tasks involved. In most cases, areas surveyed in this way will require resurvey if more complete information is needed about specific properties.

A reconnaissance survey should document:

1. The kinds of properties looked for;
2. The boundaries of the area surveyed;
3. The method of survey, including the extent of survey coverage;
4. The kinds of historic properties present in the surveyed area;
5. Specific properties that were identified, and the categories of information collected; and
6. Places examined that did not contain historic properties.

Intensive survey is most useful when it is necessary to know precisely what historic properties exist in a given area or when information sufficient for later evaluation and treatment decisions is needed on individual historic properties. Intensive survey describes the distribution of properties in an area; determines the number, location, and condition of properties; determines the types of properties actually present within the area; permits classification of individual properties; and records the physical extent of specific properties.

An intensive survey should document:

1. The kinds of properties looked for;
2. The boundaries of the area surveyed;
3. The method of survey, including an estimate of the extent of survey coverage;
4. A record of the precise location of all properties identified; and
5. Information on the appearance, significance, integrity and boundaries of each property sufficient to permit an evaluation of its significance.

Sampling

Reconnaissance or intensive survey methods may be employed according to a sampling procedure to examine less-than-the-total project or planning area.

Sampling can be effective when several locations are being considered for an undertaking or when it is desirable to estimate the cultural resources of an area. In many cases, especially where large land areas are involved, sampling can be done in stages. In this approach, the results of the initial large area survey are used to structure successively smaller, more detailed surveys. This "nesting" approach is an efficient technique since it enables characterization of both large and small areas with reduced effort. As with all investigative techniques, such procedures should be designed to permit an independent assessment of results.

Various types of sample surveys can be conducted, including, but not limited to: random, stratified and systematic. Selection of sample type should be guided by the problem the survey is expected to solve, the nature of the expected properties and the nature of the area to be surveyed.

Sample surveys may provide data to estimate frequencies of properties and types of properties within a specified area at various confidence levels. Selection of confidence levels should be based upon the nature of the problem the sample survey is designed to address.

Predictive modeling is an application of basic sampling techniques that projects or extrapolates the number, classes and frequencies of properties in unsurveyed areas based on those found in surveyed areas. Predictive modeling can be an effective tool during the early stages of planning an undertaking, for targeting field survey and for other management purposes. However, the accuracy of the model must be verified; predictions should be confirmed through field testing and the model redesigned and retested if necessary.

Special survey techniques

Special survey techniques may be needed in certain situations.

Remote sensing techniques may be the most effective way to gather background environmental data, plan more detailed field investigations, discover certain classes of properties, map sites, locate and confirm the presence of predicted sites, and define features within properties. Remote sensing techniques include aerial, subsurface and underwater techniques. Ordinarily the results of remote sensing should be verified through independent field inspection before making any evaluation or statement regarding frequencies or types of properties.

Integrating Identification Results

The results of identification efforts must be integrated into the planning process so that planning decisions are based on the best available information. The new informantion is first assessed against the objectives of the identification effort to determine whether the gathered information meets

the defined identification goals for the historic context(s); then the goals are adjusted accordingly. In addition, the historic context narrative, the definition of property types and the planning goals for evaluation and treatment are all adjusted as necessary to accommodate the new data.

Reporting Identification Results

Reporting of the results of identification activities should begin with the statement of objectives prepared before undertaking the survey. The report should respond to each of the major points documenting:

1. Objectives;
2. Area researched or surveyed;
3. Research design or statement of objectives;
4. Methods used, including the intensity of coverage. If the methods differ from those outlined in the statement of objectives, the reasons should be explained.
5. Results: how the results met the objectives; result analysis, implications and recommedations; where the compiled information is located.

A summary of the survey results should be available for examination and distribution. Identified properties should then be evaluated for possible inclusion in appropriate inventories.

Protection of information about archeological sites or other properties that may be threatened by dissemination of that information is necessary. These may include fragile archeological properties or properties such as religious sites, structures, or objects, whose cultural value would be compromised by public knowledge of the property's location.

Recommended Sources of Technical Information

The Archeological Survey: Methods and Uses. Thomas F. King. Interagency Archeological Services, U.S. Department of the Interior, 1978. Washington, D.C. Available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO stock number 024-016-00091. Written primarily for the non-archeologist, this publication presents methods and objectives for archeological surveys.

Cultural Resources Evaluation of the Northern Gulf of Mexico Continental Shelf. National Park Service, U.S. Department of the Interior, 1977.

Guidelines for Local Surveys: A Basis for Preservation Planning. Anne Derry, H. Ward Jandl, Carol Shull and Jan Thorman. National Register Division, U.S. Department of the Interior, 1978. Washington, D.C. Available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO stock number 024-016-0089-7. General guidance about designing and carrying out community surveys.

The Process of Field Research: Final Report on the Blue Ridge Parkway Folklife Project. American Folklife Center, 1981.

Regional Sampling in Archeology. David Hurst Thomas. University of California, Archeological Survey Annual Report, 1968-9, 11:87-100.

Remote Sensing: A Handbook for Archeologists and Cultural Resource Managers. Thomas R. Lyons and Thomas Eugene Avery. Cultural Resource Management Division, National Park Service, U.S. Department of the Interior, 1977.

Remote Sensing and Non-Destructive Archeology. Thomas R. Lyons and James L. Ebert, editors. Remote Sensing Division, Southwest Cultural Resources Center, National Park Service, U.S. Department of the Interior and University of New Mexico, 1978.

Remote Sensing Experiments in Cultural Resource Studies: Non-Destructive Methods of Archeological Exploration, Survey and Analysis. Thomas R. Lyons, assembler. reports of the Chaco Center, Number One. National Park Service, U.S. Department of the Interior and University of New Mexico, 1976.

Sampling in Archeology. James W. Mueller, editor. University of Arizona Press, 1975. Tucson, Arizona.

Scholars as Contractors. William J. Mayer-Oakes and Alice W. Portnoy, editors. Cultural Resource Management Studies. U.S. Department of the Interior, 1979.

Sedimentary Studies of Prehistoric Archeological Sites. Sherwood Gagliano, Charles Pearson, Richard Weinstein, Diana Wiseman, and Christopher McClendon. Division of State Plans and Grants, National Park Service, U.S. Department of the Interior, 1982. Washington, D.C. Available from Coastal Environments Inc., 1260 Main Street, Baton Rouge, Louisiana 70802. Establishes and evaluates a method for employing sedimentological analysis in distinguishing site areas from non-site areas when identifying submerged archeological sites on the continental shelf.

State Survey Forms. Available from Interagency Resource Management Division, National Park Service, Department of the Interior, Washington, D.C. 20240. Characterizes cultural resource survey documentation methods in State Historic Preservation Offices.

Truss Bridge Types: A Guide to Dating and Identifying. Donald C. Jackson and T. Allan Comp. American Association for State and Local History, 1977. Nashville, Tennessee. Technical leaflet #95. Available from AASLH, 708 Berry Road, Nashville, Tennessee 37204. Information about performing surveys of historic bridges and identifying the types of properties encountered.

Secretary of the Interior's Standards for Evaluation

Evaluation is the process of determining whether identified properties meet defined criteria of significance and therefore should be included in an inventory of historic properties determined to meet the criteria. The criteria employed vary depending on the inventory's use in resource management.

Standard I. Evaluation of the Significance of Historic Properties Uses Established Criteria

The evaluation of historic properties employs criteria to determine which properties are significant. Criteria should therefore focus on historical, architectural, archeological, engineering and cultural values, rather than on treatments. A statement of the minimum information necessary to evaluate properties against the criteria should be provided to direct information gathering activities.

Because the National Register of Historic Places is a major focus of preservation activities on the Federal, State and local levels, the National Register criteria have been widely adopted not only as required for Federal purposes, but for State and local inventories as well. The National Historic Landmark criteria and other criteria used for inclusion of properties in State historic site files are other examples of criteria with different management purposes.

Standard II. Evaluation of Significance Applies the Criteria Within Historic Contexts

Properties are evaluated using a historic context that identifies the significant patterns that properties represent and defines expected property types against which individual properties may be compared. Within this comparative framework, the criteria for evaluation take on particular meaning with regard to individual properties.

Standard III. Evaluation Results in A List or Inventory of Significant Properties That Is Consulted In Assigning Registration and Treatment Priorities

The evaluation process and the subsequent development of an inventory of significant properties is an on-going activity. Evaluation of the significance of a property should be completed before registration is considered and before preservation treatments are selected. The inventory entries should contain sufficient information for subsequent activities such as registration or treatment of properties, including an evaluation statement that makes clear the significance of the property within one or more historic contexts.

Standard IV. Evaluation Results Are Made Available to the Public

Evaluation is the basis of registration and treatment decisions. Information about evaluation decisions should be organized and available for use by the general public and by those who take part in decisions about registration and treatment. Use of appropriate computer-assisted data bases should be a part of the information dissemination effort. Sensitive information, however, must be safeguarded from general public distribution.

Secretary of the Interior's Guidelines for Evaluation

Introduction

These Guidelines link the Standards for Evaluation with more specific guidance and technical information. These Guidelines describe one approach to meeting the Standards for Evaluation. Agencies, organizations, or individuals proposing to approach evaluation differently may wish to review their approach with the National Park Service.

The Guidelines are organized as follows:

The Evalauation Process
Criteria
Application of Criteria within a Historic Context
Inventory
Recommended Sources of Technical Information

The Evaluation Process

These Guidelines describe principles for evaluating the significance of one or more historic properties with regard to a given set of criteria.

Groups of related properties should be evaluated at the same time whenever possible; for example, following completion of a theme study or community survey.

Evaluation should not be undertaken using documentation that may be out of date. Prior to proceeding with evaluation the current condition of the property should be determined and previous analyses evaluated in light of any new information.

Evaluation must be performed by persons qualified by education, training and experience in the application of the criteria. Where feasible, evaluation should be performed in consultation with other individuals experienced in applying the relevant criteria in the geographical area under consideration; for example, the State Historic Preservation Officer or local landmarks commission.

Evaluation is completed with a written determination that a property is or is not significant based on provided information. This statement should be part of the record.

Criteria: The purposes of evaluation criteria should be made clear. For example, the criteria may be used "to evaluate properties for inclusion in the county landmarks list," or "to implement the National Register of Historic Places program."

For Federal cultural resource management purposes, criteria used to develop an inventory should be coordinated with the National Register criteria for evaluation as implemented in the approved State comprehensive historic preservation plan.

Content of Criteria: Criteria should be appropriate in scale to the purpose of the evaluation. For example, criteria designed to describe national significance should not be used as the basis for creating a county or State inventory. Criteria should be categorical and not attempt to describe in detail every property likely to qualify. Criteria should outline the disciplines or broad areas of concern (history, archeology, architectural history, engineering and culture, for example) included within the scope of the inventory; explain what kinds of properties, if any, are excluded and the reasons for exclusion; and define how levels of significance are measured, if such levels are incorporated into the criteria. If the criteria are to be used in situations where the National Register criteria are also widely used, it is valuable to include a statement explaining the relationship of the criteria used to the National Register criteria, including how the scope of the inventory differs from that defined by the National Register criteria and how the inventory could be use to identify properties that meet the National Register criteria.

Information Needed to Evaluate Properties: The criteria should be accompanied by a statement defining the minimum information necessary to evaluate properties to insure that this information is collected during identification activities intended to locate specific historic properties. Generally, at least the following will be needed:

1. Adequately developed historic contexts, including identified property types. (See the Guidelines for Preservation Planning for discussion of development of historic contexts.)

2. Sufficient information about the appearance, condition and associative values of the property to be evaluated to:

a. Classify it as to property type;

b. Compare its features or characteristics with those expected for its property type; and

c. Define the physical extent of the property and accurately locate the property.

To facilitate distinguishing between facts and analysis, the information should be divided into categories, including identification and description of pertinent historical contexts; description of the property and its significance in the historical context; and analysis of the integrity of the property relative to that needed to represent the context.

Usually documentation need not include such items as a complete title history or biography of every owner of a property, except where that information is important in evaluating its significance. Information on proposed or potential treatments or threats, such as destruction of a property through uncontrollable natural processes, is also not needed for evaluation, unless those effects are likely to occur prior to or during the evaluation, thereby altering the significant characteristic of the property. If archeological testing or structural analysis is needed for evaluation, it should not proceeded beyond the point of providing the information necessary for evaluation and should not unnecessarily affect significant features or values of the property.

When more information is needed: Evaluation cannot be conducted unless all necessary information is available. (See Information Needed to Evaluate Properties.) Any missing information or analysis should be identified (e.g. development of context or information on the property) as well as the specific activities required to obtain the information (archival research, field survey and testing, or laboratory testing). When adequate information is not available, it is important to record that fact so that evaluation will not be undertaken until the information can be obtained. In some cases needed information is not obtainable, for example, where historical records have been destroyed or analytical techniques have not been developed to date materials in archeological sites. If an evaluation must be completed in these cases, it is important to acknowledge what information was not obtainable and how that missing information may affect the reliability of the evaluation.

Application of the Criteria within a Historic Context

The first step in evaluation is considering how the criteria apply to the

particular historic context. This is done by reviewing the previously developed narrative for the historic context and determining how the criteria would apply to properties in that context, based on the important patterns, events, persons and cultural values identified. (See the discussion of the historic context narrative in the Guidelines for Preservation Planning.) This step includes identification of which criteria each property type might meet and how integrity is to be evaluated for each property type under each criterion. Specific guidelines for evaluating the eligibility of individual properties should be established. These guidelines should outline and justify the specific physical characteristics or data requirements that an individual property must possess to retain integrity for the particular property type; and define the process by which revisions or additions can be made to the evaluation framework.

Consideration of property type and intergrity: After considering how the criteria apply to the particular historic context, the evaluation process for a property generally includes the following steps:

1. A property is classified as to the appropriate historic context(s) and property type(s). If no existing property type is appropriate, a new property type is defined, its values identified, and the specific characteristics or data requirements are outlined and justified as an addition to the historic context. If necessary, a new historic context is defined for which values and property types and their integrity requirements are identified and justified.

2. A comparison is made between the existing information about the property and the integrity characteristics or data required for the property type.

a. If the comparison shows that the property possesses these characteristics, then it is evaluated as significant for that historic context. The evaluation includes a determination that the property retains integrity for its type.

b. If the comparison shows that the property does not meet the minimum requirements, one of several conclusions is reached:

(1) The property is determined not significant because it does not retain the integrity defined for the property type.

(2) The property has characteristics that may make it significant but these differ from those expected for that property type in that context. In this case, the historic context or property types should be reexamined and revised if necessary, based on subsequent research and survey.

The evaluation should state how the particular property meets the integrity requirements for its type. When a property is disqualified for loss of integrity, the evaluation statement should focus on the kinds of integrity expected for the property type, those that are absent for the disqualified property, and the impact of that absence on the property's ability to exemplify architectural, historical or research values within a particular historic context.

The integrity of the property in its current condition, rather than its likely condition after a proposed treatment, should be evaluated. Factors such as structural problems, deterioration, or abandonment should be considered in the evaluation only if they have affected the integrity of the significant features or characteristics of the property.

Inventory

An inventory is a repository of information on specific properties evaluated as significant.

Content: The inventory should include:

1. Summaries of the important historic contexts. These may be in the form of an approved plan or analyses of historic contexts important in the history of the geographical area covered by the inventory.

2. Descriptions of significant property types of these contexts, whether or not any specific properties have been identified.

3. Results of reconnaissance surveys or other identification activities, even if the level of information on specific properties identified as part of those activities is not sufficient to evaluate individual properties.

4. Information on individual properties that was used in evaluation.

Historic contexts are identified by name, with reference to documents describing those contexts, or with a narrative statement about the context(s) where such documents do not exist.

A description of the property. Part of this description may be a photographic record.

A statement that justifies the significance of the property in relation to its context(s). This statement should include an analysis of the integrity of the property.

Boundaries of the property.

A record of when a property was evaluated and included in the inventory, and by whom.

Records on demolished or altered properties and properties evaluated as not significant should be retained, along with full description of areas surveyed, for the planning information these records provide about impacts to properties and about the location and character of non-significant properties to prevent redundant identification work at a later time.

Maintenance: Inventory entries should be maintained so that they accurately represent what is known about historic properties in the area covered by the inventory. This will include new information gained from research and survey about the historic contexts, property types, and previously evaluated properties, as well as information about newly evaluated properties. For individual properties, addition of kinds of significance, change in the boundaries, or loss of significance through demolition or alteration should be recorded.

Uses and Availability: An inventory should be managed so that the information is accessible. Its usefulness depends on the organization of information and on its abilty to incorporate new information. An inventory should be structured so that entries can be retrieved by locality or by historic context.

The availability of the inventory information should be announced or a summary should be distributed. This may be in the form of a list of properties evaluated as significant or a summary of the historic contexts and the kinds of properties in the inventory. Inventories should be avilable to managers, planners, and the general public at local, State, regional, and Federal agency levels.

It is necessary to protect information about archeological sites or other properties whose integrity may be damaged by widespread knowledge of their location. It may also be necessary to protect information on the location of properties such as religious sites, structures, or objects whose cultural value would be compromised by public knowledge of the property's location.

Recommended Sources of Technical Information

How to Apply the National Register Critera. Available through the National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Provides detalied technical information about interpretation of the significance and integrity criteria used by the National Register of Historic Places program.

How To Series. Available through the National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Discusses application of the National Register criteria for evaluation. Titles include:

How To Establish Boundaries for National Register Properties.
How To Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years.
How To Improve Quality of Photos for National Register Nominations.
How To Apply for Certification of Significance Under Section 2124 of the Tax Reform Act of 1976.
How To Apply for Certification of State and Local Statutes and Historic Districts.
How To Quality Historic Properties Under the New Federal Law Affective Easements.

Importance of Small, Surface, and Disturged Sites as Sources of Significant Archeological Data. Valerie Talmage and Olga Chesler. Interagency Archeological Service 1977. Washington, D.C. Available from the National Technical Information Service. NTIS Publication Number PB 270939/AS. Discusses the role of small, surface, and disturbed sites as sources of significant information about a variety of prehistoric activities. These types of sites are frequently ignored in the development of regional archeological research designs.

Secretary of the Interior's Standards For Registration

Registration is the formal recognition of properties evaluated as significant. Preservation benefits provided by various registration programs range from honorific recognition to prohibition of demolition or alteration of included properties. Some registration programs provide recognition and other broad benefits while other programs authorize more specific forms of protection.

Standard I. Registration Is Conducted According To Stated Procedures

Registration of historic properties in the National Register of Historic Places must be done in accordance with the National Register regulations published in the Code of Federal Regulations, 36 CFR 60. Registration for other lists or purposes follow an established process that is understood by the public, particularly by those interests that may be affected by registration.

Standard II. Registration Information Locates, Describes and Justifies the Significance and Physical Integrity of a Historic Property

Registers are used for planning, research and treatment. They must contain adequate information for users to locate a property and understand its significance. Additional information may be appropriate depending on the intended use of the register.

Standard III. Registration Information is Accessible to the Public

Information should be readily available to the public and to government agencies responsible for the preservation of historic properties and for other planning needs.

Secretary of the Interior's Guidelines for Registration

Introduction

These Guidelines link the Standards for Registration with more specific guidance and technical information. They describe one approach to meeting the Standards for Registration. Agencies, organizations, or individuals proposing to approach registration differently may wish to review their approach with the National Park Service.

The Guidelines are organized as follows:

Purpose of Registration Programs
Registration Procedures
Documentation on Registered Properties
Public Availability
Recommended Sources of Technical Information

Purpose of Registration Programs

Registration of historic properties is the formal recognition of properties that have been evaluated as significant according to written criteria. Registration results in an official inventory or list that serves an administrative function. A variety of benefits or forms of protection accure to a registered property, ranging from honorific recognition to prohibition of demolition or alteration.

Some registration programs provide recognition and other broad benefits or entitlements, while other registrations of properties may, in addition, authorize more specific forms of protection. The application of the registration process should be a logical outgrowth of the same planning goals and priorities that guided the identification and evaluation activities. All registration programs should establish priorities for recognition of their authorized range of properties; provide for confidentiality of sensitive information; and establish a means of appealing the registration or non-registration of a property.

Registration Procedures

Explicit procedures are essential because they are the means by which the public can understand and participate in the registration process. Procedures for registration programs should be developed by professionals in the field of historic preservation, in consultation with those who will use or be affected by the program. Prior to taking effect, procedures should be published or circulated for comment at the governmental level at which they will be used. (Procedures for registration of properties in the National Register of Historic Places and the National Historic Landmarks list, for example, are published in the **Federal Register**.)

Any registration program should include:

1. A professional staff to prepare or assess the documentation;
2. A professional review, independent of the nominating source, to provide an impartial evaluation of the documented significance;
3. Adequate notice to property owners, elected officials and the public about proposed registrations and the effects of listing, if any; and
4. A means of public participation.

Professional Review: The registration process should include an independent evaluation of the significance of the property and of the quality and thoroughness of the documentation supporting that significance. Such evaluation ensures that significance is adequately justified and that registration documentation meets the technical requirements of the registration process.

State and local preservation programs, concerned with both public and private properties, generally use a review board, panel or commission. This level of professional review has proven to be effective in assessing the significance of properties considered for registration.

Review boards and other forms of independent review should include professionals in the fields or diciplines included in the criteria; representatives of other fields or disciplines may be desirable to reflect other values or aspects of the register. Key personnel must be qualified by education, training or experience to accomplish their designated duties. (See the Professional Qualifications Standards.)

The scope of the independent review should be clearly stated in the registration procedures and should not include issues outside the scope of the applicable criteria for evaluation and other areas specified in the procedures. Generally, independent reviewers should not be involved in any primary research or analysis related to properties under consideration; this information should be gathered and organized prior to review meetings. Documentation presented to the reviewers should be made available to

the public prior to review meetings or public hearings. Registration of properties should not take place until review of documentation has been completed.

Public Notice: Adequate notice allows property owners, officials and other interested parties to comment on proposed registrations prior to action by the independent reviewers. The degree of protection and control provided by a registration program may be a factor in determining what constitutes adequate notice. For example, adequate notice of proposed inclusion in honorific registers may be less complex than that for registration that results in local controls on alteration or demolition of registered properties.

Notice to elected officials and the public is necessary to distribute information about potential registrations of concern to planning and development interests.

Adequate notice to property owners may be accomplished through means ranging from individual notification by mail to publication of a public notice, depending on the nature of the registration program and the number and character of the properties involved.

Public notices and owner notification about proposed registrations should include the dates and times of public meetings and review meetings, the kinds of comments that are appropriate, and how comments will be considered in the evaluation process. The notice should also state where information can be obtained about the registration program, the criteria used to evaluate properties for inclusion, and the significance of specific properties under consideration.

The procedures should include a means of public participation in the form of submission of written comments or a review meeting open to the public or a public hearing.

The procedures should state time periods within which reviews, notices, comments, public hearings, review meetings and appeals will occur. The time periods should be short enough to allow for efficient recognition of historic properties but also allow adequate time for public comment and participation by those affected. Time periods may vary depending on whether activities are carried out at the local, State, or national level. These time schedules should be widely circulated so that the process is widely understood.

Appeal Process: A means of appeal should be included in the registration process to allow for reconsideration of a property's inclusion. Reasons for appeal may range from existence of additional information about the property supporting or refuting its significance to administrative or procedural error. An appeal process should specify to whom an appeal may be made and how the information that is provided will be evaluated. The appeal procedures should also state the time limit, if any, on appealing a decision and on consideration of information and issuance of a decision by the appeal authority.

Documentation on Registered Properties

Documentation requirements should be carefully weighed to provide the information *actually* needed to reach a registration decision and should be made public. It should be made certain that identification and evaluation activities obtain and record the information necessary for registration. Documentation should be prepared in a standardized format and on materials that are archivally stable and easy to store and retrieve.

Location: The precise location of a historic property must be clearly identified.

Street address, town or vicinity, and county should be provided. Properties should also be located on maps; these may be USGS maps, county planning maps, or city base maps or real estate maps. A uniform system of noting location, such as UTM grid points or longitude and latitude, should supplement mapping. It is recommended that each registration process standardize the preferred choice of maps appropriate to the scope of the process.

Description: An accurate description of a property includes a description of both the current and historical physical appearance and condition of the property and notes the relevant property type(s) for the applicable historic context(s). Discussion should include alterations, deterioration, relocation and other changes to the property since its period of significance.

Significance: A statement of significance should explain why a property meets the criteria for inclusion in the register to which it has been nominated.

This statement should contain at least 3 elements:

1. Reference to the relevant historic context(s);

2. Identification of relevant property types within the context and their characteristics; and

3. Justification that the property under consideration has the characteristics required to qualify it.

Relevant historic contexts can be identified through reference to the preservation plan or other documents where the contexts have been previously described or can be provided by a narrative discussion of the context. (The development of contexts and their use in evaluating properties are discussed in the Guidelines for Preservation Planning and the Guidelines for Evaluation.) A significant property type and its characteristics are identified either through reference to the historic context(s) or by a narrative in the documentation that describes historic contexts. Justification of a specific property is made by systematic comparison of its characteristics to those required for the property type.

Boundaries: The delineation and justification of boundaries for a registered property are important for future treatment activities. It is expecially critical when legal restraints or restrictions may result from the registration of properties. Thus, boundaries should correspond as closely as possible to the actual extent and configuration of the property and should be carefully selected to encompass, but not exceed, the extent of the significant resource(s). The selection of boundaries should reflect the significant aspects of the property.

Arbitrary boundaries should not be chosen for ease of description since this can result in the inclusion of unrelated land or in exclusion of a portion of the historic property. Present property lines should not be chosen as property boundaries without careful analysis of whether they are appropriate to the historic property. A single uniform boundary description and acreage should not be applied to a group or class of properties (antebellum plantations, for example) without examination of the actual extent of each property. The selected boundaries should be justified as appropriate to the historic property.

Boundaries should be clearly and precisely described, using a verbal boundary description, legal description, accurate sketch map, or lines drawn on base maps, or a combination of these where needed to specify the limits of the property being registered. When used, maps should show the location of buildings, structures, sites or objects within the boundary.

Updating Information on Registered Properties: A change in the condition of the significant features of a property may require a change in the official registration record. Alteration of a significant architectural feature, for example, could mean that a property is no longer significant for its architectural design.

Additional significance of registered properties may be identified through development of new historic contexts.

Research may reveal that a property is significant in other historic contexts or is significant at a higher level. For example, a property previously recognized as of local significance could be found to be of national significance.

A change in location or condition of a registered property may mean that the property is no longer significant for the reasons for which it was registered and the property should be deleted from the registered list.

Public Availability

Lists of registered properties should be readily available for public use, and information on registered properties should be distributed on a regular basis. Lists of properties registered nationally are distributed through publication in the **Federal Register** and to Congressional Offices and State Historic Preservation Offices. Comprehensive information should be stored and maintained for public use at designated national, State and local authorities open to the public on a regular basis.

Information should be retrievable by the property name, and location, historic context or property type. The specific location of properties that may be threatened by dissemination of that information must be withheld. These may include fragile archeological properties or properties such as religious sites, structures, or objects whose cultural value would be compromised by public knowledge of the property location.

Recommended Sources of Technical Information

How to Complete National Register Forms. National Register Division, National Park Service, U.S. Deparment of the Interior, 1977. Washington, D.C. Available through the Superintendent of Documents, US Government Printing Office, Washington, D.C. 20402. GPO Stock Number 024–005–00666–4. This publication is the standard reference on the documentation requirements of the National Register of Historic Places program.

How To Series. Available through the National Register Branch, Interagency Resources Division, National Park Service, Department of the Interior 20240. These information sheets contain supplementary information about interpreting the National Register criteria for evaluation and documentation requirements of the National Register registration program. Title include:

How To Establish Boundaries for National Register Properties.

How To Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years.

How To Improve the Quality of Photographs for National Register Nominations.

How To Apply for Certification of Significance Under Section 2124 of the Tax Reform Act of 1976.

How To Apply for Certification of State and Local Statutes and Historic Districts.

How To Qualify Historic Properties Under the New Federal Law Affecting Easements.

Note on Documentation and Treatment of Historic Properties

Documentation and treatment of historic properties includes a variety of techniques to preserve or protect properties, or to document their historic values and information. While documentation activities may be applied to any potentially historic property, generally only those properties that first have been evaluated as significant against specified criteria (such as those of the National Register) are treated. Some commonly applied treatments are preservation in place, rehabilitation, restoration and stabilization; there are other types of treatments also. Documentation and treatment may be applied to the same property; for example, archeological, historical, and architectural documentation may be prepared before a structure is stabilized or before foundations or chimneys or other lost features are reconstructed.

Alternatives for treatment will usually be available, and care should be applied in choosing among them. Preservation in place is generally preferable to moving a property. Over time, the preferred treatment for a property may change; for example, an archeological site intended for preservation in place may begin to erode so that a combination of archeological documentation and stabilization may be required. If a decision is made that a particular property will not be preserved in place, the need for documentation must then be considered.

The three sets of documentation standards (i.e., the Standards for Historical Documentation, Standards for Architectural and Engineering Documentation, and Standards for Archeological Documentation) as well as the Standards for Historic Preservation Projects (Acquisition, Preservation, Stabilization, Protection, Rehabilitation, Restoration, and Reconstruction) describe the techniques of several disciplines to treat historic properties, and to document or preserve information about their historical values. The integration of planning for documentation and treatment with their execution is accomplished in a statement of objectives, or research design. Because both the goals and appropriate methodologies are likely to be interdisciplinary in nature, the relationship among these various activities should be specified in the research design to ensure that the resulting documentation produces a comprehensive record of historic properties in an efficient manner.

Secretary of the Interior's Standards for Historical Documentation

Historical documentation provides important information related to the significance of a property for use by historians, researchers, preservationists, architects, and historical archeologists. Research is used early in planning to gather information needed to identify and evaluate properties. (These activities are discussed in the Standards and Guidelines for Preservation Planning and the Standards and Guidelines for Identification.) Historical documentation is also a treatment that can be applied in several ways to properties previously evaluated as significant; it may be used in conjunction with other treatment activities (as the basis for rehabilitation plans or interpretive programs, for example) or as a final treatment to preserve information in cases of threatened property destruction. These Standards concern the use of research and documentation as a treatment.

Standard I. Historical Documentation Follows a Research Design That Responds to Needs Identified in the Planning Process

Historical documentation is undertaken to make a detailed record of the significance of a property for research and interpretive purposes and for conservation of information in cases of threatened property destruction. Documentation must have defined objectives so that proposed work may be assessed to determine whether the resulting documentation will meet needs identified in the planning process. The research design or statement of objectives is a formal statement of how the needs identified in the plan are to be addressed in a specific documentation project. This is the framework that guides the selection of methods and evaluation of results, and specifies the relationship of the historical documentation efforts to other proposed treatment activities.

Standards II. Historical Documentation Employs an Appropriate Methodology to Obtain the Information Required by The Research Design

Methods and techniques of historical research should be chosen to obtain needed information in the most efficient way. Techniques should be carefully selected and the sources should be

recorded so that other researchers can verify or locate information discovered during the research.

Standard III. The Results of Historical Documentation Are Assessed Against the Research Design and Integrated Into the Planning Process

Documentation is one product of research; information gatherd about the usefulness of the research design itself is another. The research results are assessed against the research design to determine how well they meet the objectives of the research. The results are integrated into the body of current knowledge and reviewed for their implications for the planning process. The research design is reviewed to determine how future research designs might be modified based on the activity conducted.

Standard IV. The Results of Historical Documentation Are Reported and Made Available to the Public

Research results must be accessible to prospective users. Results should be communicated to the professional community and the public in reports summarizing the documentation activity and identifying the repository of additional detailed information. The goal of disseminating information must be balanced, however, with the need to protect sensitive information whose disclosure might result in damage to properties.

Secretary of the Interior's Guidelines for Historical Documentation

Introduction

These Guidelines link the Standards for Historical Documentation with more specific guidance and technical information. They describe one approach to meeting the Standards for Historical Documentation. Agencies, organizations or individuals proposing to approach historical documentation differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Historical Documentation Objectives
Research Design
Methods
Integrating Results
Reporting Results
Recommended Sources of Technical Information

Documentation Objectives

Documentation is a detailed record, in the form of a report or other written document, of the historical context(s) and significance of a property. Historical research to create documentation uses archival materials, oral history techniques, ethnohistories, prior research contained in secondary sources and other sources to make a detailed record of previously identified values or to investigate particular questions about the established significance of a property or properties. It is an investigative technique that may be employed to document associative, architectural, cultural or informational values of properties. It may be used as a component of structural recording or archeological investigation, to enable interpretation or to mitigate the anticipated loss of a property through conservation of information about its historical, architectural or archeological significance. Documentation generally results in both greater factual knowledge about the specific property and its values, and in better understanding of the property in its historical context. In addition to increasing factual knowledge about a property and its significance in one historical context, documentation may also serve to link the property to or define its importance in other known or yet-to-be defined historic contexts.

Documentation should incorporate, rather than duplicate, the findings of previous research. Research may be undertaken to identify how a particular property fits into the work of an architect or builder; to analyze the historical relationship among several properties; or to document in greater detail the historical contexts of properties. The kinds of questions investigated will generally depend on what is already known or understood and what information is needed. For example, documentation of a bridge whose technological significance is well understood, but whose role in local transportation history is not, would summarize the information on the former topic and focus research on the associative values of the property. The questions that research seeks to answer through deed, map or archival search, oral history and other techniques may also relate to issues addressed in structural documentation or archeological investigation; for example, the reasons for and history of modification of a building to be the subject of architectural or engineering documentation.

Research Design

Historical documentation is guided by a statement of objectives, research design or task directive prepared before research is performed. The research design is a useful statement of how proposed work will enhance existing archival data and permits comparison of the proposed work with the results. The purpose of the research design is to define the proposed scope of the documentation work and to define a set of expectations based on the information available prior to the research. Generally, the research design also ensures that research methods are commensurate with the type, quality and source of expected information.

The research design for a property should identify:

1. Evaluated significance of the property(ies) to be investigated;
2. Historical, architectural, archeological or cultural issues relevant to the evaluated significance of the property;
3. Previous research on those issues and how the proposed work is related to existing knowledge;
4. The amount and kinds of information required to produce reliable historical analyses;
5. Methods to be used to obtain the information;
6. Types of sources to be investigated; types of personnel required;
7. Expected results or findings based on available knowledge about the property and its context; and
8. Relationship of the proposed historical documentation to other proposed treatment activities; for example, recommendations on the use of documentation in interpretive programs or other aspects of treatment such as anticipated architectural, engineering or archeological documentation).

Research Methods

Research methods should be chosen based on the information needs, be capable of replication and be recorded so that another researcher could follow the same research procedure. Sources should be recorded so that other researchers can locate or verify the information discovered during the search.

Use of Sources: The variety of available written and graphic materials and the number of individuals that can serve as sources, including but not limited to personal records, deed and title books, newspapers, plats, maps, atlases, photographs, vital records, censuses, historical narratives, interviews of individuals and secondary source materials, should be considered in developing the research design. Part of the development of the research design is deciding what kinds of source materials are most likely to contain needed information and at what point in the research process that information will be most valuable. For example,

often secondary sources are most valuable for gathering background information, while primary sources are more useful to gather or confirm specific facts. The documentation goals may not *require* exhaustive investigation of sources, such as deed records or building permits. Research may be kept cost-effective by making careful decisions about when to use particular sources, thereby limiting the use of time-consuming techniques to when absolutely necessary. Decisions about when to gather information may also affect the quality of information that can be gathered. When dealing with large project areas where loss of many properties is anticipated, it is important to gather information from local archival sources and oral histories before project activities destroy or disperse family or community records and residents.

Analysis of the accuracy and biases of source materials is critical in analyzing the information gathered from these sources. Maps, historical atlases and insurance maps should be assessed like written records for errors, biases and omissions; for example, some map sources may omit structures of a temporary nature or may not fully depict ethnic or minority areas. Likewise, building plans and architectural renderings may not reflect a structure as it was actually built.

Analysis: Analysis should not only focus on the issues defined in the research design, but should also explore major new issues identified during the course of research or analysis. The documentation gathered may raise important issues not previously considered, and further investigation may be important, particularly when contradictory information has been gathered. It is important to examine the implications of these new issues to ensure that they are investigated in a balanced way.

Questions that should be considered in analyzing the information include:

1. Has enough information been gathered to anwser the questions that were posed?

2. Do the answers contradict one another? If so, it may be necessary to search for more evidence. If no additional evidence is available, judgements must be based on the available sources, weighing their biases. Conflicts of source materials should be noted.

In general, the more the researcher knows about the general historical period and setting, and limitations of the source materials under investigation, the better the individual is prepared to evaluate the information found in the documentary sources investigated. Peer review or consultation with other knowledgeable individuals about the information and the tentative conclusions can be an important part of the analysis.

Integrating Results

The results of documentation must be integrated into the planning process so that planning decisions are based on the best available informaiton. The new information is first assessed against the research design to determine whether the gathered information meets the defined objectives of the research. Then the relevant historic contexts, property types, and treatment goals for those contexts are all adjusted, as necessary, based on the historical documentation results.

Reporting Results

Reports should contain:

1. Summaries of the purpose of the documentation, the research design and methods and techniques of investigation.

2. Sources of facts or analyses so that other researchers can locate the information in its original context. Notation of any conflicts in source materials and how the individual performing the documentation interpreted these conflicts.

3. Sources consulted, including those expected to contain useful information and those that contained no information about the property(s).

4. Assessment of the accuracy, biases and historical perspective of all sources. This information and that identified in No. 3 may be provided in an annotated bibliography.

5. Discussion of major analyses and results, including conclusions regarding all major research issues identified in the research design, as well as important issues raised in the course of research. The analysis should be summarized in terms of its impact on interpretating the property's significance and expanding or altering the knowledge about the property and its context.

6. Researchers' interpretation of historical events or trends. These interpretations should be clearly identified.

Primary results should be preserved and made accessible in some manner, although they need not necessarily be contained in the report. At a minimum, the report should reference the location of notes and analyses.

Results of historical documentation should be made available for use in preservation planning and by the general public. Report formats may vary, depending on the audience and the anticipated uses of the documentation, but professionally accepted rules of report writing should be followed. If reports are of a technical nature, the format of the major scientific journal of the pertinent discipline may be the most appropriate format. Peer review of draft reports is one means of ensuring that state-of-the-art technical reports are produced.

Recommended Sources of Technical Information

Folklife and Fieldwork: A Layman's Introduction to Field Techniques. Peter Bartis. American Folklife Center, Washington, D.C., 1979.

Ordinary People and Everyday Life: Perspectives on the New Social History. James B. Gardnee and George Rollie Adams, editors, American Association for State and Local History, Nashville, Tennessee, 1983.

The Process of Field Research. Carl Fleischhauer and Charles K. Wolfe. American Folklife Center, Washington, D.C., 1981.

Researching Heritage Buildings. Margaret Carter. Ministry of the Environment, Ottawa, Canada, 1983.

Secretary of the Interior's Standards for Architectural and Engineering Documentation

These standards concern the development of documentation for historic buildings, sites, structures and objects. This documentation, which usually consists of measured drawings, photographs and written data, provides important information on a property's significance for use by scholars, researchers, preservationists, architects, engineers and others interested in preserving and understanding historic properties. Documentation permits accurate repair or reconstruction of parts of a property, records existing conditions for easements, or may preserve information about a property that is to be demolished.

These Standards are intended for use in developing documentation to be included in the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER) Collections in the Library of Congress. HABS/HAER, in the National Park Service, have defined specific requirements for meeting these Standards for their collections. The HABS/HAER requirements include information important to development of documentation for other purposes such as State or local archives

Standard I. Documentation Shall Adequately Explicate and Illustrate What is Significant or Valuable About the Historic Building, Site, Structure or Object Being Documented.

The historic significance of the building, site, structure or object identified in the evaluation process should be conveyed by the drawings, photographs and other materials that comprise documentation. The historical, architectural, engineering or cultural values of the property together with the purpose of the documentation activity determine the level and methods of documentation. Documentation prepared for submission to the Library of Congress must meet the HABS/HAER Guidelines.

Standard II. Documentation Shall be Prepared Accurately From Reliable Sources With Limitations Clearly Stated to Permit Independent Verification of the Information.

The purpose of documentation is to preserve an accurate record of historic properties that can be used in research and other preservation activities. To serve these purposes, the documentation must include information that permits assessment of its reliability.

Standard III. Documentation Shall be Prepared on Materials That are Readily Reproductible, Durable and in Standard Sizes.

The size and quality of documentation materials are important factors in the preservation of information for future use. Selection of materials should be based on the length of time expected for storage, the anticipated frequency of use and a size convenient for storage.

Standard IV. Documentation Shall be Clearly and Concisely Produced.

In order for documentation to be useful for future research, written materials must be legible and understandable, and graphic materials must contain scale information and location references.

Secretary of the Interior's Guidelines for Architectural and Engineering Documentation

Introduction

These Guidelines link the Standards for Architectural and Engineering Documentation with more specific guidance and technical information. They describe one approach to meeting the Standards for Architectural Engineering Documentation. Agencies, organizations or individuals proposing to approach documentation differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Definitions
Goal of Documentation
The HABS/HAER Collections
Standard I: Content
STandard II: Quality
Standard III: Materials
Standard IV: Presentation
Architectural and Engineering Documentation Prepared for Other Purposes
Recommended Sources of Technical Information

Definitions

These definitions are used in conjunction with these Guidelines:

Architectural Data Form—a one page HABS form intended to provide identifying information for accompanying HABS documentation.

Documentation—measured drawings, photographs, histories, inventory cards or other media that depict historic buildings, sites, structures or objects.

Field Photography—photography, other than large-format photography, intended for the purpose of producing documentation, usually 35mm.

Field Records—notes of measurements taken, field photographs and other recorded information intended for the purpose of producing documentation.

Inventory Card—a one page form which includes written data, a sketched site plan and a 35mm contact print dry-mounted on the form. The negative, with a separate contact sheet and index should be included with the inventory card.

Large Format Photographs—photographs taken of historic buildings, sites, structures or objects where the negative is a 4 X 5", 5 X 7" or 8 X 10" size and where the photograph is taken with appropriate means to correct perspective distortion.

Measured Drawings—drawings produced on HABS or HAER formats depicting existing conditions or other relevant features of historic buildings, sites, structures or objects. Measured drawings are usually produced in ink on archivally stable material, such as mylar.

Photocopy—A photograph, with large-format negative, of a photograph or drawing.

Select Existing Drawings—drawings of historic buildings, sites, structures or objects, whether original construction or later alteration drawings that portray or depict the historic value or significance.

Sketch Plan—a floor plan, generally not to exact scale although often drawn from measurements, where the features are shown in proper relation and proportion to one another.

Goal of Documentation

The Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) are the national historical architectural and engineering documentation programs of the National Park Service that promote documentation incorporated into the HABS/HAER collections in the Library of Congress. The goal of the collections is to provide architects, engineers, scholars, and interested members of the public with comprehensive documentation of buildings, sites, structures and objects significant in American history and the growth and development of the built environment.

The HABS/HAER Collections: HABS/HAER documentation usually consists of measured drawings, photographs and written data that provide a detailed record which reflects a property's significance. Measured drawings and properly executed photographs act as a form of insurance against fires and natural disasters by permitting the repair and, if necessary, reconstruction of historic structures damaged by such disasters. Documentation is used to provide the basis for enforcing preservation easement. In addition, documentation is often the last means of preservation of a property; when a property is to be demolished, its documentation provides future researchers access to valuable information that otherwise would be lost.

HABE/HAER documentation is developed in a number of ways. First and most usually, the National Park Service employs summer teams of student architects, engineers, historians and architectural historians to develop HABS/HAER documentation under the supervision of National Park Service professionals. Second, the National Park Service produces HABS/HAER documentation, in conjunction with restoration or other preservation treatment, of historic buildings managed by the National Park Service. Third, Federal agencies, pursuant to Section 110(b) of the National Historic Preservation Act, as amended, record those historic properties to be demolished or substantially altered as a result of agency action or assisted action (referred to as mitigation projects). Fourth, individuals and organizations prepare documentation to HABS/HAER standards and donate that documentation to the HABS/HAER collections. For each of these programs,

different Documentation Levels will be set.

The Standards describe the fundamental principles of HABS/HAER documentation. They are supplemented by other material describing more specific guidelines, such as line weights for drawings, preferred techniques for architectural photography, and formats for written data. This technical information is found in the HABS/HAER Procedures Manual.

These Guidelines include important information about developing documentation for State or local archives. The State Historic Preservation Officer or the State library should be consulted regarding archival requirements if the documentation will become part of their collections. In establishing archives, the important questions of durability and reproducibility should be considered in relation to the purposes of the collection.

Documentation prepared for the purpose of inclusion in the HABS/HAER collections must meet the requirements below. The HABS/HAER office of the National Park Service retains the right to refuse to accept documentation for inclusion in the HABS/HAER collections when that documentation does not meet HABS/HAER requirements, as specified below.

Standard I: Content

1. *Requirement:* Documentation shall adequately explicate and illustrate what is significant or valuable about the historic building, site, structure or object being documented.

2. *Criteria:* Documentation shall meet one of the following documentation levels to be considered adequate for inclusion in the HABS/HAER collections.

a. Documentation Level I;

(1) Drawings: a full set of measured drawings depicting existing or historic conditions.

(2) Photographs: photographs with large-format negatives of exterior and interior views; photocopies with large format negatives of select existing drawings or historic views where available.

(3) Written data: history and description.

b. Documentation Level II;

(1) Drawings: select existing drawings, where available, should be photographed with large-format negatives or photographically reproduced on mylar.

(2) Photographs: photographs with large-format negatives of exterior and interior views, or historic views, where available.

(3) Written data: history and description.

c. Documentation Level III;

(1) Drawings: sketch plan.

(2) Photographs: photographs with large-format negatives of exterior and interior views.

(3) Written data: architectural data form.

d. Documentation Level IV: HABS/HAER inventory card.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

4. *Commentary:* The HABS/HAER office retains the right to refuse to accept any documentation on buildings, site, structures or objects lacking historical significance. Generally, buildings, sites, structures or objects must be listed in, or eligible for listing in the National Register of Historic Places to be considered for inclusion in the HABS/HAER collections.

The kind and amount of documentation should be appropriate to the nature and significance of the buildings, site, structure or object being documented. For example, Documentation Level I would be inappropriate for a building that is a minor element of a historic district, notable only for streetscape context and scale. A full set of measured drawings for such a minor building would be expensive and would add little, if any, information to the HABS/HAER collections. Large format photography (Documentation Level III) would usually be adequate to record the significance of this type of building.

Similarly, the aspect of the property that is being documented should reflect the nature and significance of the building, site, structure or object being documented. For example, measured drawings of Dankmar Adler and Louis Sullivan's Auditorium Building in Chicago should indicate not only facades, floor plans and sections, but also the innovative structural and mechanical systems that were incorporated in that building. Large format photography of Gunston Hall in Fairfax County, Virginia, to take another example, should clearly show William Buckland's hand-carved moldings in the Palladian Room, as well as other views.

HABS/HAER documentation is usually in the form of measured drawings, photographs, and written data. While the criteria in this section have addressed only these media, documentation need not be limited to them. Other media, such as films of industrial processes, can and have been used to document historic buildings, sites, structures or objects. If other media are to be used, the HABS/HAER office should be contacted before recording.

The actual selection of the appropriate documentation level will vary, as discussed above. For mitigation documentation projects, this level will be selected by the National Park Service Regional Office and communicated to the agency responsible for completing the documentation. Generally, Level I documentation is required for nationally significant buildings and structures, defined as National Historic Landmarks and the primary historic units of the National Park Service.

On occasion, factors other than significance will dictate the selection of another level of documentation. For example, if a rehabilitation of a property is planned, the owner may wish to have a full set of as-built drawings, even though the significance may indicate Level II documentation.

HABS Level I measured drawings usually depict existing conditions through the use of a site plan, floor plans, elevations, sections and construction details. HAER Level I measured drawings will frequently depict original conditions where adequate historical material exists, so as to illustrate manufacturing or engineering processes.

Level II documentation differs from Level I by substituting copies of existing drawings, either original or alteration drawings, for recently executed measured drawings. If this is done, the drawings must meet HABS/HAER requirements outlined below. While existing drawings are rarely as suitable as as-built drawings, they are adquate in many cases for documentation purposes. Only when the desirability of having as-built drawings is clear are Level I measured drawings required in addition to existing drawings. If existing drawings are housed in an accessible collection and cared for archivally, their reproduction for HABS/HAER may not be necessary. In other cases, Level I measured drawings are required in the absence of existing drawings.

Level III documentation requires a sketch plan if it helps to explain the structure. The architectural data form should supplement the photographs by explaining what is not readily visible.

Level IV documentation consists of completed HABS/HAER inventory cards. This level of documentation, unlike the other three levels, is rarely considered adequate documentation for the HABS/HAER collections but is undertaken to identify historic resources in a given area prior to additional, more comprehensive documentation.

Standard II: Quality

1. *Requirement:* HABS and HAER documentation shall be prepared accurately from reliable sources with limitations clearly stated to permit independent verification of information.

2. *Criteria:* For all levels of documentation, the following quality standards shall be met:

a. Measured drawings: Measured drawings shall be produced from recorded, accurate measurements. Portions of the building that were not accessible for measurement should not be drawn on the measured drawings, but clearly labeled as not accessible or drawn from available construction drawings and other sources and so identified. No part of the measured drawings shall be produced from hypothesis or non-measurement related activities. Documentation Level I measured drawings shall be accompanied by a set of field notebooks in which the measurements were first recorded. Other drawings, prepared for Documentation Levels II and III, shall include a statement describing where the original drawings are located.

b. Large format photographs: Large format photographs shall clearly depict the appearance of the property and areas of significance of the recorded building, site, structure or object. Each view shall be perspective-corrected and fully captioned.

c. Written history: Written history and description for Documentation Levels I and II shall be based on primary sources to the greatest extent possible. For Levels III and IV, secondary sources may provide adequate information; if not, primary research will be necessary. A frank assessment of the reliability and limitations of sources shall be included. Within the written history, statements shall be footnoted as to their sources, where appropriate. The written data shall include a methodology section specifying name of researcher, date of research, sources searched, and limitations of the project.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

4. *Commentary:* The reliability of the HABS/HAER collections depends on documentation of high quality. Quality is not something that can be easily prescribed or quantified, but it derives from a process in which thoroughness and accuracy play a large part. The principle of independent verification HABS/HAER documentation is critical to the HABS/HAER collections.

Standard III: Materials

1. *Requirement:* HABS and HAER documentation shall be prepared on materials that are readily reproducible for ease of access; durable for long storage; and in standard sizes for ease of handling.

2. *Criteria:* For all levels of documentation, the following material standards shall be met:

a. Measured Drawings:

Readily Reproducible: Ink on translucent material.

Durable: Ink on archivally stable materials.

Standard Sizes: Two sizes: 19 × 24" or 24 × 36".

b. Large Format Photographs:

Readily Reproducible: Prints shall accompany all negatives.

Durable: Photography must be archivally processed and stored. Negatives are required on safety film only. Resin-coated paper is not accepted. Color photography is not acceptable.

Standard Sizes: Three sizes: 4 × 5", 5 × 7", 8 × 10".

c. Written History and Description:

Readily Reproducible: Clean copy for xeroxing.

Durable: Archival bond required.

Standard Sizes: 8½ × 11".

d. Field Records:

Readily Reproducible: Field notebooks may be xeroxed. Photo identification sheet will accompany 35 mm negatives and contact sheets.

Durable: No requirement.

Standard Sizes: Only requirement is that they can be made to fit into a 9½ × 12" archival folding file.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

4. *Commentary:* All HABS/HAER records are intended for reproduction; some 20,000 HABS/HAER records are reproduced each year by the Library of Congress. Although field records are not intended for quality reproduction, it is intended that they be used to supplement the formal documentation. The basic durability performance standard for HABS/HAER records is 500 years. Ink on mylar is believed to meet this standard, while color photography, for example, does not. Field records do not meet this archival standard, but are maintained in the HABS/HAER collections as a courtesy to the collection user.

Standard IV: Presentation

1. *Requirement:* HABS and HAER documentation shall be clearly and concisely produced.

2. *Criteria:* For levels of documentation as indicated below, the following standards for presentation will be used:

a. Measured Drawings: Level I measured drawings will be lettered mechanically (i.e., Leroy or similar) or in a handprinted equivalent style. Adequate dimensions shall be included on all sheets. Level III sketch plans should be neat and orderly.

b. Large format photographs: Level I photographs shall include duplicate photographs that include a scale. Level II and III photographs shall include, at a minimum, at least one photograph with a scale, usually of the principal facade.

c. Written history and description: Data shall be typewritten on bond, following accepted rules of grammar.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

Architectural and Engineering Documentation Prepared for Other Purposes

Where a preservation planning process is in use, architectural and engineering documentation, like other treatment activities, are undertaken to achieve the goals identified by the preservation planning process. Documentation is deliberately selected as a treatment for properties evaluated as significant, and the development of the documentation program for a property follows from the planning objectives. Documentation efforts focus on the significant characteristics of the property, as defined in the previously completed evaluation. The selection of a level of documentation and the documentation techniques (measured drawings, photography, etc.) is based on the significance of the property and the management needs for which the documentation is being performed. For example, the kind and level of documentation required to record a historic property for easement purposes may be less detailed than that required as mitigation prior to destruction of the property. In the former case, essential documentation might be limited to the portions of the property controlled by the easement, for example, exterior facades; while in the latter case, significant interior architectural features and non-visible structural details would also be documented.

The principles and content of the HABS/HAER criteria may be used for guidance in creating documentation requirements for other archives. Levels of documentation and the durability and sizes of documentation may vary depending on the intended use and the repository. Accuracy of documentation should be controlled by assessing the reliability of all sources and making that assessment available in the archival record; by describing the limitations of the information available from research and physical examination of the

property; and by retaining the primary data (field measurements and notebooks) from which the archival record was produced. Usefulness of the documentation products depends on preparing the documentation on durable materials that are able to withstand handling and reproduction, and in sizes that can be stored and reproduced without damage.

Recommended Sources of Technical Information

Recording Historic Buildings. Harley J. McKee. Government Printing Office, 1970. Washington, D.C. Available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO number 024-005-0235-9.

HABS/HAER Procedures Manual. Historic American Buildings Survey/Historic American Engineering Record, National Park Service, 1980. Washington, D.C.

Photogrammetric Recording of Cultural Resources. Perry E. Borchers. Technical Preservation Services, U.S. Department of the Interior, 1977. Washinton, D.C.

Rectified Photography and Photo Drawings for Historic Preservation. J. Henry Chambers. Technical Preservation Services, U.S. Department of the Interior, 1975. Washington, D.C.

Secretary of the Interior's Standards for Archeological Documentation

Archeological documentation is a series of actions applied to properties of archeological interest. Documentation of such properties may occur at any or all levels of planning, identification, evaluation or treatment. The nature and level of documentation is dictated by each specific set of circumstances. Archeological documentation consists of activities such as archival research, observation and recording of above-ground remains, and observation (directly, through excavation, or indirectly, through remote sensing) of below-ground remains. Archeological documentation is employed for the purpose of gathering information on individual historic properties or groups of properties. It is guided by a framework of objectives and methods derived from the planning process, and makes use of previous planning decisions, such as those on evaluation of significance. Archeological documentation may be undertaken as an aid to various treatment activities, including research, interpretation, reconstruction, stabilization and data recovery when mitigating archeological losses resulting from construction. Care should be taken to assure that documentation efforts do not duplicate previous efforts.

Standard I. Archeological Documentation Activities Follow an Explicit Statement of Objectives and Methods That Responds to Needs Identified in the Planning Process

Archeological research and documentation may be undertaken to fulfill a number of needs, such as overviews and background studies for planning, interpretation or data recovery to mitigate adverse effects. The planning needs are articulated in a statement of objectives to be accomplished by the archeological documentation activities. The statement of objectives guides the selection of methods and techniques of study and provides a comparative framework for evaluating and deciding the relative efficiency of alternatives. Satisfactory documentation involves the use of archeological and historical sources, as well as those of other disciplines. The statement of objectives usually takes the form of a formal and explicit research design which has evolved from the interrelation of planning needs, current knowledge, resource value and logistics.

Standard II. The Methods and Techniques of Archeological Documentation are Selected To Obtain the Information Required by the Statement of Objectives

The methods and techniques chosen for archeological documentation should be the most effective, least destructive, most efficient and economical means of obtaining the needed information. Methods and techniques should be selected so that the results may be verified if necessary. Non-destructive techniques should be used whenever appropriate. The focus on stated objectives should be maintained throughout the process of study and documentation.

Standard III. The Results of Archeological Documentation are Assessed Against the Statement of Objectives and Integrated Into the Planning Process

One product of archeological documentation is the recovered data; another is the information gathered about the usefulness of the statement of objectives itself. The recovered data are assessed against the objectives to determine how they meet the specified planning needs. Information related to archeological site types, distribution and density should be integrated in planning at the level of identification and evaluation. Information and data concerning intra-site structure may be needed for developing mitigation strategies and are appropriately integrated at this level of planning. The results of the data analyses are integrated into the body of current knowledge. The utility of the method of approach and the particular techniques which were used in the investigation (i.e. the research design) should be assessed so that the objectives of future documentation efforts may be modified accordingly.

Standard IV. The Results of Archeological Documentation are Reported and Made Available to the Public

Results must be accessible to a broad range of users including appropriate agencies, the professional community and the general public. Results should be communicated in reports that summarize the objectives, methods, techniques and results of the documentation activity, and identify the repository of the materials and information so that additional detailed information can be obtained, if necessary. The public may also benefit from the knowledge obtained from archeological documentation through pamphlets, brochures, leaflets, displays and exhibits, or by slide, film or multi-media productions. The goal of disseminating information must be balanced, however, with the need to protect sensitive information whose disclosure might result in damage to properties. Curation arrangements sufficient to preserve artifacts, specimens and records generated by the investigation must be provided for to assure the availability of these materials for future use.

Secretary of the Interior's Guidelines for Archeological Documentation

Introduction

These Guidelines link the Standards for Archeological Documentation with more specific guidance and technical information. They describe one approach to meeting the Standards for Documentation. Agencies, organizations or individuals proposing to approach archeological documentation differently may wish to review their approach with the National Park Service.

The Guidelines are organized as follows:

Archeological Documentation Objectives
Documentation Plan
Methods
Reporting Results
Curation
Recommended Sources of Technical Information

1. Collection of base-line data;

2. Problem-oriented research directed toward particular data gaps recognized in the historic context(s);

3. Preservation or illustration of significance which has been identified for treatment by the planning process; or

4. Testing of new investigative or conservation techniques, such as the effect of different actions such as forms of site burial (aqueous or non-aqueous).

Many properties having archeological components have associative values as well as research values. Examples include Native American sacred areas and historic sites such as battlefields. Archeological documentation may preserve information or data that are linked to the identified values that a particular property possesses. Depending on the property type and the range of values represented by the property, it may be necessary to recover information that relates to an aspect of the property's significance other than the specified research questions. It is possible that conflicts may arise between the optimal realizations of research goals and other issues such as the recognition/protection of other types of associative values. The research design for the archeological documentation should provide for methods and procedures to resolve such conflicts, and for the close coordination of the archeological research with the appropriate ethnographic, social or technological research.

Archeological Documentation Objectives

The term "archeological documentation" is used here to refer specifically to any operation that is performed using archeological techniques as a means to obtain and record evidence about past human activity that is of importance to documenting history and prehistory in the United States. Historic and prehistoric properties may be important for the data they contain, or because of their association with important persons, events, or processes, or because they represent architectural or artistic values, or for other reasons. Archeological documentation may be an appropriate option for application not only to archeological properties, but to above-ground structures as well, and may be used in collaboration with a wide range of other treatment activities.

If a property contains artifacts, features, and other materials that can be studied using archeological techniques, then archeological documentation may be selected to achieve particular goals of the planning process—such as to address a specified information need, or to illustrate significant associative values. Within the overall goals and priorities established by the planning process, particular methods of investigation are chosen that best suit the types of study to be performed.

Relationship of archeological documentation to other types of documentation or other treatments: Archeological documentation is appropriate for achieving any of various goals, including:

Documentation Plan

Research Design: Archeological documentation can be carried out only after defining explicit goals and a methodology for reaching them. The goals of the documentation effort directly reflect the goals of the preservation plan and the specific needs identified for the relevant historic contexts. In the case of problem oriented archeological research, the plan usually takes the form of a formal research design, and includes, in addition to the items below, explicit statements of the problem to be addressed and the methods or tests to be applied. The purpose of the statement of objectives is to explain the rationale behind the documentation effort; to define the scope of the investigation; to identify the methods, techniques, and procedures to be used; to provide a schedule for the activities; and to permit comparison of the proposed research with the results. The research design for an archeological documentation effort follows the same guidelines as those for identification (see the Guidelines for Identification) but has a more property-specific orientation.

The research design should draw upon the preservation plan to identify:

1. Evaluated significance of the property(ies) to be studied;

2. Research problems or other issues relevant to the significance of the property;

3. Prior research on the topic and property type; and how the proposed documentation objectives are related to previous research and existing knowledge;

4. The amount and kinds of information (data) required to address the documentation objectives and to make reliable statements, including at what point information is redundant and documentation efforts have reached a point of diminishing returns;

5. Methods to be used to find the information; and

6. Relationship of the proposed archeological investigation to anticipated historical or structural documentation, or other treatments.

The primary focus of archeological documentation is on the data classes that are required to address the specified documentation objectives. This may mean that other data classes are deliberately neglected. If so, the reasons for such a decision should be carefully justified in terms of the preservation plan.

Archeological investigations seldom are able to collect and record all possible data. It is essental to determine the point at which further data recovery and documentation fail to improve the usefulness of the archeological information being recovered. One purpose of the research design is to estimate those limits in advance and to suggest at what point information becomes duplicative. Investigation strategies should be selected based on these general principles, considering the following factors:

1. Specific data needs;

2. Time and funds available to secure the data; and

3. Relative cost efficiency of various strategies.

Responsiveness to the concerns of local groups (e.g., Native American groups with ties to specific properties) that was built into survey and evaluation phases of the preservation plan, should be maintained in archeological investigation, since such activity usually involves site disturbance. The research design, in addition to providing for appropriate ethnographic research and consultation, should consider concerns voiced in previous phases. In the absence of previous efforts to coordinate with local or other interested groups, the research design should anticipate the need to initiate appropriate contracts and provide a mechanism for responding to sensitive issues, such as the possible uncovering of human remains or discovery of sacred areas.

The research design facilitates an orderly, goal directed and economical project. However, the research design must be flexible enough to allow for examination of unanticipated but important research opportunities that arise during the investigation.

Documentation Methods

Background Review: Archeological documentation usually is preceded by, or integrated with historical research (i.e. that intensive background information gathering including identification of previous archeological work and inspection of museum collections; gathering relevant data on geology, botany, urban geography and other related disciplines; archival research; informant interviews, or recording of oral tradition, etc.).

Depending on the goals of the archeological documentation, the background historical and archeological research may exceed the level of research accomplished for development of the relevant historic contexts or for identification and evaluation, and focuses on the unique aspects of the property to be treated. This assists in directing the investigation and locates a broader base of information than that contained in the property itself for response to the documentation goals. This activity is particularly important for historic archeological properties where information sources other than the property itself may be critical to preserving the significant aspects of the property. (See the Secretary of the Interior's Standards and Guidelines for Historical Documentation for discussion of associated research activities.)

Field Studies: The implementation of the research design in the field must be flexible enough to accommodate the discovery of new or unexpected data classes or properties, or changing field conditions. A phased approach may be appropriated when dealing with large complex properties or groups of properties, allowing for changes in emphasis or field strategy, or termination of the program, based on analysis of recovered data at the end of each phase. Such an approach permits the confirmation of assumptions concerning property extent, content or organization which had been made based on data gathered from identification and evaluation efforts, or the adjustment of those expectations and resulting changes in procedure. In some cases a phased approach may be necessary to gather sufficient data to calculate the necessary sample size for a statistically valid sample. A phased documentation program may often be most cost-effective, in allowing for early termination of work if the desired objectives cannot be achieved.

Explicit descriptive statements of and justification for field study techniques are important to provide a means of evaluating results. In some cases, especially those employing a sampling strategy in earlier phases (such as identification or evaluation), it is possible to estimate parameters of certain classes of data in a fairly rigorous statistical manner. It is thus desirable to maintain some consistency in choice of sampling designs throughout multiple phases of work at the same property. Consistency with previously employed areal sampling frameworks also improves potential replication in terms of later locating sampled and unsampled areas. It often is desirable to estimate the nature and frequency of data parameters based on existing information or analogy to other similar cases. These estimates may then be tested in field studies.

An important consideration in choosing methods to be used in the field studies should be assuring full, clear, and accurate descriptions of all field operations and observations, including excavation and recording techniques and stratigraphic or inter-site relationships.

To the extent feasible, chosen methodologies and techniques should take into account the possibility that future researchers will need to use the recovered data to address problems not recognized at the time the data were recovered. The field operation may recover data that may not be fully analyzed; this data, as well as the data analyzed, should be recorded and preserved in a way to facilitate future research.

A variety of methodologies may be used. Choices must be explained, including a measure of cost-effectiveness relative to other potential choices. Actual results can then be measured against expectations, and the information applied later in similar cases.

Destructive methods should not be applied to portions or elements of the property if nondestructive methods are practical. If portions or elements of the property being documented are to be preserved in place, the archeological investigation should employ methods that will leave the property as undisturbed as possible. However, in cases where the property will be destroyed by, for example, construction following the investigation, it may be most practical to gather the needed data in the most direct manner, even though that may involve use of destructive techniques.

Logistics in the field, including the deployment of personnel and materials and the execution of sampling strategies, should consider site significant, anticipated location of most important data, cost effectiveness, potential time limitations and possible adverse environmental conditions.

The choice of methods for recording data gathered in the field should be based on the research design. Based on that statement, it is known in advance of field work what kinds of information are needed for analysis; record-keeping techniques should focus on these data. Field records should be maintained in a manner that permits independent interpretation in so far as possible. Record-keeping should be standardized in format and level of detail.

Archeological documentation should be conducted under the supervision of qualified professionals in the disciplines appropriate to the data that are to be recovered. When the general public is directly involved in archeological documentation activities, provision should be made for training and supervision by qualified professionals. (See the Professional Qualifications Standards.)

Analysis: Archeological documentation is not completed with field work; analysis of the collected information is an integral part of the documentation activity, and should be planned for in the research design. Analytical techniques should be selected that are relevant to the objectives of the investigation. Forms of analysis that may be appropriate, depending on the type of data recovered and the objectives of the investigation, include but are not limited to: studying artifact types and distribution; radiometric and other means of age determination; studies of soil stratigraphy; studies of organic matter such as human remains, pollen, animal bones, shells and seeds; study of the composition of soils and study of the natural environment in which the property appears.

Reporting Results

Report Contents: Archeological documentation concludes with written report(s) including minimally the following topics:

1. Description of the study area;
2. Relevant historical documentation/background research;
3. The research design;
4. The field studies as actually implemented, including any deviation from the research design and the reason for the changes;
5. All field observations;
6. Analyses and results, illustrated as appropriate with tables, charts, and graphs;
7. Evaluation of the investigation in terms of the goals and objectives of the investigation, including discussion of how well the needs dictated by the planning process were served;
8. Recommendations for updating the relevant historic contexts and planning goals and priorities, and generation of new or revised information needs;
9. Reference to related on-going or proposed treatment activities, such as structural documentation, stabilization, etc.; and

10. Information on the location of original data in the form of field notes, photographs, and other materials.

Some individual property information, such as specific locational data, may be highly sensitive to disclosure, because of the threat of vandalism. If the objectives of the documentation effort are such that a report containing confidential information such as specific site locations or information on religious practices is necessary, it may be appropriate to prepare a separate report for public distribution. The additional report should summarize that information that is not under restricted access in a format most useful to the expected groups of potential users. Peer review of draft reports is recommended to ensure that state-of-the-art technical reports are produced.

Availability: Results must be made available to the full range of potential users. This can be accomplished through a variety of means including publication of results in monographs and professionals journals and distribution of the report to libraries or technical clearinghouses such as the National Technical Information Service in Springfield, Virginia.

Curation

Archeological specimens and records are part of the documentary record of an archeological site. They must be curated for future use in research, interpretation, preservation, and resource management activities. Curation of important archeological specimens and records should be provided for in the development of any archeological program or project.

Archeological specimens and records that should be curated are those that embody the information important to history and prehistory. They include artifacts and their associated documents, photographs, maps, and field notes; materials of an environmental nature such as bones, shells, soil and sediment samples, wood, seeds, pollen, and their associated records; and the products and associated records of laboratory procedures such as thin sections, and sediment fractions that result from the analysis of archeological data.

Satisfactory curation occurs when:

1. Curation facilities have adequate space, facilities, and professional personnel;

2. Archeological specimens are maintained so that their information values are not lost through deterioration, and records are maintained to a professional archival standard;

3. Curated collections are accessible to qualified researchers within a reasonable time of having been requested; and

4. Collections are available for interpretive purposes, subject to reasonable security precautions.

Recommended Sources of Technical Information

Archeomagnetism: A Handbook for the Archeologist. Jeffrey L. Eighmy, U.S. Department of the Interior, Washington, D.C., 1980.

The Curation and Management of Archeological Collections: A Pilot Study. Cultural Resource Management Series, U.S. Department of the Interior, September 1980.

Human Bones and Archeology. Douglas H. Ubelaker. Interagency Archeological Services, Heritage Conservation and Recreation Service, U.S. Department of the Interior, Washington, D.C., 1980. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Manual for Museums. Ralph H. Lewis, National Park Service, U.S. Department of the Interior, 1976.

Treatment of Archeological Properties: A Handbook. Advisory Council on Historic Preservation. Washington D.C., 1980.

Secretary of the Interior's Standards for Historic Preservation Projects

General Standards for Historic Preservation Projects

The following general standards apply to all treatments undertaken on historic properties listed in the National Register.

1. Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose.

2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations which have no historical basis and which seek to create an earlier appearance shall be discouraged.

4. Changes which have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.

5. Distinctive architectural features or examples of skilled craftsmanship which characterize a building, structure, or site shall be treated with sensitivity.

6. Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

8. Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to, any acquisition, stabilization, preservation, rehabilitation, restoration, or reconstruction project.

Specific Standards for Historic Preservation Projects

The following specific standards for each treatment are to be used in conjunction with the eight general standards and, in each case, begin with number 9. For example, in evaluating acquisition projects, include the eight general standards plus the four specific standards listed under standards for Acquisition. The specific standards differ from those published for use in Historic Preservation Fund grant-in-aid projects (36 CFR Part 68) in that they discuss more fully the treatment of archeological properties.

Standards for Acquisition

9. Careful consideration shall be given to the type and extent of property rights which are required to assure the preservation of the historic resource. The preservation objectives shall determine the exact property rights to be acquired.

10. Properties shall be acquired in fee simple when absolute ownership is required to insure their preservation.

11. The purchase of less-than-fee-simple interests, such as open space or facade easements, shall undertaken when a limited interest achieves the preservation objective.

12. Every reasonable effort shall be made to acquire sufficient property with the historic resource to protect its historical, archeological, architectural or cultural significance.

Standard for Protection

9. Before applying protective measures which are generally of a temporary nature and imply future historic preservation work, an analysis of the actual or anticipated threats to the property shall be made.

10. Protection shall safeguard the physical condition or environment of a property or archeological site from further deterioration or damage caused by weather or other natural, animal, or human intrusions.

11. If any historic material or architectural features are removed, they shall be properly recorded and, if possible, stored for future study or reuse.

Standards for Stabilization

9. Stabilization shall reestablish the structural stability of a property through the reinforcement of loadbearing members or by arresting deterioration leading to structural failure. Stabilization shall also reestablish weather resistant conditions for a property.

10. Stabilization shall be accomplished in such a manner that it detracts as little as possible from the property's appearance and significance. When reinforcement is required to reestablish structural stability, such work shall be concealed wherever possible so as not to intrude upon or detract from the aesthetic and historical or archeological quality of the property, except where concealment would result in the alteration or destruction of historically or archeologically significant material or spaces. Accurate documentation of stabilization procedures shall be kept and made available for future needs.

11. Stabilization work that will result in ground disturbance shall be preceded by sufficient archeological investigation to determine whether significant subsurface features or artifacts will be affected. Recovery, curation and documentation of archeological features and specimens shall be undertaken in accordance with appropriate professional methods and techniques.

Standards for Preservation

9. Preservation shall maintain the existing form, integrity, and materials of a building, structure, or site. Archeological sites shall be preserved undisturbed whenever feasible and practical. Substantial reconstruction or restoration of lost features generally are not included in a preservation undertaking.

10. Preservation shall include techniques of arresting or retarding the deterioration of a property through a program of ongoing maintenance.

11. Use of destructive techniques, such as archeological excavation, shall be limited to providing sufficient information for research, interpretation and management needs.

Standards for Rehabilitation

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historic, architectural, or cultural material and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.

10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

Standards for Restoration

9. Every reasonable effort shall be made to use a property for is originally intended purpose or to provide a compatible use that will require minimum alteration to the property and its environment.

10. Reinforcement required for structural stability or the installation of protective or code required mechanical systems shall be concealed wherever possible so as not to intrude or detract from the property's aesthetic and historical qualities, except where concealment would result in the alteration or destruction of historically significant materials or spaces.

11. Restoration work such as the demolition of non-contributing additions that will result in ground or structural disturbance shall be preceded by sufficient archeological investigation to determine whether significant subsurface or structural features or artifacts will be affected. Recovery, curation and documentation of archeological features and specimens shall be undertaken in accordance with appropriate professional methods and techniques.

Standards for Reconstruction

9. Reconstruction of a part or all of a property shall be undertaken only when such work is essential to reproduce a significant missing feature in a historic district or scene, and when a contemporary design solution is not acceptable. Reconstruction of archeological sites generally is not appropriate.

10. Reconstruction of all or a part of a historic property shall be appropriate when the reconstruction is essential for understanding and interpreting the value of a historic district, or when no other building, structure, object, or landscape feature with the same associative value has survived and sufficient historical or archeological documentation exists to insure an accurate reproduction of the original.

11. The reproduction of missing elements accomplished with new materials shall duplicate the composition, design, color, texture, and other visual qualities of the missing element. Reconstruction of missing architectural or archeological features shall be based upon accurate duplication of original features substantiated by physical or documentary evidence rather than upon conjectural designs or the availability of different architectural features from other buildings.

12. Reconstruction of a building or structure on an original site shall be preceded by a thorough archeological investigation to locate and identify all subsurface features and artifacts. Recovery, curation and documentation of archeological features and specimens shall be undertaken in accordance with professional methods and techniques.

13. Reconstruction shall include measures to preserve any remaining original fabric, including foundations, subsurface, and ancillary elements. The reconstruction of missing elements. The reconstruction of missing elements and features shall be done in such a manner that the essential form and integrity of the original surviving features are unimpaired.

Secretary of the Interior Guidelines for Historic Preservation Projects

The guidelines for the Secretary of the Interior's Standards for Historic Preservation Projects, not included here because of their length, may be obtained separately from the National Park Serivce.

Professional Qualifications Standards

The following requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic properties involved. In the following definitions, a year of full-time professional experience need not consist of a continuous year of fulltime work but

may be made up of discontinuous periods of full-time or part-time work adding up to the equivalent of a year of full-time experience.

History

The minimum professional qualifications in history are a graduate degree in history or closely related field; or a bachelor's degree in history or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historic organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

Archeology

The minimum professional qualifications in archeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the prehistoric period. A professional in historic archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the historic period.

Architectural History

The minimum professional qualifications in architectural history are a graduate degree in architectural history, art history, historic preservation, or closely related field, with coursework in American architectural history; or a bachelor's degree in architectural history, art history, historic preservation or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

Architecture.

The minimum professional qualifications in architecture are a professional degree in architecture plus at least two years of full-time experience in architecture; or a State license to practice architecture.

Historic Architecture

The minimum professional qualifications historic in architecture are a professional degree in architecture or a State license to practice architecture, plus one of the following:

1. At least one year of graduate study in architectural preservation, American architectural history, preservation planning, or closely related field; or
2. At least one year of full-time professional experience on historic preservation projects.

Such graduate study or experience shall include detailed investigations of historic structures, preparation of historic structures research reports, and preparation of plans and specifications for preservation projects.

Preservation Terminology

Acquisition—the act or process of acquiring fee title or interest other than fee title of real property (including acquisition of development rights or remainder interest).

Comprehensive Historic Preservation Planning—the organization into a logical sequence of preservation information pertaining to identification, evaluation, registration and treatment of historic properties, and setting priorities for accomplishing preservation activities.

Historic Context—a unit created for planning purposes that groups information about historic properties based on a shared theme, specific time period and geographical area.

Historic Property—a district, site, building, structure or object significant in American history, architecture, engineering, archeology or culture at the national, State, or local level.

Integrity—the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period.

Intensive Survey—a systematic, detailed examination of an area designed to gather information about historic properties sufficient to evaluate them against predetermined criteria of significance within specific historic contexts.

Inventory—a list of historic properties determined to meet specified criteria of significance.

National Register Criteria—the established criteria for evaluating the eligibility of properties for inclusion in the National Register of Historic Places.

Preservation (treatment)—the act or process of applying measures to sustain the existing form, integrity and material of a building or structure, and the existing form and vegetative cover of a site. It may include initial stabilization work, where necessary, as well as ongoing maintenance of the historic building materials.

Property Type—a grouping of individual properties based on a set of shared physical or associative characteristics.

Protection (treatment)—the act or process of applying measures designed to affect the physical condition of a property by defending or guarding it from deterioration, loss or attack, or to cover or shield the property from danger or injury. In the case of buildings and structures, such treatment is generally of a temporary nature and anticipates future historic preservation treatment; in the case of archeological sites, the protective measure may be temporary or permanent.

Reconnaissance Survey—an examination of all or part of an area accomplished in sufficient detail to make generalizations about the types and distributions of historic properties that may be present.

Reconstruction (treatment)—the act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or any part thereof, as it appeared at a specific period of time.

Rehabilitation (treatment)—the act or 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 or features of the property which are significant to its historical, architectural and cultural values.

Research design—a statement of proposed identification, documentation, investigation, or other treatment of a historic property that identifies the project's goals, methods and techniques, expected results, and the relationship of the expected results to other proposed activities or treatments.

Restoration—the act or process of accurately recovering the form and details of a 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.

Sample Survey—survey of a representative sample of lands within a given area in order to generate or test predictions about the types and distributions of historic properties in the entire area.

Stabilization (treatment)—the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Statement of objectives—see Research design.

Dated: September 26, 1983.

Russell E. Dickenson,

Director, National Park Service.

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APPENDIX D - THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES; GUIDELINES FOR PRESERVING, REHABILITATING, RESTORING & RECONSTRUCTING HISTORIC BUILDINGS
CITY OF DULUTH
RFP# 25-AA08 DESIGN SERVICES FOR PRILEY CIRCLE RESTORATION

THE SECRETARY OF THE INTERIOR'S **STANDARDS** FOR THE TREATMENT OF HISTORIC PROPERTIES

WITH

GUIDELINES FOR PRESERVING, REHABILITATING, RESTORING & RECONSTRUCTING HISTORIC BUILDINGS

U.S. Department of the Interior
National Park Service
Technical Preservation Services

Under the National Historic Preservation Act (NHPA), the Secretary of the Interior is responsible for establishing professional standards and for providing guidance on the preservation of the nation's historic properties. *The Secretary of the Interior's Standards for the Treatment of Historic Properties* apply to all grants-in-aid projects assisted through the Historic Preservation Fund (authorized by the NHPA) and are intended to be applied to a wide variety of resource types, including buildings, sites, structures, objects, and districts. The Standards address four treatments: preservation, rehabilitation, restoration, and reconstruction. The treatment Standards, developed in 1992, were codified as 36 CFR Part 68 in the July 12, 1995, Federal Register (Vol. 60, No. 133). They replaced the 1978 and 1983 versions of 36 CFR Part 68, entitled *The Secretary of the Interior's Standards for Historic Preservation Projects.* The revised Guidelines herein replace the Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, published in 1995 to accompany the treatment Standards.

The Secretary of the Interior's Standards for the Treatment of Historic Properties are regulatory only for projects receiving Historic Preservation Fund grant assistance and other federally-assisted projects. Otherwise, these Guidelines are intended to provide general guidance for work on any historic building.

Another regulation, 36 CFR Part 67, focuses on "certified historic structures" as defined by the Internal Revenue Service Code of 1986. The Standards for Rehabilitation cited in 36 CFR Part 67 should always be used when property owners are seeking certification for federal tax benefits.

THE SECRETARY OF THE INTERIOR'S **STANDARDS** FOR THE TREATMENT OF HISTORIC PROPERTIES WITH **GUIDELINES** FOR PRESERVING, REHABILITATING, RESTORING & RECONSTRUCTING HISTORIC BUILDINGS

Revised by Anne E. Grimmer

from *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*
Kay D. Weeks and Anne E. Grimmer (1995)

U.S. Department of the Interior
National Park Service
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HISTORICAL OVERVIEW

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Resilience to Natural Hazards. Farnsworth House, Plano, IL, Mies van der Rohe, 1951. Photo: Courtesy Farnsworth, A Site of the National Trust for Historic Preservation.

Sustainability. Traditional sustainable features include deep porches and window shutters in southern architecture.

New Additions and Related New Construction. Private Residence, Washington, DC, Cunningham/Quill Architects. Photo: © Maxwell MacKenzie.

CHAPTER HEADS

Preservation. Old Santa Fe Trail Building (National Park Service Intermountain Regional Office), Santa Fe, NM. This adobe building was designed by John Gaw Meem in the Spanish-Pueblo Revival style, and constructed for the National Park Service through the auspices of the Civilian Conservation Corps (CCC) and the Works Project Administration (WPA) in 1939. Photo: MRWM Landscape Architects.

Rehabilitation. The Arcade, Providence, RI, 1828. Photo: Northeast Collaborative Architects, Ben Jacobson, photographer.

Restoration. Montpelier, Montpelier Station, VA. National Trust for Historic Preservation, Administered by The Montpelier Foundation. Photo: Courtesy The Montpelier Foundation.

Reconstruction. The Cathedral of Saint Michael the Archangel, Sitka, AK, built early 1840s, reconstructed 1961. Photo: Barek at Wikimedia Commons.

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ACKNOWLEDGEMENTS

This edition of *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* has been produced in part to ensure that the National Park Service continues to fulfill its responsibility to promote the preservation of the historic buildings that are part of the nation's cultural heritage. This has been a collaborative effort undertaken by the office of Technical Preservation Services (TPS) in the National Park Service, with the assistance of other National Park Service programs, State Historic Preservation Offices (SHPO), the Advisory Council on Historic Preservation, Federal Agency Historic Preservation Officers, the National Trust for Historic Preservation, and others. The comments and suggestions provided by these agencies and organizations, together with important contributions from the TPS professional staff, have been invaluable in the development of this revised and updated guidance on preserving, rehabilitating, restoring, and reconstructing historic buildings that accompany *The Secretary of the Interior's Standards for the Treatment of Historic Properties.*

PREFACE

The year 2016 was significant as the Centennial of the National Park Service, which was established as a new bureau within the Department of the Interior by the Organic Act on August 25, 1916. As directed in this legislation, the National Park Service has served for one hundred years as steward of the "Federal areas known as national parks, monuments and reservations…to conserve the scenery and the natural and historic objects and the wild life therein and to…leave them unimpaired for the enjoyment of future generations."

The year 2016 also marked the 50th anniversary of the passage of the National Historic Preservation Act on October 15, 1966. The Act increased the scope and responsibilities of the National Park Service with regard to the preservation of cultural resources. The National Historic Preservation Act charges the National Park Service (through authority delegated by the Secretary of the Interior) to establish and administer a national historic preservation program and to develop and promulgate standards and guidelines for the treatment of historic properties.

The Secretary of the Interior's Standards for Historic Preservation Projects were first issued in 1978. In 1979 they were published with Guidelines for Applying the Standards and reprinted in 1985. The Standards were revised in 1992, when they were retitled *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.

The Standards were codified in the Federal Register in 1995, the same year that they were published with guidelines as *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. These Standards and Guidelines provide a critical part of the framework of the national preservation program. They are widely used at the federal, state, and local levels to guide work on historic buildings, and they also have been adopted by Certified Local Governments and historic preservation commissions across the nation.

In 2010 the National Park Service issued *A Call to Action: Preparing for a Second Century of Stewardship and Engagement*, a plan to chart a path for its next 100 years. This plan identified a number of actions with the goal to "preserve America's special places in the next century," which included updating National Park Service policies and guidance. The project to update *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* was undertaken as part of this broader effort.

Since these Guidelines were first published in 1995, a greater number of buildings and building types, telling a broader range of stories that are part of the nation's heritage, have been recognized as "historic"

and eligible for listing in the National Register of Historic Places. These guidelines have been updated and expanded to address the treatment of these buildings constructed with newer materials and systems from the mid- and late-20th century.

The updated Guidelines have the same organization as the prior version, beginning with an introduction and a historical overview, followed by chapters that focus on each of the four treatments: preservation, rehabilitation, restoration, and reconstruction. The historical overview has been expanded; not only has the information on historic materials, systems, features, and special issues that comprised the previous edition been more fully developed, but new entries have been added on glass, paint and other coatings, composite materials, imitative materials, and curtain walls.

In each of the four chapters, the "Recommended" and "Not Recommended" treatments have been updated and revised throughout to ensure that they continue to promote the best practices in preservation. The section on exterior additions to historic buildings in the Rehabilitation Guidelines has been broadened also to address related new construction on a building site. A section on code-required work is now included in all of the chapters. "Energy Efficiency" has been eliminated, since it is more fully covered by the guidance provided on sustainability in *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings* (published in 2011), which has general applicability to all the treatments and is incorporated here by reference. Sections on "Resilience to Natural Hazards" have been added, but these topics will be more fully addressed in separate documents and web features. Finally, the updated Guidelines feature all new, and many more, illustrations in color.

Herewith Technical Preservation Services issues the National Park Service Centennial edition of *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*, updated and revised in recognition of the 50th anniversary of the National Historic Preservation Act, to ensure that the preservation guidance for historic buildings provided by the National Park Service continues to be meaningful and relevant in the 21st century.

Technical Preservation Services
National Park Service

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National Park Service

The office of Technical Preservation Services (TPS) in the Cultural Resources directorate of the National Park Service is responsible for developing and promulgating preservation standards and guidance specifically as it relates to historic buildings. TPS has produced an extensive amount of technical, educational, and policy guidance on the maintenance and preservation of historic buildings. TPS developed the original and current versions of *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. The many technical publications and web features on preserving historic buildings prepared by TPS are well known, especially the *Preservation Briefs* and the *Preservation Tech Notes* series. It is not feasible to include a complete list here of all the materials available from TPS because of the sheer volume of information. Materials developed by TPS are available in printed form and/or online from the TPS website at https://www.nps.gov/tps (or search for Technical Preservation Services at https://www.nps.gov). TPS also administers the Federal Historic Preservation Tax Incentives Program, which encourages private sector investment in the rehabilitation and reuse of historic buildings.

INTRODUCTION

Using the Standards and Guidelines for Preservation, Rehabilitation, Restoration, and Reconstruction Projects

The Secretary of the Interior's Standards for the Treatment of Historic Properties address four treatments: preservation, rehabilitation, restoration, and reconstruction. As stated in the regulations (36 CFR Part 68) promulgating the Standards, "one set of standards ...will apply to a property undergoing treatment, depending upon the property's significance, existing physical condition, the extent of documentation available, and interpretive goals, when applicable. The Standards will be applied taking into consideration the economic and technical feasibility of each project." These Standards apply not only to historic buildings but also to a wide variety of historic resource types eligible to be listed in the National Register of Historic Places. This includes buildings, sites, structures, objects, and districts.

Guidelines, however, are developed to help apply the Standards to a specific type of historic resource. Thus, in addition to these Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, there are also guidelines for cultural landscapes, historic lighthouses, historic vessels, historic furnished interiors, and historic covered bridges.

The purpose of *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* is to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to beginning work. It is always recommended that preservation professionals be consulted early in any project.

The Guidelines are intended as an aid to assist in applying the Standards to all types of historic buildings. They are not meant to give case-specific advice or address exceptions or unusual conditions. They address both exterior and interior work on historic buildings. Those approaches to work treatments and techniques that are consistent with The Secretary of the Interior's Standards for the Treatment of Historic Properties are listed in the "Recommended" column on the left; those which are inconsistent with the Standards are listed in the "Not Recommended" column on the right.

There are four sections, each focusing on one of the four treatment Standards: Preservation, Rehabilitation, Restoration, and Reconstruction. Each section includes one set of Standards with accompanying Guidelines that are to be used throughout the course of a project.

Preservation *is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. However, new exterior additions are not within the scope of this treatment.* The Standards for Preservation require retention of the greatest amount of historic fabric along with the building's historic form.

Rehabilitation *is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.* The Rehabilitation Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character.

Restoration *is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.* The Restoration Standards allow for the depiction of a building at a particular time in its history by preserving materials, features, finishes, and spaces from its period of significance and removing those from other periods.

Reconstruction *is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.* The Reconstruction Standards establish a limited framework for recreating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

The Guidelines are introduced with a brief overview of the primary materials used in historic buildings; the exterior and interior architectural features and systems; the building's site and setting; code-compliance requirements regarding accessibility and life-safety resilience to natural hazards; sustainability; and new additions and related new construction. This overview establishes the format of the Guidelines that follow.

Choosing an Appropriate Treatment for the Historic Building

The Guidelines are intended to promote responsible preservation practices that help protect the nation's irreplaceable cultural resources. For example, they cannot, in and of themselves, be used to make essential decisions about which features of the historic building should be saved and which can be changed. But, once a treatment is selected, the Standards and Guidelines provide a consistent philosophical approach to the work.

Choosing the most appropriate treatment for a building requires careful decision making about a building's historical significance, as well as taking into account a number of other considerations:

Level of Significance. National Historic Landmarks, designated for their "exceptional significance in American history," and other properties important for their interpretive value may be candidates for *Preservation* or *Restoration*. *Rehabilitation*, however, is the most commonly used treatment for the majority of historic buildings *Reconstruction* has the most limited application because so few resources that are no longer extant can be documented to the degree necessary to accurately recreate the property in a manner that conveys its appearance at a particular point in history.

Physical condition. *Preservation* may be appropriate if distinctive materials, features, and spaces are essentially intact and convey the building's historical significance. If the building requires more extensive repair and replacement, or if alterations or a new addition are necessary for a new use, then *Rehabilitation* is probably the most appropriate treatment.

Proposed use. Many historic buildings can be adapted for a new use or updated for a continuing use without seriously impacting their historic character. However, it may be very difficult or impossible to convert some special-use properties for new uses without major alterations, resulting in loss of historic character and even integrity.

Code and other regulations. Regardless of the treatment, regulatory requirements must be addressed. But without a sensitive design approach such work may damage a building's historic materials and negatively impact its character. Therefore, because the ultimate use of the building determines what requirements will have to be met, some potential uses of a historic building may not be appropriate if the necessary modifications would not preserve the building's historic character. This includes adaptations to address natural hazards as well as sustainability.

HISTORICAL OVERVIEW

Masonry

Stone is one of the more lasting masonry building materials and has been used throughout the history of American building construction. Stones most commonly used in historic buildings in the U.S. are quarried stone, including sandstone, limestone, marble, granite, slate, basalt, and coral stone, and gathered stone, such as fieldstone, river rock, and boulders. Types of stone differ considerably in hardness, durability, and other qualities. Building stones were usually laid with mortar, but sometimes they were laid without mortar using a dry-stack method of construction. Brick varies in size and permanence. Before 1870, brick clays were pressed into molds and were often unevenly fired. The quality of historic brick depended on the type of clay available and the brick-making technique; by the 1870s, with the perfection of an extrusion process, bricks became more uniform and durable. ***Architectural terra cotta*** is also a kiln-fired clay product popular from the late 19th century until the 1930s. Its use became more widespread with the development of steel-frame, high-rise office buildings in the early 20th century. ***Glazed ceramic architectural siding*** was also used as cladding in high-rise buildings somewhat later. ***Adobe,*** which consists of sun-dried earthen bricks, was one of the earliest building materials used in the U.S., primarily in the Southwest where it is still popular.

Mortar is used to bond together masonry units. Historic mortar was generally quite soft, consisting primarily of lime and sand with other additives. Portland cement, which creates a more rigid mortar, was first manufactured in the U.S. in the early 1870s, but it was not in common use throughout the country until the early 20th century. Thus, mortar used in buildings from around 1873 until the 1930s ranged from a traditional lime-cement mix to a variety of sand and Portland cement combinations. After this time, most mortar mixes were based on Portland cement. Like historic mortar, early ***stucco*** was also heavily lime based, increasing in hardness with the addition of Portland cement in the late 19th century.

Concrete has a long history. It is composed of sand, crushed stone, or gravel bound together with lime and, sometimes, natural hydraulic cements. As a construction material concrete is used in a variety of forms, including blocks or units, poured or cast-in-place, and precast panels. ***Cast stone*** and other manufactured products began to be used around the 1860s as substitutes for natural stone. There are also cementitious materials specific to certain regions, such as ***tabby,*** which includes crushed shells and is found primarily in coastal areas in the southeastern part of the country. In the 20th century, ***reinforced concrete*** was developed and has since become one of the most commonly used materials in modern building construction.

While masonry is one of the most durable historic building materials, it is also very susceptible to damage by exposure, improper maintenance or repairs, abrasive cleaning, or the application of non-permeable coatings.

Wood

Wood is one of the most essential materials used in American buildings of every period and style. Its many and varied attributes make it suitable for multiple uses, including structural members, siding, roofing, interior finishes, and decorative features. Many of the first structures in the earliest settlements were built with logs, which were readily available, did not require much finishing, and could be quickly erected with basic tools.

Water-powered sawmills cut logs into timbers and boards, but detailed ornamental features were generally crafted on site using hand tools until after the Civil War. Mechanized production increased the efficiency of cutting logs into timbers, boards, and more intricate components, and the structural and decorative potential of wood's use in building construction expanded. With more efficient production came lower costs, but also the standardization of ready-made moldings and assemblies for windows, doors, and decorative features. Initially, wood was primarily sourced locally, but improved transportation systems made a greater variety of wood species more accessible all over the country. With broader availability, a particular wood could be selected for its suitability in a specific application; however, local species were used most often.

The extensive use of wood in buildings can be attributed to its many properties that include strength in both tension and compression; ease with which it can be cut and shaped; capability to be connected using a variety of fasteners and adhesives; ability to be painted or varnished; and resistance to wear and weather. All of these characteristics, and some more than others, vary according to the species of wood. Although many types and species of wood used historically are no longer available, wood selection and construction practices have always capitalized on its attributes and compensated for it is weaknesses. Their resistance to decay made white oak and cedar common choices for roofing shingles, while oak and maple were frequently chosen for flooring because of their hardness. Pine and yellow poplar have often been used for siding and trim because of their straight grain and ease of milling, but they must be painted to protect them from decay.

Plywood is an engineered product formed by laminating thin sheets of wood together; it was introduced to the U.S. building industry in the early 20th century. Because plywood has greater structural potential than wood, and as a sheet can be installed more efficiently, it soon replaced boards as sheathing before being replaced itself by less-expensive ***particle board*** for many applications. By applying surface veneers and adhesives, plywood can also be used as siding or for fine interior finishes on paneling or cabinetry. ***Glued laminated timber*** (glulam), first manufactured in the 1930s, is another engineered wood material. It is an important material in mid-20th-century buildings and often used for massive arches and trusses in sports arenas and similar large, open, column-free spaces.

Many historic buildings have wood structural systems and features, such as stairs or columns. The majority of both practical and decorative features, particularly on the interior, are made of wood, such as flooring and paneling.

Metals

Metal features—including steps, porches, railings, balconies, and entire facades; cornices, siding, cladding, roofs, roof cresting, and storefronts; and doors, window sash, entablatures, and hardware—are often highly decorative as well as practical and are important in defining the overall character of historic American buildings.

Metals commonly used in historic buildings include ***lead, tinplate, terneplate, zinc, copper, bronze, brass, iron, steel, aluminum, stainless steel,*** and a variety of other ***alloys.*** Historic metal building components were often designed by highly-skilled artisans. By the late 19th century, many of these components were prefabricated and available from catalogues in standardized sizes and designs.

Wrought iron is the form in which iron was first used in America. In the beginning, most wrought-iron architectural elements were small, such as nails, tie rods, straps, and hardware. Wrought-iron features

gradually increased in size to include balconies, railings, porches, steps, and fencing. It was not used for structural components until around the mid 19th century, when manufacturing equipment became more sophisticated. ***Cast iron*** was initially imported from England. Although there were some iron-casting works established before the Revolution, by the early 19th century production had expanded to make a variety of cast-iron features. Structural cast-iron columns were first used in the 1820s, and cast-iron building fronts and decorative structural and ornamental features followed soon after. Cast and wrought iron are often used on the interior of historic buildings as both structural and decorative features, such as columns, staircases, railings, and light fixtures.

Steel, which is an alloy of iron and usually carbon, increased in popularity as manufacturing processes and production improved in the mid-19th century. Structural steel played an important role in the development of high-rise buildings and the skyscraper.

Lead was first used in historic buildings for roofing. ***Tinplate or terneplate,*** which was made by applying a lead and tin coating to sheet metal or steel, became a common roofing material after it was first produced in the 1820s. (Pure tin was rarely used as a building material because it is so soft.) The application of a ***zinc coating*** on sheet metal created ***galvanized iron***, which was used for roofing and decorative roofing features, such as steeples and roof cresting, as well as other ornamental architectural features, such as door and window hood molds, lintels, and oriel and bay windows. Prefabricated Quonset huts constructed of ***corrugated galvanized steel*** began to be manufactured during World War II for the military on the battlefield for housing, storage, and other uses.

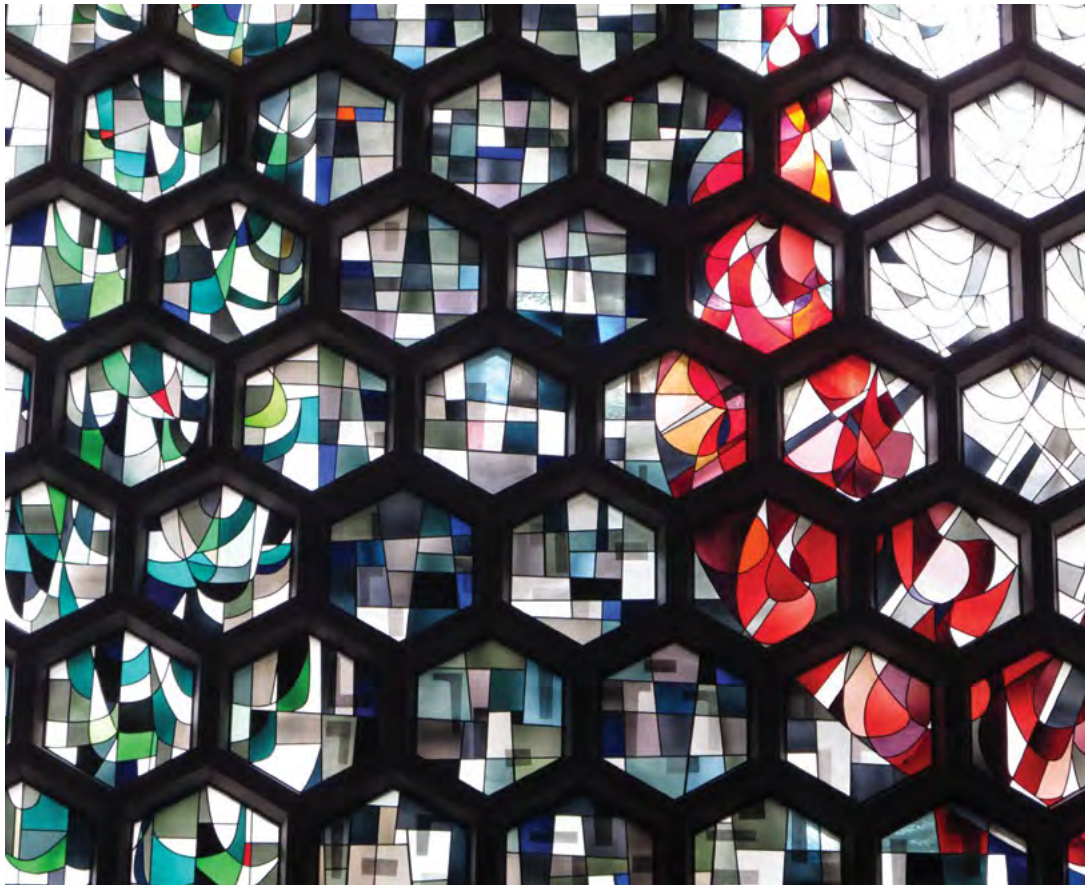
Entire pressed-metal and galvanized-iron storefronts and individual decorative features were manufactured to simulate wood, stone, or cast iron from the latter part of the 19th century into the early years of the 20th century. ***Copper*** roofs were installed on many public buildings from the 1790s through the first quarter of the 19th century. Copper continues to be used, often for porch roofs as well as gutters, downspouts, and flashing. ***Bronze*** and ***brass*** are both alloys of copper. Bronze, which weathers well, appears as entrance doors and historic storefronts. Brass, usually polished, is used for decorative interior features, such as grilles and elevator doors. **Nickel**, when employed as a building component, is in the form of an alloy, usually ***nickel silver, Monel,*** or some ***stainless steel***. In comparison to other construction metals, stainless steel is quite new, essentially only coming into use in the 1920s when it became a favorite material for Art Deco-style buildings.

Aluminum—lightweight and corrosion-resistant—was not utilized much in buildings because it was so expensive until the 1920s, when expanded production reduced its cost. Aluminum siding, which was advertised as maintenance free, became a popular siding material for single-family residences after it was introduced in the late 1930s. Some of the uses of aluminum include roofing and roofing features, such as gutters, downspouts, and flashing, as well as windows and storefront surrounds.

Porcelain enamel, or ***vitreous enamel,*** is composed of a thin coating of glass fused to cast-iron or steel sheets, panels, tiles, or shingles. Although developed in the late 19th century, it was not commonly used in buildings until the late 1920s and 1930s for Art Deco and Art Moderne storefronts. Lustron houses, constructed of prefabricated, enameled steel panels and intended for mass production, were introduced in the late 1940s in anticipation of the need for housing after the war. These houses were promoted for their low maintenance, in part because the walls, ceilings, and other interior surfaces were also enameled steel panels and easily washable.

Glass

For centuries, only blown ***cylinder*** and ***crown*** glass in small pieces was available and it was expensive. Thus, the glass in early windows in American buildings consisted of small panes which gradually increased in size over the years. With the invention of cast plate glass in 1848, large plates of glass could be manufactured which were strong and inexpensive. ***Plate glass*** was first used in the early 1850s as the primary exterior material (with a cast-iron framework) for such structures as international exhibition buildings, worlds' fair pavilions, and greenhouses and conservatories. In the early 20th century, architects began using glass curtain walls in Art Moderne-style architecture and, most notably, the International Style. ***Tempered glass*** is a hardened or toughened glass which began to be used in building construction around 1940. By the middle of the 20th century, glass as a cladding system became synonymous with curtain wall systems.



In addition to clear glass—flat or sometimes curved—there is also stained glass, tinted, patterned, textured, etched, frosted, leaded, painted, colored opaque glass and spandrel glass, prism glass, decorative Val de Verre glass (colored art glass), ceramic frit (pigmented glass enamel fused to a glass surface), and glass block. Many of these types of glass can be found in windows, transoms, doors and entrances, and storefront display windows, whereas some of them—especially opaque, pigmented structural glass with trade names such as Vitrolite, Carrara Glass, and Sani Onyx—are more likely to appear as exterior cladding on Art Deco-style or Art Moderne storefronts. ***Spandrel glass*** was first introduced on mid-20th-century buildings, particularly in storefront and curtain wall systems. Glass was also used historically in skylights and monitors; in theater, hotel, and apartment building marquees and canopies; and as a component of lightning rods and weathervanes, address plates, and signage.

Glass features on the interior of historic buildings include transoms, windows, privacy screens, office dividers, wall partitions for borrowed light in office corridors, teller windows in banks, ticket windows in train stations and movie theaters, doorknobs, light fixtures, mirrored wall inlay, and also, beginning in the latter part of the 20th century, wall mosaics. Pigmented structural glass can be found in bathrooms and some kitchens because of its sanitary qualities.

Low-e (low emissivity) ***glass***, which is primarily used in windows to minimize solar gain, was developed in the last quarter of the 20th century. ***Impact-resistant glass*** is another more-recently developed type of glass designed to withstand hurricane-force wind and which can also be installed as a blast-resistant security feature.

Paint and Other Coatings

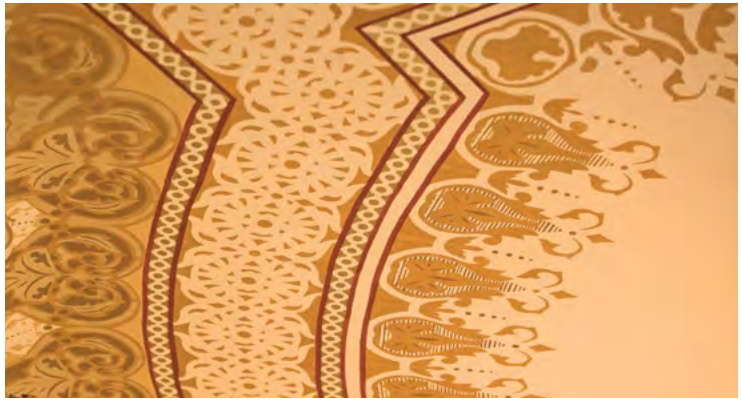
Paints and paint-like coatings have been used on historic buildings in America as protective coatings and for decorative treatments. What is commonly considered to be paint is a liquid consisting of a pigment which makes it opaque and colors it, a binder or base to hold it together, and sometimes a vehicle to carry the pigment. Many historic paints contained lead in the form of lead white, included as a "concealing" pigment that provided opacity, although zinc oxide was also used as an alternative. Lead increased durability and prevented mold and mildew. Titanium dioxide was sometimes used as a substitute for lead in the early 20th century, but lead continued to be an ingredient in most paints until it was banned as a hazardous substance in the U.S. in 1978. Traditional paints had an oil base, usually linseed, and the earliest paint colors were, for the most part, derived from natural pigments. Like today, both glossy and flat (or matte-finish) paints were used historically on the exterior and the interior of a building. After 1875, factory-made paints were readily available. Masonry and wood stains are traditional coatings which also consist of a pigment, a solvent, and little, if any, binder. They have a flat finish and are transparent rather than opaque so that the substrate is still visible.

Other historic paints, such as ***whitewash***, are water based and have a flat finish. In addition to water, whitewash is composed of hydrated (slaked) lime, salt, and various other materials and sometimes includes a natural pigment. Whitewash was used on interior plaster, in cellars, and on wood structural components, but not on wood doors, windows, or trim because its flat finish easily rubs off. Whitewash was also used on the exterior of brick or stone buildings, wood fences, and farm outbuildings as a protective coating. Often it was reapplied on an annual basis when it got dirty or if it wore off due to exposure to the weather. ***Calcimine*** (or ***kalsomine***) and ***distemper*** paints were also water based and included natural glues, gelatin, gums, and whiting to which colored pigments could be added. They were used only on the interior and usually on plaster surfaces. ***Casein*** is a milk-based paint composed of hydrated lime, pigment, often oil, and a variety of additives to increase its durability. It was used on both the exterior and the interior of buildings.

The interiors of historic buildings can exhibit a multitude of decorative painted treatments. Marbleized and grained finishes were applied to wood, stone, and plaster to give them the appearance of more exotic and costly materials. Other interior painted treatments, such as murals and stencils, are purely decorative. ***Tempera*** and ***gouache*** are traditional water-based paints used almost exclusively for decorative painting.

Experimentation that began early in the 20th century resulted in the development of acrylic water-based paint, commonly known as ***latex paint***. ***Oil-based/alkyd paint*** continues to be used in the 21st century and is still preferred for certain applications. Latex paint tends to be more popular not only because it is water-based (making clean up easy during and after painting), but it also has fewer toxic vapors and, like solvent-based oil/alkyd paints, is very durable.

Varnish, which is used primarily on interior wood features but also on exterior entrance doors, is another traditional coating. Unlike paint, varnish is transparent, composed of a resin, a drying oil, and a solvent. It has a glossy finish, which dulls over time.



Composite Materials: Plastic, Resin, and Vinyl; Fiber-Reinforced Cement Siding; Fiberboard; and Floor Coverings

Plastic is a malleable material composed of synthetic or natural organic materials made from various organic polymers, such as ***polyethylene*** and ***polyvinyl chloride*** (**PVC**), which can be poured into molds or rolled in sheets. It is generally agreed that the term ***plastic*** was introduced into popular usage in 1907 to describe the first fully synthetic plastic. Improved plastics were available in America by World War I. Production soared during World War II because plastics were needed to make up for the shortage of other materials. In mass production by the 1950s, the industry continued to expand with the development of increasingly more sophisticated plastics.

Vinyl siding came on the market in the late 1950s, and its use, primarily in residential construction, increased as the product improved over the years. Coating canvas awnings with vinyl helped to extend their lifespan, evolving, eventually, into awnings manufactured solely of vinyl. Plastic signs on the exterior of historic commercial buildings changed and radically expanded the role of signage as advertising as well as being important design features themselves. Plastic was used sometimes for decorative trim on storefronts. Vinyl-coated wallpaper was used as early as the 1920s and is still selected for restaurants, commercial spaces, and hospitals because it is durable and washable. Other plastic materials became popular in the 1950s in the form of plastic-laminate sheeting and wall tiles.

Fiber-reinforced plastic (***FRP***), is made of a polymer matrix mixed with fiber, usually ***fiberglass***, to add strength; it is noted for its ability to be molded in thin shells. FRP is sometimes used as a substitute material to recreate missing or deteriorated architectural features in historic buildings. ***Acrylic plastic*** is a transparent synthetic plastic, generally identified by one of its trade names—***Plexiglass*** or ***Lucite***—which was patented in the 1950s as an alternative to glass. ***Foamed polystyrene***, better known as ***Styrofoam***, was first used in the mid-1950s as building insulation.

Fiber-Reinforced Cement Siding is a composite material made of sand, cement, and cellulose fibers. It was developed in the latter part of the 20th century as a less-hazardous replacement for asbestos cement siding, which preceded it, and was used for siding and roofing shingles from the early 20th century to the 1970s. Fiber-reinforced cement siding is frequently installed in the form of horizontal boards or vertical panels as exterior siding. Fiber-reinforced cement is used on both residential and commercial buildings.

Fiberboard is a composite hardboard material made from pressure-molded wood fibers. It had early precedents in the late 18th century, but was first manufactured in large quantities in the 1920s, with its use expanding in the 1930s and 40s. Fiberboard (or wallboard, as it is commonly known) was marketed by various companies, such as ***Masonite***. It was used as sheathing for roofing and siding on the exterior, for insulation, and for interior walls.

The first composite floor covering was ***Linoleum***, made from oxidized linseed oil and ground cork or wood flour. Its manufacture in the U.S. began in the late 19th century, about the same time synthetic ***rubber floor tile*** was also introduced. ***Asphalt floor tiles*** were first used in the 1920s and remained popular into the 1950s. ***Plastic/vinyl*** replaced asphalt as a binder in floor tiles in the late 1920s, in part because plastic, unlike asphalt, could be made in lighter colors and a greater variety of colors. Semi-flexible vinyl flooring, manufactured in the form of tiles or rolled sheets, was developed by the 1930s. After the war, it became more affordable and frequently was chosen for both residential and commercial interiors.

Imitative Materials

Imitative building materials are generally common and readily available materials used to simulate a more expensive material. They have a long history in American building construction. ***Wood***, cut and planed and sometimes coated with a sand paint, has been used since the 18th century to replicate cut blocks of stone and quoins on the exterior of a building. ***Stucco***, applied over any kind of construction (from log to rubble masonry) and scored to resemble stone, could make even a log house look elegant. ***Cast iron*** and ***pressed metal***, whether as a complete façade, a storefront, or an individual feature such as a window hood, cornice, or decorative pilaster, were also used on the exterior of buildings to replicate stone. Not only ***architectural terra cotta***, but ***cast stone*** served as a substitute for stone. ***Metal*** and ***concrete*** roofing tiles were used as less-costly alternatives to clay roofing tiles.

In the 20th century, the use of exterior imitative materials expanded as new products were developed. ***Asphalt roll siding*** that resembled brick could be applied to a wood building, and ***asbestos composite shingles*** were produced to replace not only wood shingle siding, but also slate roofing shingles. ***Aluminum siding*** has been used as a replacement for wood siding, followed by ***vinyl siding***, ***pressed wood siding,*** and, more recently, ***composite*** or ***fiber-cement siding***. Manufactured ***faux slate roofing*** became popular because it costs less than slate and is lighter weight. Over the years, imitative materials have increased in variety as synthetic materials continue to be introduced, including a substitute, an ***exterior insulation and finish system*** (***EIFS***), for another imitative material—stucco. Imitative materials are also used to recreate missing or deteriorated architectural features in historic buildings.

On the interior, imitative materials, such as ***scored plaster***, were historically applied to walls to give the appearance of stone. ***Painted*** or ***marbleized finishes*** on plaster or wood could further simulate stone, and ***decorative graining*** could transform the surface of a common wood into a more exotic species. ***Scagliola***, which is often applied to brick columns, is a very old technique that uses a plaster-like composite material to simulate marble. ***Lincrusta***, an embossed wall covering, was developed in the late 19th century to simulate pressed metal. ***Embossed wall coverings*** continue to be produced in the 21st century. Concrete, vinyl, and other manufactured flooring materials are designed in many patterns and colors to replicate brick, stone, clay tile, and wood.

Roofs

The roof—with its form; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material—is an important design element of many historic buildings. In addition, a weathertight roof is essential to the long-term preservation of the entire structure. Historic roofing reflects availability of materials, levels of construction technology, climate, and cost.

Throughout all periods of American history, with only minor exception, ***wood*** has been used for roofing; despite the early use of many other materials, wood shingles remained the most common roofing material throughout much of the 19th century. Initially the species of wood used would have been specific to a region, but the quality and design of a building were usually the prime determinants in the way wood was used, ranging from wide, lapped boards to small, uniform, geometrically-shaped shingles.

Clay tile was used at least in a limited way in the first settlements on the East coast and it was manufactured in America by the mid 17th century. The Spanish influence in the use of clay roofing tiles is apparent in buildings in the south, southwest, and western parts of the country. ***Slate*** was also an early roofing material, but it was imported until the end of the 18th century when the first slate quarry opened. Both slate and tile roofs provided fire protection, especially important in urban areas. The use of slate expanded quickly in the second half of the 19th century with the development of the railroads, and it remained a preferred roofing material until the middle of the 20th century.

Lead and ***copper*** were the first metals used for roofing, later joined by ***zinc*** and ***iron*** in the beginning of the 19th century. Lead was used in the mid 19th century for flashing and sometimes for the roofs of bay windows, domed, or steeply-pitched sections of a larger roof, and steeples. Copper has continued in use for roofing, gutters, downspouts, and flashing.

Painted iron was initially used in large sheets, but it was replaced with smaller sheets of iron plated with ***tin*** or ***terne***—a lead-tin mix—which were a more successful roofing material. As plated iron and, later, ***steel*** became widely available, their light weight, fire resistance, and low cost made them the ideal alternative to wood shingles. ***Galvanized metal***—base steel coated with an alloy of zinc—gained widespread popularity in the 20th century. Galvanizing not only protects metal from rusting, but it also adds strength; corrugated sheet metal, when galvanized, became the preferred metal roofing material because it reduced the need for sheathing. Galvanized steel also could be stamped into sheets simulating shingles and clay tiles.

In the late 19th century, ***concrete*** roofing tiles began to be produced as a substitute for clay tiles. At about the same time, ***composition*** roofing (built-up or roll roofing) was developed. This is a layered assembly of felt sheets and coal tar or asphalt, topped with gravel that is suitable for waterproofing flat and low-sloped roofs. Shortly after the start of the 20th century, ***asbestos fiber cement*** and ***asphalt*** shingles came into use as less-expensive alternatives to slate. Later in the 20th century, sheets of ***modified bitumen*** and ***synthetic rubber*** provided more options for a flat roof. By the end of the 20th century, ***liquid*** and ***vinyl membranes*** were also installed on flat roofs, and ***synthetic recycled materials*** were used increasingly for both new and replacement roofs.

Windows

Technology and prevailing architectural styles shaped the history of windows in America. The earliest windows were essentially medieval in their form. Small panes of glass, usually diamond-shaped and held together with lead, were set in a hinged casement sash of wood or iron. By the beginning of the 18th century, the glass had increased in size and had become rectangular, with putty holding it in place. Wood muntins replaced lead cames between the panes, and two sashes were placed in a frame where the lower one could slide vertically. Such simple windows remained common in utilitarian buildings well into the 20th century. With the introduction of iron pulleys, the sash could be hung from cords connected to counterweights, which resulted in single-hung windows, or double hung when both sashes were counterbalanced.

Sash increased in depth as it evolved, providing additional strength that allowed narrower muntins. As the production of glass (blown initially as a disk and later as a cylinder) improved, larger pieces of glass became more affordable, resulting in fewer panes of glass in a window. A sash that would have had twelve panes of glass in the 18th century often had only two by the mid 19th century. After about 1850, with the advent of mass-produced millwork, standard profiles and sizes of windows were established with a wide variety of designs and glazing configurations that could be purchased from catalogues. The Chicago window, which featured a large fixed pane of glass in the center with a narrow, double-hung, operable sash window on either side of it, was introduced in the last decades of the 19th century as a feature of the Chicago School-style of architecture. The picture window, popular in ranch-style houses in the mid 20th century, evolved from this.

Steel was employed beginning at the end of the 19th century to build fire-resistant windows in tight urban environments. These hollow-core windows were frequently galvanized. Windows with solid, rolled steel sections were first produced in the first decade of the 20th century in many forms, ranging from casements (especially popular in domestic construction) to large, multi-pane units that provided whole walls of natural light in industrial and warehouse buildings. Operable vents in these large windows pivoted on simple pins. Their relatively small panes and the fact that they were puttied in from the interior made the inevitable breakage easy and inexpensive to repair. Rolled steel was also used for double-hung windows, which were common in high-rise buildings in the 1920s and beyond. Aluminum windows were developed in the 1930s and, by the 1970s, rivaled wood in popularity, particularly in commercial and institutional buildings. They were produced in a variety of styles and functionality, including casement, hopper, awning, and double-hung sash.

Metal-clad (initially copper) wood windows appeared early in the 20th century but were not common until the later part of the century, when enameled aluminum cladding replaced copper. Although used primarily as replacements in older buildings, vinyl windows were developed in the latter part of the 20th century and marketed as inexpensive and thermally efficient. Modern windows are also made of fiberglass and polymer-based composites.

Storm windows were used historically and are still used to help regulate interior temperatures. Limited commercial use of thermal-pane or insulated glass in windows began in the 1930s, but it was not readily available until about 1950. Tempered glass also came into use about this time. Since then, work has continued to improve its efficiency and to reduce the effect of ultra-violet rays with tinted and low-e (low emissivity) glass. Impact-resistant glass is not new, but its use in windows continues to expand to meet modern hurricane code requirements as well as protection and security requirements.

Entrances and Porches

Entrances and porches are often the focus of historic American buildings. With their functional and decorative features (such as doors, steps, balustrades, columns, pilasters, and entablatures), they can be extremely important in defining the historic character of a building. In many cases, porches were also energy-saving features and remain so today, shading southern and western elevations. Usually, entrances and porches were integral components of a historic building's design; for example, porches on Greek Revival houses, with pediments and Doric or Ionic columns, echoed the architectural elements and features of the building itself. Center, single-bay porches or arcaded porches are evident in Italianate-style buildings of the 1860s. Doors of Renaissance Revival-style buildings frequently featured entablatures or pediments. Porches characterized by lathe-turned porch posts, railings, and balusters were especially prominent and decorative features of Eastlake, Queen Anne, and Stick-style houses. Deep porches on bungalows and Craftsman-style houses of the early 20th century feature tapered posts, exposed posts and beams, rafter tails, and low-pitched roofs with wide overhangs.

Late 19th- and early 20th-century high-rise buildings are often distinguished by highly-ornamented entrances, some with revolving doors, which were introduced around the turn of the 20th century. Some commercial structures in the early- to mid-20th century have recessed entrances with colorful terrazzo flooring. Entrances to Art Deco-style residential and commercial buildings often feature stylized glass and stainless-steel doors with geometric designs. Entrances on modernist buildings may have simple glazing and, frequently, projecting concrete or metal canopies.

Porches can have regional variations, not only in style, but also in nomenclature. For instance, in Hawaii, ***lanai*** is used to describe a type of porch which might be known as a ***veranda*** in some parts of the South, a ***piazza*** in Charleston, or a ***gallery*** in New Orleans.

Storefronts

The storefront is often the most prominent feature of a historic commercial building, playing a crucial role in a store's advertising and merchandising strategy. The earliest storefronts in America, dating from the late 18th and early 19th centuries, had small, residential-style windows with limited display space. A few featured oriel windows or glass vitrine cases (sometimes added later) that projected out from the façade. Early storefront systems were frequently wood. In the 19th century, storefront display windows progressively increased in size as plate glass became available in larger units. This reflected the fact that cast-iron columns and lintels were thinner, allowing larger sheets of glazing that became available at about the same time. In some regions, storefronts and the entire building façade were constructed entirely of cast iron, later followed by galvanized metal, copper, bronze, and aluminum.

Historic storefront systems have many different configurations: they may have multiple entrance doors (including one to access an upstairs apartment if one exists); they may be symmetrical or asymmetrical; and entrances may be flush or recessed from the shop's windows. Transoms, sometimes with prism glass, are often a component of storefronts. In the 19th century, awnings added another feature to the storefront. Permanent metal canopies attached to the façade or supported by free-standing posts or columns, as well as retractable canvas awnings, provided shelter for customers and merchandise alike. As the 20th century progressed, new storefront designs were introduced, some with deeply recessed entrances with expanded display cases or "floating display islands." In the 1920s, 1930s, and later, structural pigmented glass such as Carrara Glass, Vitrolite, and Sani Onyx; aluminum and stainless steel; porcelain enamel; glass block; neon signs; and other new materials were introduced in Art Deco-style and Art Moderne storefronts. Modular storefront systems were introduced after World War II.

Storefronts are typically altered more than any other building feature to reflect the latest architectural styles and appear up-to-date to attract customers. Older storefronts were often remodeled with a new design and materials by installing pigmented structural glass, for instance, and other 20th-century materials. These altered storefronts may have acquired significance in their own right and, in this case, should be retained.

Curtain Walls

Curtain wall construction was originally based on a steel framework. Today, most curtain wall construction utilizes an extruded aluminum framework, which became popular in the 1930s in the U.S. and came into its own after World War II. A curtain wall is not a structural system and, although it is self supporting, does not carry the weight of the building. Rather, it is an exterior wall hung or attached to the structural system. Curtain wall construction most frequently employs glass, metal panels, thin stone veneer, and other cladding materials, although louvers and vents, like glass panels, can also be set into the metal framework. Newer curtain wall systems may incorporate rain screens and glass fiber reinforced concrete panels (GFRC). Because curtain wall construction uses relatively lightweight and less expensive materials, it reduces building costs, which, in part, explains its popularity.

There are essentially two types of curtain wall systems: ***stick*** systems and ***unitized*** or ***modular*** systems. A ***stick*** system is a framing system composed of long metal pieces (sticks) put together individually using vertical pieces (mullions) between floors and horizontal pieces between the vertical members. The framing members may sometimes be assembled in a factory, but the installation and glazing is done on site. A ***unitized*** or ***modular*** curtain wall system consists of ready-to-hang, pre-assembled modules which already include glazing or other panel infill. These modular units are usually one story in height and approximately five- to six-feet wide. Both types of curtain walls are attached to floor slabs or columns with field-drilled bolts in mated, adjustable anchor brackets.

Glass panels in curtain wall systems can be fixed or operable and can include spandrel glass, clear, or tinted glass. Stone veneer panels may be slate, granite, marble, travertine, or limestone. Metal panels can be aluminum plate, stainless steel, copper, or other non-corrosive types of metal. Other materials used in curtain wall systems include composite panels (such as honeycomb composite panels, consisting of two thin sheets of aluminum bonded to a thin plastic layer or rigid insulation in the middle); architectural terra cotta; glazed ceramic tile; and fiber-reinforced plastic (FRP).

Structural Systems

Numerous types of structural systems have been employed in the construction of buildings throughout American history. Some systems and building methods overlapped, and many remained in use for years. These systems—listed according to the period when they were first introduced—include but are not limited to: ***wood-frame*** construction (17th century), ***load-bearing masonry*** construction (18th century), ***balloon-frame*** construction (19th century), ***brick cavity-wall*** construction (19th century), ***heavy-timber post and beam*** industrial construction (19th century), ***fireproof iron*** construction (19th century), ***heavy masonry and steel*** construction (19th century), ***skeletal steel construction*** (19th century), ***light frame and veneer brick*** construction (20th century), and ***cast-in-place concrete, concrete block,*** and ***slab and post*** construction (20th century).

Exposed iron and steel structural systems are character defining in many utilitarian and industrial structures of the late 19th and early 20th centuries that have large open interior spaces, such as train sheds and armories. Exposed wood structural systems became an important interior decorative element during the Arts and Crafts period and in Craftsman-style bungalows in the early 20th century. Exposed cast-concrete structural systems and system components define the character of many industrial interiors and, later, other interior spaces in 20th-century buildings.

If features of the historic structural system are exposed (such as load-bearing brick walls, cast-iron columns, roof trusses, posts and beams, vigas, and outriggers, or masonry foundation walls), they are likely to be important in defining the building's overall historic character. A concealed structural system, although not character defining, may still be significant as an example of historic building technology.

Mechanical Systems

Mechanical, lighting, and plumbing systems improved significantly with the onset of the Industrial Revolution. The 19th-century interest in hygiene, personal comfort, and reducing the spread of disease resulted in the development of central heating, piped water, piped gas, and networks of underground cast-iron sewers in urban areas. The mass production of cast-iron radiators made central heating affordable to many. By the turn of the 20th century, it was common for heating, lighting, and plumbing to be an integral part of most buildings.

The increasing availability of electricity as the 20th century progressed had a tremendous effect on the development of mechanical systems and opened up a new age of technology. Electric lighting brightened the interiors of all types of buildings, as well as building exteriors, their sites, and settings. Electricity not only improved heating systems, but in the 1920s it also brought central air conditioning to movie theaters and auditoriums, where it was first installed. By the middle of the 20th century, forced-air systems provided both heat and cooling in many buildings. In the late 20th century, as HVAC systems increased in efficiency, they decreased in size, with smaller components, such as split ductless systems with wall-mounted air handlers, cassette ceiling-mounted diffusers, or high-velocity mini duct systems. These systems can be especially useful for retrofitting historic buildings because they are small and unobtrusive. Heat pumps, another late-20th century invention, can help to supplement existing HVAC systems.

Replacing hydraulic elevators, which were invented in the mid-19th century, with electric elevators in the early decades of the 20th century resulted in a boom in the construction of taller high-rise buildings and skyscrapers. Escalators, also invented in the mid 19th century, became more and more common as the 20th century advanced. By the latter part of the century, moving walkways helped facilitate travelers' passage from one place to another in transportation centers, such as airports.

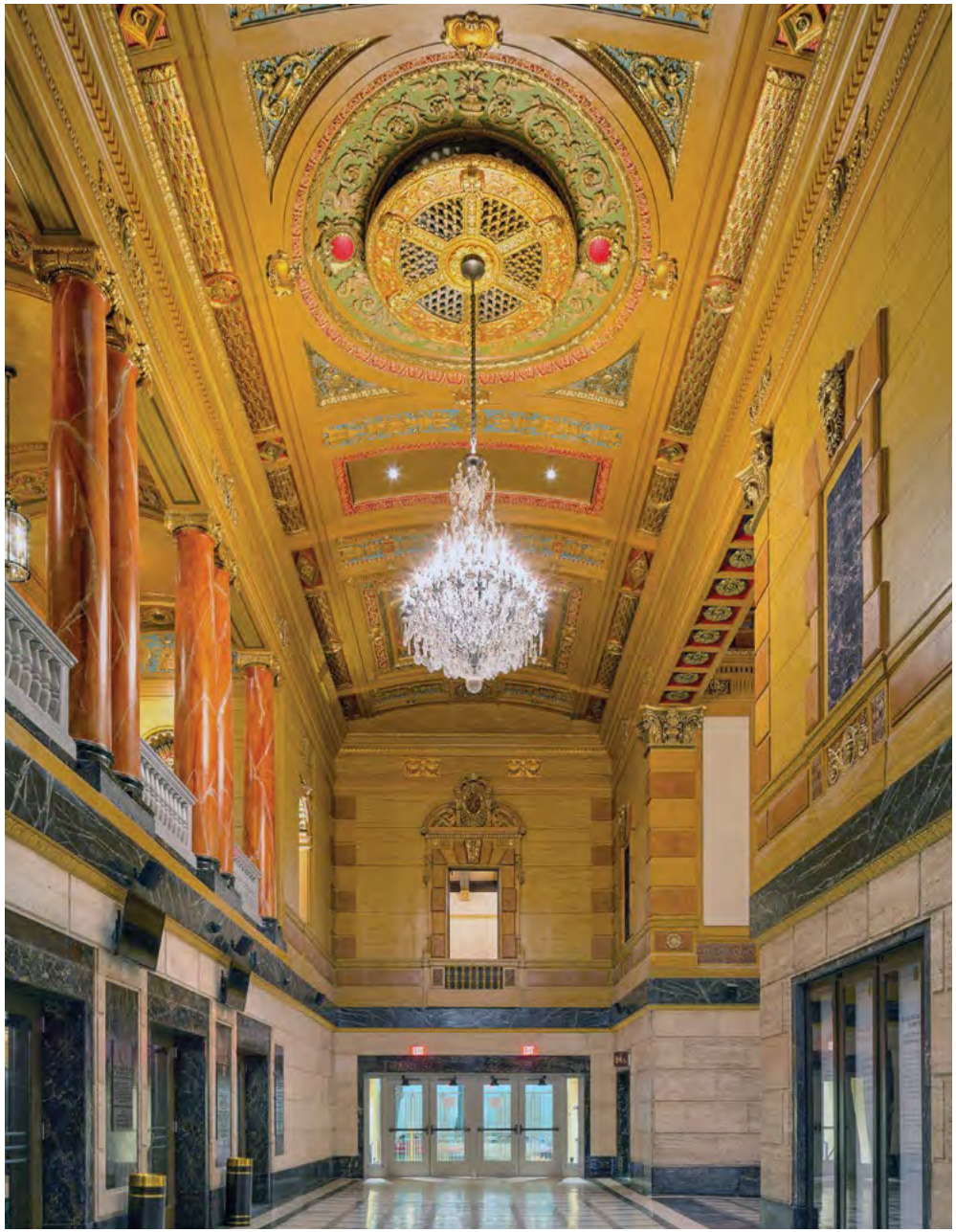
The visible decorative features that remain of historic mechanical systems (such as grilles, lighting fixtures, elevator doors, and escalators) themselves may contribute to the overall historic character of the building and should be retained when feasible. Reusing an existing, functioning system and upgrading it as needed, should always be considered when feasible. However, because a mechanical system needs to work efficiently, most historic or older systems will likely need to be replaced to meet modern requirements.

INTERIOR SPACES, FEATURES, AND FINISHES

Spaces

The earliest buildings in America were very basic and likely to have only one or, perhaps, two rooms. As communities became more established and prosperous, buildings—houses in particular—increased in size, and construction became more elaborate and sophisticated, reflecting the wealth and tastes of individual owners. Larger buildings inevitably included multiple rooms designed to accommodate a variety of purposes. Thus, the interior floor plan, the arrangement and sequence of spaces, and built-in features and applied finishes are individually and collectively important in defining the historic character of the building. With the exception of most historic utilitarian buildings, manufacturing and industrial buildings, garages, and maintenance facilities, interiors are typically composed of a series of primary and secondary spaces. This succession of spaces is applicable to many historic buildings, from courthouses to cathedrals to cottages and commercial structures. Primary spaces, including entrance halls, lobbies, double parlors, living rooms, corridors, and assembly spaces, are defined not only by their function, but also by their location, features, finishes, size, and proportion.

Secondary spaces in historic interiors are generally more functional than decorative and, depending on the building's use, may include kitchens, bathrooms, utility rooms, attics, basements, mail rooms, rear hallways, and most office spaces. Although these spaces were important to how the building functioned historically, they are generally less significant than primary spaces and, thus, are usually the most appropriate places to make changes which may be necessary in a historic building, such as those required to meet code or to install mechanical equipment. The traditional sequence of interior spaces in late 19th- through early 20th-century high-rise buildings went from public areas (such as the lobby) on the first floor



and corridors on upper floors to the private spaces behind them (i.e., offices, apartments, or hotel rooms). This hierarchy of spaces continues to define the historic character of many high-rise buildings. However, in commercial structures built on speculation with open floor plans, the upper floors, especially, are likely to have been reconfigured many times. In some cases, these interiors may have little historic character but, in others, the spaces and their appearance may have acquired significance because of a specific tenant, use (such as a boardroom or executive office), or an event.

Features and Finishes

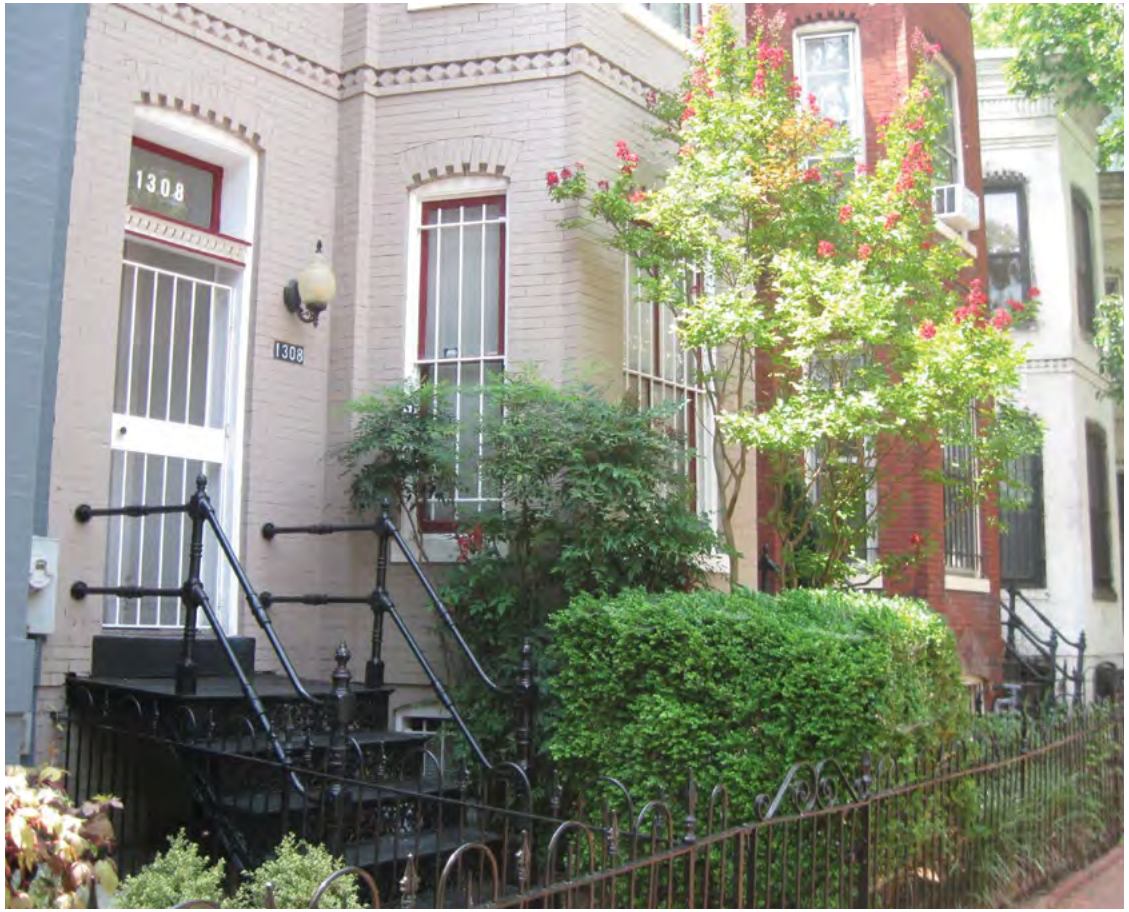
Historic character-defining features and finishes can range from very elaborate to very simple and plain, or from formal to utilitarian. The interior features that are important to a particular building generally reflect its original or historic use. Thus, the interior features and finishes of industrial and factory buildings are basic and practical, with exposed structural systems; wood, brick, or concrete walls and floors; large windows or monitors with clerestory windows to provide natural light; and minimal or no door and window surrounds. Commercial, office, hotel, and high-rise apartment buildings have public spaces that often include highly-decorated lobbies, elevator lobbies with marble flooring, wood or marble wainscoting in the upper corridors and, particularly in office buildings, offices separated from hallways by heavy doors with glass transoms and glass wall partitions for borrowed light. The repetitive pattern itself of the corridors on the upper floors in these multi-story buildings is also often significant in defining their historic character. Individual historic residential structures frequently have painted plaster walls and ceilings, door and window trim, fireplaces with mantels, wood flooring, and a staircase if the house has more than one story. Some mid-to late-20th-century houses that are less traditional in design have simpler and less-ornamented interiors.

Building Site

The building site consists of a historic building or buildings, structures, and associated landscape features and their relationship within a designed or legally-defined parcel of land. A site may be significant in its own right or because of its association with the historic building or buildings.

Setting (District/Neighborhood)

The setting is the larger area or environment in which a historic building is located. It may be an urban, suburban, or rural neighborhood or a natural landscape in which buildings have been constructed. The relationship of buildings to each other, setbacks, fence patterns, views, driveways and walkways, and street trees and other landscaping together establish the character of a district or neighborhood.



Special Requirements: Code-Required Work

Sensitive solutions to meeting code requirements are an important part of protecting the historic character of the building. Thus, work that must be done to meet accessibility and life-safety requirements must always be assessed for its potential impact on the historic building.

Accessibility

It is often necessary to make modifications to a historic building to make it compliant with accessibility code requirements. Federal rules, regulations, and standards provide guidance on how to make historic buildings accessible. Work must be carefully planned and undertaken in a manner that results in minimal or no loss of historic exterior and interior character-defining spaces, features, or finishes. The goal should be to provide the highest level of access with the least impact to the historic building.

Life Safety

When undertaking work on historic buildings, it is also necessary to consider the impact that meeting life-safety codes (public health, occupational health, life safety, electrical, seismic, structural, and building codes) will have on both exterior and interior spaces, features, and finishes. Historic building materials that are hazardous, such as lead paint and asbestos, will require abatement or encapsulation. Some newer life-safety codes are more flexible and allow greater leniency for historic buildings when making them code compliant. It is also possible that there may be an alternative approach to meeting codes that will be less damaging to the historic building. Coordinating with code officials early in project planning will help ensure that code requirements can be met in a historic building without negatively impacting its character.

Resilience to Natural Hazards

The potential future impacts of natural hazards on a historic building should be carefully evaluated and considered. If foreseeable loss, damage, or destruction to the building or its features can be reasonably anticipated, treatments should be undertaken to avoid or minimize the impacts and to ensure the continued preservation of the building and its historic character. In some other instances, the effects may be minimal or more gradual and the impacts unknown or not anticipated to affect the property until sometime in the future. In all instances, a building should be maintained in good condition and monitored regularly, and historic documentation should be prepared as a record of the building and to help guide future treatments.

Some impacts of natural hazards may be particularly sudden and destructive to a historic building (such as riverine flash flooding, coastal storm surge, an earthquake, or a tornado) and may require adaptive treatments that are more invasive. When a treatment is proposed for a building that addresses such potential impacts and will affect the building's historic character, other feasible alternatives that would require less change should always be considered first. In some instances, a certain degree of impact on a building's historic character may be necessary to ensure its retention and continued preservation. In other instances, a proposed treatment may have too great an impact to preserve the historic character of the building. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. Some historic buildings may have been altered previously or be in regions where it has been traditional to adapt buildings frequently subject to damage from natural hazards, such as flooding. All these factors should be taken into consideration when planning preventive treatments. The goal should always be to minimize the impacts to the building's historic character to the greatest extent possible in adapting the building to be more resilient.

Sustainability

Before implementing any energy improvements to enhance the sustainability of a historic building, the existing energy-efficient characteristics of the building should be evaluated. Historic building construction methods and materials often maximized natural sources of heating, lighting, and ventilation to respond to local climatic conditions. The key to a successful project is to identify and understand any lost original and existing energy-efficient aspects of the historic building, as well as to identify and understand its character-defining features to ensure they are taken into account. The most sustainable building may be one that already exists. Thus, good preservation practice is very often synonymous with sustainability. There are numerous treatments—traditional as well as new technological innovations—that may be used to upgrade a historic building to help it operate more efficiently while retaining its character.

The topic of sustainability is addressed in detail in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings.* Although specifically developed for the treatment Rehabilitation, the Sustainability Guidelines can be used to help guide the other treatments.

New Exterior Additions and Related New Construction

A new exterior addition to a historic building should be considered in a rehabilitation project only after determining that requirements for a new or continuing use cannot be successfully met by altering non-significant interior spaces. If the existing building cannot accommodate such requirements in this way, then an exterior addition or, in some instances, separate new construction on a site may be acceptable alternatives.

A new addition must preserve the building's historic character, form, significant materials, and features. It must be compatible with the massing, size, scale, and design of the historic building while differentiated from the historic building. It should also be designed and constructed so that the essential form and integrity of the historic building would remain if the addition were to be removed in the future. There is no formula or prescription for designing a compatible new addition or related new construction on a site, nor is there generally only one possible design approach that will meet the Standards.

New additions and related new construction that meet the Standards can be any architectural style—traditional, contemporary, or a simplified version of the historic building. However, there must be a balance between differentiation and compatibility to maintain the historic character and the identity of the building being enlarged.

New additions and related new construction that are either identical to the historic building or in extreme contrast to it are not compatible. Placing an addition on the rear or on another secondary elevation helps to ensure that it will be subordinate to the historic building. New construction should be appropriately scaled and located far enough away from the historic building to maintain its character and that of the site and setting. In urban or other built-up areas, new construction that appears as infill within the existing pattern of development can also preserve the historic character of the building, its site, and setting.

STANDARDS FOR PRESERVATION & GUIDELINES FOR PRESERVING HISTORIC BUILDINGS

Preservation

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Standards for Preservation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Work needed to stabilize, consolidate and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

GUIDELINES FOR PRESERVING HISTORIC BUILDINGS

INTRODUCTION

Preservation is the appropriate treatment when the objective of the project is to retain the building as it currently exists. This means that not only the original historic materials and features will be preserved, but also later changes and additions to the original building. The expressed goal of the **Standards for Preservation and Guidelines for Preserving Historic Buildings** is retention of the building's existing form, features, and materials. This may be as simple as maintaining existing materials and features or may involve more extensive repair. Protection, maintenance, and repair are emphasized while replacement is minimized.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Preservation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained to preserve that character. Therefore, guidance on ***identifying, retaining, and preserving*** character-defining features is always given first.

Stabilize Deteriorated Historic Materials and Features as a Preliminary Measure

Deteriorated portions of a historic building may need to be protected through preliminary stabilization measures until additional work can be undertaken. ***Stabilizing*** may begin with temporary structural reinforcement and progress to weatherization or correcting unsafe conditions. Although it may not be necessary in every preservation project, stabilization is nonetheless an integral part of the treatment **Preservation**; it is equally applicable to the other treatments if circumstances warrant.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of **Preservation** work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. Protection includes the maintenance of historic materials and features as well as ensuring that the property is protected before and during preservation work.

Repair (Stabilize, Consolidate, and Conserve) Historic Materials and Features

Next, when the physical condition of character-defining materials and features warrants additional work, ***repairing*** by ***stabilizing, consolidating, and conserving*** is recommended. The intent of **Preservation** is to retain existing materials and features while introducing as little new material as possible. Consequently, guidance for repairing a historic material, such as masonry, begins with the least degree of intervention possible, such as strengthening materials through consolidation, when necessary, or repointing with mortar of an appropriate strength. Repairing masonry, as well as wood and metal features, may include patching, splicing, or other treatments using recognized preservation methods. All work should be physically and visually compatible.

Limited Replacement in Kind of Extensively Deteriorated Portions of Historic Features

The greatest level of intervention in this treatment is the ***limited replacement in kind*** of extensively deteriorated or missing components of features when there are surviving prototypes or when the original features can be substantiated by documentary and physical evidence. The replacement material must match the old, both physically and visually (e.g., wood with wood). Thus, with the exception of hidden structural reinforcement, such as steel rods, substitute materials are not appropriate in the treatment **Preservation.** If prominent features are missing, such as an interior staircase or an exterior cornice, then a Rehabilitation or Restoration treatment may be more appropriate.

Code-Required Work: Accessibility and Life Safety

These sections of the **Preservation** guidance address work that must be done to meet accessibility and life-safety requirements. This work may be an important aspect of preservation projects, and it, too, must be assessed for its potential negative impact on the building's character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code requirements.

Resilience to Natural Hazards

Resilience to natural hazards should be addressed as part of a **Preservation** project. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. These should always be used to best advantage when planning new adaptive treatments so as to have the least impact on the historic character of the building, its site, and setting.

Sustainability

Sustainability should be addressed as part of a **Preservation** project. Good preservation practice is often synonymous with sustainability. Existing energy-efficient features should be retained and repaired. New sustainability treatments should generally be limited to updating existing features and systems so as to have the least impact on the historic character of the building.

The topic of sustainability is addressed in detail in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings*. Although specifically developed for the treatment Rehabilitation, the Sustainability Guidelines can be used to help guide the other treatments.

Preservation as a Treatment. *When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment. Prior to undertaking work, a documentation plan for Preservation should be developed.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving masonry features that are important in defining the overall historic character of the building (such as walls, brackets, railings, cornices, window and door surrounds, steps, and columns) and decorative ornament and other details, such as tooling and bonding patterns, coatings, and color.	Altering masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic masonry features instead of repairing or replacing only the deteriorated masonry. Applying paint or other coatings (such as stucco) to masonry that has been historically unpainted or uncoated. Removing paint from historically-painted masonry.
Stabilizing deteriorated or damaged masonry as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged masonry until additional work is undertaken, thereby allowing further damage to occur to the historic building
Protecting and maintaining masonry by ensuring that historic drainage features and systems that divert rainwater from masonry surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly.	Failing to identify and treat the causes of masonry deterioration, such as leaking roofs and gutters or rising damp.
Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.	Cleaning masonry surfaces when they are not heavily soiled to create a "like-new" appearance, thereby needlessly introducing chemicals or moisture into historic materials.
Carrying out masonry cleaning tests when it has been determined that cleaning is appropriate. Test areas should be examined to ensure that no damage has resulted and, ideally, monitored over a sufficient period of time to allow long-range effects to be predicted.	Cleaning masonry surfaces without testing or without sufficient time for the testing results to be evaluated.

[1] A test patch should always be done before using a chemical cleaner to ensure that it will not damage historic masonry, as in this instance, terra cotta.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Cleaning soiled masonry surfaces with the gentlest method possible, such as using low-pressure water and detergent and natural bristle or other soft-bristle brushes.	Cleaning or removing paint from masonry surfaces using most abrasive methods (including sandblasting, other media blasting, or high-pressure water) which can damage the surface of the masonry and mortar joints. Using a cleaning or paint-removal method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures. Cleaning with chemical products that will damage some types of masonry (such as using acid on limestone or marble), or failing to neutralize or rinse off chemical cleaners from masonry surfaces.
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Allowing only trained conservators to use abrasive or laser-cleaning methods, when necessary, to clean hard-to-reach, highly-carved, or detailed decorative stone features.	

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand scraping) prior to repainting.	Removing paint that is firmly adhered to masonry surfaces.
Applying compatible paint coating systems to historically-painted masonry following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting masonry features.
Repainting historically-painted masonry features with colors that are appropriate to the building and district.	Using paint colors on historically-painted masonry features that are not appropriate to the building or district.
Protecting adjacent materials when working on masonry features.	Failing to protect adjacent materials when working on masonry features.
Evaluating the overall condition of the masonry to determine whether more than protection and maintenance, such as repairs to masonry features, will be necessary.	Failing to undertake adequate measures to ensure the protection of masonry features.
Repairing masonry by patching, splicing, consolidating, or otherwise reinforcing the masonry using recognized preservation methods.	Removing masonry that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks, or damaged plaster on the interior.	Removing non-deteriorated mortar from sound joints and then repointing the entire building to achieve a more uniform appearance.
Removing deteriorated lime mortar carefully by hand raking the joints to avoid damaging the masonry.	

[2] **Not Recommended:** The use of inappropriate Portland cement mortar to repoint these soft 19th-century bricks has caused some of them to spall. *Photo: Courtesy Nebraska State Historic Preservation Office.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using power tools only on horizontal joints on brick masonry in conjunction with hand chiseling to remove hard mortar that is deteriorated or that is a non-historic material which is causing damage to the masonry units. Mechanical tools should be used only by skilled masons in limited circumstances and generally not on short, vertical joints in brick masonry.	Allowing unskilled workers to use masonry saws or mechanical tools to remove deteriorated mortar from joints prior to repointing.
Duplicating historic mortar joints in strength, composition, color, and texture when repointing is necessary. In some cases, a lime-based mortar may also be considered when repointing Portland cement mortar because it is more flexible.	Repointing masonry units with mortar of high Portland cement content (unless it is the content of the historic mortar).
Duplicating historic mortar joints in width and joint profile when repointing is necessary.	Using "surface grouting" or a "scrub" coating technique, such as a "sack rub" or "mortar washing," to repoint exterior masonry units instead of traditional repointing methods. Changing the width or joint profile when repointing.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.	Removing sound stucco or repairing with new stucco that is different in composition from the historic stucco. Patching stucco or concrete without removing the source of deterioration. Replacing deteriorated stucco with synthetic stucco, an exterior insulation and finish system (EIFS), or other non-traditional materials.
Using mud plaster or a compatible lime-plaster adobe render, when appropriate, to repair adobe.	Applying cement stucco, unless it already exists, to adobe.
Sealing joints in concrete with appropriate flexible sealants and backer rods, when necessary.	Repointing masonry units (other than concrete) with a synthetic caulking compound instead of mortar.

[3] **Not Recommended:** Cracks in the stucco have not been repaired, thereby allowing ferns to grow in the moist substrate which will cause further damage to the masonry.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Cutting damaged concrete back to remove the source of deterioration, such as corrosion on metal reinforcement bars. The new patch must be applied carefully so that it will bond satisfactorily with, and match, the historic concrete.	Patching damaged concrete without first removing the source of deterioration.
Using a non-corrosive, stainless-steel anchoring system when replacing damaged stone, concrete, or terra-cotta units that have failed.	

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Applying non-historic surface treatments, such as water-repellent coatings, to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.	Applying waterproof, water-repellent, or non-original historical coatings (such as stucco) to masonry as a substitute for repointing and masonry repairs.
Applying permeable, anti-graffiti coatings to masonry when appropriate.	Applying water-repellent or anti-graffiti coatings that change the appearance of the masonry or that may trap moisture if the coating is not sufficiently permeable.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of masonry features when there are surviving prototypes, such as terra-cotta brackets or stone balusters, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire masonry feature, such as a column or stairway, when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic masonry feature.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving wood features that are important in defining the overall historic character of the building (such as siding, cornices, brackets, window and door surrounds, and steps) and their paints, finishes, and colors.	Altering wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic wood features instead of repairing or replacing only the deteriorated wood. Changing the type of finish, coating, or historic color of wood features

[4] Hand scraping to remove peeling paint from wood siding in preparation for repainting is an important part of regularly-scheduled maintenance.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Stabilizing deteriorated or damaged wood as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged wood until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining wood features by ensuring that historic drainage features that divert rainwater from wood surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly. Finding and eliminating sources of moisture that may damage wood features, such as clogged gutters and downspouts, leaky roofs, or moisture-retaining soil that touches wood around the foundation.	Failing to identify and treat the causes of wood deterioration, such as faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungal infestation.
Finding and eliminating sources of moisture that may damage wood features, such as clogged gutters and downspouts, leaky roofs, or moisture-retaining soil that touches wood around the foundation.	
Applying chemical preservatives or paint to wood features that are subject to weathering, such as exposed beam ends, outriggers, or rafter tails.	Using chemical preservatives (such as creosote) which, unless they were used historically, can change the appearance of wood features.

[5] Rotted wood shingles have been replaced in kind with matching wood shingles.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Implementing an integrated pest management plan to identify appropriate preventive measures to guard against insect damage, such as installing termite guards, fumigating, and treating with chemicals. Retaining coatings (such as paint) that protect the wood from moisture and ultraviolet light. Paint removal should be considered only when there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate coatings	Stripping paint or other coatings from wood features without recoating.
Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (e.g., hand scraping and hand sanding) prior to repainting.	Using potentially-damaging paint-removal methods on wood surfaces, such as open-flame torches, orbital sanders, abrasive methods (including sandblasting, other media blasting, or high-pressure water), or caustic paint-removers. Removing paint that is firmly adhered to wood surfaces.
Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding, and thermal devices.	Failing to neutralize the wood thoroughly after using chemical paint removers so that new paint may not adhere. Removing paint from detachable wood features by soaking them in a caustic solution which can roughen the surface, split the wood, or result in staining from residual acid leaching out through the wood.
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	Using a thermal device to remove paint from wood features without first checking for and removing any flammable debris behind them.
Using thermal devices (such as infrared heaters) carefully to remove paint when it is so deteriorated that total removal is necessary prior to repainting.	Using thermal devices without limiting the amount of time the wood feature is exposed to heat.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

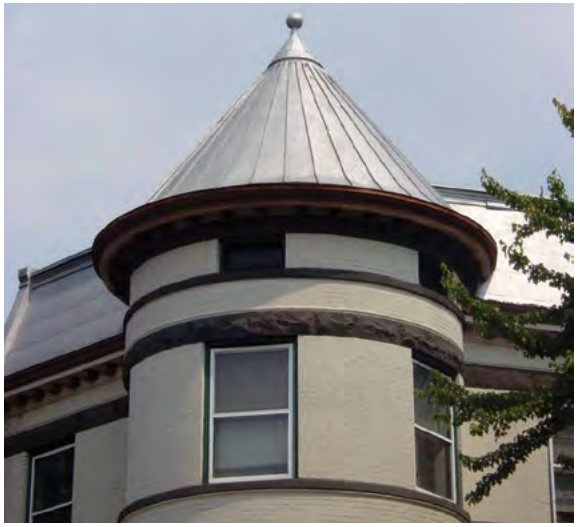
RECOMMENDED	NOT RECOMMENDED
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Applying compatible paint coating systems to historically-painted wood following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting wood features.
Repainting historically-painted wood features with colors that are appropriate to the building or district.	Using paint colors on historically-painted wood features that are not appropriate to the building or district.
Protecting adjacent materials when working on wood features.	Failing to protect adjacent materials when working on wood features.
Evaluating the overall condition of the wood to determine whether more than protection and maintenance, such as repairs to wood features, will be necessary.	Failing to undertake adequate measures to ensure the protection of wood features.
Repairing wood by patching, splicing, consolidating, or otherwise reinforcing the wood using recognized preservation methods.	Removing wood that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind (i.e., with wood, but not necessarily the same species) extensively deteriorated or missing components of wood features when there are surviving prototypes, such as brackets, molding, or sections of siding, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish	Replacing an entire wood feature, such as a column or stairway, when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic wood feature.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving metal features that are important in defining the overall historic character of the building (such as columns, capitals, pilasters, spandrel panels, or stairways) and their paint, finishes, and colors. The type of metal should be identified prior to work because each metal has its own properties and may require a different treatment.	Altering metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic metal features instead of repairing or replacing only the deteriorated metal. Changing the type of finish, coating, or historic color of metal features.
Stabilizing deteriorated or damaged metal as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged metals until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.	Failing to identify and treat the causes of corrosion, such as moisture from leaking roofs or gutters. Placing incompatible metals together without providing an appropriate separation material. Such incompatibility can result in galvanic corrosion of the less noble metal (e.g., copper will corrode cast iron, steel, tin, and aluminum).
Cleaning metals, when necessary, to remove corrosion prior to repainting or applying other appropriate protective coatings.	Failing to reapply coating systems after cleaning metals that require protection from corrosion. Removing the patina from historic metals. The patina may be a protective layer on some metals (such as bronze or copper) as well as a distinctive finish.
Identifying the particular type of metal prior to any cleaning procedure and then testing to ensure that the gentlest cleaning method possible is selected; or, alternatively, determining that cleaning is inappropriate for the particular metal.	Using cleaning methods which alter or damage the historic color, texture, and finish of the metal, or cleaning when it is inappropriate for the particular metal.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Using non-corrosive chemical methods to clean soft metals (such as lead, tinplate, terneplate, copper, and zinc) whose finishes can be easily damaged by abrasive methods.	Cleaning soft metals (such as lead, tinplate, terneplate, copper, and zinc) with abrasive methods (including sandblasting, other media blasting, or high-pressure water) which will damage the surface of the metal.
Using the least abrasive cleaning method for hard metals (such as cast iron, wrought iron, and steel) to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low-pressure abrasive methods may be used as long as they do not damage the surface.	Using high-pressure abrasive techniques (including sandblasting, other media blasting, or high-pressure water) without first trying gentler cleaning methods prior to cleaning cast iron, wrought iron, or steel.
Applying appropriate paint or other coating systems to historically-coated metals after cleaning to protect them from corrosion.	Applying paint or other coatings to metals (such as copper, bronze or stainless steel) if they were not coated historically.
Repainting historically-painted metal features with colors that are appropriate to the building and district.	Using paint colors on historically-painted metal features that are not appropriate to the building or district.
Applying an appropriate protective coating (such as lacquer or wax) to a metal feature that was historically unpainted, such as a bronze door, which is subject to heavy use.	

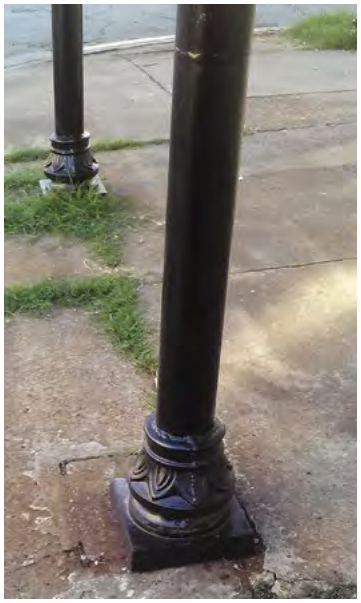


[6] A standing-seam sheet metal roof, like the one on the turret of this late 19th century row house, must be kept painted to ensure its preservation.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Protecting adjacent materials when working on metal features.	Failing to protect adjacent materials when working on metal features.
Evaluating the overall condition of metals to determine whether more than protection and maintenance, such as repairs to metal features, will be necessary.	Failing to undertake adequate measures to ensure the protection of metal features.
Repairing, stabilizing, and reinforcing metal by using recognized preservation methods	Removing metals that could be stabilized, repaired, and conserved, or using improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation,*** *and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of metal features when there are surviving prototypes, such as porch balusters, column capitals or bases, or porch cresting, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire metal feature, such as a column or balustrade, when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic metal feature.

[7] (a) After the damaged portions of the base were repaired, (b) the cast-iron columns were cleaned and repainted to protect the metal from rusting.



ROOFS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving roofs and their functional and decorative features that are important in defining the overall historic character of the building. The form of the roof (gable, hipped, gambrel, flat, or mansard) is significant, as are its decorative and functional features (such as cupolas, cresting, parapets, monitors, chimneys, weather vanes, dormers, ridge tiles, and snow guards), roofing material (such as slate, wood, clay tile, metal, roll roofing, or asphalt shingles), and size, color, and patterning.	Altering the roof and roofing materials which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic roofing material instead of repairing or replacing only the deteriorated material. Changing the type or color of roofing materials.
Stabilizing deteriorated or damaged roofs as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged roof until additional work is undertaken, thereby allowing further damage to occur to the historic building
Protecting and maintaining a roof by cleaning gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for indications of moisture due to leaks or condensation.	Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure
Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.	Allowing flashing, caps, and exposed roof fasteners to corrode, which accelerates deterioration of the roof.
Protecting a leaking roof with a temporary waterproof membrane with a synthetic underlayment, roll roofing, plywood, or a tarpaulin until it can be repaired.	Leaving a leaking roof unprotected so that accelerated deterioration of historic building materials (such as masonry, wood, plaster, paint, and structural members) occurs.
Repainting a roofing material that requires a protective coating and was painted historically (such as a terneplate metal roof or gutters) as part of regularly-scheduled maintenance.	Failing to repaint a roofing material that requires a protective coating and was painted historically as part of regularly-scheduled maintenance.
Protecting a roof covering when working on other roof features.	Failing to protect roof coverings when working on other roof features.
Evaluating the overall condition of the roof to determine whether more than protection and maintenance, such as repairs to roof features, will be necessary.	Failing to undertake adequate measures to ensure the protection of roof features.
Repairing a roof by ensuring that the existing historic roof or compatible non-historic roof covering is sound and waterproof.	Removing historic materials that could be repaired or using improper repair techniques. Failing to reuse intact slate or tile when only the roofing substrate or fasteners need replacement.

[8] Regular maintenance includes removing leaves that can clog gutters and cause water damage to the exterior and interior walls of a house.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Using corrosion-resistant roof fasteners (e.g., nails and clips) to repair a roof to help extend its longevity.	
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of roof features when there are surviving prototypes, such as ridge tiles, roof cresting, or dormer trim, slates, or tiles, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire roof feature, such as a chimney or dormer, when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic roof feature.

[9] Distinctively-shaped roofs are important in defining the historic character of these early 20th-century structures: (a) an asphalt shingle roof on a house; (b) and a concrete roof on Fonthill, Doylestown, PA (1908-1912), designed and built by Henry Chapman Mercer.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving windows and their functional and decorative features that are important to the overall historic character of the building. The window material and how the window operates (e.g., double hung, casement, awning, or hopper) are significant, as are its components (including sash, muntins, ogee lugs, glazing, pane configuration, sills, mullions, casings, or brick molds) and related features, such as shutters.	Altering windows or window features which are important in defining the historic character of the building so that, as a result, the character is diminished. Changing the appearance of windows that contribute to the historic character of the building by replacing materials, finishes, or colors which noticeably change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame. Obscuring historic wood window trim with metal or other material.
Stabilizing deteriorated or damaged windows as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged windows as a preliminary measure, when necessary, prior to undertaking preservation work.
Protecting and maintaining the wood or metal which comprises the window jamb, sash, and trim through appropriate surface treatments, such as cleaning, paint removal, and reapplication of the same protective coating systems.	Failing to protect and maintain materials on a cyclical basis so that deterioration of the window results.
Protecting windows against vandalism before work begins by covering them and by installing alarm systems that are keyed into local protection agencies.	Leaving windows unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected windows.
Installing impact-resistant glazing, when necessary for security, so that it is compatible with the historic windows and does not damage them or negatively impact their character.	Installing impact-resistant glazing, when necessary for security, that is not compatible with the historic windows and damages them or negatively impacts their character.
Making windows weathertight by recaulking gaps in fixed joints and replacing or installing weatherstripping.	Replacing windows rather than maintaining the sash, frame, or glazing.
Protecting windows from chemical cleaners, paint, or abrasion during work on the exterior of the building.	Failing to protect historic windows from chemical cleaners, paint, or abrasion when work is being done on the exterior of the building.
Protecting and retaining historic glass when replacing putty or repairing other components of the window.	Failing to protect the historic glass when making repairs.

[10] Historic exterior storm windows preserve and help to insulate wood windows.

[11] Old and brittle glazing putty should be removed carefully before reputtying to keep window glazing weathertight.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Sustaining the historic operability of windows by lubricating friction points and replacing broken components of the operating system (such as hinges, latches, sash chains or cords) or replacing deteriorated gaskets or insulating units.	Failing to maintain windows and window components so that windows are inoperable, or sealing operable sash permanently. Failing to repair and reuse window hardware such as sash lifts, latches, and locks
Adding storm windows with a matching or a one-over-one pane configuration that will not obscure the characteristics of the historic windows. Storm windows improve energy efficiency and are especially beneficial when installed over wood windows because they also protect them from accelerated deterioration.	
Protecting adjacent materials when working on windows.	Failing to protect adjacent materials when working on windows.
Evaluating the overall condition of windows to determine whether more than protection and maintenance, such as repairs to windows and window features, will be necessary.	Failing to undertake adequate measures to ensure the protection of windows.
Repairing window frames and sash by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods.	Removing window frames or sash that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing furthur damage to historic buildings.
Using corrosion-resistant roof fasteners (e.g., nails and clips) to repair a roof to help extend its longevity.	
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of windows when there are surviving prototypes, such as frames or sash, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire window when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic window.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving entrances and porches and their functional and decorative features that are important in defining the overall historic character of the building. The materials themselves (including wood, masonry, and metal) are significant, as are the features, such as doors, transoms, pilasters, columns, balustrades, stairs, roofs, and projecting canopies.	Altering entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic entrance and porch features instead of repairing or replacing only the deteriorated material.
Stabilizing deteriorated or damaged entrances and porches as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged entrance or porch until additional work is undertaken, thereby allowing further damage to occur to the historic building.

[13] It is important that exposed swallow tail porch rafters be kept painted to protect them from water damage.

[12] Repair and limited replacement in kind to match deteriorated wood porch features is always a recommended preservation treatment.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Protecting and maintaining the masonry, wood, and metals which comprise entrances and porches through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain historic materials on a cyclical basis so that deterioration of entrances and porches results.
Protecting entrances and porches against arson and vandalism before work begins by covering them and by installing alarm systems keyed into local protection agencies.	Leaving entrances and porches unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting entrance and porch features when working on other features of the building.	Failing to protect historic entrances and porches when working on other features of the building.
Evaluating the overall condition of entrances and porches to determine whether more than protection and maintenance, such as repairs to entrance and porch features, will be necessary.	Failing to undertake adequate measures to ensure the protection of entrance and porch features.
Repairing entrances and porches by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods.	Removing entrances and porches or their features that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of entrance and porch features when there are surviving prototypes, such as railings, balustrades, cornices, columns, sidelights, stairs, and roofs, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire entrance or porch feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic entrance or porch feature.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving storefronts and their functional and decorative features that are important in defining the overall historic character of the building. The storefront materials (including wood, masonry, metals, ceramic tile, clear glass, and pigmented structural glass) and the configuration of the storefront are significant, as are features, such as display windows, base panels, bulkheads, signs, doors, transoms, kick plates, corner posts, piers, and entablatures.	Altering storefronts and their features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic storefront features instead of repairing or replacing only the deteriorated material.
Stabilizing deteriorated or damaged storefronts as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged storefront until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining masonry, wood, glass, ceramic tile, and metals which comprise storefronts through appropriate treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain historic materials on a cyclical basis so that deterioration of storefront features results.
Protecting storefronts against arson and vandalism before work begins by covering windows and doors and by installing alarm systems keyed into local protection agencies.	Leaving the storefront unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through an unprotected storefront.
Protecting the storefront when working on other features of the building.	Failing to protect the storefront when working on other features of the building.

[14] The signage is an original and integral part of this historic Carrara glass storefront.

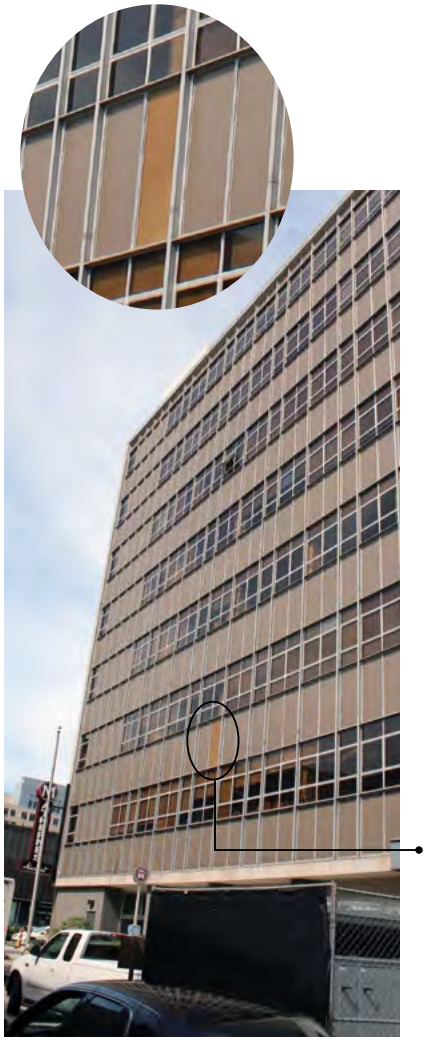
STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of the storefront to determine whether more than protection and maintenance, such as repairs to storefront features, will be necessary.	Failing to undertake adequate measures to ensure the protection of storefront features.
Repairing storefronts by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods.	Removing historic material that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of storefronts when there are surviving prototypes, such as doors, transoms, kick plates, base panels, bulkheads, piers, or signs, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire feature or storefront when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic storefront feature.

[15] Regular maintenance has helped to preserve this historic storefront, which retains all of its character-defining features, including the granite bulkhead, multi-paned transom glazing, and recessed entrance.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving curtain wall systems and their components that are important in defining the overall historic character of the building. The design of the curtain wall is significant, as are its component materials (metal stick framing and panel materials, such as clear or spandrel glass, stone, terra cotta, metal, and fiber-reinforced plastic), appearance (e.g., glazing color or tint, transparency, and reflectivity), and whether the glazing is fixed, operable, or louvered glass panels. How a curtain wall is engineered and fabricated, and the fact that it expands and contracts at a different rate from the building's structural system, are important to understand when undertaking the preservation of a curtain wall system.	Altering curtain wall components which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic curtain wall features instead of repairing or replacing only the deteriorated components.
Stabilizing deteriorated or damaged curtain walls as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged curtain walls until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining curtain walls and their components through appropriate surface treatments, such as cleaning and reapplication of protective coating systems; and by making them watertight and ensuring that sealants and gaskets are in good condition.	Failing to protect and maintain curtain wall components on a cyclical basis so that deterioration of curtain walls results. Failing to identify and treat the various causes of curtain wall failure, such as open gaps between components where sealants have deteriorated or are missing.
Protecting ground-level curtain walls from vandalism before work begins by covering them, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving ground-level curtain walls unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Installing impact-resistant glazing in a curtain wall system, when necessary for security or to meet code requirements, so that it is compatible with the historic curtain walls and does not damage them or negatively impact their character.	Installing impact-resistant glazing in a curtain wall system, when necessary for security, that is not compatible with the historic curtain walls and damages them or negatively impacts their character.



[16] Plywood provides temporary protection for an opening where a damaged spandrel panel was removed until a matching replacement panel can be installed.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Cleaning curtain wall systems only when necessary to halt deterioration or to remove heavy soiling.	Cleaning curtain wall systems when they are not heavily soiled, thereby needlessly introducing chemicals or moisture into historic materials.
Carrying out cleaning tests, when it has been determined that cleaning is appropriate, using only cleaning materials that will not damage components of the system, including factory-applied finishes. Test areas should be examined to ensure that no damage has resulted.	Cleaning curtain wall systems without testing first or using cleaning materials that may damage components of the system.
Evaluating the overall condition of curtain walls to determine whether more than protection and maintenance, such as repairs to curtain wall components, will be necessary.	Failing to undertake adequate measures to ensure the protection of curtain wall components.
Repairing curtain walls by ensuring that they are watertight by augmenting existing components or replacing deteriorated or missing sealants or gaskets, where necessary, to seal any gaps between system components.	Removing curtain wall components that could be stabilized, repaired, and conserved, or using improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of a curtain wall system when there are surviving prototypes or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire curtain wall feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic curtain wall feature.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving structural systems and visible features of systems that are important in defining the overall historic character of the building. This includes the materials that comprise the structural system (i.e., wood, metal, and masonry), the type of system, and its features, such as posts and beams, trusses, summer beams, vigas, cast-iron or masonry columns, above-grade stone foundation walls, or load-bearing masonry walls.	Altering visible features of historic structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Overloading the existing structural system, or installing equipment or mechanical systems which could damage the structure. Replacing a load-bearing masonry wall that could be augmented and retained. Leaving known structural problems untreated, such as deflected beams, cracked and bowed walls, or racked structural members.
Stabilizing deteriorated or damaged structural systems as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged structural system until additional work is undertaken, thereby allowing further damage to occur to the historic building. Failing to protect and maintain the structural system on a cyclical basis so that deterioration of the structural system results.
Protecting and maintaining the structural system by keeping gutters and downspouts clear and roofing in good repair; and by ensuring that wood structural members are free from insect infestation.	Using treatments or products that may retain moisture, which accelerates deterioration of structural members.

[17] Distinctive examples of traditional construction techniques should be preserved, such as this wooden peg, which is part of the structural system of this late-19th-century warehouse.

[18] A massive, exposed, concrete structural system defines the historic character of the interior of St. John's Abbey, Collegeville, MN, designed by Marcel Breuer and constructed in 1961.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of the structural system to determine whether more than protection and maintenance, such as repairs to structural features, will be necessary.	Failing to undertake adequate measures to ensure the protection of structural systems.
Repairing the structural system by augmenting individual components, using recognized preservation methods. For example, weakened structural members (such as floor framing) can be paired or sistered with a new member, braced, or otherwise supplemented and reinforced.	Upgrading the building structurally in a manner that diminishes the historic character of the exterior (such as installing strapping channels or removing a decorative cornice) or that damages interior features or spaces. Replacing a structural member or other feature of the structural system when it could be augmented and retained.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind those visible portions or features of the structural system that are either extensively deteriorated or missing when there are surviving prototypes, such as cast-iron columns and sections of load-bearing walls, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire curtain wall feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic curtain wall feature.
Considering the use of substitute material to replace structural features that are not visible. Substitute material must be structurally sufficient and physically compatible with the rest of the system.	Using substitute material that does not equal the load-bearing capabilities of the historic material or is physically incompatible with the structural system.

MECHANICAL SYSTEMS:
HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, and plumbing and lighting fixtures.	Removing or altering visible features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.
Stabilizing functioning mechanical systems as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a functioning mechanical system and its visible features until additional work is undertaken.
Protecting and maintaining functioning mechanical, plumbing, and electrical systems and their features through cyclical maintenance.	Failing to protect and maintain functioning mechanical, plumbing, and electrical systems on a cyclical basis so that their deterioration results.
Improving the energy efficiency of existing mechanical systems to help reduce the need for a new system by installing storm windows, insulating attics and crawl spaces, or adding awnings, if appropriate.	
Evaluating the overall condition of functioning mechanical systems to determine whether more than protection and maintenance, such as repairs to mechanical system components, will be necessary.	Failing to undertake adequate measures to ensure the protection of structural systems.
Repairing mechanical systems by augmenting or upgrading system components (such as installing new pipes and ducts), rewiring, or adding new compressors or boilers.	Replacing a mechanical system when its components could be upgraded and retained.

MECHANICAL SYSTEMS:
HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind those extensively deteriorated or missing visible features of mechanical systems when there are surviving prototypes, such as ceiling fans, radiators, grilles, or lighting fixtures.	Installing a visible replacement feature that does not convey the same appearance.
*The following work should be considered in a **Preservation** project when the installation of new mechanical equipment or an entire system is required to make the building functional.*	
Installing a new mechanical system, if required, so that it results in the least alteration possible to the historic building and its character-defining features.	Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.
Providing adequate structural support for new mechanical equipment.	Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.
Installing new mechanical and electrical systems and ducts, pipes, and cables in closets, service areas, and wall cavities to preserve the historic character of the interior space.	Installing ducts, pipes, and cables where they will obscure character-defining features or negatively impact the historic character of the interior. Concealing mechanical equipment in walls or ceilings in a manner that results in extensive loss or damage or otherwise obscures historic building materials and character-defining features.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving a floor plan or interior spaces, features, and finishes that are important in defining the overall historic character of the building. Significant spatial characteristics include the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves, such as lobbies, lodge halls, entrance halls, parlors, theaters, auditoriums, gymnasiums, and industrial and commercial interiors. Color, texture, and pattern are important characteristics of features and finishes, which can include such elements as columns, plaster walls and ceilings, flooring, trim, fireplaces and mantels, paneling, light fixtures, hardware, decorative radiators, ornamental grilles and registers, windows, doors, and transoms; plaster, paint, wallpaper and wall coverings, and special finishes, such as marbleizing and graining; and utilitarian (painted or unpainted) features, including wood, metal, or concrete exposed columns, beams, and trusses and exposed load-bearing brick, concrete, and wood walls.	Altering a floor plan, interior spaces (including individual rooms), features, or finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic interior features and finishes instead of repairing or replacing only the deteriorated portion. Installing new material that obscures or damages character-defining interior features and finishes. Removing paint, plaster, or other finishes from historically-finished interior surfaces and leaving the features exposed (e.g., removing plaster to expose brick walls or a brick chimney breast, stripping paint from wood to stain or varnish it, or removing a plaster ceiling to expose unfinished beams). Applying paint, plaster, or other coatings to surfaces that have been unfinished historically, thereby changing their character. Changing the type of finish or its color, such as painting a historically-varnished wood feature, or removing paint from a historically-painted feature.
Stabilizing deteriorated or damaged interior features and finishes as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged interior feature or finish until additional work can be undertaken, thereby allowing further damage to occur to the interior.
Protecting and maintaining historic materials (including plaster, masonry, wood, and metals) which comprise interior features through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain interior materials and finishes on a cyclical basis so that deterioration of interior features results.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Protecting interior features and finishes against arson and vandalism before project work begins by erecting temporary fencing or by covering broken windows and open doorways, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving the building unprotected and subject to vandalism before work begins, thereby allowing the interior to be damaged if it can be accessed through unprotected openings.
Protecting interior features (such as a staircase, mantel, flooring, or decorative finishes) from damage during project work by covering them with plywood, heavy canvas, or plastic sheeting.	Failing to protect interior features and finishes when working on the interior.

[19] The sweeping staircase with its metal railing, chandelier, and terrazzo floor in the lobby of the 1954 Simms Building, Albuquerque, NM, are character-defining features. *Photo: Harvey M. Kaplan.*

[20] It is important to protect decorative interior features, such as this highly-glazed tile wainscoting in a historic train station, when painting the walls above it.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint and finishes only to the next sound layer using the gentlest method possible prior to repainting or refinishing using compatible paint or other coating systems.	Removing paint that is firmly adhered to interior materials and features.
Using abrasive cleaning methods only on the interior of industrial or warehouse buildings with utilitarian, unplastered masonry walls and where wood features are not finished, molded, beaded, or worked by hand. Low-pressure abrasive cleaning (e.g., sand-blasting or other media blasting) should only be considered if test patches show no surface damage and after gentler methods have proven ineffective.	Using abrasive methods anywhere but utilitarian and industrial interior spaces or when there are other cleaning methods that are less likely to damage the surface of the material.
Evaluating the overall condition of the interior materials, features, and finishes to determine whether more than protection and maintenance, such as repairs to features and finishes, will be necessary.	Failing to undertake adequate measures to ensure the protection of interior materials, features, and finishes.
Repairing interior features and finishes by patching, splicing, consolidating, or otherwise reinforcing the materials using recog-nized preservation methods.	Removing interior features or finishes that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing fur-ther damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of interior features when there are surviving prototypes (such as stairs, balustrades, wood paneling, columns, decorative wall finishes, and ornamental plaster or pressed-metal ceilings); or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire interior feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic interior feature or finish.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving features of the building site that are important in defining its overall historic character. Site features may include walls, fences, or steps; circulation systems, such as walks, paths, or roads; vegetation, such as trees, shrubs, grass, orchards, hedges, windbreaks, or gardens; landforms, such as hills, terracing, or berms; furnishings and fixtures, such as light posts or benches; decorative elements, such as sculpture, statuary, or monuments; water features, including fountains, streams, pools, lakes, or irrigation ditches; and subsurface archeological resources, other cultural or religious features, or burial grounds which are also important to the site.	Altering buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.
Retaining the historic relationship between buildings and the landscape.	Removing or relocating buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape.

[21] (a) The formal garden on the property of the 1826 Beauregard-Keyes House in New Orleans (b) is integral to the character of the site.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Stabilizing deteriorated or damaged building and site features as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged building or site feature until additional work can be undertaken, thereby allowing further damage to occur to the building site.
Protecting and maintaining buildings and site features by providing proper drainage to ensure that water does not erode foundation walls, drain toward the building, or damage or erode the landscape.	Failing to ensure that site drainage is adequate so that buildings and site features are damaged or destroyed; or, alternatively, changing the site grading so that water does not drain properly.
Minimizing disturbance of the terrain around buildings or elsewhere on the site, thereby reducing the possibility of destroying or damaging important landscape features, archeological resources, other cultural or religious features, or burial grounds.	Using heavy machinery or equipment in areas where it may disturb or damage important landscape features, archeological resources, other cultural or religious features, or burial grounds.
Protecting (e.g., preserving in place) important site features, archeological resources, other cultural or religious features, or burial grounds.	Leaving known site features or archeological material unprotected so that it is damaged during preservation work.
Planning and carrying out any necessary investigation before preservation begins, using professional archeologists and methods when preservation in place is not feasible.	Allowing unqualified personnel to perform data recovery on archeological resources, which can result in damage or loss of important archeological material.
Preserving important landscape features through regularly-scheduled maintenance of historic plant material.	Allowing important landscape features or archeological resources to be lost, damaged, or to deteriorate due to inadequate protection or lack of maintenance.
Protecting the building site and landscape features against arson and vandalism before preservation work begins by erecting temporary fencing and by installing alarm systems keyed into local protection agencies.	Leaving the property unprotected and subject to vandalism before work begins so that the building site and landscape features, archeological resources, other cultural or religious features, or burial grounds can be damaged or destroyed.
Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the site.
Providing continued protection and maintenance of buildings and landscape features on the site through appropriate grounds or landscape management.	Removing or destroying features from the site, such as fencing, paths or walkways, masonry balustrades, or plant material.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Protecting building and landscape features when working on the site.	Failing to protect building and landscape features during work on the site.
Evaluating the overall condition of the site to determine whether more than protection and maintenance, such as repairs to materials and features, will be necessary.	Failing to undertake adequate measures to ensure the protection of the site.
Repairing building and site features which have damaged, deteriorated, or missing components to reestablish the whole feature and to ensure retention of the integrity of historic materials.	Failing to repair damaged or deteriorated site features.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing features of the site when there are surviving prototypes, such as part of a fountain, portions of a walkway, or a hedge, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, and color.	Replacing an entire feature of the building or site when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic site feature.

[22 a-b] The 1907 Commander General's Quarters facing Continental Park is one of many important structures that contribute to the historic significance and character of Fort Monroe, a National Monument, in Hampton, VA.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving building and landscape features that are important in defining the overall historic character of the setting. Such features can include circulation systems, such as roads and streets; furnishings and fixtures, such as light posts or benches; vegetation, gardens, and yards; adjacent open space, such as fields, parks, commons, or woodlands; and important views or visual relationships.	Altering those building and landscape features of the setting which are important in defining its historic character so that, as a result, the character is diminished.
Retaining the historic relationship between buildings and landscape features in the setting. For example, preserving the relationship between a town common or urban plaza and the adjacent houses, municipal buildings, roads, and landscape and streetscape features.	Altering the relationship between the buildings and landscape features in the setting by widening existing streets, changing landscape materials, or locating new streets or parking areas where they may negatively impact the historic character of the setting. Removing or relocating historic buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape in the setting.

[23] The city square is important in defining the character of the historic setting in this small town.

[24] Cast-iron porches and wrought-iron fences from the late 19th century typify this block in an urban historic district.

[25] Street names in tile set into the sidewalk are distinctive features in this historic district.

SETTING (DISTRICT / NEIGHBORHOOD)

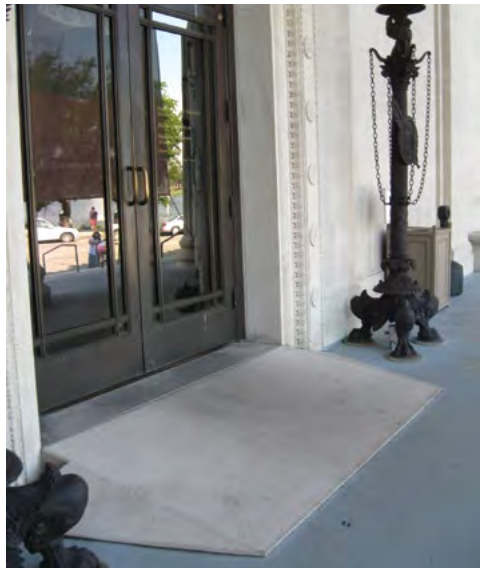
RECOMMENDED	NOT RECOMMENDED
Stabilizing deteriorated or damaged building or landscape features in the setting as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged building or landscape feature in the setting until additional work can be undertaken, thereby allowing further damage to occur to the setting.
Protecting and maintaining historic features in the setting through regularly-scheduled maintenance and landscape management.	Failing to protect and maintain materials in the setting on a cyclical basis so that deterioration of building and landscape features results. Stripping or removing historic features from buildings or the setting, such as a porch, fencing, walkways, or plant material.
Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the setting.
Protecting building and landscape features when undertaking work in the setting.	Failing to protect building and landscape features during work in the setting.
Evaluating the overall condition of materials and features to determine whether more than protection and maintenance, such as repairs to materials and features in the setting, will be necessary.	Failing to undertake adequate measures to ensure the protection of materials and features of the setting.
Repairing features in the setting by reinforcing the historic materials, using recognized preservation methods.	Removing material that could be repaired or using improper repair techniques.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of building and landscape features in the setting when there are surviving prototypes, such as balustrades or paving materials, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, and color.	Replacing an entire feature of the building or landscape when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic building or landscape feature.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Sensitive solutions to meeting code requirements are an important part of protecting the historic character of the building and site. Thus, work that must be done to meet accessibility and life-safety requirements in the treatment ***Preservation*** *must also be assessed for its potential impact on the historic building and site.*	
ACCESSIBILITY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by accessibility code-required work.	Undertaking accessibility code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with barrier-free access requirements in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with accessibility requirements.
Working with specialists in accessibility and historic preservation to determine the most sensitive solutions to comply with access requirements in a historic building, its site, and setting.	Making changes to historic buildings, their sites, and setting without first consulting with specialists in accessibility and historic preservation to determine the most appropriate solutions to comply with accessibility requirements.
Providing barrier-free access that promotes independence for the user while preserving significant historic features.	Making access modifications that do not provide independent, safe access or preserve historic features.
Finding solutions to meet accessibility requirements that minimize the impact of any necessary alteration for accessibility on the historic building, its site, or setting, such as compatible ramps, paths, and lifts.	Making modifications for accessibility without considering the impact on the historic building, its site, and setting.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Using relevant sections of existing codes regarding accessibility for historic buildings that provide alternative means of compliance when code-required work would otherwise negatively impact the historic character of the property.	
Minimizing the visual impact of accessibility ramps by installing them on secondary elevations when it does not compromise accessibility or by screening them with plantings.	
Adding a gradual slope or grade to the sidewalk, if appropriate, to access the entrance rather than installing a ramp that would be more intrusive to the historic character of the building and the district.	
Installing a lift as inconspicuously as possible when it is necessary to locate it on a primary elevation of the historic building.	Installing a lift at a primary entrance without considering other options or locations.



[26] A temporary ramp–unobtrusive and easily removed–facilitates access to the entrance of this museum and does not affect its historic character.

[27] The access ramp at the left of the entrance is concealed by a hedge which minimizes its visibility and impact on the character of the historic apartment building.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
LIFE SAFETY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by life-safety code-required work.	Undertaking life-safety code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with life-safety code requirements.
Removing building materials only after testing has been conducted to identify any hazardous materials, and using only the least damaging abatement methods.	Removing building materials without testing first to identify any hazardous materials, or using potentially damaging methods of abatement.
Providing workers with appropriate personal equipment for protection from hazards on the worksite.	Removing hazardous or toxic materials without regard for workers' health and safety or environmentally-sensitive disposal of the materials.
Working with code officials and historic preservation specialists to investigate systems, methods, or devices to make the building compliant with life-safety codes to ensure that necessary alterations will be compatible with the historic character of the building.	Making life-safety code-required changes to the building without consulting code officials and historic preservation specialists, with the result that alterations negatively impact the historic character of the building.
Using relevant sections of existing codes regarding life safety for historic buildings that provide alternative means of code compliance when code-required work would otherwise negatively impact the historic character of the building.	
Upgrading historic stairways and elevators to meet life-safety codes so that they are not damaged or otherwise negatively impacted.	Damaging or making inappropriate alterations to historic stairways and elevators or to adjacent spaces, features, or finishes in the process of doing work to meet code requirements.
Installing sensitively-designed fire-suppression systems, such as sprinklers, so that historic features and finishes are preserved.	Covering character-defining wood features with fire-retardant sheathing, which results in altering their appearance.
Applying fire-retardant coatings when appropriate, such as intumescent paint, to protect steel structural systems.	Using fire-retardant coatings if they will damage or obscure character-defining features.

[28] A simple railing added on the inner side of an elaborate wood and cast-iron stair railing meets life-safety code requirements without greatly impacting its historic character.

[29] A safety cone outside of a house where lead paint is being removed warns of the hazardous conditions on the site.

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Resilience to natural hazards should be addressed as part of a ***Preservation*** *project. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. These should always be used to best advantage when considering new adaptive treatments so as to have the least impact on the historic character of the building, its site, and setting.*	
Identifying the vulnerabilities of the historic property to the impacts of natural hazards (such as wildfires, hurricanes, or tornadoes) using the most current climate information and data available.	Failing to identify and periodically reevaluate the potential vulnerability of the building, its site, and setting to the impacts of natural hazards.
Assessing the potential impacts of known vulnerabilities on character-defining features of the building, its site, and setting, and reevaluating and reassessing potential impacts on a regular basis.	
Documenting the property and its character-defining features as a record and guide for future repair work, should it be necessary, and storing the documentation in a weatherproof location.	Failing to document the historic property and its character-defining features with the result that such information is not available in the future to guide repair or reconstruction work, should it be necessary.
Ensuring that historic resource inventories and maps are accurate, up to date, and accessible in an emergency.	
Maintaining the building, its site, and setting in good repair, and regularly monitoring character-defining features.	Failing to regularly monitor and maintain the property and building systems in good repair.
Using and maintaining existing characteristics and features of the historic building, its site, setting, and larger environment (such as shutters for storm protection or a site wall that keeps out flood waters) that may help to avoid or minimize the impacts of natural hazards.	
Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and preserving significant features and the overall historic character of the building, its site, and setting.	Allowing loss, damage, or destruction to occur to the historic building, its site, or setting by failing to evaluate potential future impacts of natural hazards or to plan and implement adaptive measures, if necessary to address possible threats.
Ensuring that, when planning work to adapt for natural hazards, all feasible alternatives are considered, and that options requiring the least alteration are considered first.	

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites to specific natural hazards, when appropriate. Such traditional methods may be appropriate if they are compatible with the historic character of the building, its site, and setting.	Implementing a treatment traditionally used in another region or one typically used for a different property type or architectural style which is not compatible with the historic character of the property.
Using special exemptions and variances when adaptive treatments to protect buildings from known hazards would otherwise negatively impact the historic character of the building, its site, or setting.	
Considering adaptive options, whenever possible, that would protect multiple historic resources, if the treatment can be implemented without negatively impacting the historic character of the setting or district, or archeological resources, other cultural or religious features, or burial grounds.	

[30] Historic window shutters still serve their original function as protection in hurricane-prone areas.

Sustainability

Sustainability should be addressed as part of a **Preservation** project. Good preservation practice is often synonymous with sustainability. Existing energy-efficient features should be retained and repaired. New sustainability treatments generally should be limited to updating existing features and systems to have the least impact on the historic character of the building.

The topic of sustainability is addressed in detail in ***The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings***. Although specifically developed for the treatment Rehabilitation, the Sustainability Guidelines can be used to help guide the other treatments.

[31] An interior screen door at the entrance to individual apartments is a historic feature traditionally used to help circulate air throughout the building.

STANDARDS FOR REHABILITATION & GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

Rehabilitation

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

INTRODUCTION

In **Rehabilitation,** historic building materials and character-defining features are protected and maintained as they are in the treatment Preservation. However, greater latitude is given in the **Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings** to replace extensively deteriorated, damaged, or missing features using either the same material or compatible substitute materials. Of the four treatments, only **Rehabilitation** allows alterations and the construction of a new addition, if necessary for a continuing or new use for the historic building.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Rehabilitation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained to preserve that character. Therefore, guidance on ***identifying, retaining, and preserving*** character-defining features is always given first.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of **Rehabilitation** work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. Protection includes the maintenance of historic materials and features as well as ensuring that the property is protected before and during rehabilitation work. A historic building undergoing rehabilitation will often require more extensive work. Thus, an overall evaluation of its physical condition should always begin at this level.

Repair Historic Materials and Features

Next, when the physical condition of character-defining materials and features warrants additional work, ***repairing*** is recommended. **Rehabilitation** guidance for the repair of historic materials, such as masonry, again begins with the least degree of intervention possible. In rehabilitation, repairing also includes the limited replacement in kind or with a compatible substitute material of extensively deteriorated or missing components of features when there are surviving prototypes features that can be substantiated by documentary and physical evidence. Although using the same kind of material is always the preferred option, a substitute material may be an acceptable alternative if the form, design, and scale, as well as the substitute material itself, can effectively replicate the appearance of the remaining features.

Replace Deteriorated Historic Materials and Features

Following repair in the hierarchy, **Rehabilitation** guidance is provided for ***replacing*** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair. If the missing feature is character defining or if it is critical to the survival of the building (e.g., a roof), it should be replaced to match the historic feature based on physical or his-

toric documentation of its form and detailing. As with repair, the preferred option is always replacement of the entire feature in kind (i.e., with the same material, such as wood for wood). However, when this is not feasible, a compatible substitute material that can reproduce the overall appearance of the historic material may be considered.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature that is extensively deteriorated, the guidelines never recommend removal and replacement with new material of a feature that could reasonably be repaired and, thus, preserved.

Design for the Replacement of Missing Historic Features

When an entire interior or exterior feature is missing, such as a porch, it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the process of carefully documenting the historic appearance. If the feature is not critical to the survival of the building, allowing the building to remain without the feature is one option. But if the missing feature is important to the historic character of the building, its replacement is always recommended in the **Rehabilitation** guidelines as the first, or preferred, course of action. If adequate documentary and physical evidence exists, the feature may be accurately reproduced. A second option in a rehabilitation treatment for replacing a missing feature, particularly when the available information about the feature is inadequate to permit an accurate reconstruction, is to ***design*** a new feature that is compatible with the overall historic character of the building. The new design should always take into account the size, scale, and material of the building itself and should be clearly differentiated from the authentic historic features. For properties that have changed over time, and where those changes have acquired significance, reestablishing missing historic features generally should not be undertaken if the missing features did not coexist with the features currently on the building. Juxtaposing historic features that did not exist concurrently will result in a false sense of the building's history.

Alterations

Some exterior and interior alterations to a historic building are generally needed as part of a **Rehabilitation** project to ensure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include changes to the site or setting, such as the selective removal of buildings or other features of the building site or setting that are intrusive, not character defining, or outside the building's period of significance.

Code-Required Work: Accessibility and Life Safety

Sensitive solutions to meeting code requirements in a **Rehabilitation** project are an important part of protecting the historic character of the building. Work that must be done to meet accessibility and life-safety requirements must also be assessed for its potential impact on the historic building, its site, and setting.

Resilience to Natural Hazards

Resilience to natural hazards should be addressed as part of a **Rehabilitation** project. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. These should always be used to best advantage when considering new adaptive treatments so as to have the least impact on the historic character of the building, its site, and setting.

Sustainability

Sustainability should be addressed as part of a **Rehabilitation** project. Good preservation practice is often synonymous with sustainability. Existing energy-efficient features should be retained and repaired. Only sustainability treatments should be considered that will have the least impact on the historic character of the building.

The topic of sustainability is addressed in detail in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings.*

New Exterior Additions and Related New Construction

Rehabilitation is the only treatment that allows expanding a historic building by enlarging it with an addition. However, the **Rehabilitation** guidelines emphasize that new additions should be considered only after it is determined that meeting specific new needs cannot be achieved by altering non-character-defining interior spaces. If the use cannot be accommodated in this way, then an attached exterior addition may be considered. New additions should be designed and constructed so that the character-defining features of the historic building, its site, and setting are not negatively impacted. Generally, a new addition should be subordinate to the historic building. A new addition should be compatible, but differentiated enough so that it is not confused as historic or original to the building. The same guidance applies to new construction so that it does not negatively impact the historic character of the building or its site.

Rehabilitation as a Treatment. *When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular time is not appropriate, Rehabilitation may be considered as a treatment. Prior to undertaking work, a documentation plan for Rehabilitation should be developed.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining and preserving masonry features that are important in defining the overall historic character of the building (such as walls, brackets, railings, cornices, window and door surrounds, steps, and columns) and decorative ornament and other details, such as tooling and bonding patterns, coatings, and color.	Removing or substantially changing masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing or rebuilding a major portion of exterior masonry walls that could be repaired, thereby destroying the historic integrity of the building. Applying paint or other coatings (such as stucco) to masonry that has been historically unpainted or uncoated to create a new appearance. Removing paint from historically-painted masonry.
Protecting and maintaining masonry by ensuring that historic drainage features and systems that divert rainwater from masonry surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly.	Failing to identify and treat the causes of masonry deterioration, such as leaking roofs and gutters or rising damp.
Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.	Cleaning masonry surfaces when they are not heavily soiled to create a "like-new" appearance, thereby needlessly introducing chemicals or moisture into historic materials.
Carrying out masonry cleaning tests when it has been determined that cleaning is appropriate. Test areas should be examined to ensure that no damage has resulted and, ideally, monitored over a sufficient period of time to allow long-range effects to be predicted.	Cleaning masonry surfaces without testing or without sufficient time for the testing results to be evaluated.

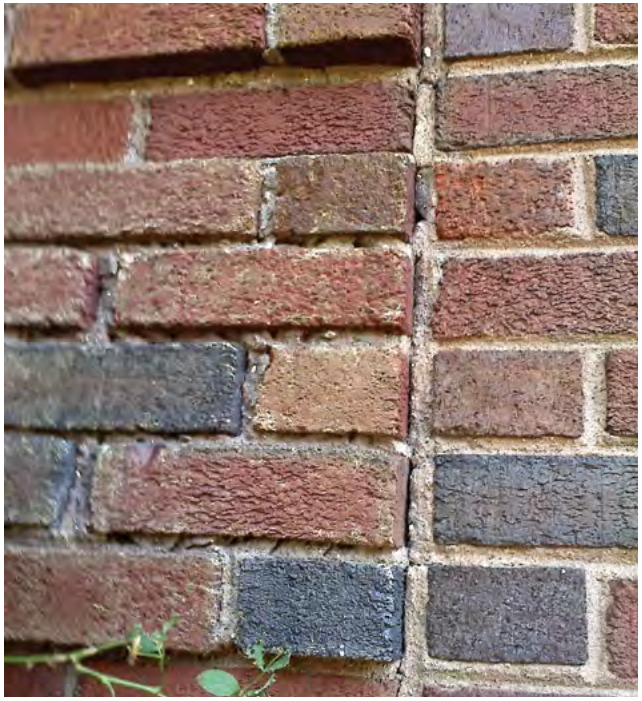
[1] An alkaline-based product is appropriate to use to clean historic marble because it will not damage the marble, which is acid sensitive.

[2] Mid-century modern building technology made possible the form of this parabola-shaped structure and its thin concrete shell construction. Built in 1961 as the lobby of the La Concha Motel in Las Vegas, it was designed by Paul Revere Williams, one of the first prominent African-American architects. It was moved to a new location and rehabilitated to serve as the Neon Museum, and is often cited as an example of Googie architecture. *Credit: Photographed with permission at The Neon Museum, Las Vegas, Nevada.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Cleaning soiled masonry surfaces with the gentlest method possible, such as using low-pressure water and detergent and natural bristle or other soft-bristle brushes.	Cleaning or removing paint from masonry surfaces using most abrasive methods (including sandblasting, other media blasting, or high-pressure water) which can damage the surface of the masonry and mortar joints. Using a cleaning or paint-removal method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures. Cleaning with chemical products that will damage some types of masonry (such as using acid on limestone or marble), or failing to neutralize or rinse off chemical cleaners from masonry surfaces.

[3] **Not Recommended:**
The white film on the upper corner of this historic brick row house is the result of using a scrub or slurry coating, rather than traditional repointing by hand, which is the recommended method.



[4] **Not Recommended:**
The quoins on the left side of the photo show that high-pressure abrasive blasting used to remove paint can damage even early 20th-century, hard-baked, textured brick and erode the mortar, whereas the same brick on the right, which was not abrasively cleaned, is undamaged.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Allowing only trained conservators to use abrasive or laser-cleaning methods, when necessary, to clean hard-to-reach, highly-carved, or detailed decorative stone features.	
Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand scraping) prior to repainting.	Removing paint that is firmly adhered to masonry surfaces, unless the building was unpainted historically and the paint can be removed without damaging the surface.
Applying compatible paint coating systems to historically-painted masonry following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting masonry features.
Repainting historically-painted masonry features with colors that are appropriate to the historic character of the building and district.	Using paint colors on historically-painted masonry features that are not appropriate to the historic character of the building and district.
Protecting adjacent materials when cleaning or removing paint from masonry features.	Failing to protect adjacent materials when cleaning or removing paint from masonry features.
Evaluating the overall condition of the masonry to determine whether more than protection and maintenance, such as repairs to masonry features, will be necessary.	Failing to undertake adequate measures to ensure the protection of masonry features.
Repairing masonry by patching, splicing, consolidating, or otherwise reinforcing the masonry using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes, such as terra-cotta brackets or stone balusters.	Removing masonry that could be stabilized, repaired, and conserved, or using untested consolidants and unskilled personnel, potentially causing further damage to historic materials. Replacing an entire masonry feature, such as a cornice or balustrade, when repair of the masonry and limited replacement of deteriorated or missing components are feasible.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

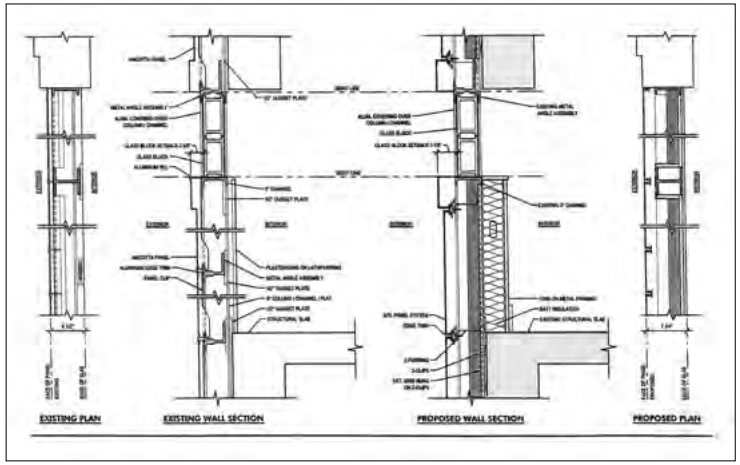
RECOMMENDED	NOT RECOMMENDED
Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks, or damaged plaster on the interior.	Removing non-deteriorated mortar from sound joints and then repointing the entire building to achieve a more uniform appearance.
Removing deteriorated lime mortar carefully by hand raking the joints to avoid damaging the masonry.	
Using power tools only on horizontal joints on brick masonry in conjunction with hand chiseling to remove hard mortar that is deteriorated or that is a non-historic material which is causing damage to the masonry units. Mechanical tools should be used only by skilled masons in limited circumstances and generally not on short, vertical joints in brick masonry.	Allowing unskilled workers to use masonry saws or mechanical tools to remove deteriorated mortar from joints prior to repointing.
Duplicating historic mortar joints in strength, composition, color, and texture when repointing is necessary. In some cases, a lime-based mortar may also be considered when repointing Portland cement mortar because it is more flexible.	Repointing masonry units with mortar of high Portland cement content (unless it is the content of the historic mortar). Using "surface grouting" or a "scrub" coating technique, such as a "sack rub" or "mortar washing," to repoint exterior masonry units instead of traditional repointing methods. Repointing masonry units (other than concrete) with a synthetic caulking compound instead of mortar.
Duplicating historic mortar joints in width and joint profile when repointing is necessary.	Changing the width or joint profile when repointing.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.	Removing sound stucco or repairing with new stucco that is different in composition from the historic stucco. Patching stucco or concrete without removing the source of deterioration. Replacing deteriorated stucco with synthetic stucco, an exterior finish and insulation system (EFIS), or other non-traditional materials.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using mud plaster or a compatible lime-plaster adobe render, when appropriate, to repair adobe.	Applying cement stucco, unless it already exists, to adobe.
Sealing joints in concrete with appropriate flexible sealants and backer rods, when necessary.	
Cutting damaged concrete back to remove the source of deterioration, such as corrosion on metal reinforcement bars. The new patch must be applied carefully so that it will bond satisfactorily with and match the historic concrete.	Patching damaged concrete without removing the source of deterioration.

[5] Rebars in the reinforced concrete ceiling have rusted, causing the concrete to spall. The rebars must be cleaned of rust before the concrete can be patched.

[6] Some areas of the concrete brise soleil screen on this building constructed in 1967 are badly deteriorated. If the screen cannot be repaired, it may be replaced in kind or with a composite substitute material with the same appearance as the concrete.



[7] (a) J.W. Knapp's Department Store, built 1937-38, in Lansing, MI, was constructed with a proprietary material named "Maul Macotta" made of enameled steel and cast-in-place concrete panels. Prior to its rehabilitation, a building inspection revealed that, due to a flaw in the original design and construction, the material was deteriorated beyond repair. The architects for the rehabilitation project devised a replacement system (b) consisting of enameled aluminum panels that matched the original colors (c). Photos and drawing (a-b): Quinn Evans Architects; *Photo (c): James Haefner Photography.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using a non-corrosive, stainless-steel anchoring system when replacing damaged stone, concrete, or terra-cotta units that have failed.	
Applying non-historic surface treatments, such as water-repellent coatings, to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.	Applying waterproof, water-repellent, or non-original historic coatings (such as stucco) to masonry as a substitute for repointing and masonry repairs.
Applying permeable, anti-graffiti coatings to masonry when appropriate.	Applying water-repellent or anti-graffiti coatings that change the historic appearance of the masonry or that may trap moisture if the coating is not sufficiently permeable.
Replacing in kind an entire masonry feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples can include large sections of a wall, a cornice, pier, or parapet. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a masonry feature that is unrepairable and not replacing it, or replacing it with a new feature that does not match. Using substitute material for the replacement that does not convey the same appearance of the surviving components of the masonry feature.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a replacement masonry feature, such as a step or door pediment, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing masonry feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new masonry feature that is incompatible in size, scale, material, or color.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining and preserving wood features that are important in defining the overall historic character of the building (such as siding, cornices, brackets, window and door surrounds, and steps) and their paints, finishes, and colors.	Removing or substantially changing wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic wood from a façade instead of repairing or replacing only the deteriorated wood, then reconstructing the façade with new material to achieve a uniform or "improved" appearance. Changing the type of finish, coating, or historic color of wood features, thereby diminishing the historic character of the exterior. Failing to renew failing paint or other coatings that are historic finishes. Stripping historically-painted surfaces to bare wood and applying a clear finish rather than repainting. Stripping paint or other coatings to reveal bare wood, thereby exposing historically-coated surfaces to the effects of accelerated weathering. Removing wood siding (clapboards) or other covering (such as stucco) from log structures that were covered historically, which changes their historic character and exposes the logs to accelerated deterioration.
Protecting and maintaining wood features by ensuring that historic drainage features that divert rainwater from wood surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly.	Failing to identify and treat the causes of wood deterioration, such as faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungal infestation.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Applying chemical preservatives or paint to wood features that are subject to weathering, such as exposed beam ends, outriggers, or rafter tails.	Using chemical preservatives (such as creosote) which, unless they were used historically, can change the appearance of wood features.
Implementing an integrated pest management plan to identify appropriate preventive measures to guard against insect damage, such as installing termite guards, fumigating, and treating with chemicals.	
Retaining coatings (such as paint) that protect the wood from moisture and ultraviolet light. Paint removal should be considered only when there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate coatings.	Stripping paint or other coatings from wood features without recoating.

[8] Rotted clapboards have been replaced selectively with new wood siding to match the originals.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (e.g., hand scraping and hand sanding) prior to repainting.	Using potentially-damaging paint-removal methods on wood surfaces, such as open-flame torches, orbital sanders, abrasive methods (including sandblasting, other media blasting, or high-pressure water), or caustic paint-removers. Removing paint that is firmly adhered to wood surfaces.
Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding, and thermal devices.	Failing to neutralize the wood thoroughly after using chemical paint removers so that new paint may not adhere. Removing paint from detachable wood features by soaking them in a caustic solution, which may roughen the surface, split the wood, or result in staining from residual acids leaching out of the wood.
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	
Using thermal devices (such as infrared heaters) carefully to remove paint when it is so deteriorated that total removal is necessary prior to repainting.	Using a thermal device to remove paint from wood features without first checking for and removing any flammable debris behind them. Using thermal devices without limiting the amount of time the wood feature is exposed to heat.
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Applying compatible paint coating systems to historically-painted wood following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting wood features.
Repainting historically-painted wood features with colors that are appropriate to the building and district.	Using paint colors on historically-painted wood features that are not appropriate to the building or district.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Protecting adjacent materials when working on other wood features.	Failing to protect adjacent materials when working on wood features.
Evaluating the overall condition of the wood to determine whether more than protection and maintenance, such as repairs to wood features, will be necessary.	Failing to undertake adequate measures to ensure the protection of wood features.

[9] Smooth-surfaced cementitious siding (left) may be used to replace deteriorated wood siding only on secondary elevations that have minimal visibility.

[10] **Not Recommended:** Cementitious siding with a raised wood-grain texture is not an appropriate material to replace historic wood siding, which has a smooth surface when painted.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Repairing wood by patching, splicing, consolidating, or otherwise reinforcing the wood using recognized conservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing components of wood features when there are surviving prototypes, such as brackets, molding, or sections of siding.	Removing wood that could be stabilized, repaired, and conserved, or using untested consolidants and unskilled personnel, potentially causing further damage to historic materials. Replacing an entire wood feature, such as a cornice or balustrade, when repair of the wood and limited replacement of deteriorated or missing components is feasible.
Replacing in kind an entire wood feature that is too deteriorated to repair (if the overall form and detailing are still evident) using physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples of such wood features include a cornice, entablature, or a balustrade. If using wood is not feasible, then a compatible substitute material may be considered.	Removing a wood feature that is unrepairable and not replacing it, or replacing it with a new feature that does not match. Using substitute material for the replacement that does not convey the same appearance of the surviving components of the wood feature.
Replacing a deteriorated wood feature or wood siding on a *primary or other highly-visible* elevation with a new matching wood feature.	Replacing a deteriorated wood feature or wood siding on a *primary or other highly-visible elevation* with a composite substitute material.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a replacement masonry feature, such as a step or door pediment, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing masonry feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new wood feature that is incompatible in size, scale, material, or color.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving metal features that are important in defining the overall historic character of the building (such as columns, capitals, pilasters, spandrel panels, or stairways) and their paints, finishes, and colors. The type of metal should be identified prior to work because each metal has its own properties and may require a different treatment.	Removing or substantially changing metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic metal from a façade instead of repairing or replacing only the deteriorated metal, then reconstructing the façade with new material to achieve a uniform or "improved" appearance.
Protecting and maintaining metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.	Failing to identify and treat the causes of corrosion, such as moisture from leaking roofs or gutters. Placing incompatible metals together without providing an appropriate separation material. Such incompatibility can result in galvanic corrosion of the less noble metal (e.g., copper will corrode cast iron, steel, tin, and aluminum).
Cleaning metals when necessary to remove corrosion prior to repainting or applying appropriate protective coatings.	Leaving metals that must be protected from corrosion uncoated after cleaning.

[11] The stainless steel doors at the entrance to this Art Deco apartment building are important in defining its historic character and should be retained in place.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Identifying the particular type of metal prior to any cleaning procedure and then testing to ensure that the gentlest cleaning method possible is selected; or, alternatively, determining that cleaning is inappropriate for the particular metal.	Using cleaning methods which alter or damage the color, texture, or finish of the metal, or cleaning when it is inappropriate for the particular metal. Removing the patina from historic metals. The patina may be a protective layer on some metals (such as bronze or copper) as well as a distinctive finish.
Using non-corrosive chemical methods to clean soft metals (such as lead, tinplate, terneplate, copper, and zinc) whose finishes can be easily damaged by abrasive methods.	Cleaning soft metals (such as lead, tinplate, terneplate, copper, and zinc) with abrasive methods (including sandblasting, other abrasive media, or high-pressure water) which will damage the surface of the metal.
Using the least abrasive cleaning method for hard metals (such as cast iron, wrought iron, and steel) to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low-pressure abrasive methods may be used as long as they do not abrade or damage the surface.	Using high-pressure abrasive techniques (including sandblasting, other media blasting, or high-pressure water) without first trying gentler cleaning methods prior to cleaning cast iron, wrought iron, or steel.
Applying appropriate paint or other coatings to historically-coated metals after cleaning to protect them from corrosion.	Applying paint or other coatings to metals (such as copper, bronze or stainless steel) if they were not coated historically, unless a coating is necessary for maintenance.
Repainting historically-painted metal features with colors that are appropriate to the building and district.	Using paint colors on historically-painted metal features that are not appropriate to the building or district.
Applying an appropriate protective coating (such as lacquer or wax) to a metal feature that was historically unpainted, such as a bronze door, which is subject to heavy use.	

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Protecting adjacent materials when cleaning or removing paint from metal features.	Failing to protect adjacent materials when working on metal features.
Evaluating the overall condition of metals to determine whether more than protection and maintenance, such as repairs to metal features, will be necessary.	Failing to undertake adequate measures to ensure the protection of metal features.

[12] This historic steel window has been cleaned, repaired, and primed in preparation for painting and reglazing.

[13] The gold-colored, anodized aluminum geodesic dome of the former Citizen's State Bank in Oklahoma City, OK, built in 1958 and designed by Robert Roloff, makes this a distinctive mid-20th century building.

[14] Interior cast-iron columns have been cleaned and repainted as part of the rehabilitation of this historic market building for continuing use.

[15] New enameled-metal panels were replicated to replace the original panels, which were too deteriorated to repair, when the storefront of this early 1950s building was recreated.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Repairing metal by reinforcing the metal using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing components of features when there are surviving prototypes, such as column capitals or bases, storefronts, railings and steps, or window hoods.	Removing metals that could be stabilized, repaired, and conserved, or using improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
Replacing in kind an entire metal feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples of such a feature could include cast-iron porch steps or steel-sash windows. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Replacing an entire metal feature, such as a column or balustrade, when repair of the metal and limited replacement of deteriorated or missing components are feasible. Removing a metal feature that is unrepairable and not replacing it, or replacing it with a new metal feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the metal feature or that is physically or chemically incompatible.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a replacement metal feature, such as a metal cornice or cast-iron column, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing metal feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new metal feature that is incompatible in size, scale, material, or color.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving roofs and their functional and decorative features that are important in defining the overall historic character of the building. The form of the roof (gable, hipped, gambrel, flat, or mansard) is significant, as are its decorative and functional features (such as cupolas, cresting, parapets, monitors, chimneys, weather vanes, dormers, ridge tiles, and snow guards), roofing material (such as slate, wood, clay tile, metal, roll roofing, or asphalt shingles), and size, color, and patterning.	Removing or substantially changing roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic roof or roofing material that is repairable, then rebuilding it with new material to achieve a more uniform or "improved" appearance. Changing the configuration or shape of a roof by adding highly visible new features (such as dormer windows, vents, skylights, or a penthouse). Stripping the roof of sound historic material, such as slate, clay tile, wood, or metal.
Protecting and maintaining a roof by cleaning gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for indications of moisture due to leaks or condensation.	Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof features, sheathing, and the underlying roof structure.
Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.	Allowing flashing, caps, and exposed fasteners to corrode, which accelerates deterioration of the roof.
Protecting a leaking roof with a temporary waterproof membrane with a synthetic underlayment, roll roofing, plywood, or a tarpaulin until it can be repaired.	Leaving a leaking roof unprotected so that accelerated deterioration of historic building materials (such as masonry, wood, plaster, paint, and structural members) occurs.
Repainting a roofing material that requires a protective coating and was painted historically (such as a terneplate metal roof or gutters) as part of regularly-scheduled maintenance.	Failing to repaint a roofing material that requires a protective coating and was painted historically as part of regularly-scheduled maintenance.
Applying compatible paint coating systems to historically-painted roofing materials following proper surface preparation.	Applying paint or other coatings to roofing material if they were not coated historically.
Protecting a roof covering when working on other roof features.	Failing to protect roof coverings when working on other roof features.
Evaluating the overall condition of the roof and roof features to determine whether more than protection and maintenance, such as repairs to roof features, will be necessary.	Failing to undertake adequate measures to ensure the protection of roof features.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Repairing a roof by ensuring that the existing historic or compatible non-historic roof covering is sound and waterproof. Repair may include the limited replacement in kind or with a compatible substitute material of missing materials (such as wood shingles, slates, or tiles) on a main roof, as well as those extensively deteriorated or missing components of features when there are surviving prototypes, such as ridge tiles, dormer roofing, or roof monitors. Using corrosion-resistant roof fasteners (e.g., nails and clips) to repair a roof to help extend its longevity.	Replacing an entire roof feature when repair of the historic roofing materials and limited replacement of deteriorated or missing components are feasible.

[16] The deteriorated asphalt shingles of this porch roof are being replaced in kind with matching shingles.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire roof covering or feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples of such a feature could include a large section of roofing, a dormer, or a chimney. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a feature of the roof that is unrepairable and not replacing it, or replacing it with a new roof feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the roof covering or the surviving components of the roof feature or that is physically or chemically incompatible.
Replacing only missing or damaged roofing tiles or slates rather than replacing the entire roof covering.	Failing to reuse intact slate or tile in good condition when only the roofing substrate or fasteners need replacement.
Replacing an incompatible roof covering or any deteriorated non-historic roof covering with historically-accurate roofing material, if known, or another material that is compatible with the historic character of the building.	
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new roof covering for a missing roof or a new feature, such as a dormer or a monitor, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing roof feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new roof feature that is incompatible in size, scale, material, or color.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Alterations and Additions for a New Use	
Installing mechanical and service equipment on the roof (such as heating and air-conditioning units, elevator housing, or solar panels) when required for a new use so that they are inconspicuous on the site and from the public right-of-way and do not damage or obscure character-defining historic features.	Installing roof-top mechanical or service equipment so that it damages or obscures character-defining roof features or is conspicuous on the site or from the public right-of-way.
Designing rooftop additions, elevator or stair towers, decks or terraces, dormers, or skylights when required by a new or continuing use so that they are inconspicuous and minimally visible on the site and from the public right-of-way and do not damage or obscure character-defining historic features.	Changing a character-defining roof form, or damaging or destroying character-defining roofing material as a result of an incompatible rooftop addition or improperly-installed or highly-visible mechanical equipment.
Installing a green roof or other roof landscaping, railings, or furnishings that are not visible on the site or from the public right-of-way and do not damage the roof structure.	Installing a green roof or other roof landscaping, railings, or furnishings that are visible on the site and from the public right-of-way.

[17] New wood elements have been used selectively to replace rotted wood on the underside of the roof in this historic warehouse.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving windows and their functional and decorative features that are important to the overall character of the building. The window material and how the window operates (e.g., double hung, casement, awning, or hopper) are significant, as are its components (including sash, muntins, ogee lugs, glazing, pane configuration, sills, mullions, casings, or brick molds) and related features, such as shutters.	Removing or substantially changing windows or window features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Changing the appearance of windows that contribute to the historic character of the building by replacing materials, finishes, or colors which noticeably change the sash, depth of the reveal, and muntin configurations; the reflectivity and color of the glazing; or the appearance of the frame. Obscuring historic wood window trim with metal or other material. Replacing windows solely because of peeling paint, broken glass, stuck sash, or high air infiltration. These conditions, in themselves, do not indicate that windows are beyond repair.
Protecting and maintaining the wood or metal which comprises the window jamb, sash, and trim through appropriate treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain window materials on a cyclical basis so that deterioration of the window results.
Protecting windows against vandalism before work begins by covering them and by installing alarm systems that are keyed into local protection agencies.	Leaving windows unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected windows.
Making windows weathertight by recaulking gaps in fixed joints and replacing or installing weatherstripping.	
Protecting windows from chemical cleaners, paint, or abrasion during work on the exterior of the building.	Failing to protect historic windows from chemical cleaners, paint, or abrasion when work is being done on the exterior of the building.
Protecting and retaining historic glass when replacing putty or repairing other components of the window.	Failing to protect the historic glass when making window repairs.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Sustaining the historic operability of windows by lubricating friction points and replacing broken components of the operating system (such as hinges, latches, sash chains or cords) and replacing deteriorated gaskets or insulating units.	Failing to maintain windows and window components so that windows are inoperable, or sealing operable sash permanently. Failing to repair and reuse window hardware such as sash lifts, latches, and locks.
Adding storm windows with a matching or a one-over-one pane configuration that will not obscure the characteristics of the historic windows. Storm windows improve energy efficiency and are especially beneficial when installed over wood windows because they also protect them from accelerated deterioration.	
Adding interior storm windows as an alternative to exterior storm windows when appropriate.	

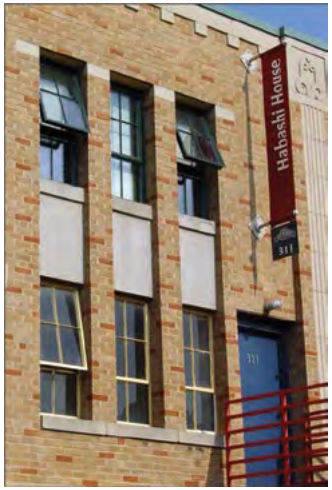
[18] The historic metal storm windows in this 1920s office building were retained and repaired during the rehabilitation project.

[19] Installing a mockup of a proposed replacement window can be helpful to evaluate how well the new windows will match the historic windows that are missing or too deteriorated to repair.

[20 a-d] The original steel windows in this industrial building were successfully repaired as part of the rehabilitation project (left).

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Installing sash locks, window guards, removable storm windows, and other reversible treatments to meet safety, security, or energy conservation requirements.	
Evaluating the overall condition of the windows to determine whether more than protection and maintenance, such as repairs to windows and window features, will be necessary.	Failing to undertake adequate measures to ensure the protection of window features.
Repairing window frames and sash by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated, broken, or missing components of features when there are surviving prototypes, such as sash, sills, hardware, or shutters.	Removing window features that could be stabilized, repaired, or conserved using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to the historic materials. Replacing an entire window when repair of the window and limited replacement of deteriorated or missing components are feasible.
Removing glazing putty that has failed and applying new putty; or, if glass is broken, carefully removing all putty, replacing the glass, and reputtying.	
Installing new glass to replace broken glass which has the same visual characteristics as the historic glass.	
Replacing in kind an entire window that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining window that is unrepairable or is not needed for the new use and blocking up the opening, or replacing it with a new window that does not match. Using substitute material for the replacement that does not convey the same appearance of the surviving components of the window or that is physically incompatible.



[21] The windows on the lower floor, which were too deteriorated to repair, were replaced with new steel windows matching the upper-floor historic windows that were retained.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Modifying a historic single-glazed sash to accommodate insulated glass when it will not jeopardize the soundness of the sash or significantly alter its appearance.	Modifying a historic single-glazed sash to accommodate insulated glass when it will jeopardize the soundness of the sash or significantly alter its appearance.
Using low-e glass with the least visible tint in new or replacement windows.	Using low-e glass with a dark tint in new or replacement windows, thereby negatively impacting the historic character of the building.
Using window grids rather than true divided lights on windows on the upper floors of high-rise buildings if they will not be noticeable.	Using window grids rather than true divided lights on windows in low-rise buildings or on lower floors of high-rise buildings where they will be noticeable, resulting in a change to the historic character of the building.
Ensuring that spacer bars in between double panes of glass are the same color as the window sash.	Using spacer bars in between double panes of glass that are not the same color as the window sash.
Replacing all of the components in a glazing system if they have failed because of faulty design or materials that have deteriorated with new material that will improve the window performance without noticeably changing the historic appearance.	Replacing all of the components in a glazing system with new material that will noticeably change the historic appearance.
Replacing incompatible, non-historic windows with new windows that are compatible with the historic character of the building; or reinstating windows in openings that have been filled in.	
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new window or its components, such as frames, sash, and glazing, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing window is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Installing replacement windows made from other materials that are not the same as the material of the original windows if they would have a noticeably different appearance from the remaining historic windows.

(a)

(b)

(c)

[22] **Not Recommended:** (a-b) The original wood windows in this late-19th-century building, which were highly decorative, could likely have been repaired and retained. (c) Instead, they were replaced with new windows that do not match the detailing of the historic windows and, therefore, do not meet the Standards (above).

[23] (a)This deteriorated historic wood window was repaired and retained (b) in this rehabilitation project.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Alterations and Additions for a New Use	
Adding new window openings on rear or other secondary, less-visible elevations, if required by a new use. The new openings and the windows in them should be compatible with the overall design of the building but, in most cases, not duplicate the historic fenestration.	Changing the number, location, size, or glazing pattern of windows on primary or highly-visible elevations which will alter the historic character of the building. Cutting new openings on character-defining elevations or cutting new openings that damage or destroy significant features. Adding balconies at existing window openings or new window openings on primary or other highly-visible elevations where balconies never existed and, therefore, would be incompatible with the historic character of the building.
Replacing windows that are too deteriorated to repair using the same sash and pane configuration, but with new windows that operate differently, if necessary, to accommodate a new use. Any change must have minimal visual impact. Examples could include replacing hopper or awning windows with casement windows, or adding a realigned and enlarged operable portion of industrial steel windows to meet life-safety codes.	Replacing a window that contributes to the historic character of the building with a new window that is different in design (such as glass divisions or muntin profiles), dimensions, materials (wood, metal, or glass), finish or color, or location that will have a noticeably different appearance from the historic windows, which may negatively impact the character of the building.
Installing impact-resistant glazing, when necessary for security, so that it is compatible with the historic windows and does not damage them or negatively impact their character.	Installing impact-resistant glazing, when necessary for security, that is incompatible with the historic windows and that damages them or negatively impacts their character.
Using compatible window treatments (such as frosted glass, appropriate shades or blinds, or shutters) to retain the historic character of the building when it is necessary to conceal mechanical equipment, for example, that the new use requires be placed in a location behind a window or windows on a primary or highly-visible elevation.	Removing a character-defining window to conceal mechanical equipment or to provide privacy for a new use of the building by blocking up the opening.

[24] Rotted boards in the beaded-board porch ceiling are being replaced with new matching beaded board.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving entrances and porches and their functional and decorative features that are important in defining the overall historic character of the building. The materials themselves (including masonry, wood, and metal) are significant, as are their features, such as doors, transoms, pilasters, columns, balustrades, stairs, roofs, and projecting canopies.	Removing or substantially changing entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Cutting new entrances on a primary façade. Altering utilitarian or service entrances so they compete visually with the historic primary entrance; increasing their size so that they appear significantly more important; or adding decorative details that cannot be documented to the building or are incompatible with the building's historic character.
Retaining a historic entrance or porch even though it will no longer be used because of a change in the building's function.	Removing a historic entrance or porch that will no longer be required for the building's new use.
Protecting and maintaining the masonry, wood, and metals which comprise entrances and porches through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain entrance and porch materials on a cyclical basis so that deterioration of entrances and porches results.
Protecting entrances and porches against arson and vandalism before work begins by covering them and by installing alarm systems keyed into local protection agencies.	Leaving entrances and porches unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting entrance and porch features when working on other features of the building.	Failing to protect materials and features when working on other features of the building.
Evaluating the overall condition of entrances and porches to determine whether more than protection and maintenance, such as repairs to entrance and porch features, will be necessary.	Failing to undertake adequate measures to ensure the protection of entrance and porch features.
Repairing entrances and porches by patching, splicing, consolidating, and otherwise reinforcing them using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated features or missing components of features when there are surviving prototypes, such as balustrades, columns, and stairs.	Removing entrances and porches that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials. Replacing an entire entrance or porch feature when repair of the feature and limited replacement of deteriorated or missing components are feasible.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire entrance or porch that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing an entrance or porch that is unrepairable and not replacing it, or replacing it with a new entrance or porch that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving components of entrance or porch features or that is physically incompatible.

[25] The new infill designs for the garage door openings in this commercial building (a) converted for restaurant use and in this mill building (b) rehabilitated for residential use are compatible with the historic character of the buildings.

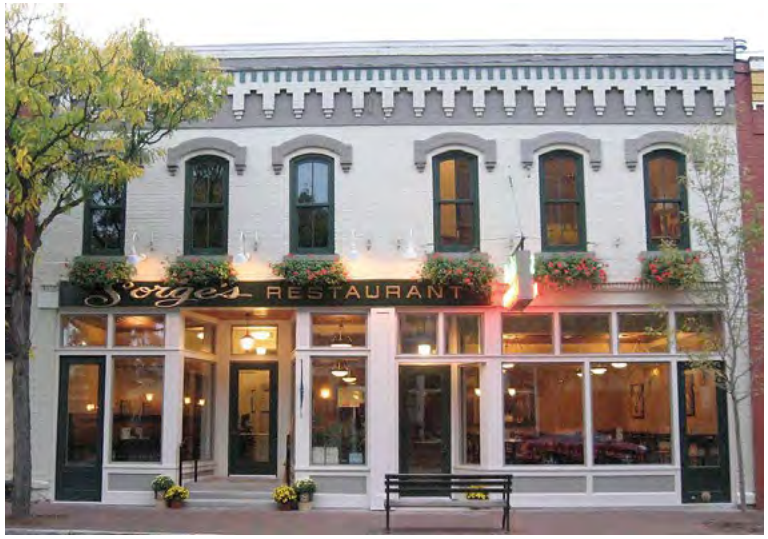
ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new entrance or porch when the historic feature is completely missing or has previously been replaced by one that is incompatible. It may be an accurate restoration based on documentary and physical evidence, but only when the historic entrance or porch to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing entrance or porch is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building.
Alterations and Additions for a New Use	
Enclosing historic porches on secondary elevations only, when required by a new use, in a manner that preserves the historic character of the building (e.g., using large sheets of glass and recessing the enclosure wall behind existing posts and balustrades).	Enclosing porches in a manner that results in a diminution or loss of historic character by using solid materials rather than clear glazing, or by placing the enclosure in front of, rather than behind, the historic features.
Designing and constructing additional entrances or porches on secondary elevations when required for the new use in a manner that preserves the historic character of the building (i.e., ensuring that the new entrance or porch is clearly subordinate to historic primary entrances or porches).	Constructing secondary or service entrances and porches that are incompatible in size and scale or detailing with the historic building or that obscure, damage, or destroy character-defining features.

[26] **Not Recommended:** Installing a screened enclosure is never recommended on a front or otherwise prominent historic porch. In limited instances, it may be possible to add screening on a porch at the rear or on a secondary façade; however, the enclosure should match the color of the porch and be placed behind columns and railings so that it does not obscure these features.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving storefronts and their functional and decorative features that are important in defining the overall historic character of the building. The storefront materials (including wood, masonry, metals, ceramic tile, clear glass, and pigmented structural glass) and the configuration of the storefront are significant, as are features, such as display windows, base panels, bulkheads, signs, doors, transoms, kick plates, corner posts, piers, and entablatures. The removal of inappropriate, non-historic cladding, false mansard roofs, and other later, non-significant alterations can help reveal the historic character of the storefront.	Removing or substantially changing storefronts and their features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Changing the storefront so that it has a residential rather than commercial appearance. Introducing features from an earlier period that are not compatible with the historic character of the storefront. Changing the location of the storefront's historic main entrance. Replacing or covering a glass transom with solid material or inappropriate signage, or installing an incompatible awning over it.
Retaining later, non-original features that have acquired significance over time.	Removing later features that may have acquired significance.



[28] This new storefront, which replaced one that was missing, is compatible with the historic character of the building.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Protecting and maintaining masonry, wood, glass, ceramic tile, and metals which comprise storefronts through appropriate treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain storefront materials on a cyclical basis so that deterioration of storefront features results.
Protecting storefronts against arson and vandalism before work begins by covering windows and doors and by installing alarm systems keyed into local protection agencies.	Leaving the storefront unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting the storefront when working on other features of the building.	Failing to protect the storefront when working on other features of the building.
Evaluating the overall condition of the storefront to determine whether more than protection and maintenance, such as repairs to storefront features, will be necessary.	Failing to undertake adequate measures to ensure the protection of storefront features.

[27] This original c. 1940s storefront, with its character-defining angled and curved glass display window and recessed entrance with a decorative terrazzo paving, is in good condition and should be retained in a rehabilitation project.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Repairing storefronts by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing components of storefronts when there are surviving prototypes, such as transoms, base panels, kick plates, piers, or signs.	Removing storefronts that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
Replacing in kind an entire storefront that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Replacing a storefront feature when repair of the feature and limited replacement of deteriorated or missing components are feasible. Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the storefront or that is physically incompatible. Removing a storefront that is unrepairable and not replacing it or replacing it with a new storefront that does not match.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new storefront when the historic storefront is completely missing or has previously been replaced by one that is incompatible. It may be an accurate restoration based on documentary and physical evidence, but only when the historic storefront to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing storefront is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Using new, over-scaled, or internally-lit signs unless there is a historic precedent for them or using other types of signs that obscure, damage, or destroy character-defining features of the storefront and the building.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Replacing missing awnings or canopies that can be historically documented to the building, or adding new signage, awnings, or canopies that are compatible with the historic character of the building.	Adding vinyl awnings, or other awnings that are inappropriately sized or shaped, which are incompatible with the historic character of the building; awnings that do not extend over the entire length of the storefront; or large canopies supported by posts that project out over the sidewalk, unless their existence can be historically documented.
Alterations and Additions for a New Use	
Retaining the glazing and the transparency (i.e., which allows the openness of the interior to be experienced from the exterior) that is so important in defining the character of a historic storefront when the building is being converted for residential use. Window treatments (necessary for occupants' privacy) should be installed that are uniform and compatible with the commercial appearance of the building, such as screens or wood blinds. When display cases still exist behind the storefront, the screening should be set at the back of the display case.	Replacing storefront glazing with solid material for occupants' privacy when the building is being converted for residential use. Installing window treatments in storefront windows that have a residential appearance, which are incompatible with the commercial character of the building. Installing window treatments that are not uniform in a series of repetitive storefront windows.

[29] The rehabilitation of the 1910 Mā'alaea General Store (a), which served the workers' camp at the Wailuku Sugar Company on the Hawaiian island of Maui, included the reconstruction of the original parapet (b).

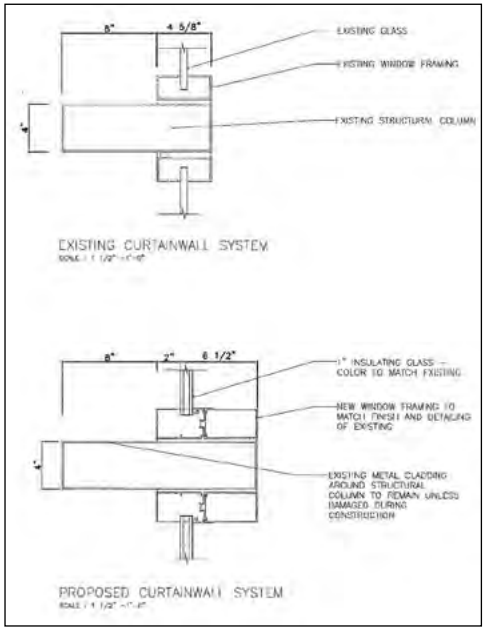
CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving curtain wall systems and their components (metal framing members and glass or opaque panels) that are important in defining the overall historic character of the building. The design of the curtain wall is significant, as are its component materials (metal stick framing and panel materials, such as clear or spandrel glass, stone, terra cotta, metal, and fiber-reinforced plastic), appearance (e.g., glazing color or tint, transparency, and reflectivity), and whether the glazing is fixed, operable or louvered glass panels. How a curtain wall is engineered and fabricated, and the fact that it expands and contracts at a different rate from the building's structural system, are important to understand when undertaking the rehabilitation of a curtain wall system.	Removing or substantially changing curtain wall components which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic curtain wall features instead of repairing or replacing only the deteriorated components.
Protecting and maintaining curtain walls and their components through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems; and by making them watertight and ensuring that sealants and gaskets are in good condition.	Failing to protect and maintain curtain wall components on a cyclical basis so that deterioration of curtain walls results. Failing to identify, evaluate, and treat various causes of curtain wall failure, such as open gaps between components where sealants have deteriorated or are missing.
Protecting ground-level curtain walls from vandalism before work begins by covering them, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving ground-level curtain walls unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected glazing.
Protecting curtain walls when working on other features of the building.	Failing to protect curtain walls when working on other features of the building.
Cleaning curtain wall systems only when necessary to halt deterioration or to remove heavy soiling.	Cleaning curtain wall systems when they are not heavily soiled, thereby needlessly introducing chemicals or moisture into historic materials.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Carrying out cleaning tests, when it has been determined that cleaning is appropriate, using only cleaning materials that will not damage components of the system, including factory-applied finishes. Test areas should be examined to ensure that no damage has resulted.	Cleaning curtain wall systems without testing or using cleaning materials that may damage components of the system.
Evaluating the overall condition of curtain walls to determine whether more than protection and maintenance, such as repair of curtain wall components, will be necessary.	Failing to undertake adequate measures to protect curtain wall components.
Repairing curtain walls by ensuring that they are watertight by augmenting existing components or replacing deteriorated or missing sealants or gaskets, where necessary, to seal any gaps between system components. Repair may include the limited replacement of those extensively deteriorated or missing components of curtain walls when there are surviving prototypes.	Removing curtain wall components that could be repaired or using improper repair techniques. Replacing an entire curtain wall system when repair of materials and limited replacement of deteriorated or missing components are feasible.
Applying sealants carefully so that they are not readily visible.	
Replacing in kind a component or components of a curtain wall system that are too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. If using the same kind of material is not feasible, then a compatible substitute material may be considered as long as it has the same finish and appearance.	Removing a curtain wall component or the entire system, if necessary, that is unrepairable and not replacing it or replacing it with a new component or system that does not convey the same appearance.
Replacing masonry, metal, glass, or other components of a curtain wall system (or the entire system, if necessary) which have failed because of faulty design with substitutes that match the original as closely as possible and which will reestablish the viability and performance of the system.	Using substitute material for the replacement that does not convey the same appearance of the surviving components of the curtain wall or that is physically incompatible.

[30] Rather than replace the original curtain wall system of the 1954 Simms Building in Albuquerque, NM, with a different color tinted glass or coat it with a non-historic reflective film, the HVAC system was updated to improve energy efficiency. *Photo: Harvey M. Kaplan.*



[31 a-c:] (a) The rehabilitation of the First Federal Savings and Loan Association building in Birmingham, AL, constructed in 1961, required replacing the deteriorated historic curtain wall system because the framing and the fasteners holding the spandrel glass and the windows had failed. (b) Comparative drawings show that the differences between the replacement system, which incorporated new insulated glass to meet wind-load requirements, and the original system are minimal. (c) The replacement system, shown after completion of the project, has not altered the historic character of the building.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new curtain wall or its components when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing curtain wall component is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature did not coexist with the features currently on the building. Introducing a new curtain wall component that is incompatible in size, scale, material, color, and finish.
Alterations and Additions for a New Use	
Installing new glazing or an entire new curtain wall system, when necessary to meet safety-code requirements, with dimensions, detailing, materials, colors, and finish as close as possible to the historic curtain wall components.	Installing new glazing or an entire new curtain wall system, when necessary to meet safety-code requirements, with dimensions and detailing that is significantly different from the historic curtain wall components.
Installing impact-resistant glazing, when necessary for security, so that it is compatible with the historic windows and does not damage them or negatively impact their character.	Installing impact-resistant glazing in a curtain wall system, when necessary for security, that is incompatible with the historic curtain walls and damages them or negatively impacts their character.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving structural systems and visible features of systems that are important in defining the overall historic character of the building. This includes the materials that comprise the structural system (i.e., wood, metal and masonry), the type of system, and its features, such as posts and beams, trusses, summer beams, vigas, cast-iron or masonry columns, above-grade stone foundation walls, or load-bearing masonry walls.	Removing or substantially changing visible features of historic structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Overloading the existing structural system, or installing equipment or mechanical systems which could damage the structure. Replacing a load-bearing masonry wall that could be augmented and retained. Leaving known structural problems untreated, such as deflected beams, cracked and bowed walls, or racked structural members.
Protecting and maintaining the structural system by keeping gutters and downspouts clear and roofing in good repair; and by ensuring that wood structural members are free from insect infestation.	Failing to protect and maintain the structural system on a cyclical basis so that deterioration of the structural system results. Using treatments or products that may retain moisture, which accelerates deterioration of structural members.

[33] Retaining as much as possible of the historic wood sill plate and replacing only the termite-damaged wood is always the preferred and recommended treatment.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of the structural system to determine whether more than protection and maintenance, such as repairs to structural features, will be necessary.	Failing to undertake adequate measures to ensure the protection of structural systems.
Repairing the structural system by augmenting individual components, using recognized preservation methods. For example, weakened structural members (such as floor framing) can be paired or sistered with a new member, braced, or otherwise supplemented and reinforced.	Upgrading the building structurally in a manner that diminishes the historic character of the exterior or that damages interior features or spaces. Replacing a historic structural feature in its entirety or in part when it could be repaired or augmented and retained.

[32] (a-b) The rehabilitation of the 1892 Carson Block Building in Eureka, CA, for its owner, the Northern California Indian Development Council, included recreating the missing corner turret and sensitively introducing seismic reinforcement (c) shown here (opposite page) in a secondary upper floor office space. *Photos: Page & Turnbull.*

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Installing seismic or structural reinforcement, when necessary, in a manner that minimizes its impact on the historic fabric and character of the building.	
Replacing in kind or with a compatible substitute material large portions or entire features of the structural system that are either extensively damaged or deteriorated or that are missing when there are surviving prototypes, such as cast-iron columns, trusses, or masonry walls. Substitute material must be structurally sufficient, physically compatible with the rest of the system, and, where visible, must have the same form, design, and appearance as the historic feature.	Using substitute material that does not equal the load-bearing capabilities of the historic material; does not convey the same appearance of the historic material, if it is visible; or is physically incompatible. Installing a visible or exposed structural replacement feature that does not match.
Replacing to match any interior features or finishes that may have to be removed to gain access to make structural repairs, and reusing salvageable material.	

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Alterations and Additions for a New Use	
Limiting any new excavations next to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings. The area next to the building foundation should be investigated first to ascertain potential damage to site features or archeological resources.	Carrying out excavations or regrading land adjacent to a historic building which could cause the historic foundation to settle, shift, or fail, or which could destroy significant archeological resources.
Correcting structural deficiencies needed to accommodate a new use in a manner that preserves the structural system and individual character-defining features.	Making substantial changes to significant interior spaces or damaging or destroying features or finishes that are character defining to correct structural deficiencies.
Designing and installing new mechanical or electrical equipment, when necessary, in a manner that minimizes the number and size of cuts or holes in structural members.	Installing new mechanical or electrical equipment in a manner which reduces the load-bearing capacity of historic structural members.
Inserting a new floor when required for the new use if it does not negatively impact the historic character of the interior space; and if it does not damage the structural system, does not abut window glazing, and is not visible from the exterior of the building.	Inserting a new floor that damages or destroys the structural system or abuts window glazing and is visible from the exterior of the building and, thus, negatively impacts its historic character.
Creating an atrium, light court, or lightwell to provide natural light when required for a new use only when it can be done in a manner that preserves the structural system and the historic character of the building.	Removing structural features to create an atrium, light court, or lightwell if it negatively impacts the historic character of the building.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, and plumbing and lighting fixtures.	Removing or substantially changing visible features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.
Protecting and maintaining mechanical, plumbing, and electrical systems and their features through cyclical maintenance.	Failing to protect and maintain a functioning mechanical system, plumbing, and electrical systems and their visible features on a cyclical basis so that their deterioration results.
Improving the energy efficiency of existing mechanical systems to help reduce the need for a new system by installing storm windows, insulating attics and crawl spaces, or adding awnings, if appropriate.	
Evaluating the overall condition of mechanical systems to determine whether more than protection and maintenance, such as repairs to mechanical system components, will be necessary.	Failing to undertake adequate measures to ensure the protection of mechanical system components.
Repairing mechanical systems by augmenting or upgrading system components (such as installing new pipes and ducts), rewiring, or adding new compressors or boilers.	Replacing a mechanical system when its components could be upgraded and retained.
Replacing in kind or with a compatible substitute material those extensively deteriorated or missing visible features of mechanical systems when there are surviving prototypes, such as ceiling fans, radiators, grilles, or plumbing fixtures.	Installing a visible replacement feature of a mechanical system, if it is important in defining the historic character of the building, that does not convey the same appearance.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Alterations and Additions for a New Use	
Installing a new mechanical system, if required, so that it results in the least alteration possible to the historic building and its character-defining features.	Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.
Providing adequate structural support for the new mechanical equipment.	Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.
Installing new mechanical and electrical systems and ducts, pipes, and cables in closets, service areas, and wall cavities to preserve the historic character of the interior space.	Installing systems and ducts, pipes, and cables in walls or ceilings in a manner that results in extensive loss or damage or otherwise obscures historic building materials and character-defining features.
Concealing HVAC ductwork in finished interior spaces, when possible, by installing it in secondary spaces (such as closets, attics, basements, or crawl spaces) or in appropriately-located, furred-down soffits.	Leaving HVAC ductwork exposed in most finished spaces or installing soffits in a location that will negatively impact the historic character of the interior or exterior of the building.
Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features (such as column capitals, pressed-metal or ornamental plaster ceilings, coffers, or beams) that is painted, and appropriately located so that it will have minimal impact on the historic character of the space.	Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features that is not painted, or is located where it will negatively impact the historic character of the space.
Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space when this will not result in extensive loss or damage to historic materials or decorative and other features, and will not change the overall character of the space or the exterior appearance of the building (i.e., lowered ceilings or soffits visible through window glazing).	Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space in a manner that results in extensive loss or damage to historic materials or decorative and other features, and will change the overall character of the space or the exterior appearance of the building.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
Installing appropriately located, exposed ductwork in historically-unfinished interior spaces in industrial or utilitarian buildings.	
Installing a split system mechanical unit in a manner that will have minimal impact on the historic character of the interior and result in minimal loss of historic building material.	Installing a split system mechanical unit without considering its impact on the historic character of the interior or the potential loss of historic building material.
Installing heating or air conditioning window units only when the installation of any other system would result in significant damage or loss of historic materials or features.	
Installing mechanical equipment on the roof, when necessary, so that it is minimally visible to preserve the building's historic character and setting.	Installing mechanical equipment on the roof that is overly large or highly visible and negatively impacts the historic character of the building or setting.
Placing air conditioning compressors in a location on a secondary elevation of the historic building that is not highly visible.	Placing air conditioning compressors where they are highly visible and negatively impact the historic character of the building or setting.

[34] The new ceiling ducts installed during the conversion of this historic office building into apartments are minimal in design and discretely placed above the windows.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving a floor plan or interior spaces, features, and finishes that are important in defining the overall historic character of the building. Significant spatial characteristics include the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves, such as lobbies, lodge halls, entrance halls, parlors, theaters, auditoriums, gymnasiums, and industrial and commercial interiors. Color, texture, and pattern are important characteristics of features and finishes, which can include such elements as columns, plaster walls and ceilings, flooring, trim, fireplaces and mantels, paneling, light fixtures, hardware, decorative radiators, ornamental grilles and registers, windows, doors, and transoms; plaster, paint, wallpaper and wall coverings, and special finishes, such as marbleizing and graining; and utilitarian (painted or unpainted) features, including wood, metal, or concrete exposed columns, beams, and trusses and exposed load-bearing brick, concrete, and wood walls.	Altering a floor plan, or interior spaces (including individual rooms), features, and finishes, which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Altering the floor plan by demolishing principal walls and partitions for a new use. Altering or destroying significant interior spaces by inserting additional floors or lofts; cutting through floors to create lightwells, light courts, or atriums; lowering ceilings; or adding new walls or removing historic walls. Relocating an interior feature, such as a staircase, so that the circulation pattern and the historic relationship between features and spaces are altered. Installing new material that obscures or damages character-defining interior features or finishes. Removing paint, plaster, or other finishes from historically-finished interior surfaces to create a new appearance (e.g., removing plaster to expose brick walls or a brick chimney breast, stripping paint from wood to stain or varnish it, or removing a plaster ceiling to expose unfinished beams). Applying paint, plaster, or other coatings to surfaces that have been unfinished historically, thereby changing their character. Changing the type of finish or its color, such as painting a historically-varnished wood feature, or removing paint from a historically-painted feature.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Retaining decorative or other character-defining features or finishes that typify the showroom or interior of a historic store, such as a pressed-metal ceiling, a beaded-board ceiling, or wainscoting.	Removing decorative or other character-defining features or finishes that typify the showroom or interior of a historic store, such as a pressed-metal ceiling, a beaded-board ceiling, or wainscoting.
Protecting and maintaining historic materials (including plaster, masonry, wood, and metals) which comprise interior spaces through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain interior materials and finishes on a cyclical basis so that deterioration of interior features results.
Protecting interior features and finishes against arson and vandalism before project work begins by erecting temporary fencing or by covering broken windows and open doorways, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving the building unprotected and subject to vandalism before work begins, thereby allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting interior features (such as a staircase, mantel, flooring, or decorative finishes) from damage during project work by covering them with plywood, heavy canvas, or plastic sheeting.	Failing to protect interior features and finishes when working on the interior.

[35] (a) Although deteriorated, the historic school corridor, shown on the left, with its character-defining features, including doors and transoms, was retained and repaired as part of the rehabilitation project (b).

[36] The elaborate features and finishes of this historic banking hall in the Union Trust Company Building, in Cleveland, OH, were retained and repaired as part of its conversion into a food market.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint and finishes only to the next sound layer using the gentlest method possible prior to repainting or refinishing using compatible paint or other coating systems.	Using potentially damaging methods, such as open-flame torches or abrasive techniques, to remove paint or other coatings. Removing paint that is firmly adhered to interior surfaces.
Using abrasive cleaning methods only on the interior of industrial or warehouse buildings with utilitarian, unplastered masonry walls and where wood features are not finished, molded, beaded, or worked by hand. Low-pressure abrasive cleaning (e.g., sand-blasting or other media blasting) should only be considered if test patches show no surface damage and after gentler methods have proven ineffective.	Using abrasive methods anywhere but utilitarian and industrial interior spaces or when there are other methods that are less likely to damage the surface of the material.
Evaluating the overall condition of the interior materials, features, and finishes to determine whether more than protection and maintenance, such as repairs to features and finishes, will be necessary.	Failing to undertake adequate measures to ensure the protection of interior materials, features, and finishes.
Repairing interior features and finishes by patching, splicing, consolidating, or otherwise reinforcing the materials using recognized preservation methods. Repairs may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of interior features when there are surviving prototypes, such as stairs, balustrades, wood paneling, columns, decorative wall finishes, and ornamental pressed-metal or plaster ceilings. Repairs should be physically and visually compatible.	Removing materials that could be repaired or using improper repair techniques. Replacing an entire interior feature (such as a staircase, mantel, or door surround) or a finish (such as a plaster) when repair of materials and limited replacement of deteriorated or missing components are feasible.

[37] Exposed and painted ducts were appropriately installed here in a retail space in Denver's historic Union Station after considering other options that would have impacted the ceiling height, or damaged or obscured the ornamental plaster crown molding. *Photo: Heritage Consulting Group.*

[39] Leaving the ceiling structure exposed and installing exposed ductwork where it does not impact the windows, are appropriate treatments when rehabilitating an industrial building for another use.

[38] The rehabilitation project retained the industrial character of this historic factory building, which included installation of a fire-rated, clear glass enclosure that allows the stairway, an important interior feature, to remain visible.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire interior feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. Examples could include wainscoting, window and door surrounds, or stairs. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining interior feature that is unrepairable and not replacing it, or replacing it with a new feature or finish that does not match the historic feature. Using a substitute material for the replacement that does not convey the same appearance of the interior feature or that is physically incompatible. Using a substitute material for the replacement that does not convey the same appearance of the interior feature or that is physically incompatible.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new interior feature or finish when the historic feature or finish is completely missing. This could include missing walls, stairs, mantels, wood trim, and plaster, or even entire rooms if the historic spaces, features, and finishes are missing or have been destroyed by inappropriate alterations. The design may be an accurate restoration based on documentary and physical evidence, but only when the feature or finish to be replaced coexisted with the features currently in the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing feature is based upon insufficient physical or historic documentation; is not a compatible design; or because the feature did not coexist with the feature currently on the building. Introducing a new interior feature or finish that is incompatible in size, scale, material, color, and finish.
Alterations and Additions for a New Use	
Installing new or additional systems required for a new use for the building, such as bathrooms and mechanical equipment, in secondary spaces to preserve the historic character of the most significant interior spaces.	Subdividing primary spaces, lowering ceilings, or damaging or obscuring character-defining features (such as fireplaces, windows, or stairways) to accommodate a new use for the building.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Installing new mechanical and electrical systems and ducts, pipes, and cables in closets, service areas, and wall cavities to preserve the historic character of interior spaces, features, and finishes.	Installing ducts, pipes, and cables where they will obscure character-defining features or negatively impact the historic character of the interior.
Creating open work areas, when required by the new use, by selectively removing walls only in secondary spaces, less significant upper floors, or other less-visible locations to preserve primary public spaces and circulation systems.	
Retaining the configuration of corridors, particularly in buildings with multiple floors with repetitive plans (such as office and apartment buildings or hotels), where not only the floor plan is character defining, but also the width and the length of the corridor, doorways, transoms, trim, and other features, such as wainscoting and glazing.	Making extensive changes to the character of significant historic corridors by narrowing or radically shortening them, or removing their character-defining features.
Reusing decorative material or features that had to be removed as part of the rehabilitation work (including baseboards, door casing, paneled doors, and wainscoting) and reusing them in areas where these features are missing or are too deteriorated to repair.	Discarding historic material when it can be reused to replace missing or damaged features elsewhere in the building, or reusing material in a manner that may convey a false sense of history.
Installing permanent partitions in secondary, rather than primary, spaces whenever feasible. Removable partitions or partial-height walls that do not destroy the sense of space often may be installed in large character-defining spaces when required by a new use.	Installing partitions that abut windows and glazing or that damage or obscure character-defining spaces, features, or finishes.
Enclosing a character-defining interior stairway, when required by code, with fire-rated glass walls or large, hold-open doors so that the stairway remains visible and its historic character is retained.	Enclosing a character-defining interior stairway for safety or functional reasons in a manner that conceals it or destroys its character.
Locating new, code-required stairways or elevators in secondary and service areas of the historic building.	Making incompatible changes or damaging or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

[41] **Not Recommended**: Leaving fragments of deteriorated or "sculpted" plaster is not a compatible treatment for either finished or unfinished interior spaces.

[40] **Not Recommended:** Removing a finished ceiling and leaving the structure exposed in a historic retail space does not meet the Standards for Rehabilitation.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Creating an atrium, light court, or lightwell to provide natural light when required for a new use only when it can be done in a manner that preserves significant interior spaces, features, and finishes or important exterior elevations.	Destroying or damaging character-defining interior spaces, features, or finishes, or damaging the structural system to create an atrium, light court, or lightwell.
Inserting a new floor, mezzanine, or loft when required for a new use if it does not damage or destroy significant interior features and finishes and is not visible from the exterior of the building.	Inserting a new floor, mezzanine, or loft that damages or destroys significant interior features or abuts window glazing and is visible from the exterior of the building, and, thus, negatively impacts its historic character.
Inserting a new floor, when necessary for a new use, only in large assembly spaces that are secondary to another assembly space in the building; in a space that has been greatly altered; or where character-defining features have been lost or are too deteriorated to repair.	Inserting a new floor in significant, large assembly spaces with distinctive features and finishes, which negatively impacts their historic character.
Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features (such as column capitals, ornamental plaster or pressed-metal ceilings, coffers, or beams) that is designed, painted, and appropriately located so that it will have minimal impact on the historic character of the space.	Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features that is not painted, or is located where it will negatively impact the historic character of the space.
Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space when they will not result in extensive loss or damage to historic materials or decorative and other features, and will not change the overall character of the space or the exterior appearance of the building (i.e., lowered ceilings or soffits visible through window glazing).	Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space in a manner that results in extensive loss or damage to historic materials or decorative and other features, and will change the overall character of the space or the exterior appearance of the building.
Installing a split system mechanical unit in a manner that will have minimal impact on the historic character of the interior and will result in minimal loss of historic building material.	Installing a split system mechanical unit without considering its impact on the historic character of the interior or the potential loss of historic building material.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving features of the building site that are important in defining its overall historic character. Site features may include walls, fences, or steps; circulation systems, such as walks, paths or roads; vegetation, such as trees, shrubs, grass, orchards, hedges, windbreaks, or gardens; landforms, such as hills, terracing, or berms; furnishings and fixtures, such as light posts or benches; decorative elements, such as sculpture, statuary, or monuments; water features, including fountains, streams, pools, lakes, or irrigation ditches; and subsurface archeological resources, other cultural or religious features, or burial grounds which are also important to the site.	Removing or substantially changing buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.

[42] This garden is an important character-defining landscape feature on this college campus.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Retaining the historic relationship between buildings and the landscape.	Removing or relocating buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape. Removing or relocating buildings on a site or in a complex of related historic structures (such as a mill complex or farm), thereby diminishing the historic character of the site or complex. Moving buildings onto the site, thereby creating an inaccurate historic appearance. Changing the grade level of the site if it diminishes its historic character. For example, lowering the grade adjacent to a building to maximize use of a basement, which would change the historic appearance of the building and its relation to the site.
Protecting and maintaining buildings and site features by providing proper drainage to ensure that water does not erode foundation walls, drain toward the building, or damage or erode the landscape.	Failing to ensure that site drainage is adequate so that buildings and site features are damaged or destroyed; or, alternatively, changing the site grading so that water does not drain properly.
Correcting any existing irrigation that may be wetting the building excessively.	Neglecting to correct any existing irrigation that may be wetting the building excessively.
Minimizing disturbance of the terrain around buildings or elsewhere on the site, thereby reducing the possibility of destroying or damaging important landscape features, archeological resources, other cultural or religious features, or burial grounds.	Using heavy machinery or equipment in areas where it may disturb or damage important landscape features, archeological resources, other cultural or religious features, or burial grounds.
Surveying and documenting areas where the terrain will be altered to determine the potential impact to important landscape features, archeological resources, other cultural or religious features, or burial grounds.	Failing to survey the building site prior to beginning work, which may result in damage or loss of important landscape features, archeological resources, other cultural or religious features, or burial grounds.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Protecting (e.g., preserving in place) important site features, archeological resources, other cultural or religious features, or burial grounds.	Leaving known site features or archeological material unprotected so that it is damaged during rehabilitation work.
Planning and carrying out any necessary investigation before rehabilitation begins, using professional archeologists and methods, when preservation in place is not feasible.	Allowing unqualified personnel to perform data recovery on archeological resources, which can result in damage or loss of important archeological material
Preserving important landscape features through regularly-scheduled maintenance of historic plant material.	Allowing important landscape features or archeological resources to be lost, damaged, or to deteriorate due to inadequate protection or lack of maintenance
Protecting the building site and landscape features against arson and vandalism before rehabilitation work begins by erecting temporary fencing and by installing alarm systems keyed into local protection agencies.	Leaving the property unprotected and subject to vandalism before work begins so that the building site and landscape features, archeological resources, other cultural or religious features, or burial grounds can be damaged or destroyed. Removing or destroying features from the site, such as fencing, paths or walkways, masonry balustrades, or plant material.
Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the site.
Providing continued protection and maintenance of buildings and landscape features on the site through appropriate grounds and landscape management.	Failing to protect and maintain materials and features from the restoration period on a cyclical basis so that deterioration of the site results.
Protecting buildings and landscape features when working on the site.	Failing to protect building and landscape features during work on the site or failing to repair damaged or deteriorated site features.

BUILDING SITE

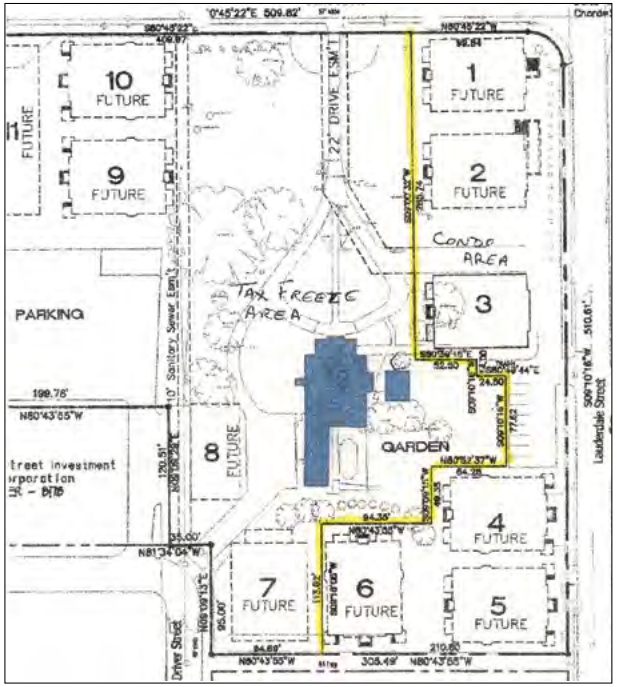
RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of materials and features to determine whether more than protection and maintenance, such as repairs to site features, will be necessary.	Failing to undertake adequate measures to ensure the protection of the site.
Repairing historic site features which have been damaged, are deteriorated, or have missing components order reestablish the whole feature and to ensure retention of the integrity of the historic materials. Repairs may include limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of site features when there are surviving prototypes, such as paving, railings, or individual plants within a group (e.g., a hedge). Repairs should be physically and visually compatible.	Removing materials and features that could be repaired or using improper repair techniques. Replacing an entire feature of the site (such as a fence, walkway, or drive) when repair of materials and limited replacement of deteriorated or missing components are feasible.

[43] The industrial character of the site was retained when this brewery complex was rehabilitated for residential use.

[44] **Not Recommended:** (a-b) The historic character of this plantation house (marked in blue on plan on opposite page) and its site was diminished and adversely impacted when multiple new buildings like this (#3 on plan) were constructed on the property (c).

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire feature of the site that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. Examples could include a walkway or a fountain, a land form, or plant material. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining feature of the site that is unrepairable and not replacing it, or replacing it with a new feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving site feature or that is physically or ecologically incompatible. Adding conjectural landscape features to the site (such as period reproduction light fixtures, fences, fountains, or vegetation) that are historically inappropriate, thereby creating an inaccurate appearance of the site.



[45] Undertaking a survey to document archeological resources may be considered in some rehabilitation projects when a new exterior addition is planned.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new feature on a site when the historic feature is completely missing. This could include missing outbuildings, terraces, drives, foundation plantings, specimen trees, and gardens. The design may be an accurate restoration based on documentary and physical evidence, but only when the feature to be replaced coexisted with the features currently on the site. Or, it may be a new design that is compatible with the historic character of the building and site.	Creating an inaccurate appearance because the replacement for the missing feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature did not coexist with the features currently on the site. Introducing a new feature, including plant material, that is visually incompatible with the site or that alters or destroys the historic site patterns or use.
Alterations and Additions for a New Use	
Designing new onsite features (such as parking areas, access ramps, or lighting), when required by a new use, so that they are as unobtrusive as possible, retain the historic relationship between the building or buildings and the landscape, and are compatible with the historic character of the property.	Locating parking areas directly adjacent to historic buildings where vehicles may cause damage to buildings or landscape features or when they negatively impact the historic character of the building site if landscape features and plant materials are removed.
Designing new exterior additions to historic buildings or adjacent new construction that are compatible with the historic character of the site and preserves the historic relationship between the building or buildings and the landscape.	Introducing new construction on the building site which is visually incompatible in terms of size, scale, design, material, or color, which destroys historic relationships on the site, or which damages or destroys important landscape features, such as replacing a lawn with paved parking areas or removing mature trees to widen a driveway.
Removing non-significant buildings, additions, or site features which detract from the historic character of the site.	Removing a historic building in a complex of buildings or removing a building feature or a landscape feature which is important in defining the historic character of the site.
Locating an irrigation system needed for a new or continuing use of the site where it will not cause damage to historic buildings.	Locating an irrigation system needed for a new or continuing use of the site where it will damage historic buildings.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving building and landscape features that are important in defining the overall historic character of the setting. Such features can include circulation systems, such as roads and streets; furnishings and fixtures, such as light posts or benches; vegetation, gardens and yards; adjacent open space, such as fields, parks, commons, or woodlands; and important views or visual relationships.	Removing or substantially changing those building and landscape features in the setting which are important in defining the historic character so that, as a result, the character is diminished.

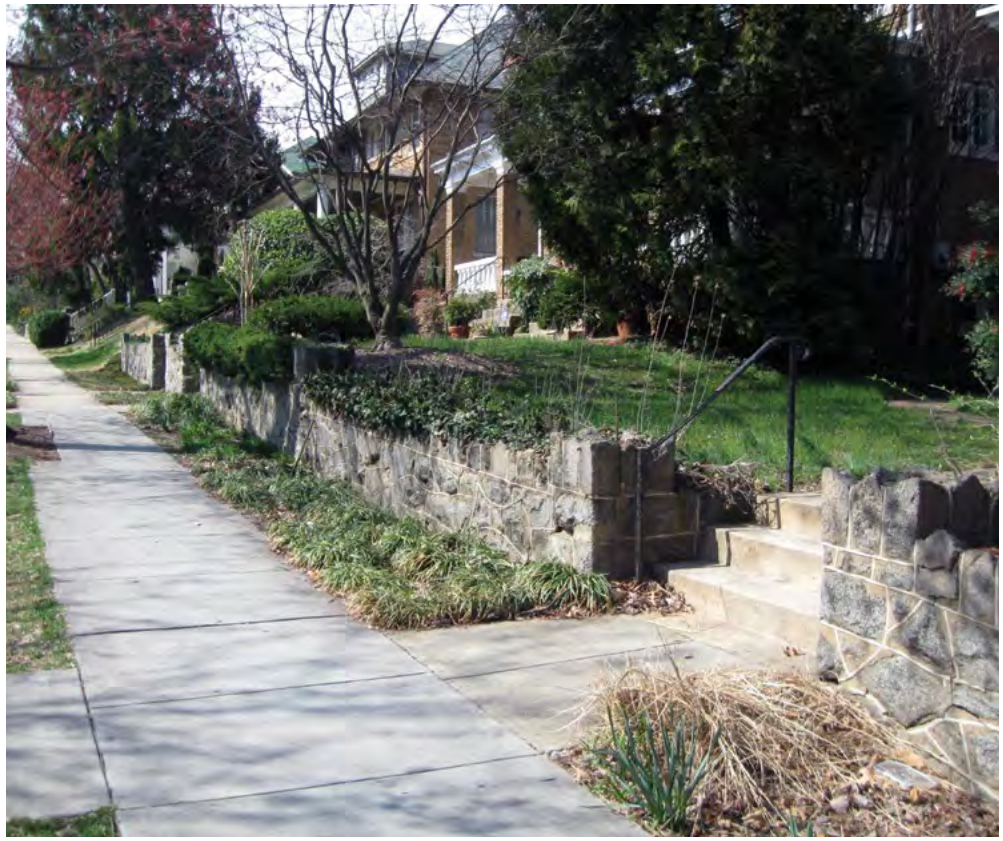
[46] The varied size, shapes, and architectural styles of these historic buildings are unique to this street in Christiansted, St. Croix, USVI, and should be retained in a rehabilitation project.

[47] Original paving stones contribute to the character of the historic setting and distinguish this block from other streets in the district.

[48] Old police and fire call boxes, which are distinctive features in this historic district, have been retained, and now showcase work by local artists.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Retaining the historic relationship between buildings and landscape features in the setting. For example, preserving the relationship between a town common or urban plaza and the adjacent houses, municipal buildings, roads, and landscape and streetscape features.	Altering the relationship between the buildings and landscape features in the setting by widening existing streets, changing landscape materials, or locating new streets or parking areas where they may negatively impact the historic character of the setting. Removing or relocating buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape in the setting.



[49] Low stone walls are character-defining features in this hilly, early-20th-century residential neighborhood.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Protecting and maintaining historic features in the setting through regularly-scheduled maintenance and grounds and landscape management.	Failing to protect and maintain materials in the setting on a cyclical basis so that deterioration of buildings and landscape features results. Stripping or removing historic features from buildings or the setting, such as a porch, fencing, walkways, or plant material.
Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the setting.
Protecting buildings and landscape features when undertaking work in the setting.	Failing to protect buildings and landscape features during work in the setting.
Evaluating the overall condition of materials and features to determine whether more than protection and maintenance, such as repairs to materials and features in the setting, will be necessary.	Failing to undertake adequate measures to ensure the protection of materials and features in the setting.
Repairing features in the setting by reinforcing the historic materials. Repairs may include the replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of setting features when there are surviving prototypes, such as fencing, paving materials, trees, and hedgerows. Repairs should be physically and visually compatible.	Failing to repair and reinforce damaged or deteriorated historic materials and features in the setting. Removing material that could be repaired or using improper repair techniques. Replacing an entire feature of the building or landscape in the setting when repair of materials and limited replacement of deteriorated or missing components are feasible.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire building or landscape feature in the setting that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining feature of the building or landscape from the setting that is unrepairable and not replacing it or replacing it with a new feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving building or landscape feature in the setting or that is physically or ecologically incompatible.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new feature of the building or landscape in the setting when the historic feature is completely missing. This could include missing steps, streetlights, terraces, trees, and fences. The design may be an accurate restoration based on documentary and physical evidence, but only when the feature to be replaced coexisted with the features currently in the setting. Or, it may be a new design that is compatible with the historic character of the setting.	Creating an inaccurate appearance because the replacement for the missing feature is based upon insufficient physical or historic documentation; is not a compatible design, or because the feature did not coexist with the features currently in the setting. Introducing a new building or landscape feature that is visually or otherwise incompatible with the setting's historic character (e.g., replacing low metal fencing with a high wood fence).
Alterations and Additions for a New Use	
Designing new features (such as parking areas, access ramps, or lighting), when required by a new use, so that they are as unobtrusive as possible, retain the historic relationships between buildings and the landscape in the setting, and are compatible with the historic character of the setting.	Locating parking areas directly adjacent to historic buildings where vehicles may cause damage to buildings or landscape features or when they negatively impact the historic character of the setting if landscape features and plant materials are removed.
Designing new exterior additions to historic buildings or adjacent new construction that are compatible with the historic character of the setting that preserve the historic relationship between the buildings and the landscape.	Introducing new construction into historic districts which is visually incompatible or that destroys historic relationships within the setting, or which damages or destroys important landscape features.
Removing non-significant buildings, additions, or landscape features which detract from the historic character of the setting.	Removing a historic building, a building feature, or landscape feature which is important in defining the historic character of the setting.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Sensitive solutions to meeting accessibility and life-safety code requirements are an important part of protecting the historic character of the building and site. Thus, work that must be done to meet use-specific code requirements should be considered early in planning a ***Rehabilitation*** *of a historic building for a new use. Because code mandates are directly related to occupancy, some uses require less change than others and, thus, may be more appropriate for a historic building. Early coordination with code enforcement authorities can reduce the impact of alterations necessary to comply with current codes.*	
ACCESSIBILITY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by accessibility code-required work.	Undertaking accessibility code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with barrier-free access requirements in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with accessibility requirements.

[50] This kitchen in a historic apartment complex was rehabilitated to meet accessibility requirements.

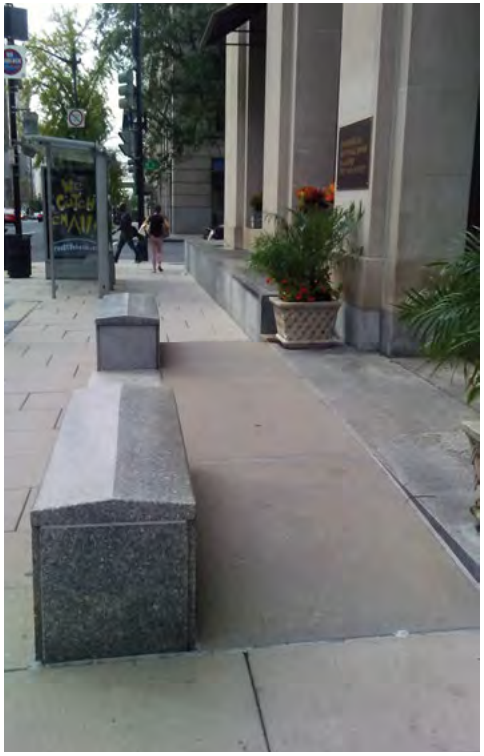
[51] A new interior access ramp with a simple metal railing is compatible with the character of this mid-century-modern building.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Working with specialists in accessibility and historic preservation to determine the most sensitive solutions to comply with access requirements in a historic building, its site, or setting.	Making changes to historic buildings, their sites, or setting without first consulting with specialists in accessibility and historic preservation to determine the most appropriate solutions to comply with accessibility requirements.
Providing barrier-free access that promotes independence for the user while preserving significant historic features.	Making modifications for accessibility that do not provide independent, safe access while preserving historic features.
Finding solutions to meet accessibility requirements that minimize the impact of any necessary alteration on the historic building, its site, and setting, such as compatible ramps, paths, and lifts.	Making modifications for accessibility without considering the impact on the historic building, its site, and setting.

[52] The access ramp blends in with the stone façade of the First National Bank in Stephenville, TX, and is appropriately located on the side where it is does not impact the historic character of the building. *Photo: Nancy McCoy, QuimbyMcCoy Preservation Architecture, LLP.*

[53] This entrance ramp (right) is compatible with the historic character of this commercial building.



[54] The gently-sloped path in a historic park in Kansas City, MO, which accesses the memorial below, includes a rest area part way up the hill. *Photo: STRATA Architecture + Preservation.*

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Using relevant sections of existing codes regarding accessibility for historic buildings that provide alternative means of code compliance when code-required work would otherwise negatively impact the historic character of the property.	
Minimizing the impact of accessibility ramps by installing them on secondary elevations when it does not compromise accessibility or by screening them with plantings.	Installing elevators, lifts, or incompatible ramps at a primary entrance, or relocating primary entrances to secondary locations to provide access without investigating other options or locations.
Adding a gradual slope or grade to the sidewalk, if appropriate, to access the entrance rather than installing a ramp that would be more intrusive to the historic character of the building and the district.	
Adding an exterior stair or elevator tower that is compatible with the historic character of the building in a minimally-visible location only when it is not possible to accommodate it on the interior without resulting in the loss of significant historic spaces, features, or finishes.	
Installing a lift as inconspicuously as possible when it is necessary to locate it on a primary elevation of the historic building.	
Installing lifts or elevators on the interior in secondary or less significant spaces where feasible.	Installing lifts or elevators on the interior in primary spaces which will negatively impact the historic character of the space.

[55] The lift is compatible with the industrial character of this former warehouse.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
LIFE SAFETY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by life-safety code-required work.	Undertaking life-safety code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with life-safety code requirements.
Removing building materials only after testing has been conducted to identify hazardous materials, and using only the least damaging abatement methods.	Removing building materials without testing first to identify the hazardous materials, or using potentially damaging methods of abatement.
Providing workers with appropriate personal equipment for protection from hazards on the worksite.	Removing hazardous or toxic materials without regard for workers' health and safety or environmentally-sensitive disposal of the materials.
Working with code officials and historic preservation specialists to investigate systems, methods, or devices to make the building compliant with life-safety codes to ensure that necessary alterations will be compatible with the historic character of the building.	Making life-safety code-required changes to the building without consulting code officials and historic preservation specialists, with the result that alterations negatively impact the historic character of the building.
Using relevant sections of existing codes regarding life safety for historic buildings that provide alternative means of code compliance when code-required work would otherwise negatively impact the historic character of the building.	

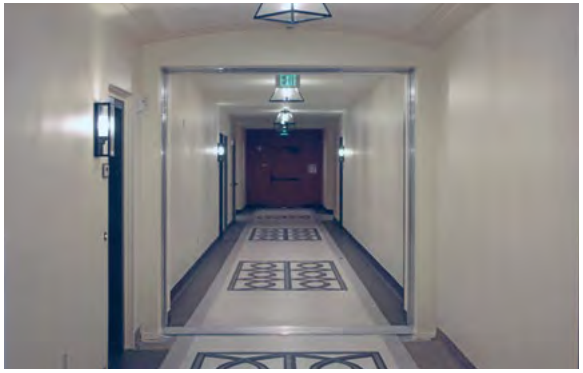
[56 a-b] In order to continue in its historic use, the door openings of this 1916 Colonial Revival-style fire station had to be widened to accommodate the larger size of modern fire trucks. Although this resulted in some change to the arched door surrounds, it is minimal and does not negatively impact the historic character of the building. (a) Above, before; *Photo: Fire and Emergency Medical Services Department (FEMS), Washington, D.C.;* below, after.

[57] Workers wear protective clothing while removing lead paint from metal features.

[59] (a-b) The decorative concrete balcony railings on this 1960s building did not meet life-safety code requirements. They were replaced with new glass railings with a fritted glass pattern matching the original design—a creative solution that satisfies codes, while preserving the historic appearance of the building when viewed from the street (c-d). *Photos: (a, b, d) ERA Architects, Inc.; (c) Nathan Cyprys, photographer*.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Upgrading historic stairways and elevators to meet life-safety codes so that they are not damaged or otherwise negatively impacted.	Damaging or making inappropriate alterations to historic stairways and elevators or to adjacent features, spaces, or finishes in the process of doing work to meet code requirements.
Installing sensitively-designed fire-suppression systems, such as sprinklers, so that historic features and finishes are preserved.	Covering character-defining wood features with fire-retardant sheathing, which results in altering their appearance.
Applying fire-retardant coatings when appropriate, such as intumescent paint, to protect steel structural systems.	Using fire-retardant coatings if they will damage or obscure character-defining features.
Adding a new stairway or elevator to meet life-safety code requirements in a manner that preserves adjacent character-defining features and spaces.	Altering, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.
Using existing openings on secondary or less-visible elevations or, if necessary, creating new openings on secondary or less-visible elevations to accommodate second egress requirements.	Using a primary or other highly-visible elevation to accommodate second egress requirements without investigating other options or locations.
Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition located on a secondary or minimally-visible elevation.	Constructing a new addition to accommodate code-required stairs or an elevator on character-defining elevations or where it will obscure, damage, or destroy character-defining features of the building, its site, or setting.
Designing a new exterior stairway or elevator tower addition that is compatible with the historic character of the building.	



[58] Fire doors that retract into the walls have been installed here (not visible in photo) preserve the historic character of this corridor.

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Resilience to natural hazards should be addressed as part of the treatment ***Rehabilitation****. A historic building may have existing characteristics or features that help address or minimize the impacts of natural hazards. These should be used to best advantage and should be taken into consideration early in the planning stages of a rehabilitation project before proposing any new treatments. When new adaptive treatments are needed they should be carried out in a manner that will have the least impact on the historic character of the building, its site, and setting. .*	
Identifying the vulnerabilities of the historic property to the impacts of natural hazards (such as wildfires, hurricanes, or tornadoes) using the most current climate information and data available.	Failing to identify and periodically reevaluate the potential vulnerability of the building, its site, and setting to the impacts of natural hazards.
Assessing the potential impacts of known vulnerabilities on character-defining features of the building, its site, and setting; and reevaluating and reassessing potential impacts on a regular basis.	
Documenting the property and character-defining features as a record and guide for future repair work, should it be necessary, and storing the documentation in a weatherproof location.	Failing to document the historic property and its character-defining features with the result that such information is not available in the future to guide repair or reconstruction work, should it be necessary.
Ensuring that historic resources inventories and maps are accurate, up to date, and accessible in times of emergency.	
Maintaining the building, its site, and setting in good repair, and regularly monitoring character-defining features.	Failing to regularly monitor and maintain the property and the building systems in good repair.
Using and maintaining existing characteristics and features of the historic building, its site, setting, and larger environment (such as shutters for storm protection or a site wall that keeps out flood waters) that may help to avoid or minimize the impacts of natural hazards	Allowing loss, damage, or destruction to occur to the historic building, its site, or setting by failing to evaluate potential future impacts of natural hazards or to plan and implement adaptive measures, if necessary to address possible threats.
Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and preserving significant features and the overall historic character of the building, its site, and setting.	Carrying out adaptive measures intended to address the impacts of natural hazards that are unnecessarily invasive or will otherwise adversely impact the historic character of the building, its site, or setting.

[60] In some instances, it may be necessary to elevate a historic building located in a floodplain to protect it. But this treatment is appropriate only if elevating the building will retain its historic character, including its relationship to the site, and its new height will be compatible with surrounding buildings if in a historic district. The house on the right, which has been raised only slightly, has retained its historic character. The house on the left has been raised several feet higher, resulting in a greater impact on the historic character of the house and the district.

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Ensuring that, when planning work to adapt for natural hazards, all feasible alternatives are considered, and that the options requiring the least alteration are considered first.	
Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites in response to specific natural hazards, when appropriate. Such traditional methods may be appropriate if they are compatible with the historic character of the building, its site, and setting.	Implementing a treatment traditionally used in another region or one typically used for a different property type or architectural style which is not compatible with the historic character of the property.
Using special exemptions and variances when adaptive treatments to protect buildings from known hazards would otherwise negatively impact the historic character of the building, its site, and setting.	
Considering adaptive options, whenever possible, that would protect multiple historic resources, if the treatment can be implemented without negatively impacting the historic character of the district, or archeological resources, other cultural or religious features, or burial grounds.	

Sustainability

Sustainability is usually a very important and integral part of the treatment **Rehabilitation.** Existing energy-efficient features should be taken into consideration early in the planning stages of a rehabilitation project before proposing any energy improvements. There are numerous treatments that may be used to upgrade a historic building to help it operate more efficiently while retaining its character.

The topic of sustainability is addressed in detail in **The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings.**

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
New Additions	
Placing functions and services required for a new use (including elevators and stairways) in secondary or non-character-defining interior spaces of the historic building rather than constructing a new addition.	Expanding the size of the historic building by constructing a new addition when requirements for the new use could be met by altering non-character-defining interior spaces.
Constructing a new addition on a secondary or non-character-defining elevation and limiting its size and scale in relationship to the historic building.	Constructing a new addition on or adjacent to a primary elevation of the building which negatively impacts the building's historic character.
Constructing a new addition that results in the least possible loss of historic materials so that character-defining features are not obscured, damaged, or destroyed.	Attaching a new addition in a manner that obscures, damages, or destroys character-defining features of the historic building.
Designing a new addition that is compatible with the historic building.	Designing a new addition that is significantly different and, thus, incompatible with the historic building.
Ensuring that the addition is subordinate and secondary to the historic building and is compatible in massing, scale, materials, relationship of solids to voids, and color.	Constructing a new addition that is as large as or larger than the historic building, which visually overwhelms it (i.e., results in the diminution or loss of its historic character).

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Using the same forms, materials, and color range of the historic building in a manner that does not duplicate it, but distinguishes the addition from the original building.	Duplicating the exact form, material, style, and detailing of the historic building in a new addition so that the new work appears to be historic.
Basing the alignment, rhythm, and size of the window and door openings of the new addition on those of the historic building.	
Incorporating a simple, recessed, small-scale hyphen, or connection, to physically and visually separate the addition from the historic building.	
Distinguishing the addition from the original building by setting it back from the wall plane of the historic building.	

[61 a-b] The materials, design, and location at the back of the historic house are important factors in making this a compatible new addition. *Photos: © Maxwell MacKenzie.*

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Ensuring that the addition is stylistically appropriate for the historic building type (e.g., whether it is residential or institutional).	
Considering the design for a new addition in terms of its relationship to the historic building as well as the historic district, neighborhood, and setting.	

[62] The stair tower at the rear of this commercial building is a compatible new addition.

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Rooftop Additions	
Designing a compatible rooftop addition for a multi-story building, when required for a new use, that is set back at least one full bay from the primary and other highly-visible elevations and that is inconspicuous when viewed from surrounding streets.	Constructing a rooftop addition that is highly visible, which negatively impacts the character of the historic building, its site, setting, or district.

[63] (a) A mockup should be erected to demonstrate the visibility of a proposed rooftop addition and its potential impact on the historic building. Based on review of this mockup (orange marker), it was determined that the rooftop addition would meet the Standards (b). The addition is unobtrusive and blends in with the building behind it.

New addition

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Limiting a rooftop addition to one story in height to minimize its visibility and its impact on the historic character of the building.	Constructing a highly-visible, multi-story rooftop addition that alters the building's historic character. Constructing a rooftop addition on low-rise, one- to three-story historic buildings that is highly visible, overwhelms the building, and negatively impacts the historic district. Constructing a rooftop addition with amenities (such as a raised pool deck with plantings, HVAC equipment, or screening) that is highly visible and negatively impacts the historic character of the building.

[64] **Not Recommended:** It is generally not appropriate to construct a rooftop addition on a low-rise, two- to three-story building such as this, because it negatively affects its historic character.

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Related New Construction	
Adding a new building to a historic site or property only if the requirements for a new or continuing use cannot be accommodated within the existing structure or structures.	Adding a new building to a historic site or property when the project requirements could be accommodated within the existing structure or structures.
Locating new construction far enough away from the historic building, when possible, where it will be minimally visible and will not negatively affect the building's character, the site, or setting.	Placing new construction too close to the historic building so that it negatively impacts the building's character, the site, or setting.

[65] (a) This (far left) is a compatible new outbuilding constructed on the site of a historic plantation house (b). Although traditional in design, it is built of wood to differentiate it from the historic house (which is scored stucco) located at the back of the site so as not to impact the historic house, and minimally visible from the public right-of-way (c).

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Designing new construction on a historic site or in a historic setting that it is compatible but differentiated from the historic building or buildings.	Replicating the features of the historic building when designing a new building, with the result that it may be confused as historic or original to the site or setting.
Considering the design for related new construction in terms of its relationship to the historic building as well as the historic district and setting.	
Ensuring that new construction is secondary to the historic building and does not detract from its significance.	Adding new construction that results in the diminution or loss of the historic character of the building, including its design, materials, location, or setting. Constructing a new building on a historic property or on an adjacent site that is much larger than the historic building. Designing new buildings or groups of buildings to meet a new use that are not compatible in scale or design with the character of the historic building and the site, such as apartments on a historic school property that are too residential in appearance.
Using site features or land formations, such as trees or sloping terrain, to help minimize the new construction and its impact on the historic building and property.	
Designing an addition to a historic building in a densely-built location (such as a downtown commercial district) to appear as a separate building or infill, rather than as an addition. In such a setting, the addition or the infill structure must be compatible with the size and scale of the historic building and surrounding buildings—usually the front elevation of the new building should be in the same plane (i.e., not set back from the historic building). This approach may also provide the opportunity for a larger addition or infill when the façade can be broken up into smaller elements that are consistent with the scale of the historic building and surrounding buildings.	

APPENDIX E – LANDSCAPE ARCHITECT AGREEMENT TEMPLATE
CITY OF DULUTH
RFP# 25-AA08 DESIGN SERVICES FOR PRILEY CIRCLE RESTORATION

PROFESSIONAL LANDSCAPE ARCHITECTURAL SERVICES AGREEMENT

ARCHITECT & CITY OF DULUTH

THIS AGREEMENT, effective as of the date of attestation by the City Clerk, is made by and between the City of Duluth, Minnesota hereinafter referred to as the "City" and:

Name: Click or tap here to enter text.
Address: Click or tap here to enter text.

hereinafter referred to as the "Landscape Architect", in consideration of the mutual promises contained herein.

Payments as described in Section V shall be made from Funding Click or tap here to enter text.; Project # Click or tap here to enter text.; and Resolution No. Click or tap here to enter text., passed on Click or tap here to enter text..

The professional landscape architectural services obtained by the City under this agreement concern the following described project hereinafter referred to as the "Project":

Project Number: Click or tap here to enter text.
Project Name: Click or tap here to enter text.
Project Budget: Click or tap here to enter text.
Project Description: Click or tap here to enter text.

The professional landscape architectural services to be provided under this agreement consist of those phases A through I checked below. A more particular description of each phase is contained in Section II, "Basic Services", of the agreement.

	Phase	Description
☐	A.	Study and Report Phase
☐	B.	Preliminary Survey Phase
☐	C.	Public Input Phase
☐	D.	Schematic Design Phase
☐	E.	Design Development Phase
☐	F.	Construction Document Phase
☐	G.	Bidding Phase
☐	H.	Construction Survey and Layout Phase
☐	I.	Construction Administration and Inspection Phase

SECTION I. GENERAL

A. LANDSCAPE ARCHITECT

The Landscape Architect shall provide professional landscape architectural services for the City in all phases of the Project to which this agreement applies including complete

architectural services and complete structural, mechanical, electrical and civil engineering services, and such other services as may be necessary to assist the City in the design and construction of each authorized Phase of the Project, serve as the City's professional architectural representative for the Project as set forth below and shall give professional architectural consultation and advice to the City during the performance of services hereunder. Landscape Architect's services shall include all services set forth in Landscape Architect's Proposal attached hereto as Exhibit B except that to the extent that the provisions of Exhibit B are contrary to any provisions of this Agreement, this Agreement shall be deemed to be controlling. All services provided hereunder shall be performed by the Landscape Architect in accordance with generally accepted Architectural standards to the satisfaction of the City.

B. NOTICE TO PROCEED

The Landscape Architect shall only begin performance of each Phase of work required hereunder upon receipt of a written Notice to Proceed by City representative with that Phase.

C. TIME

The Landscape Architect shall begin work on each successive phase promptly after receipt of the Notice to Proceed and shall devote such personnel and materials to the Project so as to complete each phase in an expeditious manner within the time limits set forth in Section II. Time is of the essence to this agreement.

D. CITY'S REPRESENTATIVE

The City's representative to the Landscape Architect shall be the Director of Click or tap here to enter text. or his or her designees (the "Director") assigned in writing.

E. PROJECT BUDGET

Landscape Architect shall design the Project in such a manner as to meet the City's goals and objectives for the Project at a cost for design and construction which does not exceed the City's Project Budget; provided that the Director may, from time to time, increase or decrease the Project Budget, which increase or decrease shall be communicated to the Landscape Architect in writing as provided for in Section VII below.

F. SUBCONSULTANTS

Landscape Architect may contract for the services of sub-consultants to assist Landscape Architect in the performance of the services to be provided by Landscape Architect hereunder, but the selection of any sub-consultant to perform such services shall be subject to the prior written approval of the Director. Landscape Architect shall remain responsible for all aspects of any services provided by such sub-consultants to City under this Agreement. City shall reimburse Landscape Architect for sub-consultant services under the categories of services to be provided by Landscape Architect under Phases A through I, as applicable.

G. COORDINATION WITH OTHER CITY CONSULTANTS

☐ If this box is checked, the City has contracted with or will contract with one or more other design professionals to perform design services on projects related to or which need to interface with the Project. Attached to this Agreement as Exhibit __ is a document entitled "Coordinated Work Plan" which sets forth in detail the manner of coordination between Landscape Architect and such other design professional(s) which will be required of Landscape Architect and such other design professional(s) in designing the Project and said related projects. Landscape Architect agrees to use its best efforts to implement the Coordinated Work Plan in designing the Project and to design the Project in such a manner so that the resulting combination of the Project and the related projects result in an integrated whole which achieves the City's goals and objectives for the Project and the related projects.

SECTION II. BASIC SERVICES

A. STUDY AND REPORT PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

The Landscape Architect shall:

1) City's Requirements
Review available data and consult with the City to clarify and define the City's requirements for the Project.

2) Advise Regarding Additional Data
Advise the City as to the necessity of the City's providing or obtaining from others data or services in order to evaluate or complete the Project and, if directed by the Director, act on behalf of the City in obtaining other data or services.

3) Technical Analysis
Provide analysis of the City's needs, planning surveys, site evaluations, and comparative studies of prospective sites and solutions.

4) Economic Analysis
Provide a general economic analysis of various alternatives based on economic parameters and assumptions provided by the City.

5) Report Preparation
Prepare a report containing schematic layouts, sketches and conceptual design criteria with appropriate exhibits to indicate clearly the considerations involved and the alternative solutions available to the City and setting forth the Landscape Architect's findings and recommendations with opinions of probable total costs for the Project, including construction cost, contingencies, allowances for charges of all professionals and consultants, allowances for the cost of land and rights-of-way, compensation for or

damages to properties and interest and financing charges (all of which are hereinafter called "Project Costs").

6) Report Presentation

Furnish three copies of the report and present and review the report in person with the City as the City Representative shall direct.

7) Supplementary Duties

The duties and responsibilities of Landscape Architect during the Study and Report Phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

8) Completion Time

The Study and Report Phase shall be completed and report submitted by Click or tap here to enter text..

B. PRELIMINARY SURVEY PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

After written authorization by the Director to proceed with the preliminary survey phase, the Landscape Architect shall:

1) General

☐ If checked, perform topographic survey as necessary to prepare the design and to identify environmental conditions which will affect the design of the Project and provide Construction Survey and Layout as described in Section II.H

2) Boundary Survey

☐ If checked, perform boundary survey.

3) Document Presentation

☐ If checked, furnish a CAD file of the survey base map to the City. Files shall be in the software specified by the Director.

4) Preliminary Design

Prepare the Preliminary Design Studies and submit to the Director a digital copy of drawings and other documents, in a file type approved by the Director, which illustrate the scale and relationship of the Project components. Landscape Architect shall submit outline specifications for all major elements of construction including but not limited to: structural, mechanical and electrical systems, special equipment.

5) Probable Cost

Landscape Architect shall submit to City a Statement of Probable Construction

Cost based on current area, volume or other unit costs in a form acceptable to the Director.

6) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the preliminary survey phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

7) Completion Time

The preliminary survey phase shall be completed and submitted by Click or tap here to enter text..

C. PUBLIC INPUT PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

After written authorization by the Director to proceed with the Public Input Phase, the Landscape Architect shall:

1) Advertisement

The City will take primary responsibility for advertising the public input phase of the project. Landscape Architect shall assist the City with advertising the project for public input by providing information on the nature, scope and timing of the proposed Project, and any other information necessary for a successful public engagement process. Any content created by the Landscape Architect shall be made available in a format that meets the needs of public media and the City website.

2) Stakeholder Meetings

Hold and moderate a minimum of ____ meetings with stakeholders as identified by the Director at sites approved by the Director in writing at which the Project is explained and at which meeting attendees are invited to provide input and feedback. Stakeholders may provide input by way of input at the meeting or written comment immediately thereafter.

3) Public Meetings

Hold and moderate a minimum of ___ public meetings at sites approved by the Director in writing at which the Project is explained and at which members of the public are invited to comment. Provide a public comment period, the duration of which is not less than two weeks, to help inform the final concept.

4) Public Meeting Summary

Within five (5) days of the last of such meeting, present to City a summary of all public comments received, both from the hearings and from written communications.

Summary shall be organized in a manner that is easy to read and understand and shareable with stakeholders, governing boards and commissions, and the public.

5) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the public input and inspection phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

6) Completion Time

The Public Comment Phase shall be completed and report or plan submitted by Click or tap here to enter text.

D. SCHEMATIC DESIGN PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

After written authorization by the Director to proceed with the Schematic Design Phase, the Landscape Architect shall:

1) Schematic Design Documents

Prepare schematic design documents consisting of final design criteria, preliminary drawings and outline specifications, taking into account any public comment received during a Public Input Phase, if that phase is included.

2) Revised Project Costs

Based on the information contained in the preliminary design documents, submit a revised opinion of probable Project costs.

3) Preparation of Grants; Environmental Statements

Preparation of applications and supporting documents for governmental grants, loans or advances, if any, in connection with the Project, preparation or review of environmental assessments and impact statements; review and evaluation of the effect on the design requirements of the Project of any such statements and documentation prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Project.

4) Renderings and Models

Providing renderings or models for the City's use.

5) Economic Analysis

Investigations involving detailed consideration of operations, maintenance and overhead expenses; providing value engineering during the course of design; the preparation of feasibility studies, cash flow and economic evaluations, rate schedules and appraisals; assistance in obtaining financing for the Project; evaluating processes available for licensing and assisting the City in obtaining licensing; detailed quantity

surveys of material, equipment and labor; and audits of inventories required in connection with construction performed by the City.

6) Document Presentation

Furnish one digital copy of the above schematic design documents in a form acceptable to the Director, and present and review such documents in person with the City as the Director may direct.

7) Revised Probable Costs

Landscape Architect shall submit to Director a Revised Statement of Probable Construction Cost in a form acceptable to the Director. Any variance in the estimated construction costs that will adversely affect the established Project Budget will be submitted to the Director with appropriate comments and recommendations prior to beginning the Construction Documents Phase.

8) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the Schematic Design Phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

9) Completion Time

The Schematic Design Phase shall be completed and report or plan submitted by Click or tap here to enter text..

E. DESIGN DEVELOPMENT PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

1) Drawings and Specifications

On the basis of the accepted schematic design documents and the revised opinion of probable Project costs, Landscape Architect shall prepare Design Development Documents based on the approved Schematic Design Documents to include adequate Specifications for elements of the Project for consideration and approval by the Director. A sufficient number of copies (as determined by the Director) of the Design Development Documents will be submitted to the Director for distribution, each copy consisting of drawings and other documents to fix and describe the size, cross sections and character of the Project as to architectural, structural, mechanical and electrical systems, materials, and such other essentials as may be necessary and appropriate.

2) Revised Probable Cost

Landscape Architect shall submit to City a Revised Statement of Probable Construction Cost in a form acceptable to the Director. Any variance in the estimated construction costs that will adversely affect the established Project Budget will be

submitted to the Director with appropriate comments and recommendations prior to beginning the Construction Documents Phase.

3) Completion Time

The Design Development Phase shall be completed and report or plan submitted by Click or tap here to enter text..

F. CONSTRUCTION DOCUMENT PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

1) Drawings and Specifications

On the basis of the accepted design development documents and the revised opinion of probable Project costs, Landscape Architect shall prepare from the approved Design Development Documents, for consideration and approval by the Director, complete Working Drawings and Specifications. The Working Drawings and Specifications shall set forth in complete detail the requirements of the entire Project, including the necessary bidding information prepared in such a way to allow City, if it so desires, to advertise for the award of one or more contracts for the construction and completion of the entire Project, or any phase of the Project.

2) Approvals of Governmental Entities

Landscape Architect shall perform those services pertaining to governmental approvals and permits set forth adjacent to the checked box below:

☐ Furnish to the City such documents and design data as may be required for, and prepare the required documents so that the City may apply for approvals and permits of such governmental authorities as have jurisdiction over design criteria applicable to the Project, and assist in obtaining such approvals by participating in submissions to and negotiations with appropriate authorities.

☐ Apply for approvals and permits of such governmental authorities as have jurisdiction over design criteria applicable to the Project, and obtain such approvals by participating in submissions to and negotiations with appropriate authorities.

3) Adjusted Project Costs

Advise the City of any adjustments to the latest opinion of probable Project costs, identify cause of change and furnish a revised opinion of probable Project cost based on the drawings and specifications.

4) Contract Document Preparation

Prepare final plans and specifications for the Project, which shall include incorporation of plans and specifications prepared by subconsultants. Landscape Architect shall assist in the preparation of contract documents. Landscape Architect shall prepare all necessary

project/plan review forms checklists, labor compliance requests, wage determination requests, bidding documents and other forms to assist the City with procuring Bids. Landscape Architect shall review all plans and specifications and supporting documentation and resolve any inconsistencies in said documents being incorporated into the Contract prior to bid. To the extent possible, the Landscape Architect will follow the document format supplied by the City and use the standard terms and conditions supplied by the City in preparation of these documents.

5) Real Estate Acquisition: Legal Description

☐ If checked, based on design development documents, Landscape Architect shall furnish a legal description and recordable reproducible 8-1/2" X 11" plat of each parcel of real estate in which the City must acquire an interest in order to proceed with construction of the Project.

6) Document Presentation

Landscape Architect shall, within the agreed Performance Schedule, submit a digital file of the complete set of proposed Construction Documents, including a cost estimate, to the Director for review and official approval prior to the advertisement of bids for construction of the Project. Should paper sets of Construction Documents be required or requested by the Director, Landscape Architect will be reimbursed for the actual cost of reproduction, upon approval in advance by City.

7) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the Final Design Phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

8) Completion Time

The Construction Document Phase shall be completed and contract documents submitted by Click or tap here to enter text..

G. BIDDING PHASE

☐ Included in this Agreement

☐ Not included in this Agreement

The Landscape Architect shall:

1) Assist in Bidding

Assist the City in obtaining bids for each separate City contract for construction, materials, equipment and services.

2) Advise Regarding Contractors and Subcontractors

Consult with and advise the City as to the acceptability of subcontractors and other persons and organizations proposed by the City's contractor(s) (hereinafter called "Contractor(s)" for those portions of the work as to which such acceptability is required

by the bidding documents).

3) Consult Regarding Substitutes

Consult with and advise the City as to the acceptability of substitute materials and equipment proposed by the contractor(s) when substitution prior to the award of contracts is allowed by the bidding documents.

4) Evaluation of Bids

Assist the City in evaluating bids or proposals and in assembling and awarding contracts.

5) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the Bidding Phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

6) Completion Time

The bidding phase shall be completed by Click or tap here to enter text..

H. CONSTRUCTION SURVEY AND LAYOUT PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

1) General

This phase of work may or may not be performed in conjunction with Phase I, "Construction Administration and Inspection Phase" of this agreement. Inclusion of this phase in the agreement does not imply that services identified under Phase I are to be provided unless specifically indicated in this agreement.

2) Duties

The Landscape Architect shall provide horizontal and vertical control line and grade to enable construction of the improvement as depicted in the Project plans. The number of control points to be established by the Landscape Architect shall be sufficient to permit the construction contractor to construct the improvement within the construction tolerances established in the Project specifications. In addition, the number of control points shall be consistent with standard engineering practice.

3) Accuracy

The Landscape Architect shall provide the horizontal and vertical control points within the same measurement tolerances as the construction tolerances established in the Project specifications. The Landscape Architect shall be responsible for the accuracy of the control points which are established. The Landscape Architect shall be responsible for costs which may result from errors in placement of control points. The Landscape Architect shall be required to establish control points at Landscape Architect's costs only one time. Control points which are lost, damaged, removed or otherwise moved by the Contractor or others shall be promptly replaced by the Landscape Architect and costs for such replacement shall be computed on a time and materials basis, and reimbursed

by the City. The Landscape Architect shall take all reasonable and customary actions to protect the control points established by the Landscape Architect.

4) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the construction survey and layout phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

5) Completion Time

The construction survey & layout phase shall be completed by Click or tap here to enter text..

I. CONSTRUCTION ADMINISTRATION AND INSPECTION PHASE

☐ Included in this Agreement
☐ Not included in this Agreement

1) General Duties

Consult with and advise the City and act as its representative as provided herein and in the General Conditions of the construction contract for the Project. This phase of the work may or may not be performed in conjunction with Phase H "Construction Survey and Layout Phase" of this agreement. Inclusion of this phase in the agreement does not imply that services identified under Phase H are to be provided unless specifically indicated in this agreement.

2) Construction Inspection and Reporting

Make visits to the site with sufficient frequency at the various stages of construction to observe as an experienced and qualified design professional the progress and quality of the executed work of the contractor(s) and to insure that such work is proceeding in accordance with the contract documents. During such visits and on the basis of on-site observations, the Landscape Architect shall keep the City informed of the progress of the work, shall endeavor to guard the City against defects and deficiencies in such work and may disapprove or reject work failing to conform to the contract documents.

3) Warranty Inspection

Eleven months following construction completion, conduct an inspection to document any items to be repaired by the contractor under the conditions of the construction contract warranty. Submit work to be corrected to the Contractor and the City.

4) Review of Technical and Procedural Aspects

Review and approve (or take other appropriate action in respect to Shop Drawings), the results of tests and inspections and other data which each contractor is required to submit, determine the acceptability of substitute materials and equipment proposed by the contractor(s), and receive and review (for general content as required by the specifications) maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection which are to be assembled by the contractor(s).

5) Contract Documents

Receive from each contractor and review for compliance with contract documents all required document submissions including but not limited to performance and payment bonds, certificates of insurance report forms required by any City, State or Federal law or rule or regulation and submit the forms to the City for final approval.

6) Conferences and Meetings

Attend meetings with the contractor, such as preconstruction conferences, progress meetings, job conferences and other Project-related meetings, and prepare and circulate copies of the minutes thereof including to the City.

7) Records

a) Maintain orderly files for correspondence, reports of job conferences, shop drawings and samples, reproductions of original contract documents, including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, the Landscape Architect's clarifications and interpretations of the contract documents, progress reports, and other Project-related documents.

b) Keep a diary or log book, recording the contractor's hours on the job site, weather conditions, data relative to questions of work directive changes, change orders, or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail, as in the case of observing test procedures and send copies to the City. Take multiple photographs of the Work and keep a log and file of the photos. Specifically maintain records of acceptance and rejection of materials and workmanship.

c) Record names, addresses and telephone numbers of all the contractors, subcontractors, and major suppliers of materials and equipment.

8) Reports

a) Furnish the City periodic reports, as required, on progress of the work and of the contractor's compliance with the progress schedule and schedule of shop drawings and sample submittals.

b) Consult with the City, in advance of scheduled major tests, inspections, or start of important phases of the Work.

c) Draft proposed change orders and work directive changes, obtaining back-up material from the contractor, and make recommendations to the City regarding change orders, work directive changes and field orders.

d) Report immediately to the City upon the occurrence of any accident.

9) Contract Interpretation, Review of Quality of Work

Issue all instruction of the City to the contractor(s); issue necessary interpretations and clarifications of the contract Documents and in connection therewith prepare change orders as required, subject to the City's approval; have authority, as the Director, to require special inspection or testing of the work; act as initial interpreter of the

requirements of the contract documents and judge of the acceptability of the work there under and make decisions on all claims of the contractor(s) relating to the acceptability of the work or the interpretation of the requirements of the contract documents pertaining to the execution and progress of the work.

10) Change Orders and Revisions

Prepare change orders to reflect changes in the Project requested or approved by the City, evaluate substitutions proposed by the contractor(s) and make revisions to drawings and specifications occasioned thereby, and provide any additional services necessary as the result of significant delays, changes or price increases occurring as a direct or indirect result of material, equipment or energy shortages.

11) Review of Applications for Payment

Based on the Landscape Architect's on-site observations as an experienced and qualified design professional and on review of applications for payment and the accompanying data and schedules, determine the amount owing to the contractor(s) and recommend in writing payments to the contractor(s) in such amounts; such recommendations of payment will constitute a representation to the City, based on such observations and review, that the work has progressed to the point indicated, that, to the best of the Landscape Architect's knowledge, information and belief, the quality of such work is in accordance with the contract documents (subject to an evaluation of such work as a functioning Project upon substantial completion, to the results of any subsequent tests called for in the contract documents, and to any qualifications stated in his recommendation), and that payment of the amount recommended is due the contractor(s).

12) Determination of Substantial Completion

Conduct an inspection to determine if the Project is substantially complete and a final inspection to determine if the work has been completed in accordance with the contract documents and if each contractor has fulfilled all of his obligations there under so that the Landscape Architect may recommend, in writing, final payment to each contractor and may give written notice to the City and the contractor(s) that the work is acceptable (subject to any conditions therein expressed).

13) Authority and Responsibility

The Landscape Architect shall not guarantee the work of any contractor or subcontractor, shall have no supervision or control as to the work or persons doing the work, shall not have charge of the work, shall not be responsible for safety in, on, or about the job-site or have any control of the safety or adequacy of any equipment, building component, scaffolding, supports, forms or other work aids. If the Landscape Architect determines that there are deficiencies in materials or workmanship on the Project, or otherwise deems it to be in the best interest of the City to do so, the Landscape Architect shall be responsible to stop any contractor or subcontractor from performing work on the Project, until conditions giving rise to this need, therefore, are rectified.

14) Landscape Architect Not Responsible for Acts of Contractor

The Landscape Architect shall not be responsible for the supervision or control of the acts or omissions or construction means, methods or techniques of any contractor, or subcontractor, or any of the contractor(s)' or subcontractors' or employees or any other person (except the Landscape Architect's own employees and agents) at the site or otherwise performing any of the contractor(s) work; however, nothing contained in this paragraph shall be construed to release the Landscape Architect from liability for failure to properly perform duties undertaken by him in these contract documents or this agreement.

15) Preparation of Record Drawings

The Landscape Architect shall cause to have been prepared a set of record drawings in accordance with generally accepted architectural standards, and shall provide at least one set to Director.

16) Manuals

The Landscape Architect shall furnish operating and maintenance manuals; protracted or extensive assistance in the utilization of any equipment or system (such as initial start-up, testing, and adjusting and balancing); and training personnel for operation and maintenance.

17) Supplementary Duties

The duties and responsibilities of the Landscape Architect during the construction administration and inspection phase shall also include any additional duties and responsibilities to be provided pursuant to the Landscape Architect's proposal attached as Exhibit B.

18) Completion Time

The construction administration and inspection phase shall be completed by Click or tap here to enter text..

SECTION III. CITY'S RESPONSIBILITIES

A. FURNISH REQUIREMENTS AND LIMITATIONS

Provide all criteria and full information as to the City's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expendability, economic parameters and any budgetary limitations; and furnish copies of all design and construction standards which the City will require to be included in the Drawings and Specifications.

B. FURNISH INFORMATION

Assist the Landscape Architect by placing at the Landscape Architect's disposal all available information reasonably known to and in possession of the City.

C. REVIEW DOCUMENTS

Examine all studies, reports, sketches, drawings, specifications, proposals and other

documents presented by the Landscape Architect.

D. OBTAIN APPROVALS AND PERMITS
Furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

E. ACCOUNTING, LEGAL AND INSURANCE SERVICE
Provide such auditing service as the City may require to ascertain how or for what purpose any contractor has used the monies paid to him under the construction contract, and such inspection services as the City may require to ascertain that the contractor(s) are complying with any law, rule or regulation applicable to their performance of the work except as otherwise provided in Section II.

F. NOTIFY THE LANDSCAPE ARCHITECT OF DEFECTS OR DEVELOPMENT
Give prompt written notice to the Landscape Architect whenever the City observes or otherwise becomes aware of any development that affects the scope or timing of the Landscape Architect's services, or any defect in the work of the contractor(s).

G. COSTS OF THE CITY'S RESPONSIBILITIES
Bear all costs incidental to compliance with the requirements of this Section III.

SECTION IV. GENERAL CONSIDERATIONS

A. SUCCESSORS AND ASSIGNS
The City and the Landscape Architect each binds their respective partners, successors, executors, administrators and assigns to the other party of this agreement and to the partners, successors, executors, administrators, and assigns of such other party, in respect to all covenants of this agreement; the Landscape Architect shall not assign, sublet, or transfer their respective interests in this agreement without the written consent of the City. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than the City and the Landscape Architect.

B. OWNERSHIP OF DOCUMENTS
All drawings, specifications, reports, records, and other work product developed by the Landscape Architect in connection with this Project shall remain the property of the City whether the Project is completed or not. Reuse of any of the work product of the Landscape Architect by the City on extensions of this Project or any other Project without written permission of the Landscape Architect shall be at the City's risk and the City agrees to defend, indemnify and hold harmless the Landscape Architect from all damages and costs including attorney fees arising out of such reuse by the City or others acting through the City.

C. ESTIMATES OF COST (COST OPINION)

Estimates of construction cost provided are to be made on the basis of the Landscape Architect's experience, qualifications and the best of their professional judgment, but the Landscape Architect does not guarantee the accuracy of such estimates as compared to the contractor's bids or the Project construction cost.

D. INSURANCE

1) Landscape Architect shall provide the following minimum amounts of insurance from insurance companies authorized to do business in the state of Minnesota:

a) Workers' compensation insurance in accordance with the laws of the State of Minnesota.

b) Commercial General and Automobile Liability Insurance with limits not less than **$1,500,000** Single Limit shall be in a company approved by the city of Duluth; and shall provide for the following: Liability for Premises, Operations, Completed Operations, Independent Contractors, and Contractual Liability. Umbrella coverage with a "form following" provision may make up the difference between the commercial general and auto liability coverage amounts and the required minimum amount stated above.

c) Professional Liability Insurance in an amount not less than **$1,500,000** Single Limit; provided further that in the event the professional liability insurance is in the form of "claims made," insurance, Landscape Architect hereby commits to provide at least 60 days' notice prior to any change to the Professional Liability Insurance policy or coverage ; and in event of any change, Landscape Architect agrees to provide the City with either evidence of new insurance coverage conforming to the provisions of this paragraph which will provide unbroken protection to the City, or, in the alternative, to purchase at its cost, extended coverage under the old policy for the period the state of repose runs; the protection to be provided by said "claims made" insurance shall remain in place until the running of the statute of repose for claims related to this Agreement.

d) **City of Duluth shall be named as Additional Insured** under the Commercial General and Automobile Liability Policies. Landscape Architect shall also provide evidence of Statutory Minnesota Workers' Compensation Insurance. Landscape Architect to provide Certificate of Insurance evidencing such coverage with notice to City of cancellation in accordance with the provisions of the underlying insurance policy included. The City of Duluth does not represent or guarantee that these types or limits of coverage are adequate to protect the Landscape Architect's interests and liabilities.

2) Certificates showing that Landscape Architect is carrying the above described

insurance in the specified amounts shall be furnished to the City prior to the execution of this Agreement and a certificate showing continued maintenance of such insurance shall be on file with the City during the term of this Agreement.

3) The City shall be named as an additional insured on each liability policy other than the professional liability and the workers' compensation policies of the Landscape Architect.

4) The certificates shall provide that the policies shall not be cancelled during the life of this Agreement without advanced notice being given to the City at least equal to that provided for in the underlying policy of insurance.

5) Except as provided for in Section IV.D.1.d) above, Landscape Architect hereby commits to provide notice to City at least 30 days in advance of any change in the insurance provided pursuant to this Section IV or in advance of that provided for in the underlying insurance policy or policies whichever is longer. For the purposes of Section IV.D of this Agreement, the term, "changed", shall include cancellation of a policy of insurance provided hereunder and any modification of such policy which reduces the amount of any coverage provided thereunder below the amounts required to be provided hereunder or otherwise reduces the protections provided under such policy to City.

E. HOLD HARMLESS

To the fullest extent permitted by law, Landscape Architect agrees that it shall indemnify and hold harmless the City, its officers, employees, and agents, past or present, from and against any and all claims including but not limited to claims for contribution or indemnity, demands, suits, judgments, costs, and expenses (including attorneys' fees and incurred defense costs) asserted by itself or any person or persons including agents or employees of the City of Duluth or Landscape Architect by reason of death or injury to person or persons or the loss or damage to property to the extent attributable to, or by reason of, any act, omission, operation or work of Landscape Architect or its employees while engaged in the execution or performance of services under this Agreement. Said obligations to indemnify and hold harmless shall include, but not be limited to the obligation to indemnify and hold harmless the City in all matters where claims of liability against the City arise out of, relate to, are attributable to, are passive or derivative of, or vicarious to the negligent, intentional, or wrongful acts or omissions of Landscape Architect, including but not limited to the failure to supervise, breach of warranty, the failure to warn, the failure to prevent such act or omission by Landscape Architect, its employees, or its agents, and any other source of liability. Said obligations to indemnify and hold harmless shall be triggered upon the assertion of a claim for damages against City. Landscape Architect shall not be required to indemnify City for amounts found by a fact finder to have arisen out of the sole negligent or intentional acts or omission of the City unless Landscape Architect should fail to comply with its insurance obligations in this contract to the detriment of City, in which case Landscape Architect shall indemnify, defend, and hold harmless the City for any and all amounts except amounts attributed to intentional, willful or wanton acts of the City.

This Section, in its entirety, shall survive the termination of this Agreement if any amount of work has been performed by Landscape Architect. Nothing in this provision shall affect the limitations of liability of the City as set forth in Minnesota Statutes Chapter 466.
Landscape Architect understands this provision may affect its rights and may shift liability.

Landscape Architect shall hold and save the City, its officers, employees, representatives and agents, and the Architect, harmless from liability of any nature or kind, including costs and expenses and reasonable attorney's fees and incurred defense costs to the extent attributable to Landscape Architect's intellectual property infringement of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the City, unless otherwise specifically stipulated in the Technical Specifications.

Nothing herein is intended to impose an obligation on Landscape Architect that is void and unenforceable under Minnesota Statutes Section 604.21.

F. TERMINATION

1) This agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligation under this agreement through no fault of the terminating party; provided that no such termination may be affected unless the other party is given not less than fifteen (15) calendar days' prior written notice (delivered by certified mail, return receipt requested) of intent to terminate.

2) This agreement may be terminated in whole or in part in writing by the City for its convenience; provided that the Landscape Architect is given (1) not less than fifteen (15) calendar days' prior written notice (delivered by certified mail, return receipt requested) of intent to terminate and (2) an opportunity for consultation with the City prior to termination.

3) Upon receipt of a notice of intent to terminate from the City pursuant to this agreement, the Landscape Architect shall (1) promptly discontinue all services affected (unless the notice directs otherwise), and (2) make available to the City at any reasonable time at a location specified by the City all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have accumulated by the Landscape Architect in performing this agreement, whether completed or in process.

4) Upon termination pursuant to this agreement, the City may take over the work and prosecute the same to completion by agreement with another party or otherwise.

G. LAWS, RULES AND REGULATIONS

The Landscape Architect agrees to observe and comply with all laws, ordinances, rules and regulations of the United States of America, State of Minnesota, the City of Duluth and their respective agencies and instrumentalities which are applicable to the work and services to

be performed hereunder.

H. INDEPENDENT CONTRACTOR STATUS

Nothing contained in this agreement shall be construed to make the Landscape Architect an employee or partner of the City. The Landscape Architect shall at all times hereunder be construed to be an independent contractor.

I. FEDERAL FUNDING

If Federal Funds (i.e. HUD, FEMA, Revenue Sharing) are utilized as a source of Project funding, the Landscape Architect shall abide by the terms of all Federal requirements in the performance of duties hereunder.

J. AMENDMENT OF AGREEMENT

This agreement shall be amended or supplemented only in writing and executed by both parties hereto.

K. WAIVER OF CLAIM

The Landscape Architect waives the right to make any claim whatsoever against any officer, agent or employee of the City for, or on account of, anything done, or omitted to be done, in connection with the drafting or ratification of this contract. In addition, if it is determined that this contract was not drafted or ratified in conformity with Minnesota or federal law, or City of Duluth ordinance or charter provisions, or if the contract includes obligations that are void as to Minnesota or federal law or City of Duluth ordinance or charter provisions, the Landscape Architect agrees to raise no defense and make no claim against the City on the basis of ratification, laches, estoppel, or implied contract. **The Landscape Architect understands this provision may affect its rights and may shift liability and specifically agrees to the same.**

L. ADDITIONAL LANDSCAPE ARCHITECT WARRANTIES AND REPRESENTATIONS

Landscape Architect and all personnel provided by it hereunder shall perform their respective duties in a professional and diligent manner in the best interests of the City and in accordance with the then current generally accepted standards of the profession for the provisions of services of this type. Landscape Architect and all personnel to be provided by it hereunder has sufficient training and experience to perform the duties set forth herein and are in good standing with all applicable licensing requirements.

The execution and delivery of this Agreement and the consummation of the transactions herein contemplated do not and will not conflict with, or constitute a breach of or a default under, any agreement to which the Landscape Architect is a party or by which it is bound, or result in the creation or imposition of any lien, charge or encumbrance of any nature upon any of the property or assets of the Landscape Architect contrary to the terms of any instrument or agreement. There is no litigation pending or to the best of the Landscape Architect's knowledge threatened against the Landscape Architect affecting its ability to carry out the terms of this Agreement or to carry out the terms and conditions of any other

matter materially affecting the ability of the Landscape Architect to perform its obligations hereunder.

M. RECORDS AND DATA PRACTICES

Landscape Architect shall be responsible for furnishing to the City records, data and information as the City may require pertaining to matters covered by this Agreement. Landscape Architect shall ensure that at any time during normal business hours and as often as the City may deem necessary, there shall be made available to the City for examination, all of its records with respect to all matters covered by this Agreement. Landscape Architect will also permit the City to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and other data relating to all matters covered by this Agreement.

All data collected, created, received, maintained or disseminated for any purpose by the Parties because of this Agreement is governed by the Minnesota Data Practices Act. Records shall be maintained by Landscape Architect in accordance with requirements prescribed by the City and with respect to all matters covered by this Agreement. Such records shall be maintained for a period of six (6) years after receipt of final payment under this Agreement.

SECTION V. PAYMENT

A. BASIS OF BILLING

Upon completion of each phase of the work, City shall pay the Landscape Architect the percentage of the amount set forth in Section V.C as is set forth below for all services rendered under each such phase, the total of said amounts in no event to exceed the amount in Section V.C, including any and all Project-related expenses such as travel, reproduction of reports and drawings, tolls, mileage, etc.

% of Contract Amount (per section V.C)	Phase	Description
%	A	Study and Report Phase
%	B	Preliminary Survey Phase
%	C	Public Input Phase
%	D	Schematic Design Phase
%	E	Design Development Phase
%	F	Construction Document Phase
%	G	Bidding Phase
%	H	Construction Survey and Layout Phase
%	I	Construction Administration and Inspection Phase

B. PAYMENT FOR WORK COMPLETED

1) Monthly progress payments may be requested by the Landscape Architect for work satisfactorily completed within each phase and shall be made by the City to the Landscape Architect as soon as practicable upon submission of statements requesting payment by the Landscape Architect to the City. For the purposes of this agreement, the principals and employees of the Landscape Architect and their hourly rates are set forth in Exhibit A.

2) No payment request made pursuant to subparagraph 1 of this Section V shall exceed the estimated maximum total amount and value of the total work and services to be performed by the Landscape Architect under this agreement without the prior authorization of the City and nothing herein, including exhaustion of the funds authorized pursuant to this Agreement, shall relieve the Landscape Architect from completing all work required under this Agreement or to demand increased compensation for completing such work. These estimates have been prepared by the Landscape Architect and supplemented or accompanied by such supporting data as may be required by the City.

3) Upon satisfactory completion of the work performed hereunder, and prior to final payment under this agreement, and as a condition precedent thereto, the Landscape Architect shall execute and deliver to the City a release of all claims against the City arising under or by virtue of this agreement.

4) In the event of termination by City under Section IV.F., upon the completion of any phase of the Basic Services, progress payments due Landscape Architect for services rendered through such phase shall constitute total payment for such services. In the event of such termination by City during any phase of the Basic Services, Landscape Architect also will be reimbursed for the charges of independent professional associates and consultants employed by Landscape Architect to render Basic Services, and paid for services rendered during that phase on the basis of hourly rates defined in Exhibit A of this agreement for services rendered during that phase to date of termination by Landscape Architect's principals and employees engaged directly on the Project. In the event of any such termination, Landscape Architect will be paid for all unpaid additional services plus all termination expenses. Termination expenses mean additional expenses directly attributable to termination, which, if termination is at City's convenience, shall include an amount computed as a percentage of total compensation for basic services earned by Landscape Architect to the date of termination as follows: 10% of the difference between the amount which the Landscape Architect has earned computed as described in paragraphs A and B of this section and the maximum payment amount described in paragraph C of this section. The above applies only if termination is for reasons other than the fault of the Landscape Architect.

C. TOTAL NOT TO EXCEED:

All payments under this Contract are not to exceed Click or tap here to enter text. ($Click or tap here to enter text.).

SECTION VI. SPECIAL PROVISIONS

The following exhibits are attached to and made part of this agreement:

1) Exhibit A, Landscape Architect's Hourly Rates
2) Exhibit B**,** Landscape Architect's Proposal
3) Exhibit C, Coordinated Work Plan

In the event of a conflict between the agreement and any Exhibit, the terms of the Agreement will be controlling.

SECTION VII. NOTICES

Notices to be given by either party to the other shall be deemed to be sufficiently given if deposited in the United States Mail, postage prepaid, addressed to the notice party as follows or to such other address as the noticed party may have provided in writing from time to time to the other party:

City: (Director)
City of Duluth
411 West First Street, Room ##
Duluth, MN 55802

Landscape Architect: Name
Company
Address
City State Zip

SECTON VIII. COUNTERPARTS

This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original as against any party whose signature appears thereon, but all of which together shall constitute but one and the same instrument. Signatures to this Agreement transmitted by facsimile, by electronic mail in "portable document format" (".pdf"), or by any other electronic means which preserves the original graphic and pictorial appearance of the Agreement, shall have the same effect as physical delivery of the paper document bearing the original signature.

[Remainder of this page intentionally left blank. Signature page to follow.]

IN WITNESS WHEREOF, the parties have hereunto set their hands on the date of attestation shown below.

CITY OF DULUTH-Client By: _____
Mayor

By: _____

Attest:

Its: _____
Title of Representative

By: _____
City Clerk

Date: _____

Date: _____

Countersigned:

_____
City Auditor

Approved as to Form:

_____
City Attorney

Click or tap here to enter text.