

**U.S. Postal Service  
Washington, DC 20260**

**Handbook RE-13  
Repair and Alteration of Real Property Facilities**

**Transmittal Letter 1  
October 30, 1987**

**A. Material Transmitted**

This is a complete revision of Handbook MS-7 (now RE-13) to reflect the June 7, 1986, realignment. The reference index at the back lists Headquarters directives pertaining to RE-13 by number and title. For reader convenience, they are referenced in the text by number only.

**B. Explanation**

1. The Repair and Alteration (R&A) Program formerly used building management engineering staff at the district for inspections and program activities. This revision places responsibility primarily with the division, typically through the Support Services Organization.
2. The function of the division is described, as well as the functions of the management sectional center and Facilities Service Center (Facilities Department) responsibilities in the R&A program.

**C. Rescissions**

This revision obsoletes Transmittal Letters 1, 2, and 3 of MS-7.

**D. Distribution**

**1. Initial**

Headquarters	Facilities Service Offices
RPMGs	BMCs
Directors, Facilities	PEDCs
Department	William F. Bolger Academy
Facilities Service	Technical Center Library (Norman)
Centers	EASC/WASC
Reg. Chief Inspectors	APWU
Inspection Service	Divisions
Maintenance Overhaul	MTSC
& Technical Support	
Centers (MOTSCs)	

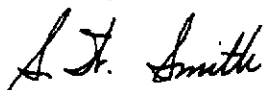
2. **Additional Copies.** Use Form 7380 to order from the appropriate area supply center.

**E. Suggestions**

Improvements to this handbook are solicited from all users. Submit recommendations through the Facilities Service Center or to the APMG, Facilities Department.

**F. Effective Date**

This publication is effective immediately.



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- Exhibit 223e** Form 4837, *Repair and Construction File*
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## Chapter 1 Introduction

### 110 General

### 111 Policy

#### 111.1 Criteria

This handbook prescribes criteria for developing a five-year repair and alteration (R&A) program in postal-owned buildings and leased buildings where repairs and alterations are the responsibility of the Postal Service under the terms of the lease agreement. It also provides for periodic inspection of other leased facilities where R&A is not a USPS responsibility to ensure adequate employee working conditions.

#### 111.2 Authority

The policies and procedures in Publications 190, 191, and 41 are followed in implementing the R&A Program. In the event of an apparent conflict with RE-13, these publications take precedence.

### 112 Objectives

#### 112.1 Purpose

The R&A program provides for the following:

- a. Environmental conditions that meet or exceed minimum levels of heating, ventilating, cooling, lighting, and aesthetics necessary for employee welfare and productivity.
- b. Physical conditions necessary to stop or avoid unnecessary deterioration of the building or its contents.
- c. Improved building operation and maintenance efficiency, including energy conservation, to reduce costs by modernizing heating and cooling systems, other building equipment, and building features.

#### 112.2 Scope

The R&A Program applies to repairs and alterations necessary to maintain existing buildings and building-

related systems in an acceptable operating condition. This does not include action necessary to satisfy USPS operational space requirements. (See 212.)

### 120 Responsibilities

#### 121 Overall

Each level of authority maintains all postal facilities within its range of responsibility in satisfactory working condition. R&A projects must maintain facilities and equipment at cost-effective and service levels consistent with established criteria. Divisions have program management responsibility for R&A as defined in this handbook. (See Exhibit 121.)

#### 122 Channels

##### 122.1 Management Sectional Centers

All management sectional centers (MSCs) are responsible for buildings and building equipment maintenance in their areas.

##### 122.2 Divisions

Divisions are responsible for the building maintenance and R&A programs in each of their facilities and for operational, administrative, financial, and scheduling decisions and notifications (see Exhibit 122.2). This responsibility also includes the approval and execution of R&A projects within prescribed limits.

##### 122.3 Facilities Service Centers (Facilities Department)

Facilities Service Centers and Service Offices provide contracting services and technical guidance to the divisions. R&A coordinators have been designated in each Facilities Service Center. Also, project execution and technical assistance beyond the authority of the divisions is provided at the Facilities Service Center or Service Office, as appropriate.

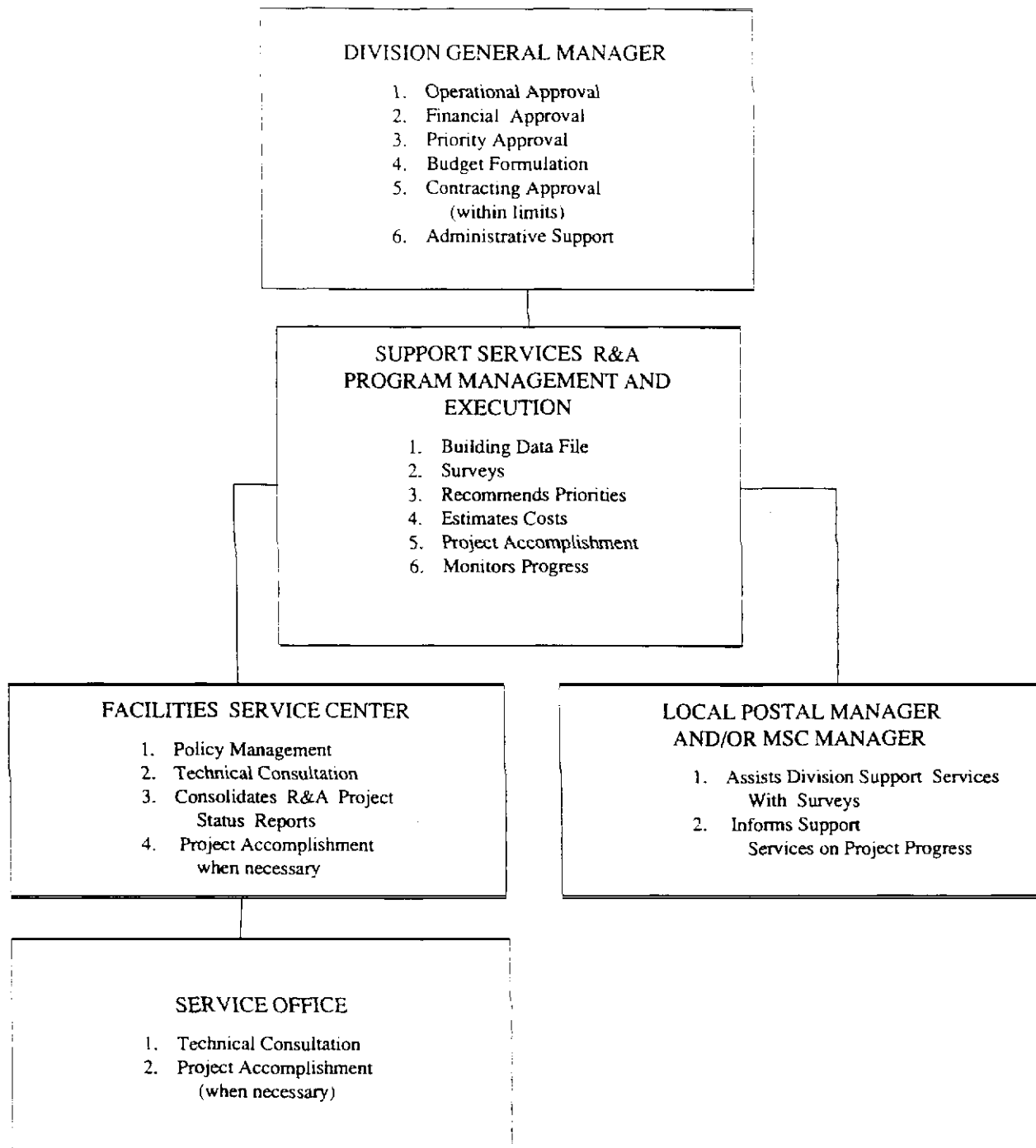


Exhibit 121 Repair and Alteration Functional Chart

## Chapter 2

### R&A Program Requirements

#### 210 Capital/Expense Criteria

#### 211 Classification

##### 211.1 Explanation

Projects are classified as either *capital* or *expense*. While a repair project to restore a unit to its original condition is generally considered as *expense*, there are R&A projects that can be properly classified as *capital* according to the definitions in Publication 191. For example, many R&A projects can significantly extend the useful life of the facility and some may provide useful features not previously available (such as installing an improved environmental control system, adding insulation to reduce utility cost, and the like).

##### 211.2 Priorities

**.21 General.** Publication 190 establishes a priority system for facility replacement, modification, and improvement. However, Support Services establishes separate priorities for R&A projects into descending order of classes A, B, C, and D.

**.22 Class A.** Work necessary to correct conditions that constitute an imminent hazard to life or health, or an imminent hazard to property or continuity of postal operations.

**.23 Class B.** Work necessary to prevent accelerated deterioration or wear of the building and building equipment. This classification also is given to work necessary to upgrade environmental working conditions to meet criteria. (See Chapter 3.)

**.24 Class C.** Work that will improve building operating efficiency with economic benefit to meet criteria. (See Publications 190 and 191.) This classification is assigned to repair work not urgent enough to be in class B.

**.25 Class D.** Work done solely for the aesthetic qualities of the building and grounds.

##### 211.3 Other Factors

Managers at each decision-making level will have to consider other factors that may influence the relative urgency of projects and affect final priorities. For example, it is possible that mitigating circumstances may cause a project in class C to have a higher priority than a project in class B. *If it is beneficial for management purposes*, the priority code for Form 4836 may contain, in addition to the project class, a numeric or other code indicating the relative priority of a planned project.

#### 212 R&A Versus Operations

##### 212.1 R&A Projects

**.11 Necessary Maintenance and Upgrading.** R&A projects are those necessary to maintain, repair, restore, or alter to an acceptable standard existing facilities and building systems. This includes replacing and upgrading building systems when necessary to meet current standards for continued use of the facility in its existing purpose and capacity.

**.12 Necessary Environmental Improvements.** R&A projects include environmental improvements necessary to provide an acceptable working environment and conditions. Conditions needing correction may have been caused by changes in acceptable standards in the work force. An example of an environmental improvement of the latter type is the addition of female restroom facilities to accommodate an increased female complement. *The day-to-day repairs classified as building service calls in MS-1 are not R&A projects.*

##### 212.2 Operation Projects

Projects caused by an operational decision that changes the use, purpose, or capacity of the facility, or effect an operational improvement, are not R&A projects. They are outside the scope of this handbook and are covered by other publications.

## 212.3 Distinctions

**.31 Restoration Versus Expansion.** A project to restore a building element (wall, floor, roof) that has deteriorated because of age, building use, or similar reasons, is within the scope of the R&A program. However, if an alteration is initiated primarily to expand the building or to comply with a USPS operational requirement, the project is not within the scope of the R&A program.

**.32 Building-related Systems.** Building-related systems include the grounds, normally defined building equipment (such as HVAC and elevators), adjustable loading docks, truck levelers, and dock boards. However, the initial installation of loading docks, truck levelers, and dock boards is considered an operational requirement. Repairs or modifications to other fixed mechanization, and customer service equipment are covered by other publications.

**.33 Existing Parking Area Repair.** Provisions for new or additional parking, including employee parking, are operational requirements. Repairs to existing parking areas are within the scope of the R&A project. Scheduling of a combination of projects should be coordinated to ensure maximum efficiency.

## 220 Support Services

### 221 Responsibilities

Support Services has the following responsibilities:

- a. Prepares and maintains the building data file.
- b. Performs R&A inspections.
- c. Assembles data for project evaluation and approval.
- d. Executes projects within approved limits.
- e. Provides additional information as needed to the Facilities Services Center, Service Officers, or Region on approved R&A projects.
- f. Provides input data to capital and expense project budgets.

### 222 Procedures

#### 222.1 Inspections

**.11 Project Identification.** Inspections and project identification are performed by Support Services personnel assisted by residents of the affected facility,

using Form 4835, *Repair and Alteration Inspection Report*.

#### .12 Technical Assistance and Resources.

When it is necessary to obtain technical assistance to establish the condition of suspected deficiencies or to estimate the cost of correction, they will, whenever possible, use resources within the Postal Service. Expertise is available at the Facilities Service Center or Service Office.

### 222.2 Reports

**.21 Summarized Submission.** Inspection reports listing deficiencies, priorities, estimated costs, and planned dates of correction are consolidated and summarized for submission by Support Services. All required supporting information is provided for projects requiring Funds Investment Committee (FIC)/CIC approval.

**.22 Pertinent Information.** Reports submitted to regional offices and/or to the Facilities Service Center contain only information pertaining directly to the report, but sufficient for the recipient to make necessary management decisions. Extraneous information is not included.

**.23 Evaluation of Need.** Reports related to projects exceeding the contracting authority of the preparing office contain sufficient detail to enable the receiving office to make an accurate evaluation of the need for the project and its subsequent cost.

### 222.3 Funding

Project initiation dates are not set until budgeted funds are available. However, further adjustments may be necessary to meet contingencies. FIC submissions are made at the division level. CIC submissions are made at regional and Headquarters levels. Projects are not set until FIC/CIC approval is received. Facilities Service Center assistance in preparing material is available through the Requirements and Planning Division.

### 222.4 Contracting

Existing contracting authority is used for project awards. The manager of the facility remains aware of contractor performance and makes periodic reports as required. Support Services or its designee makes site visits as needed.

## 222.5 Summary

Support Services makes periodic status reports on all projects to the Region and Facilities Service Center as requested. Each level of management must be aware of project status and take corrective action when necessary. Support Services monitors each project to ensure that it is designed, constructed, and completed as intended and agrees with supporting justification.

## 223 Building Data Files

Support Services prepares and maintains a file for each building in which the Postal Service has R&A responsibility. Separate files are kept for vehicle maintenance facilities. As-built drawings and other facility files are maintained at the facility. Building data files contain the following:

- a. General Characteristics and Summary File (Exhibit 223a).
- b. Building Description File (Exhibit 223b).
- c. Form 4835, *Repair and Alteration Inspection Report* (Exhibit 223c).
- d. Form 4836, *Repair and Alteration Project Schedule* (Exhibit 223d).
- e. Form 4837, *Repair and Alteration Construction File* (Exhibit 223e).
- f. Form 4838, *Repair and Alteration History* (Exhibit 223f).

## 230 Inspections

### 231 Frequency

Each building, whether owned or leased, is inspected at least once every five years. Support Services establishes inspection intervals using the guidelines in Exhibit 231 or those established by the Division GM/PM. Frequency factors to consider include the following:

- a. Unusually adverse climates.
- b. Population density and hours of operation.
- c. Problems or safety concerns arising from design or construction.
- d. Modernization that has significantly affected the building's condition.
- e. Safety concerns arising from the building or component designs.

### 232 Requirements

Support Services schedules and coordinates inspections; the building manager (postmaster, officer-in-charge, or

designee) at each building assists in inspections. The provisions of Publications 190 and 191 regarding economic factors are applied when evaluating work requirements. Form 4835 or its equivalent must be completed with each R&A inspection.

## 233 Methods

During the inspection, one of the following methods of doing required work is determined:

- a. Undertaken immediately as maintenance repairs by the building manager without being reported into the workload. Any significant repairs are recorded in the R&A project history.
- b. Scheduled and entered in the workload requiring scope, estimated cost, and date for completion.
- c. Evaluated further from the standpoint of cost effectiveness or technical feasibility. A target completion date is scheduled. Specialized technical assistance needed to inspect elevators, heating plants, roofs, structure, air conditioning, and so forth is arranged with postal employees, other federal agencies, or contractors.

## 234 Special

Special inspections are made as required and may be requested by the building manager, postmaster, Division General Manager, or RPMG. These inspections are usually made to meet a particular objective, such as the following:

- a. Repairs needed as a result of a building system or component failure.
- b. Repairs required as a result of storm damage or other unforeseen event.
- c. Repairs included with operational improvements as a single project.
- d. Repairs or alterations to correct safety or health deficiencies.

## 240 Programming Criteria

### 241 Scope

In developing projects, the following criteria will serve as guides in limiting the scope of justifiable projects and making determinations of the work to be accomplished within the limits of available funds. Alterations must be consistent with the architectural treatments of facilities involved and must reflect dignity and good taste. Good judgment must be exercised to ensure that work proposed in a project is consistent with the plan for use and retention of the property. Chapters 3 and 4 of this handbook



contain specific criteria. Examples of general criteria follow.

## 242 Life of Activity

### 242.1 Five Years or Fewer

- a. Improve lighting within present wiring capacity and required lighting levels. Use localized lighting where appropriate.
- b. Where air conditioning is warranted, keep installation costs to a minimum and use, where possible, salvageable equipment such as window and package units.
- c. Improve interior appearance economically; for example, by the use of one-coat type paints or wall washing.
- d. Perform only essential repair to grounds, sidewalks, and driveways.
- e. Perform only mandatory interior and exterior repairs, including repairs to mechanical and electrical equipment, to keep the building in a safe, sound, and *weathertight condition*.
- f. Maintain essential toilet facilities.
- g. Inspect areas which have potential for containing asbestos materials, such as boiler jacketing, pipe lagging, and sprayed-on fire resistive materials. Consult with Safety and Health personnel.
- h. Inspect liquid-filled transformers that may contain polychlorinated biphenyls (PCBs) for leaks. To determine adequate controls, consult Safety and Maintenance Divisions at Headquarters.

### 242.2 Five to Fifteen Years

- a. Provide adequate lighting and power outlets as necessary to meet operating needs.
- b. Install air conditioning where needed.
- c. Ensure compliance with postal criteria, OSHA, and the intent of local city regulations where possible with regard to fire and safety requirements, as needed to provide all practical protection against harm to persons and reasonable protection for property and operational continuity.

- d. Convert manually fired heating boilers and hot water heaters to automatic firing when the conversion cost can be amortized by savings in the cost of operation.
- e. Provide adequate toilet facilities and restrooms.
- f. Install acoustical material in cafeterias, auditoriums, and offices that are crowded and where an *improvement in operating conditions will be realized*.
- g. Maintain structures, mechanical equipment, *grounds, sidewalks, driveways, and curbs within the property line in a good state of repair*.
- h. Update elevators to ensure their safe operation and convert elevators to automatic operatorless where the conversion cost can be amortized by savings in the operation cost. Manual elevators being considered for the latter reason must be clearly necessary to the operational function of the building.
- i. Clean, paint, and weatherproof exterior masonry surfaces as needed. Cleaning and painting should be done only where location and appearance justify such action.
- j. Repave vehicle parking areas, if needed.
- k. Inspect areas that have the potential to contain asbestos materials, such as boiler jacketing, pipe lagging, and sprayed-on fire resistive materials. Consult with *Safety and Health personnel*.

- l. Inspect liquid-filled transformers that contain PCBs for leaks. To determine adequate controls and action, consult Safety and Maintenance Divisions at Headquarters.

### 242.3 More Than Fifteen Years

- a. Same items as listed 241.2
- b. Provide attractive, safe entrances with modern doors and hardware.
- c. Improve unfinished space and replace temporary construction with permanent construction.
- d. Modernize interior space.

## 243 Life Cycle Cost

Once it is decided to repair or replace an existing system, a life cycle cost analysis is done to evaluate the alternatives. (See Exhibit 243 for model.)

## Chapter 3

### R&A in USPS-owned Buildings

#### 310 General Factors

##### 311 USPS/GSA Agreement

*Consult the Agreement between GSA and USPS concerning real and personal property relationships and associated services to determine space and funding responsibility. Each region should have a copy of this agreement. Handbook RE-10, Standard Short Form Specifications may be used all or in part as needed for contracts.*

##### 312 Good Judgment

Postal facilities generally follow local area practices to be compatible with industrial facilities. Managers are encouraged to use their judgment and deviate from any criteria that are not in the best interest of the Postal Service.

##### 313 Architecture and Landscape

Building alterations should match or be compatible with existing architecture and surroundings. In altering or extending buildings, driveways, and maneuvering and parking facilities, every effort must be made to preserve and protect existing landscaping and preserve or improve the appearance of the building.

#### 320 Environmental Improvement

##### 321 Criteria

###### 321.1 Program Specifications

This subchapter states R&A specifications required to maintain acceptable working conditions. R&A planning must consider both current and future occupancy. These criteria must be used in inspections and program planning.

###### 321.2 Safety Standards

The building structure, fixed systems, and equipment layouts must comply with all applicable codes, includ-

ing the Occupational Safety and Health Act and National Fire Protection Code. R&A projects required to meet safety standards are given the highest priority. (See Forms 1784-A and 1784-B and Handbook EL-801.)

#### 322 Heating, Cooling, and Ventilating

##### 322.1 Analysis

When a major replacement or renovation of a heating and air conditioning system is contemplated, a life cycle economic analysis must be made to determine the following:

- a. The most economical type of fuel.
- b. The degree of automation required to reduce operating costs.
- c. The best type of system, including the use of purchased steam when available.
- d. The possibilities of consolidating the system with an adjacent operation, considering future as well as present requirements.
- e. The future availability of the fuels considered.

*Note:* See Exhibit 243 for model.

##### 322.2 Heating/Cooling System

The heating system must be capable of maintaining a 65° F temperature, and the cooling system, 78° F, with 50 percent or less relative humidity. During the winter, relative humidity can fall to 20 percent, or to a level just below that at which condensation forms on exterior walls or single-glazed windows. Modifications that improve system efficiency and save energy receive primary consideration. Evaluate these using the life cycle cost model. Evaluate the existing system to ensure that it has been properly balanced, properly operated, and maintained before planning changes.

##### 322.3 Docks

Consider dock areas for enclosure/heating only when employees load/unload vehicles for four or more continuous hours daily. Restrict enclosure to forty- to fifty-inch high docks where thermal seals are used effectively. Do not enclose thirty-inch docks; thermal seals are inef-

fective on these because of random use with varied sizes and types of vehicles.

### 322.4 Boilers

**.41 Requirements.** Systems are to be fully automatic in operation with reliable ultraviolet lead sulfide scanners or similar reliable flame failure controls, temperature and pressure indicator and control devices, safety valves, water feeder back flow prevention valves or low water fuel cutouts, and other controls or devices designated by ANSI/ASME CSD-1 and ASME boiler code Sections IV and VI and other applicable codes or ordinances required for safe and efficient operation.

**.42 Installation.** Boiler installation generally includes fuel-burning, fuel-handling, and ash-handling equipment and is as automatic as feasible considering the plant size, geographic location, fuel type, and availability of qualified service personnel. Do not design the boiler plant with spare capacity (except where directed otherwise by higher management). Provide two boilers whenever total calculated load is greater than 1.2 billion Btus per hour.

**.43 Modular System.** Do a life-cycle study to determine system cost using a modular system boiler operation in lieu of single large boilers. Provide several boilers in the modular system to meet required capacity, sized in increments of the minimum load.

**.44 Controls.** Equip boilers with a solid state sequence control to operate inlet water valves, pilot burner, and main fuel burner. Provide a controller to accept signals from a temperature sensor in the return header and from an outside temperature sensor to sequentially turn the modules off as the supply temperature increases, or sequentially turn the modules on as the supply temperature decreases. The controller also uses the signal from an outside temperature sensor to, in effect, raise the supply temperature setting as the outside temperature decreases, to avoid the undesirable effect of having lower supply temperatures at higher loads.

**.45 Efficiency.** Provide necessary interconnecting piping and components for boilers to function as a unit, either individually or jointly. Boiler specifications require an overall efficiency of no less than 80 percent throughout the entire range between 25 percent and 100 percent of rated capacity. A certified factory test is acceptable when supported by a field test demonstrating that the installation is adjusted to maintain stack temperature and carbon dioxide comparable to the certified test

data. Provide a pot-type chemical feeder in a valved pump-bypass line for adding chemicals to the water heating system. Cross connections between potable and non-potable water supplies are prohibited.

### 322.5 Ventilating

**.51 Requirements.** Provide positive outside air ventilation for all occupied areas to meet minimum requirements of local codes. Provide equipment to adjust minimum outside air up to 10 percent of the total air required, plus all exhaust air requirements. The minimum outside air may be set much lower than 10 percent for maximum economy and energy conservation.

**.52 Natural Cooling.** When feasible, automatically introduce 100 percent outside air if this can effectively provide natural cooling, such as during intermediate seasons. Install enthalpy controls when sufficient savings will result.

**.53 Replacement Windows.** Replace windows that have deteriorated to the point where further repairs are uneconomical. In some instances aluminum windows are appropriate, but they must match or harmonize with the building architecture. When replacing windows, consider double paned and/or tinted (reflective) units in climates where these will reduce energy consumption and be self-amortizing.

## 323 Interior Renovation

### 323.1 Considerations

In modernizing the building interior, consider architecture, historical background, and cost effectiveness. Sometimes major changes can be made, but the cost compared with space generated is prohibitive. Existing space must therefore be developed to the best use possible, using the best architectural and engineering services available.

### 323.2 Fire Safety

Exposed interior finishes for walls and ceilings must have a flame spread rate of 25 or less and a smoke developed rating of 50 or less, both when tested according to ASTM-E 84. The UL listing of a product is accepted as proof of meeting this requirement. All electrical renovations will conform to the NFPA section, "National Electrical Code."

### 323.3 Walls and Ceilings

#### .31 Painting and Other Wall Treatment.

Painting and other types of wall treatment may be used when needed to upgrade walls in older buildings to an acceptable appearance. In many older buildings, the lobby ceilings are very decorative and have special treatment that should be preserved if possible. In these locations, installing a drop ceiling would not be in keeping with the current atmosphere and may result in conflicting architectural design styles.

**.32 Acoustical Treatment.** Provide acoustical treatment only when required by the occupant. Do not provide suspended acoustical ceilings unless necessary to conceal exposed items (ducts, pipes, and the like) or to improve the operating efficiency of the heating and air-conditioning system.

### 323.4 Floors

**.41 Requirements.** When deciding on the type of floor repair or replacement, consider the occupants, functions, and maintenance cost. Floor coverings will have an index of less than 8 as determined by Underwriters' Laboratories, Inc., Test for Flame-Propagation Classification of Flooring and Floor Covering Materials (992). The listing of a product by UL is accepted as proof that this requirement has been met. When carpeting and padding are installed together, they are tested as an assembly when determining the index.

**.42 Floor Finishes.** Floor finishes should have a friction coefficient or slip resistance of not less than 0.5. See ASTM D2047-75 or later issue.

**.43 Wood Flooring.** Old wood floors often look dingy but if in good condition can be refinished satisfactorily at moderate expense rather than being replaced or covered with new materials.

**.44 Stone and Terrazzo.** In some locations, marble, slate, and terrazzo complement the architecture, so repairs and replacement should be of like materials. However, in other locations such architectural features may have lost their value because of changes in occupancy and partitioning. Such worn surfaces should be covered or concealed with new materials.

**.45 Concrete Surfaces.** Suitable concrete floors should be patched as necessary to give a smooth, safe, easily cleaned surface, and sealed with a suitable sealer.

**.46 Asphalt Plant.** This is installed in many workroom floors. When replacements or repairs are made, care must be taken in the actual installation to ensure a smooth, nonflaking finish.

**.47 Resilient Covering.** Vinyl composition, vinyl, and rubber materials in either individual tiles or rolls are available in a variety of weights and colors. They may be installed over other materials, but some types are unsuitable below grade or in damp locations, and should be used in accordance with manufacturers' instructions.

#### .48 Carpet Floor Covering

**.481** Carpet may be used where justified based on the circumstances of the project. For instance, if the area under renovation will eventually require rugs or carpeting for noise abatement, the resilient floor covering should be omitted and the carpeting installed initially. Carpeting is normally not suitable in lobbies, cafeterias, locker rooms, or workrooms, except in highly unusual circumstances.

**.482** Carpet installed over other suitable floor finishes is considered a furnishing and is usually funded by the tenant, if other than the Postal Service. A good grade of carpet obtainable through established procurement procedures is usually the most economical floor finish over a long period of use. The type of carpet and backing should be selected and installed based on its intended use for maximum effectiveness and long wear. In all cases, the carpet should be installed wall to wall to avoid narrow borders of exposed flooring that cause increased maintenance costs or possible hazards.

### 323.5 Noise Level

Provide for noise abatement in order to limit the maximum noise level to which any employee is continuously exposed in an eight-hour day to 85 decibels measured on the "A scale" of a noise level meter at slow response. The following recommended noise level guidelines consider the functions performed and the effect of noise on the worker's ability to carry out the job.

Area	Maximum Level	Lamp Type	Efficiency Range (lumens per watt, average)
Workrooms	DBA Slow Response	Incandescent	17 - 22
	78dB (A Scale) . 10 Feet from nearest equipment	Mercury Vapor	56 - 60
	75dB (A Scale) . 30 Feet from nearest equipment.	Fluorescent	67 - 83
Lunchrooms	55dB (A Scale)	High-Pressure Sodium	95 - 140
Offices	55dB (A Scale)	Metal Halide	85 - 100
Window Service	50dB (A Scale)	Low-Pressure Sodium	137 - 183

## 324 Electricity

### 324.1 Design Codes

Electrical modification and new installations must comply with the latest issue of the National Electrical Code, local codes, and regulations. Any apparatus, equipment, materials, and installations must conform with current standards that normally apply, such as the National Electrical Manufacturers Association (NEMA), Underwriter's Laboratories, Inc. (UL), Institute of Electrical and Electronic Engineers (IEEE), or Illuminating Engineering Society (IES).

### 324.2 Electrical and Power Requirements

If new electrical service is required, it will be furnished by the local utility, normally for three-phase, four-wire grounded neutral distribution. Single-phase service is used only when three-phase power is unavailable or the total connected load is 10kw or less. (In small communities the type of power may be limited to what the utility company can provide). (See Handbook MS-28.)

### 324.3 Lighting

**.31 General.** Lighting efficiency is expressed in lumens per watt and is shown in the table below. Generally the larger the wattage rating the more efficient the lamp is. A 500-watt lamp is more efficient than a 175-watt lamp of the same type. There are other parameters that must be considered, such as lamp life, fixture configuration, color, and so forth. The more efficient lamps usually have longer life.

**.32 Exterior.** Provide protection from vehicle damage to post lighting in parking and maneuvering areas. Install high efficiency lighting to provide the levels listed below.

Area	Light Level (foot candles)
Mailing Platform	30.0
Employee Parking	1.0
Customer Parking	1.5
Parking & Maneuvering	1.0
Walkways	2.0
Roadways	0.5
Security Fences	1.0
Vehicle Entrance	1.0
Pedestrian Entrance	2.0
Inner Security	0.5
Sensitive Area	

**.33 Interior.** Plan R&A projects to provide lighting levels no greater than those specified in Handbook MS-49. Use localized general lighting (LGL) to provide additional task lighting as required. Give special consideration to employees with visual problems or unusually arduous visual tasks. Use fluorescent or metal halide lamps for interior lighting. Incandescent lighting may be used in very small areas that seldom require illumination.

### 324.4 Emergency Electrical Service

**.41 Generators.** Provide back-up electrical generators where electrical outages that will stop noninterruptible postal activities or endanger people or property are probable.

**.42 Supplemental Service.** Consider the following items in determining supplemental service:

- a. Buildings that house such essentials as communications systems, computers, and laboratory equipment that cannot be interrupted.
- b. Fire and security alarms.
- c. Sewage ejectors and sump pumps.
- d. Water pressure boosters for fire protection and sanitary plumbing systems.
- e. Elevator service in high rise buildings. This is usually limited to areas eight stories above ground level. When emergency power to elevators is required, it should be limited to the minimum number of cars even though there will be some inconvenience to occupants.

*Note:* Emergency power operation and signaling devices must comply with ANSI-A17.1-1981 211-1, 211-2, 207.8, and 210.10. Additionally, all elevators traveling twenty-five feet or more must conform to rule 211.3.

### **.43 Battery-powered Lights**

**.431** Battery-powered emergency lighting should be installed in stairwells, corridors, lobbies, workrooms, electrical gear rooms, machine rooms, medical areas, and other areas as needed to protect postal property and ensure orderly safe evacuation in the event of a power failure. Standby lighting fixtures in corridors are to be installed on approximately eighty-foot centers except where otherwise required by code.

**.432** Standby lighting will consist of self-contained, self-charging, one- to four-lamp sealed battery-operated surface or recessed incandescent units; or a self-contained or remote self-charging 40-W fluorescent one-lamp unit with automatic variable-rate solid-state charger and solid-state transfer switch with no moving parts.

**.433** The transfer switch will automatically and instantaneously connect the lamp load to the battery whenever the AC power supply fails. When the AC power is restored it will disconnect the lamp load from the battery and initiate a high rate of charge to the battery.

**.434** The battery is to be a sealed, lead-acid type with a gelled electrolyte, or a similar type, and to be maintenance free throughout a warranted service life of five to eight years. The outer case is to be high-impact plastic. The sealed battery must be capable of being operated and charged in any position and will provide at least ninety minutes of light. See NFPA 70, 700-12(A).

**.435** The unit will have indicator lights or meters to show battery charging and ready status and a

test button for a power failure simulation. The unit will be for connection to a 120V or 277V AC, 60 Hz, single-phase power source, and be listed by Underwriters' Laboratories, Inc., as emergency lighting equipment.

**.436** Lighting units will be circuited so that the standby system is energized when the power supply to the lighting panel serving that area fails. In stairwells, lighting units will be mounted approximately eight feet above the floor. In the workroom, they will be mounted on columns, on eighty-foot centers, or as required to illuminate elevated work stations and all exit routes.

**.44 Exit Lighting.** Internally lighted exit signs will be provided to mark locations of exit routes as required to meet NFPA and local codes. These units are either to be on the central battery-powered emergency lighting system or to contain a rechargeable sealed battery with a solid-state charger and load switching when normal 120V AC power fails.

## **325 Piping**

### **325.1 Piping**

*Piping in USPS buildings must conform to the provisions of the National Plumbing code and in the case of gas piping and equipment, to American Gas Association Standards. In some buildings, water lines may become blocked by deposits to the point where an adequate supply of water is not available. In locations with very hard water the installation of water softening equipment should be considered to alleviate this problem and prevent its recurrence in new piping. Cross connectors (either direct or indirect) that permit water sewage or nonpotable water to enter a potable water system are prohibited.*

### **325.2 Sanitation**

The necessity of a complete replacement of piping or a general unsanitary condition may indicate that replacement of the entire toilet facility is justified. On the other hand, such material as black slate or white tile wainscoting in good condition should not be replaced simply because it is old fashioned. When replacing toilet partitions, consider the installation of ceiling-hung units when it is structurally practical and economical. In areas where there is no proper wall covering, consider plastic wainscoting as a means of improving sanitation and ease of cleaning.

### 325.3 Toilet Fixtures

Toilet fixtures should be replaced when they become inoperative, uneconomical to clean or maintain, or when there is a complete replacement of a toilet facility. Unless required by special considerations, such as matching existing equipment, replacement fixtures must be the same as that required in new construction. See Handbook RE-4, Standards for Facility Accessibility by the Physically Handicapped.

### 325.4 Bathrooms

Separate toilet rooms shall be provided for men and women except in buildings where fewer than five people are employed, where a single room with one water closet and one lavatory will be considered adequate. The number of fixtures required is based on the maximum number of employees at peak periods. (See Figure 11-1, Handbook MS-1.)

### 326 Painting

Normal exterior painting is scheduled on a three-year cycle and interior painting on a six-year cycle, except for public areas, which may need painting more frequently. However, the need for painting must be determined at each location by inspection. (See Handbooks MS-54 and MS-1. Handbook MS-1 contains recommended room and other space, numbering, and identification systems.) The use of leaded paint is not allowed.

### 327 Elevators

In most instances, manually operated elevators are to be replaced with automatic units. An analysis of the cost and anticipated benefits will be made to determine proper installation. Upgrade automatic passenger elevators according to the American National Standard Code for Elevators, ANSI A17.1 1981, to prevent unauthorized use of elevators during a fire. In earthquake-prone areas, comply with local safety codes. Verify adequate annual and semiannual inspections of elevators during a fire. In earthquake-prone areas, comply with local safety codes. Verify adequate annual and semiannual inspections of elevators (see Handbook MS-21.)

#### 327.1 General

Crowded conditions are not necessarily an environmental working condition deficiency unless serious safety and health considerations are involved. Normally,

crowded conditions are an operational capacity problem, and corrective action is to be justified on that basis.

### 327.2 Medical Facilities

A professionally staffed medical unit is not essential to all postal facilities. However, it is necessary to provide first-aid treatment for emergencies and essential occupational health services for all employees. When a medical unit is required, it should be located directly adjacent to the workroom and close to an exit where there is a driveway access, so that sick personnel may be taken to an ambulance without crossing the workroom floor. Standard drawings for medical unit room layout are available from each region.

### 327.3 Locker Rooms

An individual full-height locker is to be provided for each employee, except in warm climates where overcoats are not worn, where half-size lockers may be used. All lockers are anchored according to safety standards. Kickplates are installed at the bottom to prevent dust and litter from going under lockers. Enough benches or stools are provided to handle the largest tour (Handbook AS-504).

### 327.4 Food Services

Provide food service facility/space. Modify accommodations as necessary to stay within the confines of the present building without infringement on operational space, per Handbook AS-504.

### 328 Access

#### 328.1 Sidewalks

Sidewalks and other suitable accesses, including such items as curb cuts and ramps, are to be provided from parking areas and street frontage. The lobby should be accessible without stairs. If stairs are required, provision should be made for the physically handicapped. Walkways are to be lighted, have drainage, and be protected from parking areas and driveways by curbs, fences, or walls.

#### 328.2 Provisions for the Handicapped

All renovations must comply with Handbook RE-4, Standards for Facility Accessibility by the Physically

Handicapped, for making buildings and facilities accessible to the physically handicapped. In addition, any alteration of a building feature for which a standard exists in RE-4 must comply with that standard.

### **330 Protection of Historical Properties**

#### **331 Act of 1966**

The National Historical Preservation Act of 1966 and other laws state that it is the national policy to preserve districts, sites, buildings, structures, and objects of significance in American history, architecture, archeology, and culture. The Act authorized the Secretary of the Interior to maintain a register of significant locations and established an Advisory Council on Historic Preservation.

#### **332 USPS Application**

By resolution of the Board of Governors, the Postal Service will comply with the general provisions of the Act and all related regulations. The procedure and policy on *identifying properties in the National Register* are available from the Facilities Service Center or Service Office.

#### **333 Advisory Council**

The Postal Service follows the procedures of the Advisory Council on Historic Preservation. Any acquisition, renovation, or disposal of property eligible for or listed in the National Register must be in compliance with *Advisory Council procedures*.

#### **334 Approvals**

The appropriate Facilities Service Center reviews all proposals for altering buildings that are more than fifty years old or are in the National Register. It will, prior to programming, clear through Headquarters any R&A project where the work will impair historical or architectural values. However, clearances are not required for minor or routine repairs and replacements that will not impair architectural or historical integrity.

### **335 Surveys**

All historical buildings being demolished or disposed of, as well as space in historical buildings being altered, are to be surveyed for personal property and fixtures of historical or intrinsic value. These items are to be removed before the award of construction contracts or reserved to the Postal Service in the contracts with direction to turn the items over to the U.S. Postal Service.

### **340 Flood Control**

#### **341 Regulation**

Executive Order No. 11296, dated August 10, 1966, requires that each federally owned building be evaluated for flood hazard, and that, when practical and economical, action be taken to reduce any flood damage potential. It also requires that high water marks be conspicuously delineated at locations that have been flooded in order to create public awareness and knowledge about flood hazards.

#### **342 Action**

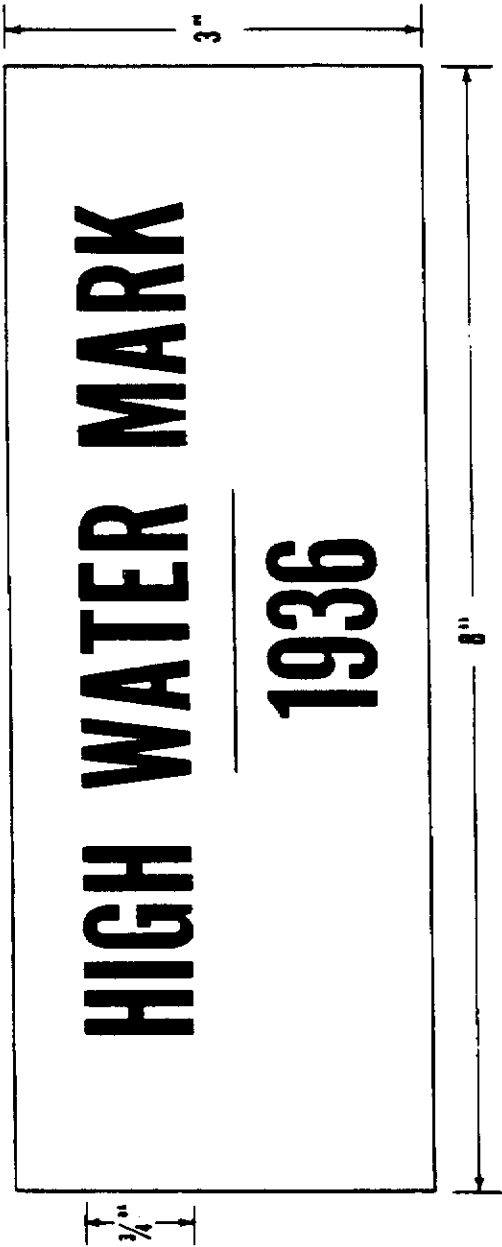
Support Services must initiate action to:

- a. Determine the past and potential flood heights at each building in their areas.
- b. Accomplish at these locations the work that is practical and economical to reduce flood damage potential.
- c. Delineate high water marks by installing appropriate metal markers. (See Exhibit 342c.)

#### **343 Data Sources**

The department of the Army and the Tennessee Valley Authority (TVA) have been designated to supply flood data to those agencies requesting it. Applicable District Engineers of the Corps of Engineers and the TVA should be contacted directly for any information needed to evaluate possible flood situations.





INSTRUCTIONS

1. Use actual date of occurrence.
2. Styles and materials of plaques and locations of installations shall be compatible with the architecture of properties.
3. Install in conspicuous places either inside or outside buildings.
4. Locate plaques so that the mark is at the high water elevation.
5. Limit installations to one at each property which has been flooded.

Exhibit 342c Sample Plaque

## Chapter 4

### R&A in Other Buildings

#### 410 Leased Buildings

##### 411 Objectives

The repair and alteration program in leased buildings has two of the same objectives as those in owned buildings: to provide a suitable environment and to reduce operation and maintenance costs. The third objective (to protect the investment by stopping or avoiding deterioration solely for the sale of the facility) does not apply unless the lease states the Postal Service is responsible for maintaining or restoring the facility to the condition it was in when first occupied. R&A projects must be carefully applied to leased facilities and coordinated with the appropriate Facilities Department Organization for interface with the lessor. There must be clear cost savings or defined lease requirements for routine R&A before money is spent.

##### 412 Responsibility

There are as many levels of USPS responsibility for R&A as there are variations in lease agreements. In general, R&A responsibilities fall into two categories. When the lessor has maintenance responsibility, the R&A program primarily is interested in the safety and environmental conditions, so the inspection process is somewhat abbreviated. Only when the property is being considered for purchase does the Postal Service become interested in the detailed latent condition of the property, and willing to invest resources to determine what maintenance expenses will be incurred and liabilities assumed in the foreseeable future. R&A inspection for structural and physical plant defects are somewhat superficial, limiting action to the identification of obvious defects so that the procedures in obtaining corrective action may be followed. (See Administrative Support Manual, 530.)

##### 413 Procedures for R&A Projects To Be Performed in Leased Buildings

###### 413.1 Policy

When it is necessary to make repairs and alterations in leased facilities for operating purposes for which the lessor is not responsible, it is preferable to have the lessor

undertake such work because of insurance, taxes, maintenance, restoration, and other conditions.

###### 413.2 Procedures

**.21 Determining Whether the Lessor Will Perform Work.** The Division General Manager/Postmaster, or designee, will write to the lessor to determine whether the lessor is interested in performing the required work. If the lessor is not interested in performing the required work, attempt to obtain an agreement from the lessor to waive restoration rights under the terms of the lease. Arrange to have the work accomplished within the Division's delegated contracting authority, and forward a copy of the completed project package to the appropriate facilities organization for filing in the facility file.

**.22 Determining Scope and Cost of Work.** If the lessor is interested in performing the required work, or if the estimated cost of the work exceeds the delegated authority of the Division, the Division General Manager/Postmaster or designee must forward Form 7437, Facilities Services Request, specifying the scope of work and estimated cost of the work, and Form 4209, Project Authorization, to the appropriate facilities organization. The facilities organization will negotiate with the lessor to accomplish the required work in accordance with Handbook RE-1, Realty Acquisition and Management. The Division General Manager/Postmaster periodically will review the status of the required work.

##### 414 Physical Surveys

Inspection of leased facilities for the purpose of purchase analysis will be conducted on an as-required basis.

#### 420 Tenant-funded Projects

##### 421 USPS/GSA Agreement

The Agreement between GSA and USPS states that the "...relationship between GSA and USPS shall be on an owner-agency and tenant-agency basis. GSA is to represent all nonpostal federal government tenants. The relationship between USPS and nonfederal agency tenants and private tenants shall be on an owner-tenant

basis." The appropriate Facilities Organization is the one point of contact with GSA for federal tenant-funded projects.

#### **422 Responsibility**

Under the terms of the Agreement, USPS is responsible for all repairs and alteration projects in buildings owned and operated by the Postal Service. GSA or the nonpostal tenants are responsible for payment for alteration projects above initial alterations in the space that they occupy. For this purpose, alteration projects are defined as those beyond normal building services, requested by and for the convenience of the tenant. Examples are space adjustments to accommodate tenant operations. (See MS-1.)

#### **423 Funding**

Alteration projects above initial tenant alterations must be funded by GSA or the benefiting tenant and normally will be accomplished by the Postal Service. No alterations can be made before receipt of this authorization. (See M.I. AS-510-82-10, 12-8-82.)

#### **424 USPS Approval**

All alteration projects in nonpostal space must be reviewed and approved by the responsible USPS office. Normally this is the USPS building manager. Approval of the project is limited to its effect on postal operations and on the architectural, structural, mechanical, electrical, and plumbing systems of the building.

#### **425 Action**

Normally, alteration projects will be accomplished by the Postal Service unless USPS resources are not readily available, completion of the project would be unreasonably delayed, or it would not be in the best interest of the Postal Service. All work done by any resource must be approved by the Postal Service.

### **430 GSA-operated Buildings**

#### **431 Responsibility**

Under the terms of the Agreement, GSA is responsible for all repairs and improvements in buildings operated by them. The U.S. Postal Service is responsible for alteration projects in USPS-occupied space in these buildings. For this purpose, an alteration is defined as any project that is beyond normal building services, at the request of and convenience of the Postal Service.

#### **432 Funding**

Alteration projects must be funded by the Postal Service and normally will be accomplished by GSA. (See M.I. AS-510-82-11, 12-8-82.)

#### **433 GSA Approval**

Plans for proposed alterations are submitted to the GSA building manager for approval or for transmittal to the GSA regional office. GSA reviews all projects to determine that the proposed construction is compatible with the architectural, structural, electrical, mechanical, and plumbing systems of the building.

#### **434 Action**

A decision must be made in conjunction with the GSA office as to whether the Postal Service or GSA is to accomplish the project. If the Postal Service is to design and construct the alteration project, GSA must be contacted to arrange for necessary security, movement and storage of materials, entrance, exit, and so forth. If GSA is to perform the alterations, the Postal Service must make arrangements for vacating the construction area, ordering USPS-furnished equipment, safety of USPS personnel, mail security, and the like; and must participate in the final inspection of construction to ensure the project is completed according to USPS requirements. If additional space is required, a request must be made to the GSA buildings manager for space assignment before proceeding with the project.

## Reference Index

Headquarters directives relating to maintenance management.

### 1. HANDBOOKS

MS-1	<i>Operation and Maintenance of Real Property</i>
MS-9	<i>Physical Surveys of Leased Postal Facilities</i>
MS-21	<i>Elevator Maintenance</i>
MS-28	<i>Maintenance of Electrical Switchgear</i>
MS-42	<i>Air and Water Balancing</i>
MS-47	<i>Housekeeping Postal Facilities</i>
MS-49	<i>Energy Conservation and Maintenance Contingency Planning</i>
MS-54	<i>Color and Graphics Handbook—Post Office Interior Spaces</i>
MS-56	<i>Fire Protection and Control</i>
RE-12	<i>Repair and Alteration Surveys</i>
AS-504	<i>Space Requirements</i>

### 2. PUBLICATIONS

PUB-29	<i>Food Service Operation and Employee Social and Recreational Fund</i>
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PUB-41	<i>Postal Contracting Manual</i>
PUB-190	<i>Capital Investment Policies and Procedures</i>
PUB-191	<i>Capital Investment Implementation Instructions</i>

### 3. FORMS

Form 4835	<i>Repair &amp; Alteration Inspection Report</i>
Form 4836	<i>Repair &amp; Alteration Project Schedule</i>
Form 4837	<i>Repair &amp; Alteration Construction File</i>
Form 4838	<i>Repair &amp; Alteration History</i>
Form 4893	<i>Annual Building Equipment Operating and Maintenance Workhour Summary</i>
Form 4896-A	<i>Annual Standard Workhour Requirements for Building Equipment Preventive Maintenance</i>
Form 4869	<i>Building Inventory</i>
Form 4897	<i>Building Equipment Inventory</i>
Form 7500-B	<i>(Two-part set) Facilities Management System—Data Input</i>