Chapter VII

PROCUREMENT

Signs should be procured from the most cost-effective and efficient source, including shipping. Regardless of the source, signs should be manufactured in compliance with these Guidelines.

Final design and approval for all Reclamation signs should be the responsibility of the office sign coordinator or the regional sign coordinator as detailed in chapter I. Once the need for new or replacement signs has been determined and funding secured, the area or field office sign coordinator should initiate the procurement process. Except for standardized signs, appropriate drawings and specifications should accompany each sign requisition to ensure compliance with these Guidelines.

Standardized signs, such as highway, snowmobile, and boating signs, can be procured through normal office procedures. Most standardized signs can be obtained through the General Services Administration or Defense Logistics Agency by contacting your property and supply office personnel. Information such as cost authority number, order number, Federal stock number, quantity, and physical description should accompany each request.

Copies of the General Service Administration Catalog, Defense Logistics Agency Catalog, Uniform Traffic Control Devices Standards, Uniform Waterways Marker System, and the National Snowmobile Association Standards can be obtained from Reclamation's Denver Technical Service Center, upon request. Valuable information pertaining to the above-mentioned catalogs and standards can be obtained by accessing the following website addresses:

General Service Administration: <http://www.pueblo.gsa.gov/>
Defense Logistics Agency: <http://www.dla.mil/earthday/tris.htm>
Uniform Traffic Control Devices Standards: <http://mutcd.fhwa.dot.gov/ser-pubs.htm>
Uniform Waterways Marker System: < http://www.boatsafe.com/nauticalknowhow/buoychanges.htm>
National Snowmobile Association Standards: <http://www.snowmobileacsa.org/page.cfm/14/>

Chapter VIII

SIGN FUNDING AND INVENTORY

A. General: A regular sign review and maintenance program should be adopted for all signs existing within the respective regions. It should be the responsibility of the operating office to perform a sign review as needed, prepare a sign inventory, and accomplish any required maintenance of signs within areas and offices under its jurisdiction.

B. Funding: Reviews, inventories, and scheduled maintenance of signs should be funded by the responsible managing entity. All facility signs (i.e., buildings/structures) and reservoir area signs where Reclamation has recreation management responsibilities should be funded by the designated Reclamation office. If a Reclamation-operated powerplant is associated with a dam, funding for signs pertaining to that structure should be borne by the responsible Reclamation power office. If a dam is managed by a water users organization, and there are no Reclamation operated powerplants associated with the dam, it should be the responsibility of the water users organization to fund all sign requirements of that site unless otherwise determined through a negotiated agreement. When reservoir recreation activities are managed by the State or another Federal agency, local agency, or private concessionaire, funding for construction, installation, maintenance, and replacement should be the responsibility of the managing entity pursuant to the management agreement.

C. Sign Inventory and Review: Each operating office should prepare a sign inventory and update the inventory, as necessary. Updated inventories should be maintained by the area office sign coordinator. Appendix 6 contains six examples of sign inventory worksheets that could be used by Reclamation offices.

A periodic sign review should be performed by the operating office. The following questions should be addressed when conducting the review:

1. **Adequacy.—**Are additional signs needed? Are existing signs effective? (If not, remove them.) Are some signs no longer needed? (If so, remove them.)

2. **Wording.—**Is the message clear, concise, and easily understood? (If not, make the necessary changes.)

3. **Design.—**Does the sign design conform to these Guidelines? (If not, is a new sign more desirable?)

D. Inventory: The following specific information should be included in the inventory:

1. **Identification Number.—**Each sign should be assigned a unique identification number. It should include city, State, and area office. For example: ID-015-10 described sign #10 of the Boise, Idaho, Snake River Area Office of Idaho's Boise District.

2. **Location.—**By road number or facility name (e.g., Owyhee Reservoir), if so associated, or by quarter-section legal description.

3. **Description.—**By catalog number if a general, standardized sign. If not, a short description, such as "interpretative sign," not longer than 25 letters.

4. **Substrate.—**Aluminum, IWO plywood, plastic, etc.

5. **Size.—**Dimensions of sign.

6. **Installation Date.—**Date the sign was installed.

7. **Cost.—**Include design labor, fabrication labor, materials, and shipping. (Important if vandals are to be prosecuted.)

8. **Last Maintenance Date.—**The date that the sign was previously maintained.

9. **Cost of Maintenance.—**Include both labor and material costs. If labor is by volunteers, include estimated value of the labor.

10. **Current Condition.—**(See Chapter IX - Sign Maintenance, for condition ratings and criteria for each described condition rating.)

11. **Date Condition Determined.—**The date of the inventory.

12. **Projected Next Maintenance Date.—**The date that the next regular maintenance should occur.

E. Evaluation: Using the inventory, identify needed signs and maintenance requirements. Answer the following questions:

1. Are there missing signs?

2. Are the existing signs in good condition?

3. Are the signs in compliance with standards in these Guidelines?

4. Are there signs or posters which are no longer needed or appropriate?

5. Are there obsolete signs that should be replaced with newer editions of the same sign?

6. Are all signs in their proper locations?

7. Is there a vandalism or theft problem that should be solved in coordination with local law enforcement agencies/officers/authorities?

F. Action Plan: Based on the inventory and evaluation described above, develop an annual action plan for ordering and installing new or replacement signs and for maintaining existing signs. Clearly describe planned action, time by which action is to be completed, individual or work unit responsible for accomplishment, and estimated cost. The plan should be commensurate with available funding and workforce availability.

Consider wide use of volunteers for sign maintenance. Most maintenance tasks are easily accomplished by nontechnical people. Sign maintenance tasks are also good projects to offer to youth, church, and community groups. Ideally, recruitment should be done during the winter months, and work agreements made should begin in spring or early summer.

If a vandalism or theft problem exists, discuss possible solutions with appropriate law enforcement entities. Consider sting operations and stakeouts of signs with designs and/or messages that make them likely theft targets. If arrests are made and individuals are successfully prosecuted, work with public affairs staff to publicize that fact as a deterrence to future theft and vandalism. Include any antitheft or antivandalism activities in the action plan.

G. Planning Period: A detailed plan is required for only the current fiscal year. It should be completed by January 31 for the following field season. Planning for out years may be less detailed. Update sign plans annually. At least 25 percent of area office signs should be scheduled for maintenance inspections each year.

H. Documentation: Document all inspections, installations, removals, and maintenance work as it is completed.

Chapter IX

SIGN MAINTENANCE

A. Maintenance: A sign maintenance schedule should be developed annually by each operating office. A backlog of signing needs should be noted, and an annual work plan should be prepared to detail the funding needs for achieving the goals of Reclamation's sign program. The maintenance schedule should address, but not be limited to, the following points:

1. **Damage.—**Damaged signs shall be repaired or replaced, as required.

2. **Visibility.—**Signs that have become obscured by brush or grass shall have the problem vegetation cleared to restore them to a state of desired visibility.

3. **Legibility and Appearance.—**Signs that have become faded or illegible shall be restrained/restored to their original condition. The appearance of sign parts should also be considered.

   "Scotchcal" signs can best be maintained by referring to the 3M Company's "Sign Maintenance Manual for Freeways and Toll Roads" and supplements thereto.

4. **Maintenance Objective.—**Plan, schedule, and perform maintenance to keep signs, posters, and other traffic control devices clean, legible, functional, and properly positioned. Effective sign maintenance will facilitate safe use of Reclamation lands and facilities and foster a favorable image of the agency's professionalism in the visitors' eyes.

5. **Condition Survey.—**Condition surveys should be performed on a periodic basis to determine condition and effectiveness of all traffic control devices, signs, and posters. Reflective devices should be inspected at night as well as during the day. Evaluation items should include legibility, reflectivity, overall condition of both the sign and its supports, placement, visibility, encroachment of vegetation, and continued need of the sign at that location.

   Managers should promote a high level of awareness among field personnel to recognize missing, improper, incorrectly placed, damaged, or deteriorated signs. They should be encouraged to report these findings to the sign coordinator or the resource specialist whose program is supported by that sign.

   a. Field inspectors should use locally generated checklists to capture information during the inventory/review. The checklists should also be used as a reference in developing the annual maintenance plan.

   b. As a minimum, the checklist should document the sign location (facility or road number), date and time of inspection, inspection findings, recommended

actions, name of inspector, maintenance accomplished, and name of person performing maintenance.

c. ***Condition Ratings:***

(1) *Excellent*. Sign is new or in a like-new condition. Needs no attention. All lettering and symbols are legible. No vegetation or other objects obscure the sign.

(2) *Good*. Sign has experienced some weathering, but its lettering and symbols are legible. The sign is intact, with no holes or broken portions. May need some cleaning to eliminate accumulated dirt and minor touchup painting. No vegetation or other objects obscure the sign.

(3) *Fair*. Sign has been extensively impacted by weathering, requiring extensive cleaning and painting to restore it to its original condition. Lettering and symbols are legible, but barely so. Reflectivity is about half of the original. Vegetation is beginning to encroach on the sign, further detracting from the legibility of the message. Sign may have some holes or other minor damage which can be readily repaired.

(4) *Poor*. Sign is so weathered that its message is no longer legible. It has been refurbished at least once. It has severe damage from holes or other vandalism. It can be repaired temporarily, but it should be replaced as soon as possible.

(5) *Missing/Destroyed/Obsolete*. Either the sign is gone or is so damaged that repairs are impossible, or the sign message is outdated or incorrect. If one or more of these conditions exists, and a sign is still needed, a replacement sign should be ordered immediately.

d. ***Reflectivity****:* A great many signs are reflective to ensure their visibility at night. To test visibility, create a small panel (about 8 inches by 10 inches) using sheeting which has an acceptable level of reflectivity. At night, tape the test panel to the face of the sign. Step back about 30 feet, hold a flashlight about 2 inches from your face, and shine it at the sign.

(1) If the inspection panel is brighter than the sign, replace the sign within the year.

(2) If the sign is brighter than the inspection panel, the sign still has several years of life remaining.

(3) If the sign and the panel have equal brightness, the sign has 1 to 2 years of useful life remaining.

6. **Maintenance Performance.—**Perform maintenance on a regular and systematic basis to ensure signs and other traffic control devices are clean, undamaged, and functional. Check and replace edge tape on a routine basis. Use only those materials (paints, stains, edge tape, sheeting, hardware, etc.) that comply with the original specifications for the sign or traffic control device being refurbished. Evaluate the maintained product against the standard for materials and workmanship established for the original.

   a. ***Clearing***: Clear all trees, brush, and other vegetation that may obscure signs. Also make sure that fences or other objects do not obscure signs. Relocate signs if obstructions cannot be eliminated. If clearing is to be accomplished by application of herbicides or other chemicals, appropriate policy and guidelines on applying chemicals should be followed.

   b. ***Cleaning***: Clean all signs obscured by dust, bituminous materials, road film, mud, etc., to restore legibility and reflectivity. Wash signs by:

      (1) Flushing sign surface with clean water to remove loose dirt.

      (2) Scrubbing sign face with soft brush, rag, or sponge, using a mild, nonabrasive detergent or other suitable cleaner. Scrub from the top down. Avoid damaging the surface with unnecessary scrubbing. Keep a steady stream of water flowing on the sign face to wash away dirt.

      (3) Rinse entire sign face with clean water.

   c. ***Special Cleaning Problems:***

      (1) *Tar, oil, diesel, bituminous material.* Use a mild solvent such as mineral spirits. Then wash the surface with mild detergent and water and rinse with clean water.

      (2) *Pollen and Fungus*. Wash the surface with a 3- to 5-percent sodium hypochlorite solution, such as a commercial brand of bleach, followed by detergent and water. Rinse with clean water.

      (3) *Lipstick and Crayon*. Use a mild solvent such as mineral spirits to remove the material. Follow with detergent and water and a clean water rinse.

      (4) *Paint*. It may be possible to remove paint sprayed onto a reflective sheeting sign face using a commercial paint remover designed for that purpose. The type of paint, length of exposure, and type of remover may affect the life of the sheeting.

      (5) *Other Severe Contamination*. Soiling that cannot be removed by previously mentioned methods can be removed by scrubbing with a very fine steel wool or plastic kitchen scour. However, unless great care is taken, this scrubbing may destroy all or part of the sign's reflectivity.

For all of these special cleaning procedures, the sign should be inspected at night to determine if the cleaned area has lost too much of its reflectivity. Replace any signs with insufficient reflectivity.

d. ***Repair:*** Repair damaged signs following the procedures described below. Minor damage may be repaired in the field without removing the sign from its support. Repair of major damage will normally require that the work be performed in a workshop.

(1) *Aluminum Substrate Signs*.

(a) **Bent Signs**. Straighten sign, and if the reflective background or legend has been scraped or damaged, proceed as follows:

(i) Remove all background sheeting and legend from an area slightly larger than that damaged.

(ii) Clean exposed surface with a mild detergent and rinse with clean water.

(iii) Apply matching pressure-sensitive reflective background sheeting, extending at least ½ inch beyond the damaged area.

(iv) Replace damaged legend with die-cut, pressure-sensitive, prespaced letters, borders, and symbols and firmly squeegee in place.

(v) If sign is subjected to snow burial and replacement sheeting extends to the top edge of the signs, place transparent film or tape along top edge.

(b) **Holes**. Often, it is not necessary to repair each hole in the sign. When a hole does not damage the message or symbol and does not, of itself, create a sloppy signing image, maintenance may not be needed. Where repairs are needed, follow these steps:

(i) Remove all damaged background sheeting and legend.

(ii) Straighten the sign using a hammer and flat dolly.

(iii) Remove any additional sheeting damaged during straightening.

(iv) Clean the entire area with mild detergent and rinse with clean water.

(v) Patch the hole or puncture on both sides using aluminum foil tape. Use squeegee to apply firm pressure. Do this on both

sides of the sign. On large holes, start placing the foil at the bottom of the hole, overlapping each strip shingle fashion as you move up.

(vi) Apply reflective background sheeting, extending it at least ½ inch beyond the foil strips.

(vii) Replace damaged legend with die-cut, pressure-sensitive, prespaced letters, borders, and symbols and firmly squeegee in place.

(viii) If sign is subjected to snow burial and replacement sheeting extends to the top edge of the signs, place transparent film or tape along top edge.

(2) *Plywood Substrate Signs*. The following procedures are recommended to repair holes and other punctures and to restore a sign's legibility:

(a) Remove all loose wood on both sides of the sign and all damaged sheeting.

(b) Fill holes with wood filler or auto body filler and sand smooth.

(c) Wipe areas with clean cloth.

(d) On larger repairs, it may be desirable to cover holes with aluminum foil tape. Use squeegee to apply firm pressure. Start placing the foil at the bottom of the hole, overlapping each strip shingle fashion as you move up.

(e) Apply reflective background sheeting, extending it at least ½ inch beyond the foil strips.

(f) Replace damaged legend with die-cut, pressure-sensitive, prespaced letters, borders, and symbols and firmly squeegee in place.

(g) If sign is subjected to snow burial and replacement sheeting extends to the top edge of the signs, place transparent film or tape along top edge.

(h) Using an aerosol can of enamel paint (color to match back of sign board), lightly spray the aluminum tape, covering the holes on the sign back.

(3) *Routed Wood Signs*.

(a) **Repairing Sign Board**.

(i) Scrape off loose paint with a wire brush. Dress all holes and damaged wood with the knife.

(ii) Fill all cracks, holes, and imperfections with wood or auto body filler.

(iii) Sand sign edges back and forth. Do not sand surface overlays on MDO substrate signs.

(iv) Remove all loose paint, dust, and other foreign materials.

(b) **Painting**.

(i) Apply prime coat.

(ii) Apply two coats of paint to sign message. Work paint thoroughly into all corners of letters and numbers. Let paint dry thoroughly between coats.

(iii) Apply two coats of paint to background area.

(iv) Touch up letters if background paint contaminates the message.

(c) **Staining**.

(i) Hand paint message area, keeping paint off sign face.

(ii) Apply two coats of stain to background areas.

(4) *Supports and Hardware*. Repair or replace, as necessary, damaged or deteriorated sign supports and associated mounting hardware.

7. Volunteers.—Sign maintenance is an excellent task to give to volunteers. The maintenance skills described above can be quickly taught to individuals. The work can be laid out easily, and volunteers can often provide their own transportation to the worksites. Sign inventory and maintenance is an excellent project to offer to youth, church, and civic groups. It is particularly effective for special youth projects, such as those required for the Boy Scout's Eagle Rank.

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