

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT AND GRANTS

Chapter VIII. Dam and Reservoir Rights-of-Way. Right-of-way applications for reservoirs, dams and other water control structures are frequently received from public agencies, utilities, irrigation companies, industry, and individuals. BLM staff specialists should be concerned with processing the right-of-way application and identifying special mitigation needs. The District and State Office engineering staff should be consulted when processing these applications. The following outline presents items for consideration by applicants as they prepare plans of development and the Bureau specialist as the application is processed. It is not intended that all plans of development specifically address every item, but rather that the applicant and specialist consider each item and address those that are appropriate for the project under consideration.

A. Description of the Facility.

1. Purpose and Need for the Facility.

a. Identify the use(s) of the dam and reservoir, such as fisheries, recreation, irrigation, stock water, wildlife, flood control, industrial or domestic water supply, hydropower, stream flow regulation, etc.

b. State the period of use and the functional life of the structure (a product of the water storage and silt/sedimentation levels).

c. Describe the size of the facility, i.e., the dam dimensions, reservoir surface area, permanent storage capacity, flood storage capacity, related facilities, etc.

2. Facility Design Factors. Dams and reservoirs are designed according to standards prescribed by the various State engineer's offices and the 9170 series of BLM Manuals. (For larger projects, in addition to State prescribed controls, the Bureau of Reclamation, Water Resources Technical Publication, *Design of Small Dams*, is a source of information.) When questions arise as to design of the facility, the BLM engineering staff should be consulted.

a. It is BLM policy that dams and reservoirs will be designed by a Federal agency professional or a professional engineer licensed by the appropriate State authorities. Design criteria are based on State and Federal standards and are to be reviewed and approved by the appropriate BLM engineer. (See Manual Section 9102.06G).

b. In addition to the maps required to locate the right-of-way in the field and for notation of BLM records, the application should include detailed engineering plans and specifications. These should include a map showing the location of the structure and outlet works, the high water line, current location of streams and rivers, ancillary facilities, section corner ties, legal description, and acreage calculations (by land status).

c. The design must also include:

(1) Special mitigation facilities/requirements such as fish ladders, controlled discharge, and minimum flow requirements.

(2) Emergency spillway and outlet works.

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT
AND GRANTS

- (3) Design Frequency Storm.
- (4) Area capacity curves/charts.
- (5) Hydropower potential.
- (6) Planned recreation facilities, e.g., parking lots, boat ramps, etc.

3. Additional Components of the Right-of-Way. The following should be considered and described as appropriate:

- a. State water rights involved.
- b. Dam safety standards to be observed.
 - (1) Hazard rating.
 - (2) Emergency action plan.
- c. Conflicts/resolutions with existing rights and facilities; relocation of existing facilities.
- d. Access roads (temporary and permanent).
- e. Power lines.
- f. Irrigation ditches.
- g. Worker camps.
- h. Buildings.
- i. Pipelines.
- k. Availability of the reservoir for public recreation purposes.

4. Governmental Agency Involvement. The application process and/or plan of development is not a clearinghouse for all required Federal, State, and local permits. The permits the Bureau can reasonably expect to be aware of include, but are not necessarily limited to:

- a. Corps of Engineers Section 404 Permit. (See Chapter II, Paragraph C1b.)
- b. State Engineer (or other appropriate authority) water permits and design approval.

5. Site Selection. Selecting a site for a dam and reservoir requires special consideration. Many different elements enter into the decision, including:

- a. Land use planning (check for any water power withdrawal actions).

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT AND GRANTS

- b. Hydrologic data such as rainfall, stream flow, sedimentation.
- c. Major geologic and soil features, including sand and gravel deposits, clay sources, siltation, soil susceptibility to piping or settling.
- d. Alternate locations available.
- e. Seismic considerations.
- f. Downstream developments and land use.
 - (1) Habitation.
 - (2) Roads.
 - (3) Campsites.
- g. Water quality.
- h. All known water rights and public water reserves should be identified to the extent possible.
- i. Access, and whether it will have to be developed or if it exists.
- j. Mineral status of the lands affected.
- k. A description of what will be inundated as the reservoir fills. Address any improvements or facilities and explain how they will be handled, i.e., moved or abandoned.

6. Resource Values and Environmental Concerns. Resource values of particular concern when siting/building dams and reservoirs include:

- a. Wildlife, including threatened and endangered species.
- b. Recreation.
- c. Mineral materials, including coal, sand and gravel, other mineral or energy resources.
- d. Cultural features.
- e. Visual values.
- f. Specially designated areas such as Wilderness Study Areas, Wild and Scenic Rivers, Areas of Critical Environmental Concern, or Research Natural Areas.

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT AND GRANTS

7. Construction of the Facility.

- a. Describe the source of borrow material and method of embankment compaction.
- b. Removal of vegetation may be of major concern because all areas below the high water line may have to be cleared. Requirements vary considerably and may involve timber sale, burning, and grubbing.
- c. Disposal of waste material and debris (including human waste) during construction should be addressed.
- d. Sediment and erosion control during construction.
- e. Provisions for on site construction monitoring.
- f. Methods of construction and types of equipment to be used on the right-of-way.
- g. Seasonal or weather linked restrictions on various construction activities.
- h. Seeding requirements for areas disturbed during construction.
- i. The application should provide for a licensed professional engineer to certify that all dam structures are completed according to the approved plans and specifications.

8. Stabilization and Rehabilitation. All of the stabilization and rehabilitation items listed in the general descriptive outline (Chapter IB8) should be considered when authorizing dam and reservoir right-of-way projects. Special erosion situations likely to be encountered should be discussed with the applicant and/or addressed in the plan of development, for example, riprap.

9. Operation and Maintenance of the Facility. The following should be considered:

- a. Safety requirements.
 - (1) Scheduled inspections.
 - (2) Planned periodic maintenance of the structure. Identify the source of borrow material for maintenance activities. Determine if planned maintenance will be confined to the R/W and what maintenance activities will require additional approval from BLM.
- b. Maintenance of mitigation facilities, compliance with other regulatory permits.
- c. Flood control.
- d. Dams with "High" and "Significant" hazard ratings require an Emergency Action Plan (See Manual Section 9177.71E). Provisions to supply the authorized officer, the appropriate BLM district office, the State Engineer, and local officials with a copy of this plan should be made in the plan of development and/or during the application process.
- e. Water quality monitoring.

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT AND GRANTS

10. Termination and Restoration. When preparing the application, the applicant and specialist should address the possibility that at some time the facility may no longer be needed. Provisions should be made to ensure that when a reservoir's useful life for the intended purpose is over and the authorization is to be terminated and the facility abandoned, the holder will file a notice of intent to abandon the facility. This notice should be accompanied or followed by an abandonment plan subject to review and approval by the State Engineer and BLM. Termination and restoration of reservoirs warrants special emphasis because of the complications involved in stabilization, safety, and conversion to other uses. Restoration to the original condition may be impractical or impossible, thus alternatives must be addressed. The abandonment plan should address:

- a. Hazard analysis and liability.
- b. Design changes.
- c. Removal of the structures.
- d. Obliteration of the roads and earthwork.
- e. Stabilization and revegetation of the disturbed areas.

B. Authorization of Existing Facilities. Many of the dam and reservoir related situations encountered by BLM specialists are associated with long-existing facilities under unknown or questionable authorization. To properly administer dams and reservoir facilities, BLM should determine the ownership and authorization. The following section may be of help in this regard.

1. Historical Authorities for Dams and Reservoirs. As old dams and reservoir facilities can pose a serious hazard on the public lands, efforts must be made to identify and locate the responsible party. The following list of authorities under which dams have been authorized may be of help in tracking the ownership. Most privately owned dams on public land will have been constructed under one of these authorities. Check also the BLM land status plats, state authorities, and county real estate records.

- a. Act of July 26, 1866, (Repealed by FLPMA).

Common Name:	Mining Law of 1866.
U.S. Statute:	14 Stat. 253 (R.S. 2339 and 2340).
U.S. Code:	Formerly 43 U.S.C.A. 661 (1986).
Regulation:	None.
Record:	State water right records. County records. BLM land status records.

Comments: The act granted authority to construct water facilities on public domain in conjunction with water rights. The grant was effected merely by construction. No action by the government was required. (See Manual Section 2801.48G.)

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT
AND GRANTS

b. Act of May 10, 1872.

Common Name: Mining Law of 1872.
U.S. Statute: 17 Stat. 91 (R.S. 2319).
U.S. Code: 30 U.S.C. 22, *et seq.*
Regulation: 43 CFR Part 3800.
Record: State water right records.

Comments: Act authorizes use and occupancy of public lands for mining and related purposes. Some reservoirs may have been constructed for such purposes on unpatented mining claims which were later abandoned. If no water right exists for such reservoirs and the mining claims are abandoned, the reservoirs are unauthorized.

c. Act of March 3, 1877.

Common Name: Desert Land Act.
U.S. Statute: 19 Stat. 377.
U.S. Code: 43 U.S.C. 321-323.
Regulation: 43 CFR 2520.
Record: BLM land status records.
Serialized BLM case files.
State water right records.

Comments: Reservoirs included in the applicant's plan of irrigation may be authorized on lands in an entry by the Notice of Allowance of the entry.

d. Act of March 3, 1891, (Repealed by FLPMA).

U.S. Statute: 26 Stat. 1101, *et seq.*
U.S. Code: 43 U.S.C. 946-949.
Regulation: Formerly 43 CFR 2871 (1977).
Record: BLM land status records.
State water right records.
County records.
Serialized BLM case files.

Comments: Grant was effected by construction. Act required filing of survey plat and approval of plat by the Secretary of Interior.

e. Act of August 18, 1894.

Common Name: Carey Act.
U.S. Statute: 28 Stat. 422.
U.S. Code: 43 U.S.C. 641, *et seq.*
Regulation: 43 CFR 2610.
Record: BLM land status records.
State land agencies records.

Comments: Act required filing of map and plan of irrigation for approval by Secretary of Interior.

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT AND GRANTS

- f. Act of January 21, 1895, (Repealed by FLPMA).
 Common Name: Tramroad Right-of-Way Act.
 U.S. Statute: 28 Stat. 635.
 U.S. Code: 43 U.S.C. 956.
 Regulation: Formerly 43 CFR 2811 (1977).
 Supereded by Act of February 15, 1901, as to reservoirs.
 Record: BLM land status records.
 State water right records.
 Comments: Authorized construction of canals, tramroads, and reservoirs on public lands "... to the extent of the ground occupied by the water of the canals and reservoirs and fifty feet on each side of the marginal limits thereof..." by associations or persons engaged in mining, quarrying, cutting timber, or manufacturing lumber.
- g. Act of January 13, 1897, (Repealed by FLPMA).
 U.S. Statute: 29 Stat. 484.
 U.S. Code: 43 U.S.C. 952, *et seq.*
 Regulation: Formerly 43 CFR 2872 (1977).
 Record: BLM land status records.
 State water right records.
 Comments: Act authorized construction of reservoirs for stock watering.
- h. Act of February 15, 1901, (Repealed by FLPMA).
 U.S. Statute: 31 Stat. 790.
 U.S. Code: 43 U.S.C. 959.
 Regulation: Formerly 43 CFR 2873 (1977).
 Record: BLM land status records.
 State water right records.
 Comments: General right-of-way authority for various types of facilities, including development and improvement of Public Water Reserves.
- i. Act of February 1, 1905, (Repealed by FLPMA).
 U.S. Statute: 33 Stat. 628.
 U.S. Code: 16 U.S.C. 524.
 Regulation: Formerly 43 CFR Subpart 2891 (1977).
 Record: BLM land status records.
 Forest Supervisor's records.
 State water right records.
 Comments: Secretary of the Interior had the authority to grant rights-of-way on National Forest lands for reservoirs and other water facilities.
- j. 44 L.D. 513, January 13, 1916.
 Record: BLM land status records.
 Serialized BLM case files.
 Comments: Reservation of public lands appropriated for public use by construction of improvements and use by the Federal government. (Superseded by Section 507 of FLPMA).

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT
AND GRANTS

k. Act of February 25, 1920.

Common Name: Mineral Leasing Act of 1920.
U.S. Statute: 41 Stat. 437, as amended.
U.S. Code: 30 U.S.C. 181, *et seq.*
Regulation: 43 CFR 3000 - Subchapter C.
Record: BLM mineral lease and APD files.
State water right records.

Comments: Dams and reservoirs may be constructed on leased public land for uses incidental or necessary to mineral leasing activities.

l. Act of June 10, 1920.

Common Name: Federal Power Act.
U.S. Statute: 41 Stat. 1063, *et seq.*
U.S. Code: 16 U.S.C. 818.
Regulation: 18 CFR Subchapter B, 43 CFR 2320.
Record: FERC records.
BLM land status records.
State water right records.

Comments: Federal Energy Regulatory Commission issues licenses for dam and reservoir construction.

m. Act of December 5, 1924.

Common Name: Fact Finders Act of 1924 - Subsection 4-P.
U.S. Statute: 43 Stat. 704.
U.S. Code: 43 U.S.C. 417.
Regulation: 43 CFR Subtitle B, Chapter I.
Record: BLM land status records.
Bureau of Reclamation project files.
Irrigation district records.

Comments: Bureau of Reclamation authority for reserving rights-of-way, of any kind, on withdrawn project lands.

n. Act of June 28, 1934.

Common Name: Taylor Grazing Act.
U.S. Statute: 48 Stat. 1269.
U.S. Code: 43 U.S.C. 315c.
Regulation: 43 CFR Part 4100.
Record: State water right records.
BLM land status records.
BLM project files.
BLM grazing permit/lease files.

Comments: Section 4 of the Act authorizes issuance of permits for reservoirs and other range improvements on public lands.

H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT AND GRANTS

o. Act of July 22, 1937.

Common Name: Bankhead Jones Farm Tenant Act.
 U.S. Statute: 50 Stat. 525.
 U.S. Code: 7 U.S.C. 1010 -1012.
 Regulation: 36 CFR Part 213.
 Record: BLM land status records.
 BLM project files.
 Forest Supervisor's project records.
 State water right records.

Comments: Most lands acquired under this Act are under U.S. Forest Service jurisdiction although some are the responsibility of BLM. This Act provided broad authority to acquire and manage lands for watershed protection and prevention of soil erosion.

p. Act of October 21, 1976, Title V.

Common Name: Federal Land Policy and Management Act.
 U.S. Statute: 90 Stat. 2776.
 U.S. Code: 43 U.S.C. 1761, *et seq.*
 Regulation: 43 CFR Part 2800.
 Record: Serialized BLM case files.
 BLM land status records.
 State water right records.

Comments: Current authority for granting rights-of-way for dams/reservoirs on public lands.

2. Unauthorized Structures For dams and reservoirs where no authorization is found, look to Manual Section 9232 for guidance in dealing with trespass.

C. Guide Stipulations for Dam and Reservoir Rights-of-Way.

1. The dam and reservoir shall be designed by an Engineer licensed in the State of (name) with demonstrable experience in dam design.
2. The holder shall submit, for the authorized officer's review and approval, designs and plans approved by the (State) State Engineer [or other appropriate state authority] prior to beginning construction or other surface disturbing activity. The authorized officer shall issue a Notice to Proceed (BLM Form 2800-15) upon approval of the design and plans.
3. Within 30 days of completion, the holder will submit to the authorized officer, as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.
4. Within (specify) days after receipt of the authorized officer's written notification of damage or defects found in the structure or related facilities the holder will restore the facility to the originally constructed condition, using materials of equal or superior quality to those used in the original construction.

**H-2801-1 - RIGHT-OF-WAY PLANS OF DEVELOPMENT
AND GRANTS**

5. **Should the holder fail to perform the required maintenance or repair within (specify) days of receipt of the authorized officer's written notification to do so, BLM may perform the required maintenance or repair, or at the discretion of the authorized officer, remove the facility, at the holder's expense, including the administrative costs to BLM to effect any such action.**
6. **The holder shall provide a bond in the amount of (specify) prior to issuance of the grant or at such later time as the authorized officer deems necessary to ensure the proper maintenance of the facility.**
7. **The holder shall prepare an Emergency Action Plan in accordance with BLM standards for structures with a "High" or "Significant" hazard classification. The (State) State Engineer *[or other appropriate state authority]* will determine the hazard classification following an inspection of the downstream potential for property damage and/or loss of life.**

NOTE: BLM standards for Emergency Action Plans are found in Manual Sections 9177.71E and H-9177-2.

8. **The road proposed as part of this authorization shall be constructed and maintained in accordance with the BLM standards prescribed for a (specify) type road.**

NOTE: See Manual Section 9113 for road types and standards. Unless BLM is sharing in the cost of the road, either through cost sharing or rental reduction/waiver, the standards imposed cannot exceed those necessary for the applicant's intended use.

9. **The United States, its officers and employees shall be held harmless from and indemnified against any damage, injury, or liability resulting from the construction, operation, or maintenance of the dam and reservoir being authorized by this right-of-way grant; including but not limited to any liability which the United States may have as owner of the land which is the subject of the right-of-way grant.**