

E. SECTION 404 ELEVATION

APPENDIX E

SECTION 404 EVALUATION

The following evaluation has been prepared in compliance with section 404(b)(1) of the Federal Water Pollution Control Act Amendments (Public Law 92-500) and Environmental Protection Agency Guidelines for Specification of Disposal Sites for Dredged or Fill Material (Federal Register, 24 December 1980), and U.S. Army Corps of Engineers regulations for compliance with Nationwide Permits (Federal Register, 22 July, 1982).

A. Purpose

The purpose of the proposed plan is to provide flood control for the Salt and Gila Rivers through the Phoenix metropolitan area and to provide a regulatory storage reservoir for the storage of Central Arizona Project (CAP) water.

B. Description of Proposed Plan

The proposed plan would include modifications at four sites. A new dam would be constructed on the Agua Fria River about 1/4 mile downstream from the existing Waddell Dam to replace the existing storage and also to provide for storage of CAP water. A new Cliff Dam would be constructed on the Verde River about 6 miles downstream of the existing Horseshoe Dam to replace the existing storage at Horseshoe Dam, provide flood control on the Verde River, and relieve dam safety problems on the Verde River. A new Roosevelt Dam would be constructed on the Salt River about 1,000 feet downstream from the existing dam to replace the existing storage, provide flood control for the Salt River, and relieve dam safety problems on the Salt River. A new Stewart Mountain Dam would be constructed on the Salt River against the base of the existing dam to replace the existing storage and relieve dam safety problems on the Salt River. It may be possible to modify the existing Roosevelt and Stewart Mountain Dams instead of replacing them. These decisions will be based on the results of ongoing foundation, safety, and hydrological analysis. For purposes of this analysis, the impacts of new dams are described in order to present a "worst case" scenario. Proposed borrow areas for new or modified dams are the same.

1. New Waddell Dam

A new embankment dam 306 feet in height will be constructed across the Agua Fria River to provide for replacement and enlargement of the reservoir at the existing dam. The dam will include water supply outlets and a detached emergency spillway through the right abutment.

The fill material will consist of impervious and pervious soils required to construct a zoned embankment dam along with graded rock riprap to protect the dam faces. The material would be obtained from within the borrow areas as shown on Plate 9 in the map pocket at the back of the Draft EIS. Approximately 24 million cubic yards of material will be used to construct the dam.

There would be less than 100,000 cubic yards of material to be wasted from the excavation of the dam foundation and spillway at New Waddell Dam. This material would consist of the top layer of soil and would be the same as currently exists in the reservoir area.

Unsuitable material (debris, unusable soils, etc.) encountered during the foundation excavation and subsequent construction will be disposed of away from the wetland habitat in dead space within the proposed reservoir area between the old and new dams where it would be covered with suitable natural materials.

Stockpiling of materials for construction would be within the designated borrow areas but away from the river channel.

Other materials needed to construct the embankment and related facilities would include concrete aggregates, cement, and other construction materials as needed. All commercially available materials used to construct the various elements of the project will be pollution-free.

2. Cliff Dam

A new embankment dam 338 feet in height will be constructed across the Verde River to provide for replacement and enlargement of the reservoir at the existing Horseshoe Dam located 6 miles upstream of the Cliff Dam site. The new dam will include water supply outlets, flood outlets, and a detached emergency spillway through the left abutment.

The fill material will consist of impervious and pervious soils required to construct a zoned earthfill dam along with graded rock riprap to protect the dam faces. The material would be obtained from within the borrow areas as shown on Plate 1 in the map pocket at the end of the Draft EIS. Approximately 15 million cubic yards of material will be used to construct the dam.

There would be approximately 1,000,000 to 1,400,000 cubic yards of waste material from the excavations for the dam cutoff, spillways and outlet tunnels. Most of the material is coarse-grained porphyritic granite which ranges from moderately to intensely weathered and decomposed. There would also be some unconsolidated to locally variable caliche cemented, angular to rounded boulders, cobbles and gravels with variable amounts of sand, silt and clay. There would also be some heterogeneous, unconsolidated to variably caliche cemented masses of soil material and/or rock fragments. These waste materials are naturally found in the area and are the same as those currently existing in the vicinity of the damsite.

All unsuitable material (debris, unusable soils, etc.) encountered during the foundation excavation and subsequent construction will be disposed of away from the wetland habitat and in dead space within the proposed reservoir area where it would be covered with suitable natural materials.

Stockpiling of materials for construction would be within the designated borrow areas but away from the river channel.

Other materials needed to construct the embankment and related facilities would include concrete aggregates, cement, and other construction materials as needed. All commercially available materials used to construct the various elements of the project will be pollution-free.

3. Roosevelt Dam

A new concrete dam would be constructed across the Salt River to provide for replacement and enlargement of the existing reservoir, or the existing dam would be raised for the same purpose. Either alternative would include water supply outlets, flood outlets, and an emergency spillway as part of the dam.

Only concrete-based materials will be used in the construction or modification at the Roosevelt site. Any unsuitable materials excavated during foundation preparation for the new dam would be placed between the old and new dams in dead space within the proposed reservoir.

There would be approximately 200,000 to 400,000 cubic yards of material wasted from the foundation and spillway excavation at New Roosevelt Dam. This material would be material naturally found in the area and is the same as that which currently exists in the reservoir and vicinity. The material wasted would be predominately fine-grained sandstone with approximately 5 to 10 percent medium-grained sandstone lenses interbedded with siltstone and also silty to clayey interbeds. There would also be a heterogeneous mixture of well rounded, fine to coarse gravel with a matrix of subrounded to subangular, coarse sand to silt; some siltstone with approximately 5 to 10 percent fine-grained sandstone interbeds; and some heterogeneous, unconsolidated to strongly caliche cemented mass of soil material, and/or rock fragments.

4. Stewart Mountain Dam

A new concrete gravity structure will be constructed across the Salt River to replace the existing dam or a new spillway would be added to the existing dam. Either alternative will include water supply outlets and an emergency spillway as part of the dam.

Only concrete-based materials would be used in the construction or modification at the Stewart Mountain site. Any unsuitable materials excavated during foundation preparation for the new dam or excavated for the new emergency spillway would be placed in dead space within the existing reservoir behind Stewart Mountain Dam.

There would be approximately 400,000 to 600,000 cubic yards of material to be wasted from the excavation of the spillway and foundation at New Stewart Mountain Dam. This material would consist of mainly clean broken rock and is the same material that is now on the lake bottom.

C. Authority

Construction of the CAP Regulatory Storage Division was authorized by Section 301(a)(3) of the Colorado River Basin Project Act (P.L. 90537) of 1968. This feature of the CAP is being investigated under the title Central

Arizona Water Control Study (CAWCS). The CAP was authorized under P.L. 90-537 on September 30, 1968. The primary purpose of the CAP is to furnish water for irrigation, municipal, and industrial use in central Arizona and western New Mexico.

D. Findings

The U.S. Army Corps of Engineers published regulations governing the Section 404 permits program in the Federal Register on July 22, 1982. These included Part 330 - Nationwide Permit. The proposed action (Plan 6) is covered under the nationwide permit for discharges into non-tidal rivers, streams, and their lakes and impoundments, including adjacent wetlands above the headwaters (Section 330.4 a(1)).

A nationwide permit is a form of general permit which authorizes a category of activities throughout the nation. The nationwide permits are issued to satisfy the requirements of the River and Harbor Act of 1899 and Sec. 404 of the Clean Water Act. However, the nationwide permits are valid only if the conditions applicable to the nationwide permits are met. Reclamation has determined that Plan 6 meets the conditions of the nationwide permit and, therefore, does not require the issuance of or compliance with the review process necessary to obtain an individual permit under Section 404(b)(1) of P.L. 92-500.

Conditions for compliance with the nationwide permit, and Plan 6 status relative to these conditions, are discussed below.

E. Nationwide Permit Conditions

The following conditions must be met in order for the nationwide permit to be valid.

1. Discharge will not be located in the vicinity of a public water supply intake

No discharge occurring from construction of Plan 6 features will be located near a public water supply intake. The nearest public water supply intake is the City of Phoenix filtration plant located at the confluence of the Salt and Verde Rivers, approximately 30 miles from the proposed Cliff Dam site.

2. The discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or destroy or adversely modify the critical habitat of such species

Federal agencies must review their actions to determine if an action may affect any listed species or critical habitat. If so, the agency must consult with the Fish and Wildlife Service. Plan 6 would affect listed endangered species, mainly the bald eagle, as described in the EIS, Chapter IV.B.1.

No "critical habitat" of endangered species would be affected, as no designated critical habitat exists in the project-affected area.

Critical habitat is identified and designated by the Secretary of the Interior under the authority of the Endangered Species Act, and represents habitat essential to enhance or protect the survival of a species. Land use modifications and development are restricted in critical habitat.

The Fish & Wildlife Service has rendered a biological opinion as to whether the proposed action will jeopardize the continued existence of threatened or endangered species, as required under Section 7 of the Endangered Species Act (see Appendix F). This opinion states that, without implementing reasonable and prudent alternatives, the continued existence of the Southwest bald eagle population will be jeopardized by the proposed action. Reclamation will implement the reasonable and prudent alternatives outlined by the Fish and Wildlife Service as part of Plan 6 implementation.

3. Discharge will consist of suitable material free from toxic pollutants in toxic amounts

As described in Section B, all discharge will be composed of materials currently found in the affected site areas or wastes from materials obtained from commercial sources. Since affected site areas are located in generally undeveloped areas away from urban uses and sources of environmental pollution, there is no reason to expect the occurrence of toxic substances. Reclamation's sampling of materials from proposed borrow areas has shown that materials to be used in construction and any waste materials from these borrow areas are similar in physical and, most likely, chemical properties to materials at discharge sites.

4. Fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution

Fill created by the discharge will consist of the earthen embankment for Cliff and New Waddell Dams and any temporary cofferdams required for Cliff or Roosevelt Dams. Any steep slopes on the cofferdams would be covered with gravel and/or cobbles to reduce erosion potential. The earthen dam embankments would require riprap on the upstream face and a gravel or riprap cover on the downstream face.

5. Discharge will not occur in a component of the National Wild and Scenic River System

Portions of the Salt, Verde, and Agua Fria Rivers at the proposed dam/discharge sites are neither designated nor considered eligible or suitable for inclusion in the National Wild and Scenic Rivers System.

A portion of the Verde River from approximately Table Mountain upstream to Clarkdale has been recommended for inclusion in the System by the U.S. Forest Service (See Verde River Wild and Scenic Study Report and Final EIS, U.S. Forest Service, September 1982). No discharge will occur in this vicinity; discharge from construction of Cliff Dam will be disposed in the reservoir area approximately 10 miles downstream from the recommended wild and scenic portion of the Verde River and will have no effect on the wild and scenic values of the river.

Tonto Creek from its source to Roosevelt Lake is listed on the Nationwide Rivers Inventory and is eligible for inclusion in the Wild and Scenic Rivers System. Discharge from the construction of New Roosevelt Dam would be placed in dead space between the new dam and the existing dam, and would not affect the wild and scenic values of Tonto Creek.

6. Best management practices should be followed to the maximum extent practicable

Management practices are aimed at avoiding and/or reducing impacts of dredged or fill materials on water quality, spawning areas, aquatic communities, wetlands, and migratory waterfowl breeding and nesting areas. Impacts to these resources resulting from the implementation of Plan 6 and mitigation measures to alleviate impacts are discussed in Chapter IV of the EIS. Where applicable, management practices will be employed to avoid adverse impacts which could be caused by discharge. Specifically, discharges in spawning areas during spawning season will not occur; discharges in wetland areas will be avoided except, if necessary, in wetland areas which will be inundated after dam construction; all temporary fills will be removed in their entirety.