RECLAMATION
Managing Water in the West

PRO-FONSI-05-001

FINDING OF NO SIGNIFICANT IMPACT

Safety of Dams Modifications
and
Bridge Reconstruction
Scofield Dam
Scofield Project
Carbon County, Utah

United States Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Provo Area Office
Provo, Utah

Recommended by:

Beverley C Heffernan 12/5/05

Beverley C. Heffernan — Date
Chief, Environmental Group

Concur:

Kerry Schwartz DEC 8 2005

Kerry Schwartz — Date
Manager, Water and Environmental Resources Division

Approved by:

Bruce C Barrett DEC 8 2005

Bruce C. Barrett — Date
Area Manager, Provo Area Office

FINDING

The Bureau of Reclamation (Reclamation) has determined that implementing the proposed Spillway Replacement Alternative of the Safety of Dams (SOD) Modifications and Bridge Reconstruction, Scofield Dam Final Environmental Assessment (EA) will not have a significant impact on the quality of the human environment and that an environmental impact statement is not required. This decision was based on a thorough review of the EA and public comments received on the draft EA. This decision is in accordance with the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-90), as amended, and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508).

This Finding of No Significant Impact (FONSI) is limited in scope to Reclamation's actions as authorized by the Safety of Dams Act of 1978 (Public Law 95-578, as amended). The proposed action as analyzed in the EA also includes bridge reconstruction and roadwork to be funded by the Federal Highway Administration (FHWA) and implemented by the Utah Department of Transportation (UDOT). The FHWA was a joint lead agency in preparing the EA, and UDOT participated as a cooperating agency. The FHWA intends to issue a separate FONSI related to the bridge and road components of the proposed action. If the FHWA and UDOT decide to implement their portion of the proposed action, this work would be combined with Reclamation's SOD project and the respective agencies' activities would be managed and coordinated as one construction project.

DECISION

Reclamation has decided to implement the Spillway Replacement Alternative as described in the EA. This prescribes a modification fix for Scofield Dam that will minimally affect normal operations, while protecting environmental aspects mentioned in Chapter 3 of the EA. (i.e. recreation; water resources; water quality; public safety, access, and transportation; visual quality; socioeconomics; cultural resources; paleontological resources; wetlands and vegetation, wildlife resources; threatened, endangered, candidate, and state sensitive species; land use; prime and unique farmland; pedestrians and bicyclists, air quality; noise; and construction impacts)

REASONS FOR THE DECISION

A finding of no significant impact is based on the following:

1. The proposed action will have no significant effect on such unique characteristics as cultural resources, wilderness areas, wetlands, and riparian areas.

2. The environmental effects of the proposed action are neither controversial nor do they involve unique or unknown risks.

3. The proposed action may affect, but is not likely to adversely affect, species either currently listed or proposed for listing as candidate, endangered or threatened species, and will not affect designated critical habitat for these species.

4. The proposed action does not threaten to violate a Federal, State or local law or requirements imposed for protection of the environment.

Reclamation has analyzed the environmental effects, public comments, and the alternatives in detail. Reclamation believes that the Spillway Replacement Alternative best meets the purpose and need described in the EA.

PUBLIC INVOLVEMENT

Reclamation began public involvement activities for the proposed action by initiating public scoping on March 23, 2005. In addition to a scoping letter sent to about 75 municipalities, organizations, agencies and individuals requesting comments, press releases were issued announcing the proposed project. No scoping comments were received during the public scoping period, which ended on April 15, 2005. Reclamation worked with the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT) throughout the NEPA compliance process, under the terms of a Memorandum of Understanding among the three agencies. In October 2005, Reclamation mailed about 75 copies of the draft EA to the interested public for review and comment. Reclamation received two written responses, one from the State of Utah's Resource Development Coordinating Committee and the U.S. Fish and Wildlife Service. These letters are included in the EA under Appendix C, documents 6 and 7 respectively.

After evaluating the public comments, Reclamation made several minor revisions to the EA. The project file in the Provo Area Office contains the comment letters as well as a complete description of all public involvement activities.

SUMMARY OF ENVIRONMENTAL IMPACTS

The expected environmental impacts of the Spillway Replacement Alternative are described in Chapter 3 of the EA. The environmental analysis in that document is based on the fact that work would occur within the dam primary jurisdiction zone. The environmental analysis focused on the resources mentioned above. The environmental analysis indicates that the impacts will be temporary, short term, and minor.

ENVIRONMENTAL COMMITMENTS

Reclamation will carry out the environmental commitments associated with the proposed action, as described in Chapter 4 of the EA. Those commitments have been incorporated by reference into this decision, and completion of the commitments will be closely monitored by Reclamation. Monitoring will also ensure completion of any and all mitigation requirements in construction contract specifications, as appropriate.

Final Environmental Assessment
and
Finding of No Significant Impact

For the Proposed
Safety of Dams Modifications
and
Bridge Reconstruction

Scofield Dam
Scofield Project
Carbon County, Utah

December 2005

PRO-EA-05-001

Prepared by Co-Lead Agencies:

Provo Area Office
Upper Colorado Region
Bureau of Reclamation
U.S. Department of the Interior

Utah Division
Federal Highway Administration
U.S. Department of Transportation

Reclamation Contact:
W. Russ Findlay
Provo Area Office
302 East 1860 South
Provo, UT 84606
(801) 379-1084

DEPARTMENT OF THE INTERIOR'S MISSION

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian tribes and our commitments to island communities.

RECLAMATION'S MISSION

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

ENVIRONMENTAL ASSESSMENT ABSTRACT

The Bureau of Reclamation, Provo Area Office (Reclamation) proposes to undertake construction activity at Scofield Dam to replace the concrete spillway structure. Scofield Dam, the principal feature of the Scofield Project, is located in Carbon County approximately 22 miles northwest of Price, Utah, on the Price River, a tributary of the Green River.

Concurrent with Reclamation's replacement of the spillway, the Utah Department of Transportation (UDOT), with funding from the Federal Highway Administration (FHWA), proposes to remove and replace the bridge on S.R. 96 that crosses over the Scofield Dam spillway, and subject to funding availability, may also realign the roadway on either side of the bridge to improve the turning radius.

Reclamation and FHWA have jointly prepared this final EA as required by the National Environmental Policy Act (NEPA) and the Council on Environmental Quality and U.S. Department of the Interior and U.S. Department of Transportation regulations implementing NEPA. UDOT is participating in this NEPA compliance process as a cooperating agency. The final EA analyzes the potential impacts of the proposed action. As required by the NEPA implementing regulations, if potentially significant impacts to the human environment are identified, an environmental impact statement will be prepared. If no significant impacts are identified, the Bureau of Reclamation will issue a Finding of No Significant Impact.

A draft EA was prepared and sent to the interested public for review and comment in October 2005. This final EA includes revisions made as appropriate based upon the two comment letters received during the public comment period.

Scofield Dam Proposed Safety of Dams (SOD) Modifications and Bridge Reconstruction Environmental Assessment Table of Contents

Tables

Chapter 1 – Purpose of and Need for the Proposed Action

1.1 Introduction and Background

The Bureau of Reclamation, Provo Area Office (Reclamation) proposes to replace the concrete spillway structure at Scofield Dam, the principal feature of the Scofield Project. This construction project would be completed under the Safety of Dams (SOD) Act of 1978 (Public Law 95-578, as amended). The proposed SOD modifications would correct safety deficiencies of the dam without affecting the purpose, or benefits of the dam. Reclamation also proposes to replace the existing gate house at its current position on the crest of the dam. This building is in poor condition and would be replaced with either a new concrete structure or a metal building.

Concurrent with Reclamation's replacement of the spillway, the Utah Department of Transportation (UDOT) proposes to remove and replace the bridge on State Highway 96 (SR-96) that crosses over the spillway of Scofield Dam. This bridge replacement would be funded by the Federal Highway Administration (FHWA). UDOT would also realign the roadway on either side of the bridge to improve the turning radius if funding becomes available. UDOT would need to obtain an easement from Reclamation for the new road alignment.

Scofield Dam and Reservoir are located approximately 22 miles northwest of Price, Utah, on the Price River, a tributary of the Green River. The first dam at this location was constructed by the Price River Water Conservancy District from 1925 through 1926. This original dam was determined to be unsafe, and could not be economically repaired. The existing dam was authorized by the Water Conservation and Utilization Act of 1939. Construction began in 1943. The dam was completed in June 1946. Scofield Dam was constructed for the purpose of providing water for Municipal and Industrial (M&I) and agricultural water use, recreation, flood-control, and fish and wildlife benefits.

Reclamation and FHWA are jointly preparing this environmental assessment (EA) as required by the National Environmental Policy Act of 1960 (NEPA) as amended, P.L. 91-90, and the Council on Environmental Quality, U.S. Department of the Interior and U.S. Department of Transportation regulations implementing NEPA. UDOT is assisting in the preparation of this EA as a cooperating agency.

This EA analyzes the potential impacts of the proposed SOD modifications and bridge replacement. If potentially significant impacts to the human environment are identified, a Notice of Intent to prepare a draft EIS would be published in the *Federal Register* and an environmental impact statement would be prepared. If no significant impacts are identified, Reclamation and FHWA would each issue a Finding of No Significant Impact (FONSI). Each FONSI would include the decision to proceed with a selected alternative.

This EA describes the environmental effects of four alternatives for addressing the safety deficiencies of Scofield Dam: the No Action and three separate Action Alternatives. The Action Alternatives are the Spillway Replacement Alternative and the Downstream Detour of SR-96 Alternative. The potential effects of these alternatives are discussed in Chapter 3. In accordance

with 40 CFR 1505, any of these alternatives, combinations or parts of these alternatives may ultimately be selected as the preferred alternative.

Under the No Action Alternative, Reclamation would not structurally modify the spillway to reduce the risks created by the spillway deficiencies. The existing spillway would remain in place and the current bridge would also remain in place. Regular maintenance activities would continue with some periodic minor rehabilitation over time. The no action alternative at Scofield Dam would ignore the identified unacceptable risk to the downstream population. Downstream residents would continue to live with an elevated risk of dam failure. Project benefits would continue until an emergency condition or failure occurred at the dam. Failure would result in the loss of lives, cause extensive property damage downstream, and loss of project benefits.

Under the Spillway Replacement Alternative, Reclamation would remove the spillway of the dam and replace it with a new spillway at or near its present location. Under this alternative, construction would commence in the spring of 2006 and continue into the late fall or early winter for two consecutive years. Assuming a normal precipitation year, the reservoir would not be allowed to fill completely during construction. A reservoir water level restriction of 10 feet below the maximum capacity of the reservoir would be established during construction.

SR-96 passes over the dam. This is the main access road for the town of Scofield and the coal mines in the valley above. Travel across the dam may need to be restricted to one lane of travel during extended periods of time and may be closed for relatively shorter periods. The bridge that currently passes over the dam's spillway has been deemed deficient by UDOT, and is in need of replacement. Under the Spillway Replacement Alternative, this bridge would be replaced with a larger, heavier bridge capable of handling modern day traffic design loads and incorporating modern UDOT and FHWA design standards.

The Downstream Detour of SR-96 Alternative is similar to the Spillway Replacement Alternative. It differs in the location and manner of detouring traffic around the construction area.

1.1.1 Safety of Dams (SOD) Program Overview

In keeping with the mission to ensure that Reclamation dams do not present unacceptable risk to people, property, and the environment, Reclamation's Dam Safety Program was officially implemented in 1978, with passage of the Reclamation Safety of Dams act, Public Law 95-578. This act was amended in 1984 under Public Law 98-404.

Dams must be operated and maintained in a safe manner. Safe operation is ensured through safety inspections, analyses utilizing current technologies, and designs and corrective actions taken if needed based on current engineering practices.

The primary emphasis of the Safety Evaluation of Existing Dams (SEED) program, a subtask under the SOD program, is to perform site evaluations and to identify potential safety deficiencies of Reclamation and other Interior bureaus' dams. The basic objective is to identify dams which pose an increased threat to the public and to quickly complete the related analyses in

order to expedite corrective action decisions and safeguard the public and associated resources.

The SOD program focuses on evaluation of Reclamation dams and implementing actions to resolve safety concerns. Under this program, Reclamation completes studies and identifies and accomplishes needed corrective actions for Reclamation dams. The selected course of action relies on assessments of risks and liabilities with environmental and public involvement issues incorporated into the decision making process.

1.1.2 SOD NEPA Compliance Requirements

As required by Section 5 of the Reclamation Safety of Dams Act, this EA must be completed and submitted to the Congress along with a technical report and other supporting information, in order to obtain authorization to proceed with the proposed SOD modifications. The information and analyses in the EA, including the description of the proposed SOD modifications and alternatives, represent the best available information at this stage of the SOD process for Scofield Dam. Further analysis after Congressional approval, but prior to or in the early stages of project initiation, may result in a need to modify the alternative selected for implementation. Project changes that are not specifically analyzed in this environmental assessment will be documented in the administrative record. Major changes, for which additional environmental analysis is appropriate, would be analyzed in a supplement to this EA. This supplement would be made available to the public upon request. If a Finding of No Significant Impact (FONSI) is completed, the FONSI would be modified if warranted by project changes and would also be made available to the public upon request.

1.2 Purpose of and Need for Proposed SOD Modifications and Bridge Replacement

The purpose of the proposed SOD modifications is to modify Scofield Dam, in a cost effective and structurally feasible manner, to meet current safety standards without affecting the purposes of the Scofield Project which are: to provide water for municipal and industrial (M&I) and agricultural water use, recreation, flood control, and fish and wildlife benefits. M&I water is provided to the cities of Price and Helper. The project is needed to correct, for the long term, previously identified unsafe conditions that currently exist at Scofield Dam and to comply with the Safety of Dams Act of 1978 (Public Law 95-578, as amended) thus insuring that the Scofield Dam is safe.

Another purpose of the proposed action is to replace and upgrade the existing bridge over the dam's spillway. This bridge has been deemed deficient by UDOT and would be replaced with a new bridge that is larger and capable of handling current traffic loads and meets design standards.
The current sufficiency rating of the bridge is 21.8. Ratings below 50 qualify for Federal bridge replacement funding. The bridge is experiencing deterioration and portions of the beams have significant concrete spalling which has exposed the reinforcing steel in the concrete. Twenty two percent of all the traffic crossing the dam consists of trucks. Both approaches to the bridge are on sharp curves. The southern curve radius would be enlarged and the roadway width would

be widened to meet current American Association of State Highway and Transportation Officials (AASHTO) and UDOT standards (see discussion below under the heading "**Bridge**").

Investigations of Scofield Dam conducted under Reclamation's SOD Program have confirmed certain safety deficiencies that could contribute to catastrophic failure of the dam. In compliance with Reclamation's SOD program, this EA discloses and discusses recommendations to undertake corrective actions for modifying the dam. These actions would be accomplished for the following reasons:

- Reclamation is required to comply with stipulations stated in the Safety of Dams Act of 1978 (Public Law 95-578, as amended). This act and amendments direct the Secretary of the Interior to preserve the structural integrity of Reclamation dams by developing modifications that the Secretary determines may reasonably be required.

- Scofield Dam could be at risk of failure because of safety deficiencies. Dam failure could result in an uncontrolled release of water from the reservoir which could cause significant loss of life and property.

- Reclamation has a contractual obligation to continue water deliveries for irrigation and M&I uses. Such deliveries are dependent upon the existence and operation of Scofield Dam.

- Failure of the dam would eliminate flood protection benefits for the cities of Price and Helper and the surrounding areas.

- Scofield Reservoir provides essential fish and wildlife habitats which would be lost in the event of dam failure.

- Failure of Scofield Dam could cause significant disruption and degradation of fish and wildlife habitats located downstream from the dam. Water quality could be degraded.

- Failure of Scofield Dam would eliminate the recreational benefits associated with Scofield Reservoir and State Park.

SR-96

SR-96 crosses the crest of the dam and the spillway. Twenty two percent of all the traffic crossing the dam consists of trucks. This truck traffic is largely due to the coal mines located in Clear Creek and surrounding areas and recreational traffic (vehicles with trailers). Both approaches to the bridge are on sharp curves as SR-96 crosses Scofield Dam. The design speed for this segment of SR-96 is 20 mph. The southern approach has an approximate centerline radius of 75 feet while the northern approach has an approximately centerline radius of 115 feet. The minimum curve radius for the design speed is 81 feet. Therefore, part of this project includes increasing the southern curve radius to 81 feet to meet current AASHTO and UDOT

standards.

The roadway width along this section of SR-96 varies between 26 to 30 feet wide. Due to the limited width of the road, the location of the existing bridge and spillway, and the sharp curvature of the road, coal trucks and other vehicles with trailers have a difficult time negotiating the southern curve. As a result, several coal trucks have spilled their load into the reservoir and spillway. Along with improving the southern curve radius, the pavement would be widened to allow for large trucks with trailers to maneuver both curves and remain on the roadway.

Bridge
A Structural Inventory and Appraisal (SI&A) was made of the Scofield spillway bridge in November 2003. Each bridge is evaluated in accordance with the National Bridge Inspection Standards (NBIS) which is conducted by a qualified professional engineer (23 CFR 650 subpart C). The SI&A's are completed every two years. From the SI&A a sufficiency rating is calculated which is the "numerical rating of a bridge based on its structural adequacy and safety, essentially for public use, and its serviceability and functional obsolescence" (23CFR 650.403(b)). The sufficiency rating is comprised of the following components:

55% - Structural Adequacy
30% - Serviceability and Functional Obsolescence
15% - Essentially for public use

The Scofield spillway bridge received a sufficiency rating of 21.8% out of a possible 100%; the threshold for bridge replacement is 50% and below. From the Structural Inventory and Appraisal, the Scofield Spillway Bridge has been determined to be *Structurally Deficient and Functionally Obsolete* in accordance to the NBIS. Structurally Deficient refers to the overall condition of the bridge deck, superstructure (girders) and substructures (abutments and piles). Functionally Obsolete concerns the geometric capability of the bridge to carry traffic including bridge deck width, vertical and horizontal clearances, and roadway approaches to the bridge. Therefore, part of this project includes replacing the structurally deficient and functionally obsolete bridge.

1.3 Lead and Cooperating Agencies

Lead agencies in the preparation of this environmental assessment are Reclamation and FHWA. UDOT is a cooperating agency in this effort

1.4 Description of Scofield Dam and Operations

1.4.1 Scofield Dam

Scofield Dam is located in the northeast corner of Carbon County in central Utah, approximately 11 miles west of U.S. Highway 6 (Appendix A, Map 1). Situated on the Wasatch Plateau on the Price River, Scofield Reservoir has a total storage capacity of 73,600 acre-feet of water. SR-96 passes along the east side of the reservoir and provides access to the City of Scofield, coal mines,

and recreation areas. This highway crosses the crest of the dam (Appendix A, Map 2).

Scofield Dam is the principal feature of the Scofield Project. The dam is owned by the United States and operated by the Carbon Water Conservancy District (CWCD). Scofield Dam is operated for irrigation, flood control, recreation, fish and wildlife benefits, and M&I water supply. Scofield Reservoir stores water from Mud Creek, Fish Creek, and Pondtown Creek with the water from the reservoir being released to the Price River.

Scofield Dam, a zoned earthfill structure, was completed in 1946. As shown in Table 1.1, physical data for the dam includes a crest length of 575 feet, and a crest width of 30 feet. Total volume of fill in the embankment is 204,000 cubic yards of material consisting of earth, rock, and riprap material. The spillway is an uncontrolled concrete crest and concrete-lined chute at the right abutment (Appendix A, Map 3). A concrete slab protects the spillway slope downstream from the crest. The spillway crest elevation is 7617.5 feet above sea level.

The outlet works consist of a concrete conduit through the base of the dam. Release of water is accomplished by one 3.2 by 4.0 foot slide gate. Table 1.1 provides physical details regarding Scofield Dam and Reservoir.

Reclamation has primary jurisdiction over Scofield Dam, its appurtenant facilities, and the area immediately adjacent to the dam (Appendix A, Map 2) (Reclamation 2002). Reclamation is responsible for ensuring continued operation of the dam consistent with the authorized purposes of the Scofield Project. Irrigation and M&I water is delivered by the CWCD.

1.4.2 Scofield Reservoir

Scofield Reservoir was created by Scofield Dam and occupies lands not previously flooded along the Price River. Total capacity of the reservoir at elevation 7617.5 feet is 65,800 acre-feet, with a surface area of 2,810 acres (Please see Table 1.1).

Reclamation lands within and surrounding Scofield Reservoir, including the primary jurisdiction zone immediately surrounding the dam site are held in fee title, fee title subject to other uses such as grazing, and as flood easement. Recreational facilities in Scofield State Park and those on the reservoir are managed by the Utah Division of Parks and Recreation. Primary activities include boating, water skiing, and fishing, along with picnicking, and camping.

Table 1.1 Scofield Dam and Reservoir - Physical Data

Scofield Dam	
Type	Zoned earthfill
Construction period	1943-46
Date of closure (first storage)	1945
Structural height	125 feet
Hydraulic height	55 feet
Top width	30 feet
Dam crest EL	7636 feet
Crest length	575 feet
Total volume	204,000 cubic yards
Scofield Reservoir	
Average annual inflow, 1942-53	57,600 acre-feet[1]
Total capacity to EL 7630.0	73,600 acre-feet
Active capacity, EL 7586-7617.5	65,800 acre-feet
Dead pool	7,800 acre-feet
Surface area	2,810 acres
Spillway	
Spillway: Uncontrolled concrete crest and concrete-lined chute located on the right abutment	Crest at elevation 7617.5 feet Capacity of 6200 ft^3/sec at elevation 7630 feet
Outlet Works	
Outlet works: Concrete conduit through base of dam, controlled by one 3.2- by 4.0-foot slide gate	Capacity of 500 ft^3/sec at Elevation 7630 feet
Foundation	
Foundation: Alternate layers of horizontally bedded sandstone and shale	

[1] Acre-foot = 1 acre-foot covers an area of 1 acre (approximately the size of a football field) to a depth of 1 foot.
EL = elevation

1.5 Summary of Scofield Dam Safety Hazards

Potential safety hazards affecting Scofield Dam were investigated in 2004 pursuant to the Reclamation Safety of Dams Act (P.L. 95-578, as amended). The investigations identified the following hazards to the project.

Spillway
The transverse joints are the features of the spillway which have the potential to initiate a failure mode for the dam due to hydraulic jacking of the concrete spillway slabs during operation of the spillway. Hydraulic jacking is a process where water entering under the concrete slab creates water pressure that pushes the slab up and out of its position. Because of the early date of construction, the transverse joints do not have waterstops or shear reinforcement incorporated into their design which would be considered a standard feature today. The hydraulic jacking failure mode is caused by spillway flows being directed under the chute floor slabs through openings and offsets at the transverse joints (Stanton 2004[3]). The water entering the joints

initiates stagnation pressure under the slabs since this water can not be released at a sufficient rate by the drains under the spillway to relieve the build up of water pressure. The resultant water pressure can force the slab up out of its place.

The concrete spillway has deteriorated. Most of this deterioration has been caused by freeze-thaw damage and some alkali-silica reaction. This deterioration is expected to continue at an increasing rate. Several attempts have been made since the late 1970's to repair the spillway. Based on the depths of the freeze-thaw damage, the widespread areas of deterioration, and the history of past repair attempts, it has been determined that further efforts to repair these conditions would not be effective.

The spillway in its present condition has a high failure potential for relatively frequent flood events. Based on Reclamation's risk analysis procedures, risk reduction actions are appropriate and corrective measures need to be taken (Stanton 2004[2]).

SR-96

SR-96 crosses the crest of the dam and the spillway. This highway carries a considerable amount of traffic. Much of this traffic consists of semi-trucks from the coal mines to the south of the dam.

The bridge over the spillway is in need of replacement. It is experiencing deterioration and portions of the beams have significant concrete spalling which has exposed the reinforcing steel in the concrete. The bridge has been struck by semi-trucks on several occasions. UDOT plans to replace the bridge. They are considering widening the bridge and enlarging the curve radii of the road to improve safety at the site. Reclamation is working with UDOT to allow the repair to the dam and road/bridge reconstruction to proceed concurrently and under the same construction contract.

1.6 Decisions to Be Made

Reclamation will use this EA and other relevant information to determine whether to request Congressional authorization to proceed with the proposed SOD modifications. FHWA will use this EA and other relevant information to determine whether to provide funding to UDOT for bridge replacement.

1.7 Permits and Authorizations

If the U.S. Congress authorizes this project, Reclamation, in compliance with the Clean Water Act, would obtain the permits as shown in Table 1.2 from the Utah Division of Water Quality; U.S. Army Corps of Engineers (Corps); and Utah Department of Natural Resources, as necessary.

Table 1.2 Permits

Name of Permit	Compliance with the Clean Water Act Section No.	Issuing Agency
SOD Construction Authorization	NA	U.S. Congress
Storm Water Discharge Permit	402	Utah Division of Water Quality
U.S. Army Corps of Engineers 404 Permit*	404	The Corps Note: Generally, this permit is obtained for large projects affecting streams, lakes, or reservoirs, and associated wetlands. Under their permitting process, the Corps would obtain from the Utah Division of Water Quality a State Water Quality Certification (Section 401).
State Stream Alteration Permit*	404	Utah Department of Natural Resources Note: This permit is for small projects not affecting wetlands.
Utah Pollution Discharge Elimination Permit	402	Utah Division of Water Quality Note: This permit would be obtained if water is to be discharged as a point source into the Price River or if more than one acre of ground would be disturbed.

* Concurrent with the preparation of this EA, Reclamation will consult with the Corps and the Utah Department of Natural Resources to determine permit needs and will obtain the necessary permits prior to project implementation.

UDOT would need to obtain an easement from Reclamation covering the new alignment of SR-96.

In compliance with Cultural Resource and Native American laws, Reclamation will comply with the following Laws and Executive Orders (E.O.):

Cultural Resource Laws

·National Historic Preservation Act (16 U.S.C. 470 et seq., 1966)
·Archaeological Resources Protection Act (16 U.S.C. 470aa et seq., 1974)
.Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (48 FR 44716)

Native American Laws

·American Indian Religious Freedom Act of 1978 (43 U.S.C. 1996)
·Enhancing the Intergovernmental Partnership, E.O. 12875, October 26, 1993 [58 *Federal Register* 58093]
·Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001)
·Consultation and Coordination with Tribal Governments, E.O. 13084, May 14, 1998
·Protection of Indian Sacred Sites, E.O. 13007, May 24, 1996 [61 *Federal Register* 26771]

Consultation with the Utah State Historic Preservation Office and the Advisory Council on Historic Preservation is in progress at this time. Consultation with the Utah Geological Survey for paleontological concerns, and the Northern Ute Tribe of the Uintah and Ouray Reservation in Fort Duchesne, Utah, has been completed.

1.8 Resource Issues

The following resource issues listed in random order have been identified, through scoping activities conducted by Reclamation and FHWA, as those that should be analyzed in detail in this EA: Recreation; water resources; water quality; public safety, access, and transportation; visual quality; socioeconomics; cultural resources; paleontolotical resources; wetlands and vegetation; wildlife resources; threatened, endangered and state sensitive species; Indian trust assets; and environmental justice. Other resources considered include land use, pedestrian and bicycle traffic, air quality, noise, invasive species, and prime or unique farmland.

Chapter 2 - Alternatives

2.1 Alternatives Development

Reclamation considered a range of alternatives for Scofield Dam that could be implemented to achieve risk reduction for hydraulic jacking of the spillway floor. In addition, several alternatives were considered by FHWA and UDOT for the bridge replacement and improving the roadway approaches.

Under both action alternatives, work would occur within the dam primary jurisdiction zone, and normal stream-flow releases would not be affected by the proposed construction. Specific cost differences between alternatives can be found in the Scofield Dam Modification Report 2005.

2.2 No Action Alternative

The No Action Alternative requires no capital outlay and no extra operation and maintenance expenditures, because this alternative demands no changes to project features. The present deficiencies and risks at Scofield Dam, as discussed in Section 1.5 above, would remain.

Hydraulic jacking could induce catastrophic dam failure and cause major damage between Scofield Dam and Wellington, where flooding would effectively end. The flood waters would be deep and swift throughout a large portion of the floodplain.

Rapid failure of the dam would put the lives of approximately 2,800 people at risk. When transformed into the annual risk of fatalities, the outcomes from rapid failure exceed tolerable risk limits and call for action to be taken to ensure long-term safety of the dam.

2.3 Action Alternatives

The following sections describe three action alternatives that are similar in scope but differ in the final placement of the reconstructed spillway and in the location and manner of detouring traffic around the construction site. Any of these alternatives or combinations of these alternatives may ultimately constitute the preferred alternative. All construction activities would occur outside the Denver and Rio Grande Western Railroad's 200 foot wide (100 feet from centerline on either side of the tracks) right of way

2.3.1 Spillway Replacement Alternative

Spillway Replacement
The Spillway Replacement Alternative reduces the hydraulic jacking potential and involves in-kind replacement of the spillway structure and a portion of the stilling basin of Scofield Dam. The entire spillway structure and under-drain system would be removed and replaced with a new reinforced concrete structure at or within 20 feet north of its present location. Relocating the spillway to the north would require less dewatering and easier dewatering. Also, the excavation

would be safer as the contractor would not be required to excavate as far into the right abutment of the dam as the other option, and the existing spillway wall could be used as shoring for the required excavation. The floor of the existing spillway could be used as a platform to drill dewatering holes. This relocation of the spillway could save approximately 1.0 to $1.5 million in construction costs. A coffer dam would be required on the shifted alignment.

This new spillway would be similar in design concept as is currently present (uncontrolled ogee crest section). State of the art features to be added would include air-entrained concrete, waterstops in joints, shear steel through the joints and a new filtered under-drain system with perforated pipe.

All construction work would occur in the dam primary jurisdiction zone. Features of the dam referred to by the terms “right” and “left” correspond to right and left as a person faces downstream.

Under this alternative, the spillway structure would be excavated. This excavation would likely extend to bedrock. On the left side of the spillway, the dam embankment would be cut back on a slope between 2:1 and 4:1, as necessary for construction stability and access. New embankment fill would subsequently be compacted against the cut slope to ensure a good bond between old and new fill. This is critical for tying in the new impervious fill with the existing "homogeneous" embankment fill. On the right side, the excavation would probably remove all fill and slopewash between the crest structure and the rock of the right abutment. Portions of the existing cutoff wall would be removed to be replaced later, possibly at a slightly different location (likely at the upstream end of the ogee crest).

It would be necessary to excavate along both sides of the spillway chute to allow construction of a new concrete chute. The excavation would probably extend below the grade of the existing chute in order to allow for over excavation and recompaction to ensure dense material in at least the top two feet below the chute. There would need to be a flat working surface approximately 2-3 feet wide on either side of the replacement chute. The cut slopes for the spillway chute would have a 2:1 slope.

Replacement of the earthfill on either side of the spillway crest structure would be necessary. Suitable, well compacted, earth material would be used as backfill below and on either side of the control structure. Special compaction would be required adjacent to concrete structures. Underneath the spillway slab, an under-drain system consisting of slotted pipe, sand, and gravel would be placed downstream of the impervious material. Riprap affected by excavation and fill operations would be temporarily removed and stockpiled for later re-use. Additional riprap, required for slope and scour protection, may be placed at the mouth of the new control structure as well as on top of any potentially erodible embankment material.

Along the chute, the excavation would likely be backfilled to the preexisting grade. Immediately adjacent to the chute walls, there would be a zone of fairly free-draining coarse sand (pervious backfill). This is to reduce pressure on the walls and help prevent frost damage from saturated ground freezing immediately against the walls. The chute would be provided with underdrains and longitudinal heels surrounded by filtered pervious backfill under and along the chute.

As there would be excavation in the vicinity of springs and a known landslide on the right side of the chute, there would need to be a dewatering program using wells or wellpoints to collect water before it seeps into the excavation and to help stabilize the sides of the excavation. This water should be relatively clean and clear, and likely would not require any treatment before discharge into the river. Water collected by sumps within the excavation would likely require time in a settling pond before being discharged. A settling pond would likely be located adjacent to the river just downstream from the dam. Discharges associated with this dewatering program would not increase flows below the dam above normal operating conditions.

It is expected that the existing concrete cutoff wall (at the upstream end of the spillway) would remain the primary barrier to seepage under the spillway structure. If it cannot be kept as is, modified, or replaced on the same alignment, it would be necessary to establish a new grout curtain in the bedrock of the right abutment. This would require drilling holes tens of feet into the rock, and pumping water-cement grout into the holes under high pressures that can force the grout into the voids and fractures of the rock.

The spillway stilling basin foundation would be dewatered and a temporary diversion structure (cofferdam) constructed in the Price River adjacent to the stilling basin. Releases from the outlet works may need to be shut off for up to a month in order to dewater both the stilling basin and outlet channel.

The Scofield Dam outlet and spillway channels are approximately 60 feet apart at the downstream toe of the dam. Between the two, there exists a small earthen berm meant to divide the flows until their confluence located further downstream. The berm, however, is built of very porous material atop an equally porous foundation. The proposed work on the spillway stilling basin includes extensive excavation at a significant elevation lower than the adjacent outlet channel. During construction of the new stilling basin it would be necessary to pass outlet flows of up to 500 ft^3/sec in the outlet channel. The outlet works can only pass this much water when the reservoir is at elevation 7617.5 feet. At lower water surface elevations the outlet works will pass less water. Because of the porous nature of the material between the two and the likelihood of a significant amount of water migrating from the outlet channel into the excavation for the stilling basin, it was necessary to consider a way of precluding the outlet channel water from flowing into the stilling basin excavation.

A number of options were considered including sheet-piling, high density polyethylene (HDPE) liners, clay liners, articulated block liners, concrete cutoff walls, etc. The final decision was reached by consensus as a combination of a 10 to 20 foot deep concrete cutoff wall below an 8 to 10 foot deep “key” trench that has an impervious rubber liner running up the side of the excavated trench and backfilled with fine –grained compacted material. The cutoff wall would run from the wall adjacent to the south side of the outlet channel, downstream to the end of the berm, and across the spillway channel mouth to the right abutment (Appendix B, Figure 1).

This option is thought to be the least cost, technically acceptable alternative to minimize the amount of water that must be pumped from the stilling basin excavation and provide a near complete cutoff of the outlet channel flow seepage.

Work on and placement of the cutoff wall must be coordinated with the stilling basin work as it appears from preliminary estimates, that the stilling basin excavation extents may interfere with the cutoff wall and placement of the coffer dam needed to prevent stream channel backflows.

A temporary access road would be constructed across the outlet channel. This would require the installation of a low profile corrugated metal pipe and placement of earthfill in the channel.

Gate House Replacement and Modifications to the Gate Structure

Modifications to the gate structure and gate house would be accomplished during demolition and re-construction of the spillway. Reclamation proposes to replace the existing gate house on the crest of the dam. This building is in poor condition and would be replaced with similar materials to preserve its historical integrity at its present location. The design and size of the building would remain as close as possible to that of the historic structure. A parking pad suitable for one car would be constructed beside the gate house. This space would be posted for U.S. Government use only.

Bridge Replacement and SR-96 Realignment

The section of SR-96 that crosses the dam would be removed, realigned, and replaced between mile point marker 11.33 and 11.40. A new wider bridge over the dam's spillway would be constructed. This work would be accomplished during the reconstruction of the spillway and be covered under the same Reclamation construction contract as the spillway work.

The south curve radius on the bridge approach would be lengthened, which may require placement of roughly 2000 yards of highway fill in the reservoir basin. The required fill materials for the highway alignment may be obtained from a borrow site located downstream of the dam within the primary jurisdiction zone.

Three alternatives for SR-96 re-alignment and replacement of the existing spillway bridge are being considered. Option 1 maintains the existing roadway alignment with a 32 foot wide bridge roadway supported by the reconstructed spillway foundation walls similar to the existing bridge. The bridge span length is 44 feet. This option does not meet the purpose and need since it uses the deficient existing roadway curve and is not wide enough to accommodate large trucks at the curve. Option 1a increases the roadway curve radius at the south approach to 81feet to meet AASHTO minimum standards for a 20 mph design speed. The shoulder of the road is increased to 17 feet at the inside of the curve to accommodate large trucks. The proposed bridge over the spillway is trapezoidal in shape to accommodate the new roadway curve at the south approach. The bridge roadway varies in width from 43 feet at the south end to 32 feet at the north end with a 44 foot span length. The bridge is supported by the reconstruction of the spillway foundation walls similar to the existing bridge. Option 1b has the same roadway configuration as Option 1a with the bridge supported on the relocated spillway walls 15 feet north of the existing spillway. This reduces the bridge roadway width to 39 feet at the south end while maintaining a 44foot span length. This option has the smallest bridge except for Option1. Option 2 increases the roadway curve radius at the south approach to81 feet to meet AASHTO minimum standards for a 20 mph design speed. The shoulder of the road is increased to 12 feet at the inside of the curve to accommodate large trucks. The proposed bridge over the spillway is shaped like a parallelogram

to accommodate the new roadway curve at the south approach. The bridge roadway width is a constant 49 feet with a 51foot span length. This roadway configuration requires the bridge to be skewed 25 degrees to the spillway. The bridge is supported by the reconstruction of the spillway foundation walls similar to the existing bridge. However, the spillway wall support would have to be longer for the wider bridge.

The proposed replacement of the existing spillway bridge is a prestressed concrete AASHTO girder bridge with a minimum 8" thick concrete deck. The bridge would have UDOT standard concrete parapets. The bridge would have a minimum 44 foot long single span. It would be supported at each end by the reconstructed spillway walls which would be designed to meet UDOT/AASHTO requirements for seismic loading. The bridge would have 25 foot long approach slabs at each end with concrete barriers.

SR-96 Detour

Traffic would be re-routed off the existing bridge over the current spillway. A highway detour would be constructed during the summer of 2006. Traffic may be detoured anytime during 2006 through 2007; however, this detour would only occur for a duration of approximately 6 months. At least one lane of traffic would be maintained across the dam most of the time. However, traffic may experience complete closures for short periods of time. This detour would meet requirements found in the Manual of Uniform Traffic Control Devices (MUTCD 2003) for signing, roadway tapers, flaggers, and signals.

Figure 2 (Appendix B) shows the alignment of the proposed detour of SR-96 on the dam's right abutment. This detour alignment would be upstream of the spillway inlet and would begin near the right abutment of the dam (as the detour passes south to north). Construction of this detour would entail construction of a berm and a bridge just upstream from the current spillway structure. A large cofferdam, which would both contain the reservoir water and prevent it from entering the spillway during construction, would need to be constructed at the location of this proposed detour regardless of how the traffic is ultimately diverted around the project. Enlarging this cofferdam to enable the construction of a detour roadway surface on its crest would provide a diversion and safely route traffic around the spillway and bridge during construction. This option would consist of cut and fill earth sections and a temporary bridge section. The detour would be a one-lane, one-way detour with low speeds. Traffic delays would occur. The length of this gravel detour is estimated at 2,600-feet. The road would be a minimum of 15-feet wide and have a maximum grade of 6%. Construction of this detour would require placement of about 3,000 yards of fill in the reservoir under the ordinary high water line.

The detour road alignment would skew off from the highway approximately 300 feet upstream of the dam centerline. The earthfill road embankment gradually drops in elevation heading towards the spillway inlet area. As the road approaches the spillway area, the alignment could change and shift to the north. Along the area upstream of the spillway inlet, the roadway would be constructed utilizing temporary bridge structures. The bridge section of the highway detour is estimated to be 200 feet long. Each bridge section would require a concrete block for a foundation support. As the bridge approaches the dam, the road would convert back to an earthfill road embankment. Due to the need for trucks to negotiate the alignment, the road would be wider at the points where the bridge begins and ends. Upon construction completion, the

embankment sections, bridge supports and bridge sections would be removed and contoured to the original grade.

Private land owners on the south side of the dam have access rights. Reclamation would maintain access for these owners during all phases of the proposed project.

Land Disturbance
Areas near the dam site that would be affected by the spillway reconstruction have previously been disturbed by the original dam construction and by subsequent construction and maintenance. The affected lands, all within the primary jurisdiction zone, include areas of treatment, contractor use, staging/stockpiling, and material sources (Appendix B, Figure 3). All materials for construction would come from commercial sources and from source areas near the dam that have already been developed in previous work. All areas of construction would be rehabilitated as described in Chapter 4.

Reservoir Level
Maintaining an appropriate reservoir level during construction is of primary concern. The reservoir water elevation would not be allowed to rise above elevation 7607.5 feet, which is10 feet lower than the reservoirs maximum elevation under normal operating conditions. This elevation restriction would provide safe conditions during SOD construction activities. Actual reservoir restrictions; however, may be significantly less stringent depending upon snowpack, temperatures, and other climatological factors.

2.3.2 Downstream Detour of SR-96 Alternative

This action alternative is similar to the Spillway Replacement Alternative described in section 2.3.1 except in the way that traffic would be detoured around the construction site. A new, temporary detour road would be constructed downstream of the dam (Appendix B, Figure 6). This route would direct traffic just north of the existing dam tender's residence (currently abandoned) along an existing unimproved road which heads downhill towards the river. This alignment would continue to an open area on the south side of the existing "fisherman's bridge." The road and new bridge would cross the river upstream of the existing fisherman's bridge and public restroom where it would connect to the existing fisherman's access gravel road and return to the main highway. As a clarification, the existing fisherman's bridge would not be part of the detour route. The fisherman's bridge is a foot bridge only.

Construction of an embankment within the stream channel would be required. Culverts through the embankment would be needed to pass river flows. The culverts would be sized to pass the maximum outlet works release of approximately 500 ft^3/sec.

This detour road would be a one-lane, one-way detour requiring passage at low speeds. Traffic delays would occur as a result. The length of this gravel detour is estimated to be 450 feet. The road would be 15 feet wide and have a maximum grade of 6%. It would require 3,700 yards of material to be cut from the alignment and 480 yards of fill placement.

Constructing this road would require widening and improving existing gravel roadways to a

level suitable for a temporary state highway detour. It is also expected that gravel surfacing would be required as the detour may be in effect for approximately 4-5 months. Upon construction completion, the embankment across the river and the culvert(s) would require removal. The improved roadway would also require restoration and stabilization.

On the south side of the river, from the foot bridge to the right abutment, approximately 60% of the proposed alignment either does not exist or is a dirt road. On the north side of the river, the proposed alignment from the left abutment to the foot bridge would not require very much improvement since a road already exists on this side of the river.

All disturbed areas outside of existing roadways would be recontoured and reseeded with native plants. The river channel would be brought back to natural conditions.

Private land owners on the south side of the dam have access rights. Reclamation would maintain access for these owners during all phases of the proposed project.

2.4 Alternatives Considered but Eliminated from Further Analysis

The following alternatives could reduce the risks created by the dam's safety deficiencies as discussed in Section 1.5 above. These alternatives were considered but eliminated from further study because they did not meet the purpose and need of the SOD modifications as outlined in Section 1.2 above, or were determined to be too costly, environmentally unacceptable, or too disruptive to dam operations and project purposes.

2.4.1 Non Structural Alternatives

2.4.1.1 Permanent Restriction of the Reservoir Elevation

This alternative would permanently reduce the maximum water elevation or drain the reservoir to a level that would eliminate the possibility of spillway discharges. Studies show that for spillway discharges greater than approximately 250 ft^3/sec, the risk for initiating a dam failure is unacceptable (Stanton 2004[1]). Historical data have shown that in some years the reservoir has filled after being nearly empty at the beginning of the runoff season. Thus, the only way a spill might be avoided over the long term would be to permanently lower the reservoir's maximum water level to 7598.5 feet above sea level. This would result in a loss of 69% of the current reservoir storage. This alternative was not considered appropriate for further analysis because it would eliminate project benefits including recreational benefits derived from the state park that surrounds the reservoir.

2.4.1.2 Abandoning Scofield Dam and Draining Scofield Reservoir

Abandoning Scofield Dam would involve draining the reservoir, permanently maintaining the outlet gates in an open position, restricting public access to the abandoned structures, and seeding the reservoir area. The reservoir basin would still slightly fill depending upon inflows

from spring snowmelt; therefore, much of the incidental flood control benefit would be preserved. During a large flood, however, the reservoir could fill significantly and pose a safety risk similar to that described under the No Action Alternative. If this were to occur, lost project benefits under dam abandonment would be similar to those for dam removal, except that under dam abandonment the incidental flood control benefits would continue. Dam abandonment would incur high capital costs, needed mainly to mitigate environmental impacts. The dam abandonment alternative is deemed to be unacceptable because of the large capital cost and loss of project benefits, and was therefore precluded from further analysis.

2.4.1.3 Breaching and Removing the Dam

Breaching and removal of Scofield dam would incur high capital costs, mainly for mitigating environmental impacts. Dam removal would involve dismantling and disposing of the embankment and significant sediment accumulations within the reservoir. This alternative would also involve extensive restoration of the dam site and reservoir basin. In addition to removing the dam, the alternative would require demolishing parts of present structures that extend above final grade, including the outlet works intake, spillway chute, and stilling basin.

The section of SR-96 that currently crosses the length of the dam crest would need to be relocated. Material removed from Scofield Dam would be returned to the preconstruction-era borrow areas. All disposal areas would be contoured to natural shapes, and native vegetation would be planted in areas above the river. Because Scofield Dam contains about 204,000 cubic yards of material, finding a suitable place for disposal of the waste material (including soil, rock, reinforcing steel, concrete rubble, and mechanical and electrical equipment) as well as obtaining the necessary permits would present major difficulties.

Dam removal would eliminate the economic benefits presently realized: M&I and agricultural water use, recreation, flood control, and fish and wildlife benefits. Because of the complete loss of project benefits and the high capital cost, this alternative is considered unacceptable and was not considered for further analysis.

2.4.2 Structural Alternatives Eliminated from Further Analysis

2.4.2.1 Remove Damaged Concrete

This alternative would remove damaged concrete from all joints and walls that could create a hazard leading to dam failure during hydrologic events. Such concrete removal would likely be done via sawcutting the affected areas. However, considering the extent of the damage, this alternative would likely involve 30% to 40% of the entire spillway. Removed sections would then be replaced with new concrete. Under this alternative, all joints would be replaced with new, current state-of-the-art features including waterstops and shear steel. Only the current horizontal underdrains could be replaced in this option. The new drains would then need to be tied in to the existing clay tile drains. The technical drawbacks for this option include: the underdrain system would only be partially replaced; the reliability of the bond from old to new concrete would be questionable; and all the existing concrete would eventually need to be

replaced at some time in the future. This option would not meet the purpose and need for the project since it would not provide a current state-of-the-art spillway structure that would function as a long term fix of safety issues.

2.4.2.2 Protection of Concrete Joints

This option would protect the joints from possible exposure to spillway flows. Metal plates would be bolted over the joints as a seal. This option was initially considered as an emergency action to seal the joints in the event that operating the spillway could not be avoided. It is only considered potentially acceptable from a temporary emergency standpoint. We are not aware of any long term applications such as this. The old underdrain system would still be in place and the plates could cause some hydraulic issues. Thus, this option is not considered a good long term solution.

2.4.2.3 Lining the Spillway Chute with Steel

This alternative would involve lining the entire existing spillway chute with steel to prevent the potential for water to enter the joints and initiate stagnation pressures. Steel plate would likely have to be welded in place and anchored to the concrete in some fashion. The entire crest structure would need to be replaced under this alternative, since the new bridge could not be supported by the existing structure. The existing inlet and crest structures would be completely replaced. The existing structure downstream from the inlet and crest structures would remain and would be steel lined and tied into the new structure. Many technical issues are evident such as temperature accommodation, anchorage questions, coatings, underdrains, wall connection and structural details. This alternative is considered both impractical and unproven from a technical standpoint. This alternative would also not address the highway safety issue and was therefore eliminated from further analysis.

2.4.2.4 Replacement of the Crest and Bridge

This alternative would remove and replace only the crest structure and bridge. Replacement would consist of a gated control section; thus, surcharging all floods and never opening the gates unless an emergency occurs.

In lieu of gates, an option would be to remove the crest structure and replace it with embankment material thus storing all floods and only passing flows through the outlet works.

Both of these options are considered unrealistic due to the fact that the current outlet works would likely not be able to control floods and dam overtopping risks would significantly increase. This alternative, in conjunction with an empty reservoir (non-structural option), would provide more protection than the restriction with the spillway in place and would also eliminate virtually all project benefits. Impacts to lands where Reclamation does not own a flood easement could occur. Therefore, this alternative was eliminated from further analysis.

2.4.2.5 Construction of a Permanent Road Over the Old Dam Site

Permanently removing SR-96 from the crest of Scofield Dam and relocating it over the old dam structure upstream of the current dam would have benefits for dam security and future construction projects on or near the dam. However, this alternative would require the draining of the reservoir. This alternative would not meet the purpose and need for this project since it would cause the complete loss of the reservoir's fishery and significantly reduce recreational opportunities in the area.

2.4.2.6 Rehabilitate Existing Bridge

This alternative would include rehabilitating the existing bridge over the spillway. However, this alternative was eliminated because it did not meet the project's purpose and need. As discussed in Chapter 1, the bridge has a sufficiency rating of 21.8 percent. As part of the bridge's evaluation, the physical condition of its structural members received a 'serious' condition rating and a recommendation for "requiring a high priority of corrective actions". Functionally obsolete bridges are those with deck geometry (e.g., lane width), load carrying capacity, clearance, or approach roadway alignment that no longer meet the criteria for the system of which the bridge is a part. The deck geometry meets minimum requirements as established by UDOT and AASHTO. However, the approach railing and ends do not meet current standards.

Rehabilitating the existing bridge was not considered due its documented structural deficiency. The concrete and other structural elements have deteriorated to a point that rehabilitation is not a viable alternative. Rehabilitation rather than replacement would also limit the range of alternatives for reconstructing the spillway. For these reasons, rehabilitating the existing bridge is not considered a reasonable alternative.

Chapter 3 - Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the environment affected by the No Action and the two Action Alternatives. It also identifies potential effects from these alternatives. These effects are discussed under the following resource issues: recreation; water resources; water quality; public safety, access, and transportation; visual quality; socioeconomic resources; cultural resources; wetlands and vegetation; wildlife resources; threatened, endangered, candidate, and state sensitive species; Indian trust assets; and environmental justice. The present condition or character of each resource is discussed first, followed by a discussion of the predicted effects of the No Action and Action Alternatives. The environmental effects of the alternatives are summarized in a table at the end of this chapter.

3.2 Affected Environment

3.2.1 Recreation

Recreation management at Scofield Reservoir is performed by the Utah Division of Parks and Recreation under agreement with Reclamation. Scofield State Park is both a summer and winter recreation destination. It is situated 7,600 feet above sea level in the Manti-LaSal Mountains of the Wasatch Plateau. The 2,800-acre reservoir offers excellent boating and year-round fishing. During winter months, the area serves as a base for snowmobiling and cross-country skiing in spectacular mountains surrounding the park. Managed recreation season is May through November with high use on holidays, weekends, and during the winter months of ice fishing.

Visitation at Scofield reservoir has remained slightly above 100,000 visitors per year (Recreation Use Data Reports) since 1993. Monthly summer season data from 1995, provided by the Utah Division of Parks and Recreation, suggests that July is the most popular month for visits (21 percent of the total visits), followed by August (18.5 percent), June (16 percent), and September and May (approximately 13.0 percent each).

A 1995 summer survey by the Utah Division of Parks and Recreation suggested that the "constructed average visitor" to Scofield State Park is 52-54 years old and comes to the park with one other adult and one child to fish. The survey also suggested that more than one-half (54%) of the visitors surveyed arrive at Scofield State Park early in the summer and plan five or six additional visits during the remainder of the summer. This average visitor arrives in the morning and stays for about eight hours. They originate from Utah, Salt Lake, or Carbon County and would prefer Strawberry Reservoir as his second choice.

Primary Jurisdiction Zone
The Primary Jurisdiction Zone (approximately 90 acres) encompasses the area around the dam and its adjacent water operations facilities. In order to be able to operate and protect these

facilities, Reclamation and the CWCD control or restrict public uses. Below the dam, a controlled access road exists near the right abutment of the dam. It provides private access east of the Primary Jurisdiction Zone. Vehicular access through the left abutment area allows access to the fisherman parking lot at the foot bridge below the dam in the Primary Jurisdiction Zone. This access, the parking area, bridge, and a vault restroom allow for down stream staging of day use angling activities.

Recreation Opportunity Spectrum Class
The types of recreational opportunities existing at Scofield Reservoir which supply preferred activities in various settings are identified through the Recreation Opportunity Spectrum (ROS) System identified by the Scofield Resource Management Plan (RMP) (U.S. Bureau of Reclamation, Department of the Interior 2001). The system describes a spectrum of primitive through urban experiences that a visitor could have when visiting any specific management area.

The ROS classification for the Primary Jurisdiction Zone is "Urban". The "Urban" classification typically indicates a high degree of visitor regulation. Reclamation and the CWCD regulate public access in the Primary Jurisdiction Zone to protect water operations and facilities. Public recreation/access may be prohibited or restricted within the Primary Jurisdiction Zone as stated on page 3-59 of the RMP, "Manage to benefit water operations and to protect the dam for safety purposes. Restrict use of the area to those permitted by the CWCD and Reclamation. Allow angler day uses in appropriate areas which are compatible with protection of water quality and delivery, and with the operation and safety of the dam."

3.2.2 Water Resources

The Scofield Project provides a water supply for irrigation of 20,050 acres of highly developed farmlands in Carbon County, as well as a domestic water supply for the cities of Price and Helper, Utah.

The CWCD is responsible for the repayment of construction costs associated with the Scofield Project, which includes the dam and reservoir. The CWCD administers the delivery of water stored in Scofield Reservoir to its shareholders, comprised of irrigators as well as municipal water districts. These water deliveries add significant benefits to irrigated lands within the project area, and provide a critical water supply to much of Carbon County.

3.2.3 Water Quality

Scofield Reservoir and the Price River below Scofield Dam are classified by the State of Utah for the following beneficial uses:

Class 1C – Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.

Class 2B – Protected for secondary contact recreation such as boating, wading, or similar uses.

Class 3A – Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.

Class 4 – Protected for agricultural uses including irrigation of crops and stock watering.

Scofield Reservoir is included on Utah's 303(d) List of Impaired Waters due to being impaired for Class 3A, cold water fishery. Parameters of concern are total phosphorus concentrations, low winter dissolved oxygen (DO) concentrations and nuisance algal blooms. A Total Maximum Daily Load (TMDL) analysis was completed in 2000, to bring Scofield Reservoir into compliance with its designated beneficial use category, Class 3A.

Scofield Reservoir is also included in Category 5D on Utah's 2004 303(d) List of Impaired Waters, due to high pH levels; however the remedial actions included in the TMDL completed in 2000 for dissolved oxygen and total phosphorus should also reduce pH.

3.2.4 Public Safety, Access, and Transportation

The Wasatch Plateau with forested mountains ranging over 10,000 feet is a picturesque area that has experienced significant growth within the past few years. Principal towns include Price (county seat), Helper, and Scofield Cities. Major highways serving the county include U.S. Highway 6 and SR-96. U.S. Highway 6 extends from Utah County northwest of the dam to Interstate Highway 70 west of Green River, Utah. SR-96 extends from U.S. Highway 6 northeast of the dam, crosses the dam and ends at Clear Creek, Utah south of the City of Scofield (Appendix A, Map 1).

3.2.5 Visual Quality

Scofield Reservoir is situated at the eastern edge of the Wasatch Plateau in the northern end of Pleasant Valley. The enclosing mountain slopes visually frame Pleasant Valley and other similar adjacent valleys. Mountain slopes are covered with a patchwork of sagebrush communities, quaking aspen groves, and conifer forests. Pleasant Valley is distinguished from the several other valleys by the inclusion of Scofield Reservoir. The introduction of Scofield's otherwise scarce water element into the Pleasant Valley landscape creates a cool, reflective, water-oriented respite that enhances the visual variety of the natural appearing landscape character. At high water, the large placid water impoundment is visually dominant.

Primary Jurisdiction Zone
Due to the existence of the dam and its recent stabilization work, much of the Primary Jurisdiction Zone appears to have been substantially modified by man. Recreation improvements above the fishing bridge include a vault restroom, parking lot, and gravel access road. Downstream from the fishing bridge, the viewshed is that of an intimate, natural appearing, river/stream character.

Visual Management Objective
A Visual Quality Objective (VQO) was established by the Scofield RMP (page 3-60) for the area around the dam and it is classified "Maximum Modification". Maximum Modification allows for management activities that visually dominate the characteristic landscape at all viewing distances. The long term visual result, however, should repeat naturally established line, form, color, and texture, where practicable.

3.2.6 Socioeconomics

This section describes social and economic aspects of the human environment that may be affected by the proposed action. Construction activities at Scofield Dam could affect socioeconomic resources in three ways: water use, recreation, and highway access.

As a water resource, Scofield Reservoir stores an average of 43,229 acre-feet of project water for use by irrigators, municipalities, and other users in Carbon County. At the time of construction, Price and Helper Cities, located southeast of Scofield Reservoir, served the predominantly agricultural economy of the surrounding valley. In recent years however, Price City and the surrounding area have seen increased tourism because of their proximity to historic, scenic, and recreational sites. Consequently, the relative importance of agriculture has declined over time. Nevertheless, agriculture remains an important part of the economy of the area.

Scofield Reservoir serves as a major source of recreation for residents of Utah, Salt Lake, and Carbon Counties. Recreation, the most prominent economic activity in the valley, is largely centered on the reservoir. Based upon visitation information provided by the Utah Division of Parks and Recreation and consumer surplus values from Kaval and Loomis (2003), the total capitalized net present value of recreation associated with Scofield Reservoir is calculated at approximately $72.1 million.

State Highway 96 crosses the top of the dam, providing access to Scofield, Utah and points beyond. In 2004, the highway had average annual daily traffic (AADT) of about 600 (UDOT 2005).

3.2.7 Cultural Resources

Cultural resources are defined as the expressions of human culture and history in the physical environment, including culturally significant landscapes, historic and archaeological sites, Native American and other sacred places, and artifacts and documents of cultural and historical significance. Historic properties are defined as historic or prehistoric sites, structures, buildings, districts or objects that are listed in or are eligible for the NRHP (National Register of Historic Places). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

3.2.7.1 Cultural History

The Scofield Dam complex, located in Carbon County, Utah, includes all facilities associated with the dam structure including the gate tower, outlet tunnel and outlet works, spillway, stilling basin, cutoff trench and dam tender's house. The history of Scofield Dam and Reservoir began in 1896 with the establishment of the Mammoth Reservoir Company which began building a dam to capture water for the Price and Castle Valley areas. That dam failed and was abandoned. In 1925 the Price River Water Conservancy District began construction of another dam at what was then called Pleasant Valley Reservoir. Erosion problems plagued the earthen structure and the spillway was lowered for a final time in 1942, reducing the reservoir's capacity to 30,000 acre feet.

During World War II, because of the precarious nature of the dam, it was estimated that its imminent failure could result in severe impact to the war industry from damage to the railroad line adjacent to the reservoir and to the coal mines at Castlegate and Royal downstream. The rail line was a mainline for transporting coal and coke to defense-related facilities in Utah and California. This line also transported civilian passengers and military troops.

In June 1943, President Franklin D. Roosevelt authorized funding for the proposed Scofield Dam project under the Water Conservation and Utilization Act. Reclamation awarded the contract in 1943 and the present dam was constructed from 1944-1946.

An inventory of the dam complex was conducted in 1994 using techniques recommended in the Secretary of the Interior's Standards and Guidelines for historic properties (48 FR 44716). The resulting report (U-96-SJ-0401) is on file at the Bureau of Reclamation Provo Area Office.

3.2.7.2 Cultural Resources Status

The affected environment for cultural resources is identified as the APE (area of potential effects), in compliance with the National Historic Projects Act (36 CFR 800.16). The APE is defined as the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties. The APE for this proposed action is limited to the treatment area of the highway, bridge, dam complex, spillway, and location of the temporary detour road. During a Class I and Class III cultural resources survey, conducted by the Reclamation archaeologist in 2005, several prehistoric isolated artifacts, including one projectile point, were documented and mapped within the APE.

The dam complex itself has been determined to be a historic property eligible for listing on the NRHP (Weymouth, Polk, and Murray 1997). The dam complex retains integrity of location, design, setting, materials, workmanship, feeling and association and represents a typical government dam construction project undertaken during the first half of the 20th century. The dam construction represents a good example of a rolled earth filled dam, and embodies the distinctive characteristics of 1930's-1940's dam construction. As such, the dam complex is recommended as being eligible to the NRHP. Features which are considered contributing elements to the eligibility of the site include the dam itself and associated gatehouse, outlet works, spillway, stilling basing and cutoff trench as well as the dam tender's house.

The bridge (OD-202) and roadway across the spillway were widened and the original guardrails replaced with Jersey barriers in 1982. The modestly scaled concrete deck girder structure carries State Route 96 over the spillway of the Scofield Dam north of the town of Scofield. The structure's single 38-foot span carries a concrete deck and is supported by concrete abutments. Built in 1944, the bridge was designed and built by the Bureau of Reclamation as an integral part of the dam. The most significant structural alteration associated with the 1982 widening of the roadway was the replacement of the original guardrails. Because of the 1982 modifications, the bridge and roadway are no longer eligible for the NRHP (Utah Historic Bridge Inventory determination).

In accordance with Federal Highway Administration's (FHWA) responsibilities under the Section 4(f) Evaluation and approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property, a net benefit to the historic dam complex must be established. A "net benefit" is achieved when the transportation use, the measures to minimize harm, and the mitigation incorporated into the project results in an overall enhancement of the Section 4(f) property when compared to both the No Action or avoidance alternatives and its present condition. Net benefits are included in the alternative analysis in Section 3.3.7 of this document. Appendix C, Document 8 identifies potential 4(f) resources.

An on-site inspection of the property by the Provo Area Office archaeologist in 2005 established that the original dam tender's house had been modified on the east end by the water users in the 1960's with the addition of a cinderblock room and attached garage. These additions are not in keeping with the historic design/materials of the original property and are not in good condition.

3.2.8 Paleontological Resources

A Paleontological file search was conducted for the project area by the Utah Geological Survey (UGS). The UGS has determined that there are no known paleontological localities in the project area, and that unless fossils are discovered as a result of construction activities, the project should have no effect on paleontological resources (see Appendix C, Document 1).

3.2.9 Wetlands and Vegetation

Riparian Habitat
A narrow (2 to 4 foot wide) riparian strip exists on both sides of the Price River downstream from Scofield Dam. This strip consists mostly of Nebraska sedge *(Carex nebrascensis)* with a few dispersed young willow (*Salix spp)*. This narrow riparian habitat extends approximately 330 yards below the dam, nearly to a foot bridge that crosses the river. The proposed construction would occur along this reach of the river which has been previously disturbed by dam construction and maintenance activities. Riprap has been placed along the river corridor for approximately 150 feet downstream from the dam. Below this reach and outside of the proposed construction area, the riparian habitat widens to between 50 and 200 yards in width consisting mostly of willow dominated habitat.

Upland Habitat
Both nonnative and native species of vegetation are found within the project area. Upland habitat consist mainly of big sagebrush (*Artemisia tridentata*), rabbit brush (*Chrysothamnus* spp.), and snowberry (*Symphoricarpos oreophilus*). Other species present include yellow sweet clover (*Melilotus officinalis*), houndstongue (*Cynoglossum officinale*), broom snakeweed (*Gutierrezia sarothrae*), golden currant (*Ribes aureum*), wild rose (*Rosa woodsii*), showy gentian (*Frasera speciosa*), basin wildrye (*Elymus cinereus*), Engelmann spruce (*Picea engelmannii*), Rocky Mountain aster (*Aster adscendens*), Indian paintbrush (*Castilleja angustifolia*), and geranium (*Geranium spp*). Groves of aspen (*Populus tremuloides*) occur higher above the south abutment of the dam.

The area below the dam, designated as the borrow area, consist mainly of crested wheatgrass

(*Agropyron cristatum*), big sagebrush (*Artemisia tridentata*), and rabbit brush (*Chrysothamnus* spp.).

Reservoir Habitat
Wetlands occur around the perimeter of Scofield Reservoir. Jurisdictional waters include the area defined by the high waterline of the reservoir and streams feeding the reservoir.

50% of the reservoir's shoreline consists of willow dominated habitats (U.S. Department of the Interior 2000). These habitats occur mainly along shallower areas where intermittent and perennial creek drainages convey fine textured sediment to the reservoir. A few areas of cottonwood trees exist along the shoreline. Steams entering the reservoir have developed deltas of willow habitat. Mud Creek has the largest of these habitats. These areas do not exist within the construction site, but require relatively stable reservoir levels for sufficient hydrology to support these habitats. Other sections of the reservoir's margin consist of sagebrush, rock, or bare ground.

Exposed reservoir bottom consist of muddy and rocky substrates depending on the topography of the exposed shoreline. These areas of exposed reservoir bottom exist during seasonally low reservoir levels. Large expanses of muddy exposed reservoir bottom typically occur where perennial creek drainages deposit fine textured sediment into the reservoir.

3.2.10 Wildlife Resources

Wildlife resources within the general area of the project include fish; big game; smaller mammals; raptors, water birds, and upland game birds, with a variety of other birds, reptiles, and amphibians.

Fish
Scofield Reservoir supports a significant fishery resource. It has traditionally been one of Utah's top fisheries, providing game fish of desirable quantity and size for both boat and shore anglers. There are 7,800 acre-feet of storage water below elevation 7,586 which allows most fish to survive if the reservoir is drawn down to minimum levels.

The reservoir is managed by the state of Utah as a put-grow-and-take fishery for rainbow trout (*Oncorhynchus mykiss*). Other trout species that occur in the reservoir include brown trout (*Salmo trutta*), and cutthroat trout (*Oncorhynchus clarki*), the latter being the only native trout in the reservoir. Other species that have inhabited the reservoir are kokanee (*Oncorhyncus nerka*) and illegally introduced walleye (*Stizostedion vitreum*).

Non-game fish, including carp (*Cyprinus carpio*), Utah chub (*Gila atraria*) and redside shiner (*Richardsonius balteatus*) reproduce in the reservoir and serve as forage fish for game species.

A healthy, Blue Ribbon trout fishery (brown, rainbow, and cutthroat trout) exists in the Price River below Scofield Dam.

Big Game

The foothills and mountains surrounding the reservoir are covered mostly with sagebrush, grassland, aspen, and oak communities. This area provides big game habitat for both summer and winter use for deer (*Odocoileus hemionus*) and elk (*Cervus elaphus nelsoni*). Large herds of deer and elk are seen wintering in the general area. Moose (*Alces alces*) are occasionally observed along stream drainages near the reservoir. Mountain lion (*Felis concolor*), black bear (*Ursus americanus*), and coyote (*Canis latrans*) are present in the area.

Small Mammals

Other mammals common within the area include yellow-bellied marmot *(Marmota plaviventris*), badger (*Tasidea taxus*), least chipmunk (*Eutamias minimus*), meadow vole (*Microtus montanus*), northern pocket gopher (*Thomomys talpoides*), deer mouse (*Peromyscus maniculatus*), porcupine *(Erethizon dorsatum*), and striped skunk (*Mephitis mephitis*). Furbearers such as beaver (*Castor canadensis*), mink (*Mustela vison*), and muskrat (*Ondatra zibethicus*) use the wetland and riparian habitat around the reservoir and embankments of the river. The State of Utah lists sensitive species (species of special concern) with a potential to occur within the area, as northern flying squirrel (*Glaucomys sabrinus*), ringtail cat (*Bassariscus astutus*), and River otter (*Lutra canadensis*). Bobcat (*Lynx rufus*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), Uinta ground squirrel (*Spermophilus armatus*), mountain cottontail (*Sylvilagus nuttallii*), and various species of shrews (*Sorex spp.*), voles (*Microtus spp.*), and bats (for example, *Myotis app., Eptesicus fuscus*) occupy the area.

Raptors

Birds of prey, or raptors, have been observed within or adjacent to the project area. Cottonwood trees along the river provide nesting habitat for raptors such as the golden eagle (*Aquila chrysaetos*), and red-tailed hawk (*Buteo jamaicensis*) and roosting sites for the great horned owl (*Bubo virginianus*) and bald eagle *(Haliaeetus leucocephalus*). Winter months are the best time to view bald eagles near the reservoir. Other raptors observed in the area are the American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), western screech owl (*Otus kennicottii*), snowy owl (*Nyctea scandiaca*), and turkey vulture (*Cathartes aura*).

Water Birds

Numerous water birds occur in the project area such as waterfowl, shore birds, and other wading birds typically associated with wetlands and open water. The reservoir provides high quality habitat for water birds due to the prevalence of emergent wetlands near the mouth of small drainages around the reservoir. These areas provide important forage and cover sites for waterfowl and wading birds.

Scofield Reservoir serves as an important migratory stopover for birds in the fall and spring. Emergent vegetation around the reservoir provides nesting habitat for a variety of waterfowl from mid-March to mid-July. Brood rearing begins mid-July to Mid-August. Mud flats exposed in late summer and fall provide foraging areas for shore and wading birds.

Water birds commonly observed include the pied-billed (*Podilymbus podiceps*), eared (*Podiceps caspicus*), and western grebes (*Aechnophorus occidentalis*), gadwall (*Anas strepera*), mallard (*Anas platyrhynchos*) , cinnamon teal (*Anas cyanoptera*), northern shoveler (*Spatula clypeata*), lesser scaup (*Aythay affinis*), green-winged teal (*Anas carolinensis*), northern pintail (*Anas*

acuta), common loon (*Gavia immer*), American white pelican (*Pelecanus erythrorhynchos*), and California gull (*Larus californicus*).

Upland Game Birds
Upland game birds occurring in the area include the ring-necked pheasant *(Phasianus colchicus*), sage grouse (*Centrocerus urophasianus*), mourning dove (*Zenaida macroura*), ruffed grouse (*Bonasa umbellus*), blue grouse (*Dendrapagus obscurus*), and California quail (*Lophortyx californicus*). The surrounding area may serve as breeding habitat for sage grouse (*Centrocercus urophasianus*) because of the prevalence of sagebrush habitat.

Other Birds
Probably the most common birds at Scofield Reservoir are swallows. Tree (*Tachycineta bicolor*), violet-green (*Tachycineta thalassia*), northern rough-winged (*Stelgidopteryx serripennis*), and cliff (*Hirundo pyrrhonota*) swallows all occur within the area. Of these, the most abundant are the cliff swallows. Other songbirds including the mountain bluebird (*Sialia currucoides*), yellow warbler (*Dendroica petechia*), and song sparrow (*Melospiza melodia*) have been observed in or near riparian habitats within the area. In open, shrub-dominated habitats goldfinch (*Carduelis tristis*), western kingbird (*Tyrannus verticalis*), western meadowlark (*Sturnella neglecta*), common nighthawk (*Chordeiles minor*), loggerhead shrike (*Lanius ludovicianus*), white-crowned sparrow (*Zonotrychia leucophrys*), sage thrasher (*Oreoscoptes montanus*), green-tailed towhee (*Pipilo chlorurus*), and rufous-sided towhee (*P. erythrophthalmus*) occur. The red-naped sapsucker (*Sphyrapicus nuchalis*), downy woodpecker (*Picoides pubescens*), western tanager (*Piranga ludoviciana*), and warbling vireo (*Vireo gilvus*) exist in aspen forests. MacGillivray's (*Oporornis tolmiei*), orange-crowned (*Vermivora celata*), Virginia's (*V. virginiae*), and Wilson's (*Wilsonia pulsilla*) warblers exist in riparian willow habitat. Another group of birds frequently observed at Scofield State Park comprises the corvids including jays (*Cyanocitta* spp.), the black-billed magpie (*Pica pica*), and the common raven (*Corvus corax*). (U.S. Department of the interior 2000)

Reptiles and Amphibians
Reptiles with potential to occur in the project area include the rubber boa (*Charina bottae*), Utah mountain kingsnake (*Lampropeltis pyromelana*), western yellowbelly racer (*Coluber constrictor*), wandering garter snake (*Thamnophis elegans vagrans*), Great Basin gopher snake (*Pituophis melanoleucus deserticola*), Great Basin rattlesnake (*Crotalus viridis*), milk snake *(Lampropeltis triangulum*), western smooth green snake (*Opheodrys vernalis blanchardi*), regal ringneck snake (*Diadophis punctatus regalis*), northern plateau lizard (*Sceloporus undulatus elongatus*), sagebrush lizard (*S. graciosus*), northern tree lizard (*Urosaurus ornatus*), and the Great Basin Whiptail (*Cnemidophorus tigris tigris*). Amphibians with potential to occur in the planning area include boreal chorus frog (*Pseudacris triseriata*), northern leopard frog (*Rana pipiens*), Arizona tiger salamander (*Ambystoma tigrinum nebulosum*), Great Basin spadefoot toad (*Scaphiophus intermontanus*), boreal toad (*Bufo boreas*), and Woodhouse's toad (*Bufo woodhousei*). (U.S. Department of the Interior 2000)

3.2.11 Threatened, Endangered, Candidate, and State Sensitive Species

Federal agencies are required to ensure that any action federally authorized or funded would not

adversely affect a federally listed threatened or endangered species.

Several species listed as threatened or endangered do occur within Carbon County or within the Price River Drainage. These species are discussed below.

Ute ladies'-tresses (*Spiranthes diluvialis*) (Threatened), a small orchid, is usually found along stream margins or bogs. It is not known to occur around Scofield Reservoir or below the dam. The bald eagle (Haliaeetus *leucocephalus*) (Threatened) is a winter resident of the area. This species roosts primarily in forested canyons or tall cottonwoods along streams and reservoirs. The whooping crane (*Grus americanus*) (Endangered) migrates through Utah during the spring and fall. There are no resident populations in Utah. Canada Lynx (*Lynx canadensis*) (Threatened), although they have not been seen, could possibly use forested areas and wetlands within the area.

The State of Utah maintains a list of sensitive species (species of special concern) with a potential to occur within the area. These species include the northern flying squirrel (*Glaucomys sabrinus*), ringtail cat (*Bassariscus astutus*), and River otter (*Lutra canadensis*). The Price River downstream of the confluence with the White River has populations of flannelmouth sucker (*Catostomus latipinnis*) and bluehead sucker (*Catostomus discobolus*).

The Price River below Scofield Dam is a tributary of the Green River. The Green River Drainage supports four endangered fish species. These are the Colorado pikeminnow (*Ptychocheilus lucius*) (Endangered), humpback chub (*Gila cypha*) (Endangered), bonytail (*Gila elegans*) (Endangered), and razorback sucker (*Xyrauchen texanus*) (Endangered). Of the four species, only the Colorado pikeminnow has been found in the lower reach of the Price River.

3.2.12 Land Use

Scofiled Dam and Reservoir are located in unincorporated Carbon County, Utah. Carbon County has the area designated as a watershed zone and the permitted uses include camping, grazing of livestock, and other uses as described in the county code. As stated above, the Scofield Reservoir and adjacent lands are a state park administered by the Utah State Parks and Recreation under agreement with Reclamation.

3.2.13 Prime and Unique Farmland

Currently, there are no farmlands located within the project limits or near the Scofield Reservoir; no further analysis is required.

3.2.14 Pedestrian and Bicyclists

There are several hiking and biking trails near the project area and Scofield Reservoir. There are no sidewalks associated with the existing road within the project limits.

3.2.15 Air Quality

Air quality is regulated by the U.S Environmental Protection Agency and the Utah Division of Air Quality. The EPA has established the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act which specify amounts of air pollutants for carbon monoxide, particulate matter (less than 2.5 micrometers), ozone, sulfur dioxide, lead, and nitrogen. Carbon County is in attainment for all criteria pollutants according to standards set by the EPA.

An Approval Order from the Utah Division of Air Quality may be required prior to implementing the proposed action. The purpose of this permit is to control fugitive dust and emissions during construction.

3.2.16 Noise

The proposed action would not increase the traffic capacity of the roadway and would be constructed on essentially the same alignment. In addition, there are no noise receivers within the project corridor.

3.2.17 Construction Impacts

As described above, the Proposed Action includes the reconstruction of the Scofield Dam spillway and bridge over the spillway. In addition, minor improvements would be made to the approach roadways across the dam. These improvements would disrupt traffic flow during construction. A detour would be provided allowing for continued use of the roadway during construction.

The maintenance of at least one lane of traffic would be required at all times during the construction phase of this project. A detailed traffic control plan would also be required. This plan would need approval by UDOT.

Several options are being evaluated for the detour road during construction of the bridge. The detour would be removed following the completion of bridge and associated approaches. The area disturbed by the detour would be restored to its current state.

3.3 Environmental Consequences

Under any alternative, all construction would occur within the dam primary jurisdiction zone, and normal stream-flow releases would not be affected by construction.

3.3.1 Recreation

3.3.1.1 No Action Alternative

Under the No Action Alternative, continued spillway deterioration is expected until the dam, bridge and highway safety; water storage; and resultant recreation uses are compromised. The long term result could be the reduction of water storage, short duration flow releases, and the proportional loss of existing recreation visitation and water related recreational opportunities.

3.3.1.2 Action Alternatives

3.3.1.2.1 Spillway Replacement

This alternative could result in a temporary impact to anglers below the dam, because the Primary Jurisdiction Zone would likely be closed to public access for construction staging and spillway repair activities. Upon completion of the spillway improvements, the area below the dam would be restored to its pre-project conditions and the public would be allowed to continue using the access road parking area, restroom, and fishing bridge for recreation purposes. The repair is expected to enhance the long term benefits to the recreation resource by maintaining the dam, and appurtenances.

3.3.1.2.2 Downstream Detour of SR-96

Construction activities could impose a temporary impact to anglers below the dam, as the Primary Jurisdiction Zone would likely be closed to public access and staging activities during reconstruction. Upon completion of the spillway improvements, the detour route through the area would be removed and the area would be returned to its pre-project condition. Recreation uses, including public use of the fisherman access road, parking areas, restroom, and fishing bridge would continue.

3.3.2 Water Resources

3.3.2.1 No Action Alternative

The No Action Alternative would have no impact on the water resources including water rights. In the event of dam failure, the No Action Alternative could leave water customers liable for property damages and exposed to the risk of losing all project benefits.

This alternative could alter Scofield Dam operations in the future by not allowing the use of the spillway. This could occur if the spillway is deemed completely unsafe. This would affect how much, when or if water is stored in the reservoir and therefore affect the water users downstream

who depend on the water for agricultural and M&I uses. When considering the probable maximum flood (PMF) there would be even fewer opportunities to store water in the reservoir because there would be no space available to absorb the impacts of a large event flood such as the PMF.

3.3.2.2 Action Alternatives

3.3.2.2.1 Spillway Replacement

This Alternative may result in a reduction in the reservoir level during construction. Construction would be scheduled in the fall to minimize any restriction in reservoir operations. In the event of higher than normal winter precipitation, some additional coordination with the CWCD may be required. However, no significant operational impacts to water resources or deliveries of water would be anticipated from this alternative.

3.3.2.2.2 Downstream Detour of SR-96

Impacts from this alternative would be the same as the Spillway Replacement Alternative.

3.3.3 Water Quality

3.3.3.1 No Action Alternative

Since no construction would occur, there would be no temporary construction-related water quality impacts and no long-term water quality impacts. If the dam were to fail, water quality would be negatively affected for several months. A significant amount of sediment would be moved downstream.

3.3.3.2 Action Alternatives

Under all Action Alternatives, appropriate Clean Water Act permits would be obtained prior to construction as specified in Table 1-2.

3.3.3.2.1 Spillway Replacement

Under this Alternative, best management practices would be employed during construction activities to minimize impacts to water quality in Scofield Reservoir and in the Price River downstream. This Action Alternative allows for much of the construction to occur when water levels are usually low in the fall, without requiring additional drawdown to very low levels. Any water quality impacts would be minor and temporary. There would be no long-term or permanent impacts upon water quality.

During the construction period, if the reservoir were drawn down and operated at levels well below what would be expected to do the work, the hydraulic detention time and flushing rates could be temporarily changed. Operating the reservoir at a very low level (which is unlikely) could increase the passage of suspended sediment and nutrients downstream. It could also temporarily produce more significant algae blooms, but this would not have a long-term or

permanent impact upon water quality in the reservoir or downstream.

Water quality impacts during construction of the roadway could result from soil erosion caused by excavation, grading, and other construction activities. The potential for these impacts would remain until construction was complete, and permanent erosion control measures, such as seeding, were installed, and the site stabilized. Mitigation for these impacts consists of best management practices, including temporary erosion control structures, seeding, etc., to prevent erosion and sediment from entering waterways.

3.3.3.2.2 Downstream Detour of SR-96

Under this Alternative, the impacts on water quality would be the same as under the Spillway Replacement Alternative, but in addition there may be temporary impacts on turbidity in the Price River immediately downstream from the temporary Highway 96 detour stream crossing. This turbidity would result from the installation and removal of the corrugated pipes used as culverts across the Price River. In addition, there may be temporary localized erosion and runoff along the detour road in the vicinity of the stream crossing and subsequent impacts on turbidity in the Price River. However, the temporary road would be constructed using best management practices to minimize erosion and runoff impacts to the river. There should be no significant long-term or permanent impacts upon water quality from the temporary highway.

3.3.4 Public Safety, Access, and Transportation

3.3.4.1 No Action Alternative

The No Action Alternative would have no effect on access, transportation, or public safety in the short term. Eventually, it would become necessary to enforce a weight limit restriction on the bridge due to the concrete deterioration. This would negatively affect commerce including coal hauling.

If the bridge threatened failure, it would not be safe or maybe not even possible to allow traffic to access the bridge. Also, the bridge could fail while a heavy load was crossing and stressing the bridge beyond what it could take. If the bridge failed completely, all types of vehicles, passenger, or large trucks hauling coal would have to take a different route. The only other paved road to the area south of the dam is SR 264 to Fairview, Utah.

3.3.4.2 Action Alternatives

3.3.4.2.1 Spillway Replacement

Under this Alternative, traffic delays on SR-96 could be expected during the modification work on Scofield Dam. Estimated delay time due to detour is 15 minutes. The road would be closed for spillway, roadway, bridge, retaining wall and other needed reconstruction. This would last approximately 6 months. The one way traffic would be controlled with flaggers and/or signals.

All modification work for the dam, road, and bridge would be completed under one Reclamation

construction contract, which should serve to minimize traffic delays.

With the relocated highway in place, spillway modifications would have no effect on access, transportation, or public safety.

3.3.4.2.2 Downstream Detour of SR-96

Impacts from this alternative would be the same as the Spillway Replacement Alternative.

3.3.5 Visual Quality

3.3.5.1 No Action Alternative

Without repair, continued future spillway deterioration is expected until the dam, highway safety, water storage, and resultant visual resource are compromised. The long term result could be the reduction of water storage, short duration out flows and consequent impairment of the visual resource around the reservoir, displaying barren un-vegetated reservoir bottom slopes.

3.3.5.2 Action Alternatives

3.3.5.2.1 Spillway Replacement

The proposed reconstruction activity meets the long-term VQO as determined by the Scofield RMP and is expected to maintain the long term visual character of the reservoir. Construction activities would be temporary. The routing of traffic across the face of the dam during reconstruction activities would be expected to reduce visual impacts, as opposed to opening up of a separate bypass corridor. Visual evidence of the borrow area is expected to remain noticeable up to five years after rehabilitation while vegetation becomes re-established and reduction in contrasting line, form, color, and texture occurs. The difference in appearance between the new and old spillways is not expected to draw attention for the average visitor passing through the area.

3.3.5.2.2 Downstream Detour of SR-96

Short term results of the reconstruction activity are expected to be obvious and visually dominant in the foreground view, through completion of the project. Long term visual quality is expected to meet objectives outlined in the Scofield RMP; however, visual disturbance resulting from the bypass road is expected to compound the visual disturbance below the dam. Visual evidence of the bypass road and borrow area are expected to remain noticeable up to five years after rehabilitation while vegetation becomes re-established and reduction in contrasting line, form, color, and texture occurs.

3.3.6 Socioeconomics

3.3.6.1 No Action Alternative

Under the No Action Alternative, there would be no socioeconomic impacts in the short term. In the event of future dam failure, approximately $363 billion in property and project benefits would remain at risk.

3.3.6.2 Action Alternatives

3.3.6.2.1 Spillway Replacement

The Spillway Replacement Alternative would result in restoration of the full capacity of the dam, so there would be no measurable long-term effects to socioeconomics. The Spillway Replacement Alternative would result in no benefit/cost for recreation, irrigation, M&I water supply, or commercial interests. Economic costs to transportation would amount to $590,625. Under this alternative, effects to socioeconomics such as recreation, reservoir yield, traffic, commerce, and construction are discussed below.

Recreation
The reservoir's water elevation would be restricted 10 feet lower than the reservoir's maximum elevation under normal operating conditions. This restriction would have no significant impacts on recreation.

Reservoir Yield
Under the Spillway Replacement Alternative, no significant impacts on the M&I or irrigation water supply would be expected. Although the reservoir water elevation would be restricted to 10 feet lower than the reservoirs maximum elevation under normal operating conditions, this would not have an effect on water deliveries.

Transportation
Under the Spillway Replacement Alternative, temporary traffic delays are expected. Traffic would be reduced to a one lane, one-way detour with low speeds. Residents traveling to and from the city of Scofield and mining trucks using the road diversion would experience minimal delays. It is estimated that these temporary delays would cause approximately 13,500 minutes of delays daily over a period of 20 weeks. Using UDOT's method for valuing hours, the total value of hours lost to traffic delays would amount to approximately $590,625. The minimal traffic impacts would not be expected to have any additional effects beyond those quantified in Public Safety, Access, and Transportation (Section 3.3.4).

Commerce
No measurable effect to the commercial sector would be expected from implementation of the Proposed Action Alternative. It is expected however that because of the temporary detour and lane restriction, minimal delays would result. These delays would have a minimal impact on commercial trucking (e.g. coal trucking). The minimal traffic impacts would not be expected to have any additional effects beyond those quantified in Public Safety, Access, and Transportation (Section 3.3.4).

Construction
Construction activities would represent an infusion of additional capital into the areas economy,

and could therefore be classified as a short-term benefit.

3.3.6.2.2 Downstream Detour of State Highway 96

Impacts from this alternative would be the same as the Spillway Replacement Alternative.

3.3.7 Cultural Resources

3.3.7.1 No Action Alternative

Under the No Action Alternative, there would be no effect to this historic property. Reclamation would not structurally or visually modify the dam to reduce the risks created by the spillway deficiency of the dam. The existing dam and bridge would remain in place and standard operating procedures would continue. However, if the spillway and/or the dam were to fail many historic properties, including most of the dam complex itself, would be destroyed.

3.3.7.2 Action Alternatives

3.3.7.2.1 Spillway Replacement

Under the Spillway Replacement Alternative, the spillway and gatehouse reconstruction would be consistent with existing size, design, and location of the historic structure. Therefore, the integrity of the location, design, setting, feeling and association would remain the same. However, the demolition of both the gatehouse and the spillway would constitute an adverse effect to these historic features which are part of the dam complex. The historic interior workings of the gatehouse would be retained in place. With consideration for the transportation use, and measures to assure public safety, according to 36 CFR 800.6(b) resolution of the adverse effects would be mitigated through further documentation and photographs, adhering as much as possible to the size, design, location, and materials of the original features, and continued consultation with SHPO. The Advisory Council on Historic Preservation (ACHP) would be invited to join in the consultation. In compliance with 800.6(b)(1)(iv), a Memorandum of Agreement (MOA) would be executed stipulating the resolution of the adverse effects.

Under the Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property, a net benefit result would be the replacement of the spillway because it could prevent future hydraulic jacking, and possibly dam failure resulting in the destruction of Utah State Highway 96. Replacement of the crumbling concrete now present would reinforce and strengthen the spillway. A detailed evaluation is found in Appendix C, Document 8 is the report “Identification of Potential Section 4(f) Resources.”

The new gatehouse, which sits on the bridge over the dam on Utah State Highway 96, would be placed in the same location as the original gatehouse, have the same setting, feeling and association to the rest of the dam complex. It would be the same size and be designed as closely as possible to the historic metal and concrete structure. The old concrete on the historic gatehouse is crumbling at the base of the present structure which is elevated above and hangs out over the reservoir water. Age, close and constant traffic vibration, including large coal trucks,

and freeze-thaw action is increasing the deterioration of the concrete supporting the buildings foundation which could cause an unsafe structure in the near future. The building houses the original gate-operation mechanism which will remain functional and in place. The replacement of the crumbling historic concrete base, and the advantage of safely being able to park a vehicle for the dam tender will provide a net benefit to the future stability of this structure and to maintaining the overall historic integrity of the dam complex.

If the spillway is shifted up to 20 feet to the north of its current location, the new spillway would follow the size and design of the historic structure. The Determination of Eligibility and Effect for the historic properties would remain the same as in this section. Compliance with NHPA regulations under Section 106 and the FHWA net benefit agreement stipulations would remain the same.

3.3.7.2.2 Downstream Detour of SR-96

In addition to the conditions to terms agreed to for the Spillway Replacement Alternative (3.3.7.2.1), the Downstream Detour Alternative would include a temporary road to be placed between the dam tender's house and the railroad tracks to the south. To avoid damage to the house, jersey barriers would be placed between the house and the new road during construction and use. Monitoring during construction by the Provo Area Office archaeologist would be conducted.

Grading and use of the temporary detour road would disturb an area near the river where prehistoric isolated artifact materials are located on the surface. The artifacts are not eligible for the National Register of Historic Places (NRHP). However, they may be an indication of a subsurface archaeological site. Monitoring during construction by the Provo Area Office archaeologist would be conducted.

3.3.8 Paleontological Resources

3.3.8.1 No Action Alternative

Under the no action alternative there would be no effect to paleontological resources.

3.3.8.2 Action Alternatives

3.3.8.2.1 Spillway Replacement

Under this alternative there would be no effect to paleontological resources.

3.3.8.2.2 Downstream Detour of SR-96

Under this alternative there would be ground-disturbing activities which have the potential to expose buried fossil material. The Provo Area Office archaeologist could monitor during construction to be certain there is no damage to paleontological resources. If none of these types of fossil remains are exposed during construction, there would be no effect to paleontological resources from this alternative.

3.3.9 Wetlands and Vegetation

3.3.9.1 No Action Alternative

Under the No Action Alternative, no immediate impacts to wetland vegetation would occur. If the dam were to fail, however, all downstream wetlands would be washed out immediately. Perimeter wetlands would persist until the lowered water table no longer supported the hydrophytes (vegetation growing only in water or very wet soil), after which plant life would be replaced naturally over time by upland plant species.

3.3.9.2 Action Alternatives

3.3.9.2.1 Spillway Replacement

Under this alternative, there would be minimal effects to native riparian, wetland, or upland vegetation. Most areas within the construction zone have been disturbed previously. Additionally, changes in reservoir levels would take place under near normal reservoir operations and there would be no long-term lowering of the reservoir, thus no wetlands would be significantly affected surrounding the reservoir's margin.

A small area of approximately 0.1 acre of riparian habitat would be disturbed. This area and all other areas of disturbed vegetation would be recontoured and reseeded with native plants following construction activities. All necessary permits would be obtained for work occurring in these areas.

3.3.9.2.2 Downstream Detour of SR-96

Effects to wetlands and vegetation would be similar to those described under the Spillway Replacement Alternative above. The proposed construction of a detour road in this alternative would remove three to five acres of upland habitat as well as a grove of willows near the public restrooms and foot bridge. This grove is approximately 200 feet long by 50 feet wide and extends along the north shore of the river. Any riparian habitat within the proposed alignment of

the detour crossing the river would be obliterated. This would remove only a very small area of riparian habitat (less than a tenth of an acre).

3.3.10 Wildlife Resources

3.3.10.1 No Action Alternative

Under the No Action Alternative, there would be no significant effect to wildlife species and no significant effect to their habitat unless the dam were to fail. The reservoir water would continue to stratify, affecting fish in the reservoir and at times those in the Price River immediately downstream from the dam when the reservoir level was very low.

If the dam were to fail, negative effects would occur to shoreline vegetation, open water, and wildlife species closely associated with riparian habitat of the reservoir. As these areas dry up over time, wildlife habitat would be lost, resulting in a significant loss of fish, water birds, and other species dependent upon the reservoir.

3.3.10.2 Action Alternatives

3.3.10.2.1 Spillway Replacement

Under this alternative, there would be beneficial effects to wildlife that depend on the reservoir. Adding stability to the dam would ensure continuation of shoreline riparian and open water habitat for fish and wildlife species.

During construction, temporary negative impacts could occur to golden eagles and other wildlife species that use the immediate area. Impacts to golden eagles are expected to be minimal. Their courting and breeding season extends from February to August. There are no known nesting sites near proposed construction activities. If the proposed action is implemented, SOD construction work on the dam is scheduled to begin in the spring of 2006. Construction activity could cause stress and discomfort to some wildlife species from noise, dust, displacement, and temporary loss of habitat, until construction was completed and impacted areas are revegetated. Reservoir water stratification would continue under the Spillway Replacement Alternative, and effects to reservoir fish would be the same as those under the No Action Alternative. Construction activities in the dam's spillway and outlet works could release sediment to the river. This would displace fish downstream until sediment and suspended matter settles out of the water. The river below the dam has been designated as a blue ribbon fishery. Increased sedimentation or disruption of flows in the fall would interfere with brown trout spawning and potentially reduce the quality of this fishery for a season. Fish would also be displaced downstream when reservoir water releases are discontinued during some phases of construction. Best management practices would be employed during construction activities to minimize impacts to the river's water quality below the dam. This would include a dewatering system consisting of wells, sumps, and a sedimentation pond to limit sedimentation of the river.

3.3.10.2.2 Downstream Detour of SR-96

Effects to wildlife resources would be similar to those described under the Spillway Replacement Alternative above. However, the construction of the river crossing would entrain more sediment to the river than the Spillway Replacement Alternative. This construction would extend the duration of downstream fish displacement. The fish community would return to preconstruction levels after the river detour crossing is removed, recontoured, and revegetated.

Terrestrial wildlife existing in the area would be temporarily displaced from the area during construction. Less than an acre of habitat may be temporarily disturbed. This habitat would be revegetated to near preexisting conditions after the detour in no longer needed.

3.3.11 Threatened, Endangered, Candidate, and State Sensitive Species

3.3.11.1 No Action Alternative

The No Action Alternative would result in no effect to threatened, endangered, candidate, or state sensitive species. However, if the dam were to fail in the future, negative impacts due to loss of habitat from excessive erosion and sedimentation of the river drainage could occur.

3.3.11.2 Action Alternatives

3.3.11.2.1 Spillway Replacement

Because the Spillway Replacement Alternative consists of short term construction confined to the immediate vicinity of Scofield Dam and Reservoir, there may be minimal effects to threatened, endangered, candidate, or state sensitive species; however these effects would not adversely affect these species' ability to carry out their normal ecological activities.

Bald eagles may be temporarily displaced from roost sites during construction activities.

Therefore, this alternative may affect, but is not likely to adversely affect the Ute ladies'-tresses (*Spiranthes diluvialis*), bald eagle (*Haliaeetus leucocephalus*), or Colorado pikeminnow (*Ptychocheilus lucius*). The U.S. Fish and Wildlife Service concurred with this determination in their letter dated November 22, 2005. (see Appendix C, Document 7).

Should project activities occur within 0.5 miles of a bald eagle roosting site during winter roosting months (approximately November – March), construction activities should be scheduled during daylight (non-roosting) hours, with activities beginning after 9:00 am and terminating at least one hour prior to official sunset.

3.3.11.2.2 Downstream Detour of SR-96

Effects to threatened and endangered species would be the same as those described under the Spillway Replacement Alternative above.

3.3.12 Land Use

Neither of the proposed alternatives would impact or change land use in the area.

3.3.13 Prime and Unique Farmland

Neither of the proposed alternatives would impact farmland in the area.

3.3.14 Pedestrians and Bicyclists

Under both action alternatives, construction of the new section of road would provide a four foot shoulder sufficient for bicycle transportation. This would improve current conditions for bicycle travel. None of the proposed alternatives would impact or change any pedestrian access in the area.

3.3.15 Air Quality

Since no roadway capacity will be added with the project, air quality impacts are anticipated to be limited to short term increases of fugitive dust caused by construction. Best management practices (i.e. watering for dust control) to minimize fugitive dust will be implemented.

3.3.16 Noise

Construction activities would create short term noise impacts within the area.

3.3.17 Construction Impacts

3.3.17.1 No Action Alternative

Under this alternative, no construction would be authorized and no construction impacts would occur.

3.3.17.2 Action Alternatives

3.3.17.2.1 Spillway Replacement

Proposed improvements associated with this alternative would disrupt traffic flow during construction.

3.3.17.2.2 Downstream Detour of SR-96

Effects would be the same as those described under the Spillway Replacement Alternative above.

3.4 Indian Trust Assets

Indian trust assets are legal interests in property held in trust by the United States for federally recognized Indian tribes or individual tribal members. Examples of things that may be trust assets are lands, mineral rights, hunting, fishing, or traditional gathering rights, and water rights. The United States, including all of its bureaus and agencies has a fiduciary responsibility to protect and maintain rights reserved by or granted to Indian tribes or individual tribal members by treaties, statutes, and Executive Orders, which are sometimes further interpreted through court decisions and regulations. This trust responsibility requires the Federal government to take all actions reasonably necessary to protect trust assets, in accordance with the Secretary of the Interior's Principles for Managing Indian Trust Assets in 303 DM 2.

Implementation of any of the proposed alternatives analyzed above would have no effect on Indian trust assets. Tribal consultation for the proposed action was undertaken on August 18, 2005, with a letter sent to the Northern Ute tribe in Fort Duchesne, Utah. No concerns regarding Indian trust assets have been communicated by this tribe.

3.5 Environmental Justice

Executive Order 12898 established environmental justice as a federal agency priority to ensure that minority and low-income groups are not disproportionately affected by federal actions. Scofield Dam is located in Carbon County, and the project area for the proposed action is the dam and immediate vicinity. As of 2000, the population of Carbon County was 20,422 including 2,664 individuals living below poverty level and 2,751 individuals belonging to various minority groups. The population of Scofield, the town closest to the project area, was 22 consisting of zero individuals living below poverty level and zero individuals belonging to various minority groups. Statistics for the year 2000 are the most recent available (Utah Governor's Office of Planning and Budget) .

Implementation of any of the action alternatives would not disproportionately (unequally) affect any low-income or minority communities near the project area. The proposed action would involve some short term impacts to the general public from transportation delays (see sections 3.3.4 and 3.3.6). The proposed action would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. The proposed action would therefore have no adverse effects to human health or the environment that would disproportionately affect minority and low-income populations.

3.6 Summary of Environmental Consequences

Table 3.1 summarizes environmental effects under the No Action Alternative and the Action Alternatives.

Table 3.1 Summary of Environmental Consequences

Resource Issue	**Alternatives**		
	No Action	**Spillway Replacement**	**Downstream Detour of SR-96**
Recreation	Loss of Recreational Opportunities	Temporary Restriction of Recreational Opportunities	Temporary Restriction of Recreational Opportunities
Water Resources	Dam failure would cause loss of storage and the delivery system	No significant impacts	No significant impacts
Water Quality	Dam failure would cause erosion and sediment loading and turbidity downstream for several months.	Minimal/Temporary Effect	Minimal/Temporary Effect
Public Safety, Access, and Transportation	An eventual weight restriction would limit commercial trucking, and eventually the road may be closed	Traffic Delays for 6 months between 2006 and 2007	Traffic Delays for 6 months between 2006 and 2007
Visual Quality	Impairment of Visual Quality	Minimal Impairment of Visual Quality	Minimal Impairment of Visual Quality
Socioeconomic Resources	No Effect, $363 Billion in property and benefits would remain at risk	Minimal Effect	Minimal Effect
Cultural Resources	Dam failure would cause loss of historic structure	Adverse Effect to be mitigated through MOA with SHPO	Adverse Effect to be mitigated through MOA with SHPO including monitoring
Paleontological Resources	No Effect	No Effect	No Effect with monitoring
Wetlands and Vegetation	Eventual Impairment of Wetlands	Minimal Effect	Minimal Effect
Wildlife Resources	Dam failure would effect wildlife habitat within the reservoir and downstream	Temporary Effects	Temporary Effects
Threatened and Endangered Species	Dam failure would effect habitat of Threatened and Endangered Species	May Affect, not likely to adversely affect Threatened and Endangered Species	May Affect, not likely to adversely affect Threatened and Endangered Species

3.7 Cumulative Effects

In addition to project specific impacts, Reclamation analyzed the potential for significant cumulative impacts to resources affected by the project and by other past, present, and reasonably foreseeable activities in the watershed. According to the Council on Environmental Quality's regulations for implementing NEPA (50 CFR §1508.7), a “cumulative impact” is an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. It focuses on whether the Proposed Action, considered together with any known or reasonable foreseeable actions by Reclamation, other Federal or State agencies, or some other entity combined to cause an effect. There is no defined area for potential cumulative effects.

No known or planned projects in the vicinity of Scofield Reservoir would impact this project. Based on Reclamation resource specialists’ review of the proposed action to modify the dam and spillway to meet safety standards, Reclamation has determined that the proposed action would not cumulatively affect any resources.

Chapter 4 - Environmental Commitments

The following environmental commitments would be implemented as an integral part of the proposed action under any of the three action alternatives.

1. Standard Reclamation Management Practices--Standard Reclamation management practices would be applied during construction activities to minimize environmental effects and would be implemented by Reclamation construction personnel or included in contract specifications. Such practices or specifications include sections in the present report on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and wildlife.

2. Additional Analyses--If the proposed action were to change significantly from that described in the EA because of additional or new information, for instance, if other spoil, gravel pit, or work areas are required outside the primary jurisdiction zone, additional environmental analyses will be undertaken if necessary.

3. 404 Permit or State Stream Alteration Permit (or Both) Required--Before implementing the selected alternative, Reclamation would obtain from the U.S. Army Corps of Engineers a 404 Permit, pursuant to the Clean Water Act of 1977 (P.L. 217), or from the Department of Natural Resources a State Stream Alteration Permit. These permits would cover discharges of dredged or fill material into the waters of the United States. Such activities associated with this project could include cofferdams, disposal sites for excavated material or construction material sources, and rebuilding dam embankments. The conditions and requirements of the 404 Permit would be strictly adhered to by Reclamation. Reclamation would fully mitigate any loss of jurisdictional wetland with appropriate in-basin, in-kind mitigation as determined in consultation with the U.S. Army Corps of Engineers and the State of Utah, and as required for obtaining a Corps 404 Permit or a State Stream Alteration Permit.

4. A Utah Pollutant Discharge Elimination System Permit--A Utah Pollutant Discharge Elimination System Permit would be required from the State of Utah before any discharges of water, if such water is to be discharged as a point source into the Price River or if more than one acre of ground will be disturbed. Appropriate measures would be taken to ensure that construction related sediments would not enter the stream either during or after construction. Settlement ponds and intercepting ditches for capturing sediments would be constructed and the sediment and other contents collected would be hauled off the site for appropriate disposal upon completion of the project.

5. A Water Quality Certification and a Storm Water Discharge Permit--Under authority of the Clean Water Act, construction would require a Section 401 Water Quality Certification and a Section 402 Storm Water Discharge Permit from the Utah Division of Water Quality.

6. Cultural/Paleontological Resources— An MOA between Reclamation, FHWA, UDOT and the ACHP if they choose to participate, and the SHPO stipulating mitigation measures for the removal and reconstruction of the gatehouse and the spillway at Scofield Dam will be agreed

upon and signed by all parties prior to construction.

Construction personnel would be trained in proper procedures in the event of an inadvertent discovery. Anyone who has inadvertently discovered possible human remains on federal or tribal land must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work would stop until the proper authorities were able to assess the situation. This action would promptly be followed by written confirmation to the responsible federal agency official with respect to federal lands. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (Public Law 101-601); (104 Stat. 3042) of November 1990. Instructions for proper procedures in case of inadvertent discovery would be placed in all construction vehicles.

Monitoring by the Provo Area Office archaeologist during construction of the temporary detour road adjacent to the dam tender's house, and in the vicinity of the isolated artifact material near the river would be necessary to assure that the house is adequately protected and that there are no significant subsurface deposits of prehistoric cultural materials or scientifically important paleontological resources affected. If the Downstream Detour Alternative is chosen, monitoring by the Provo Area Office archaeologist during rehabilitation of the temporary roadbed would be conducted in the area where the isolated artifact materials are located.

7. Construction Activities Confined to Previously Disturbed Areas--All construction activities would be confined to previously disturbed areas, to the extent practicable, for such activities as work, staging, and storage; gravel pit; waste areas; and vehicle and equipment parking areas.

8. Roads--Existing roads would be used for project activities. New road construction for proposed detours would be kept to a minimum.

9. Public Access--Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. Reclamation would coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the project area.

10. Disturbed Areas--During construction topsoil would be saved. It would then be redistributed after completion of construction activities. Subsequently, disturbed areas resulting from the project would be smoothed, shaped, contoured, seeded, and rehabilitated to as near their pre-project construction condition as practicable. Seeding and planting would occur at appropriate times with weed-free seed mixes of native plants. The composition of seed mixes would be coordinated with wildlife habitat specialists. Weed control on all disturbed areas would be required.

11. Environmental Commitment Plan (ECP) and Environmental Commitment Checklist (ECC)--An ECP and an ECC would be prepared and used by the Provo Area Office to ensure compliance with the environmental commitments and the environmental quality protection requirements. A post-construction environmental summary (PCES) would be completed within 1 year after completion of the project to assess the effectiveness of the mitigation measures.

12. Recreation Resources-- During construction activities, maintain angling access, if practicable, to the existing fisherman footbridge and restroom below the dam (provided that safety and security can be maintained). Stockpile topsoil from disturbed areas and use it in the reclamation process. For construction staging and access, utilize previous existing roads and disturbed areas and minimize the disturbance of these areas. Immediately upon completion of the construction activities, rehabilitate roads, borrow sites, staging sites, and other features to their pre-project conditions. This includes the fisherman access road, parking lot, and restroom below the dam.

13. Visual Resources--Implement rehabilitation measures immediately upon completion of the spillway and highway improvements. Re-contour and reseed disturbed unimproved areas in a natural appearing way, with native vegetation species. Control the spread of noxious weeds. Clean up trash, excess rock, and construction debris and dispose of them in designated areas away from view of recreation visitors.

14. Air Quality—Best management practices will be implemented to control fugitive dust during roadway construction.

Chapter 5 - Consultation and Coordination

5.1 Introduction

Reclamation's public involvement program gives the public an opportunity to obtain information about a given project and allows all interested parties to participate in these projects through written comments. One of the most important objectives of the program is to obtain information from a well-informed public that would assist decision makers throughout the process and culminate in the implementation of an alternative. This section of the EA discusses public involvement activities undertaken to date for the proposed Scofield Dam SOD Modifications and bridge replacement.

5.2 Public Involvement

Reclamation coordinated with interested individuals and various local, State, and federal agencies and other organizations regarding the Scofield Dam SOD Modifications Project.

In March 2005, Reclamation sent a scoping letter to all agencies, organizations and individuals that might have an interest in the proposed SOD modifications and bridge replacement. This letter explained the project and, invited input and comments regarding the scope of analysis for this EA. No comments were received in response to this letter.

A draft EA was distributed for public review and comment in October, 2005. It was sent to all agencies, organizations and individuals that might have an interest in the proposed SOD modifications and bridge replacement. The due date for comments was specified as November 18, 2005. This EA is also available for review on Reclamation's web site (www.usbr.gov).

On November 4, 2005, notice of public opportunity for public hearing and availability of environmental assessment was placed in the following papers: the Salt Lake Tribune, Deseret Morning News, and the Sun Advocate.

Two letters were received commenting on this EA. They were from the U.S. Fish and Wildlife and the Resource Development Coordinating Committee of the State of Utah. Several minor changes to the EA were made as appropriate. This final EA and the Finding of No Significant Impact are being made available to the interested public.

5.3 Native American Consultation

Reclamation has conducted Native American consultation throughout the public information process. On August 18, 2005, Reclamation transmitted a letter describing the proposed action to Betsy Chapoose, Director of the Cultural Rights and Protection Department for the Northern Ute Tribe (Appendix C, Document 2). This consultation was conducted in compliance with 36 CFR 800.2(c) (2) on a government-to-government basis. Through this effort, the tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the

identification and evaluation of historic properties, including those of traditional religious and cultural importance; to express their views on the effects of the proposed action on such properties; and to participate in the resolution of adverse effects. No response from the tribe has been received to date, and so it is assumed that there are no issues of concern.

5.4 Paleontological Resources

A paleontological report was requested from the Utah State Geological Survey on August 11, 2005. The record search produced no paleontological resources that would be affected by this project (Appendix C, Document 1).

5.5 Utah State Historic Preservation Office

A copy of the Class III cultural resource report (U-05-BE-0828f) has been be forwarded to the SHPO. This report includes a project description, the results of the inventory, including maps and photographs, and a recommendation of determination of effect. Consultation is on-going at this time. An MOA among Reclamation, FHWA, UDOT and the ACHP if they choose to participate, and the SHPO stipulating the mitigation measures for the removal and reconstruction of the spillway and gatehouse on the Scofield Dam would be executed.

Chapter 6 - Preparers

The following contributors to the Scofield Dam SOD Modifications EA are part of the U.S. Department of the Interior, Bureau of Reclamation, Provo Area Office.

Name	Position Title	Contribution
W. Russ Findlay, MS	Fish and Wildlife Biologist	EA Coordinator; NEPA; Wildlife Resources; Threatened and Endangered Species; Wetlands and Vegetation
Amy Van Horn, PE[a]	Engineer	Operation and Maintenance; Information and Water Resources, Public Safety, Access, and Transportation
Beverley Heffernan, BA	Environmental Protection Specialist	NEPA Compliance
Jim Jensen, LA[b], LS[c]	Landscape Architect; Land Surveyor	Recreation, Visual Resources
Jonathan Jones, PE[a]	Civil Engineer	Water Resources
Steve Noyes, PE[a]	Civil Engineer	Water Quality
Barbara Boyer, MA	Archaeologist	Cultural Resources, Indian Trust Assets, Paleontology
Greg Lott	Geologist	Safety of Dams Modification Report
Cary Southworth, PE[a]	Supervisory Design Engineer	Design Review
Tyler Olson, MBA	Economist	Socioeconomic Resources, Environmental Justice
Alan Christensen	Engineer	Land Use

a = Registered Professional Engineer
b = Registered Landscape Architect
c = Registered Land Surveyor

Chapter 7 - References

Boyer, B. September 2005. A Cultural Resource Inventory of the Scofield Reservoir Safety of Dams Project (U-05-BE-0828f). On file at the Utah State Historic Preservation Office and the Provo Area Office, Bureau of Reclamation, Provo, Utah.

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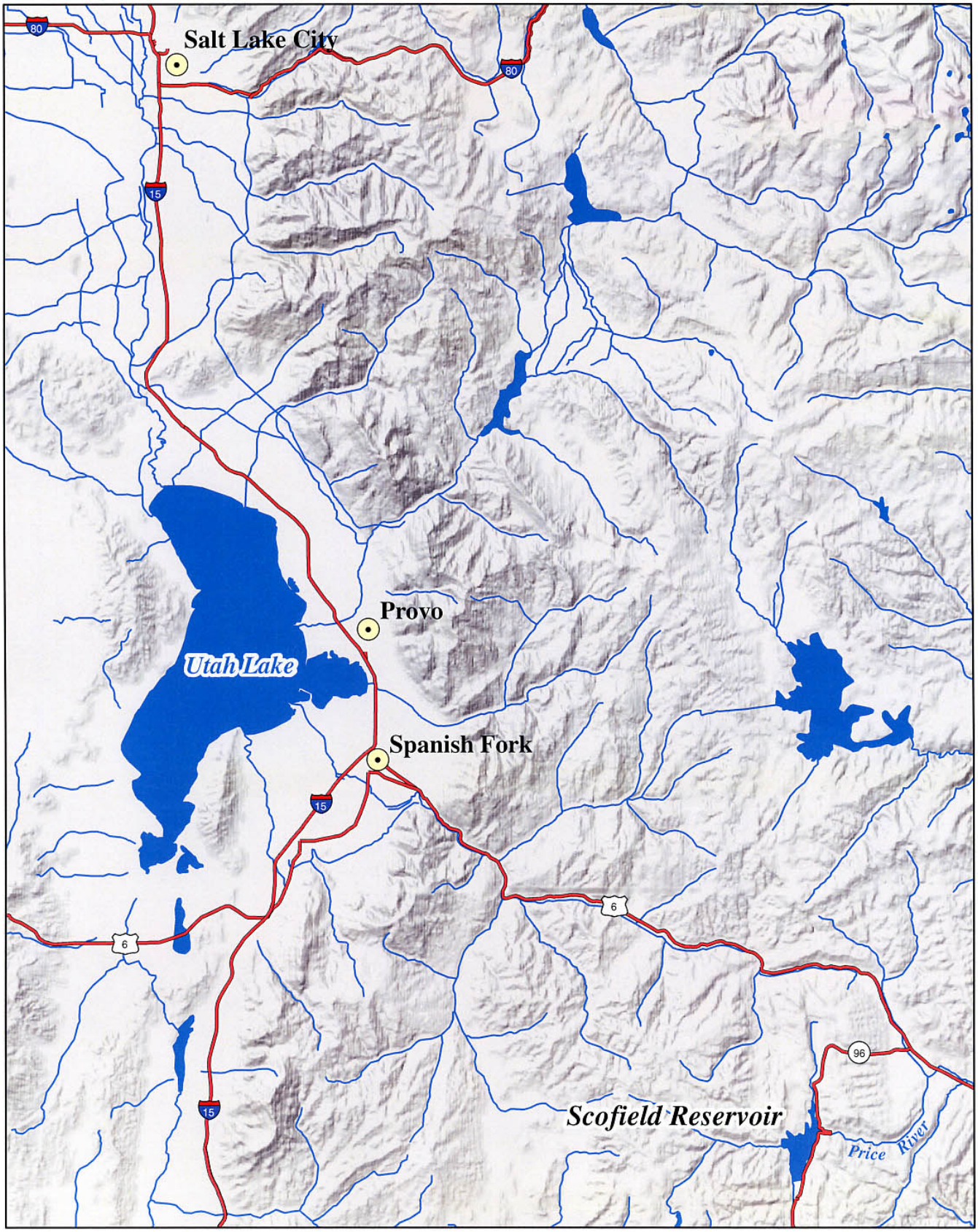
Weymouth, Polk, and Murray. 1997. A Cultural and Paleontological Resource Inventory of Selected Parcels at Scofield Lake State Recreation Area, Utah and Carbon Counties, Utah.

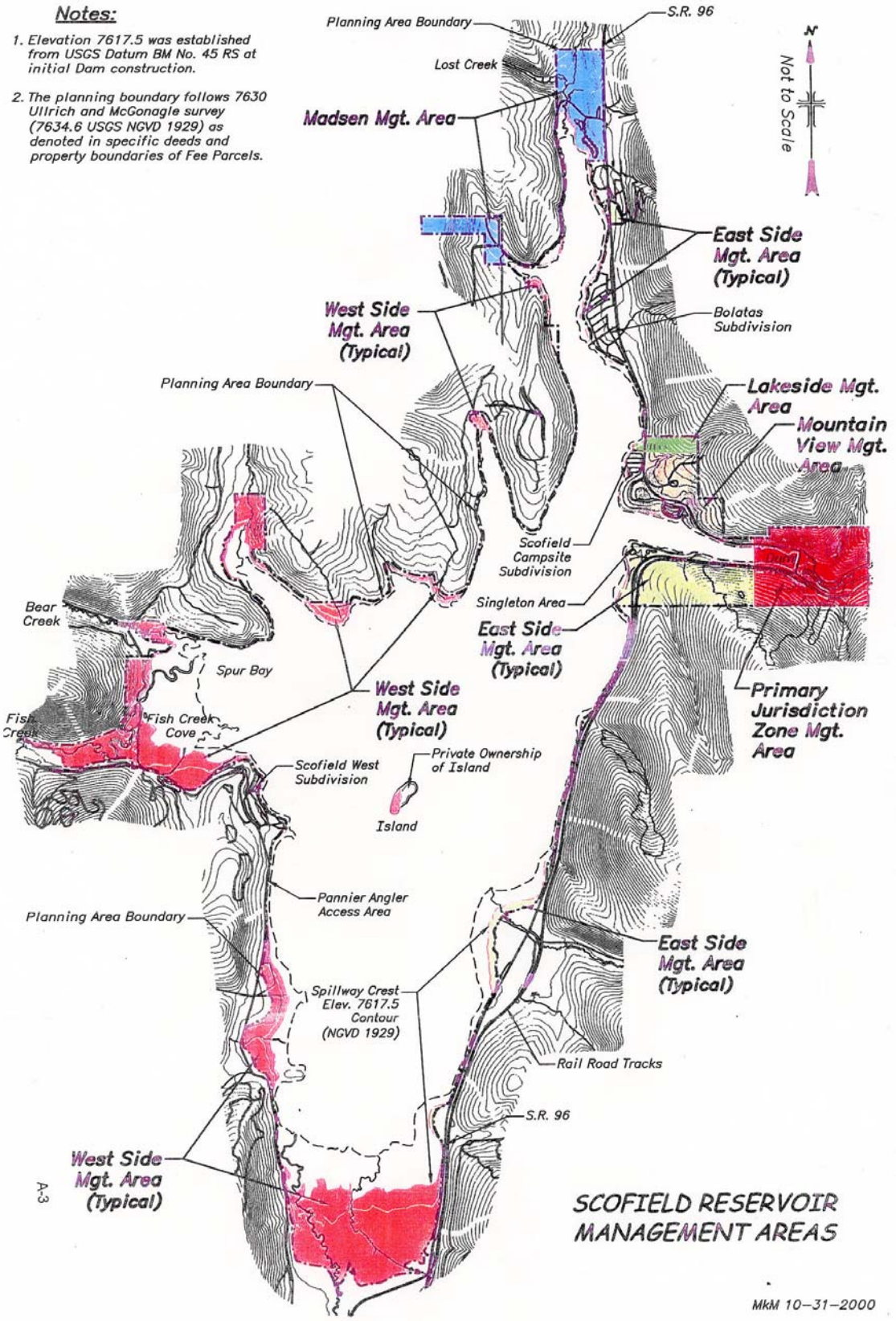
Appendices

Appendix A - Maps

Map 1 - Scofield Dam and Reservoir Vicinity Map



Map 2 - Scofield Management Areas



Map 3 – Scofield Map Details

Appendix B - Figures

Figure 1 - Scofield Spillway Cutoff Wall

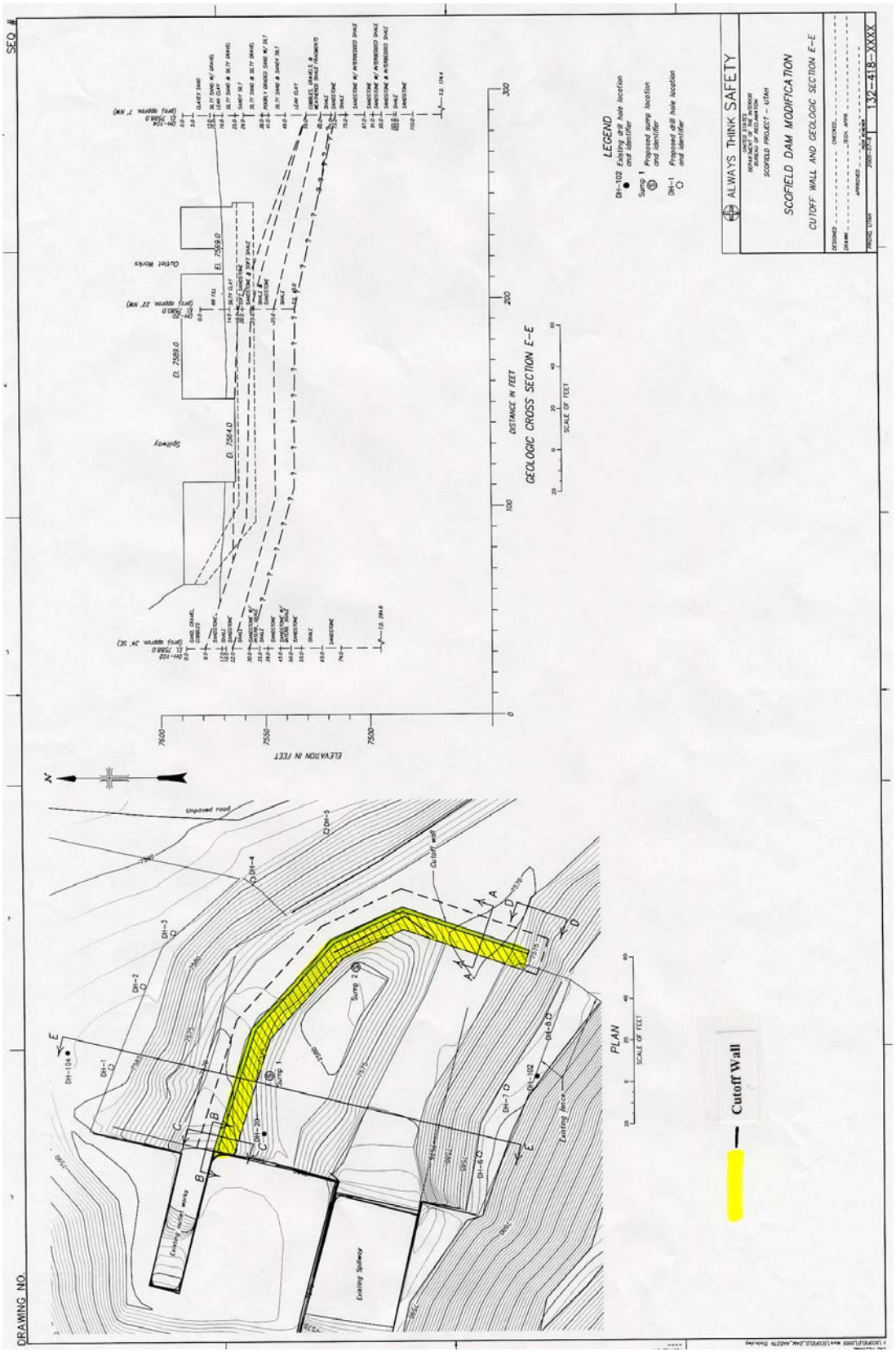


Figure 2 - Upstream Road Detour

Figure 3 - Contractor Staging, Borrow, and Stockpiling Areas

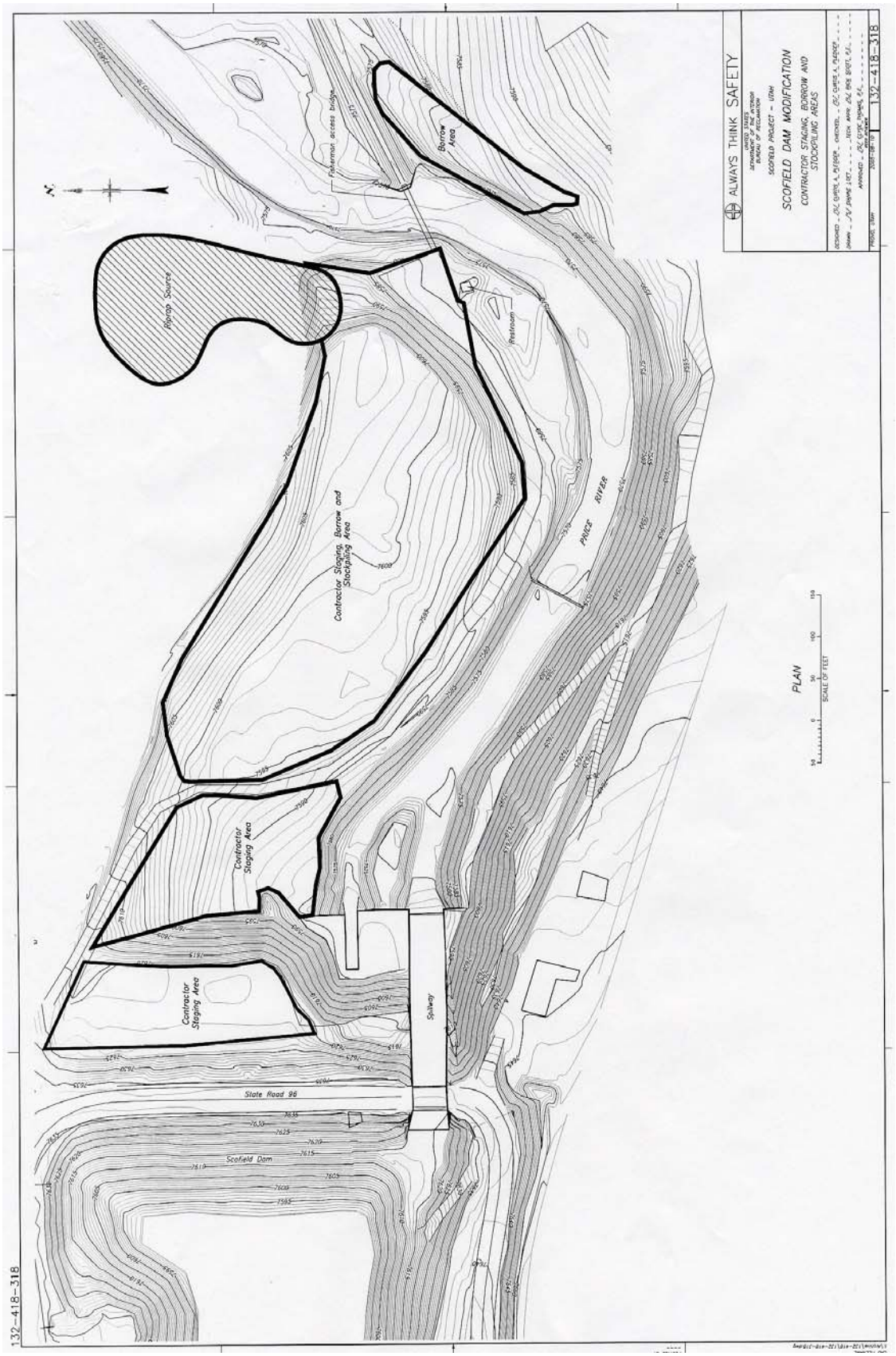


Figure 4 - Spillway Modification Plan View

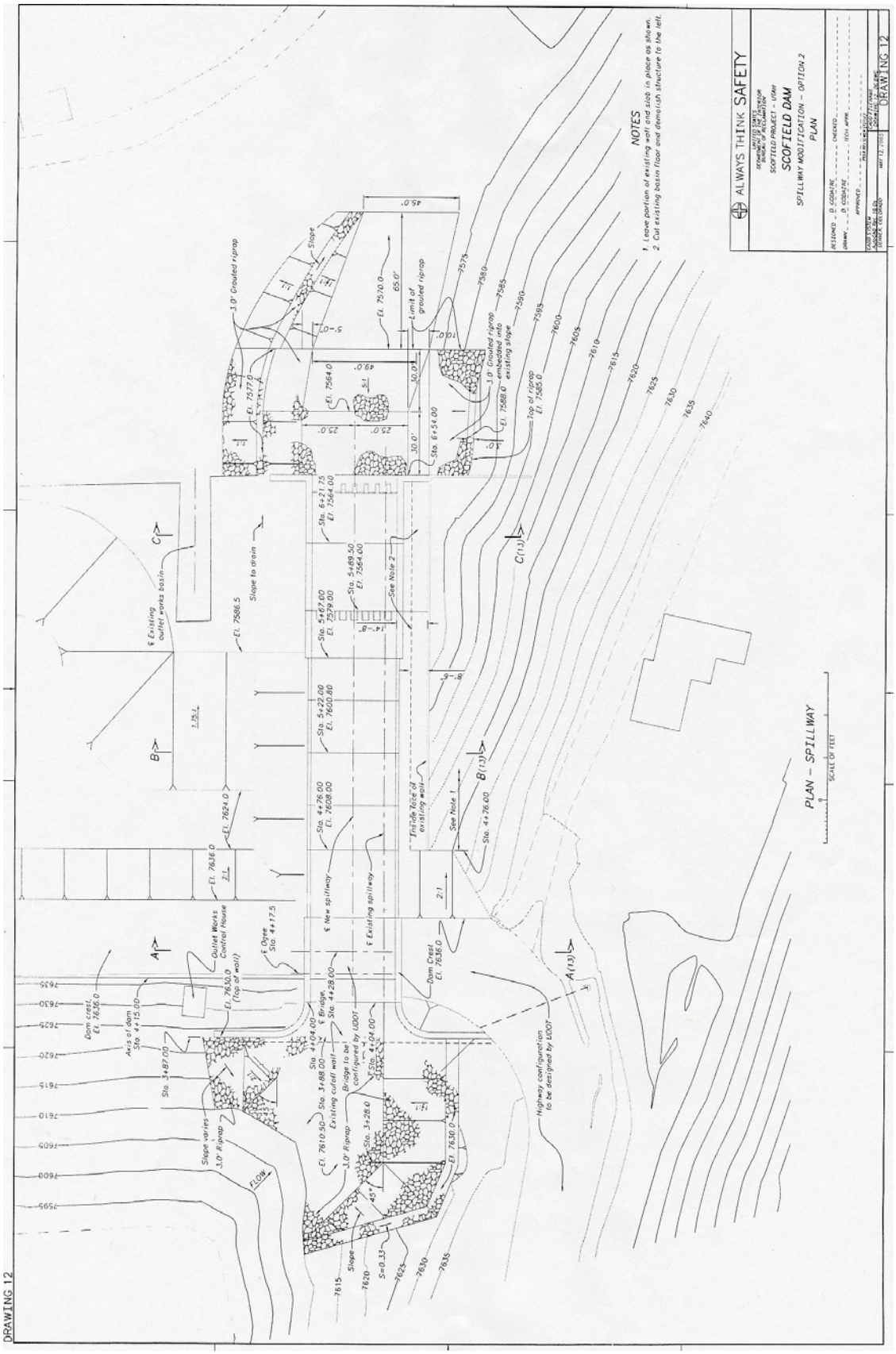


Figure 5 - Spillway Modification Cross Sections

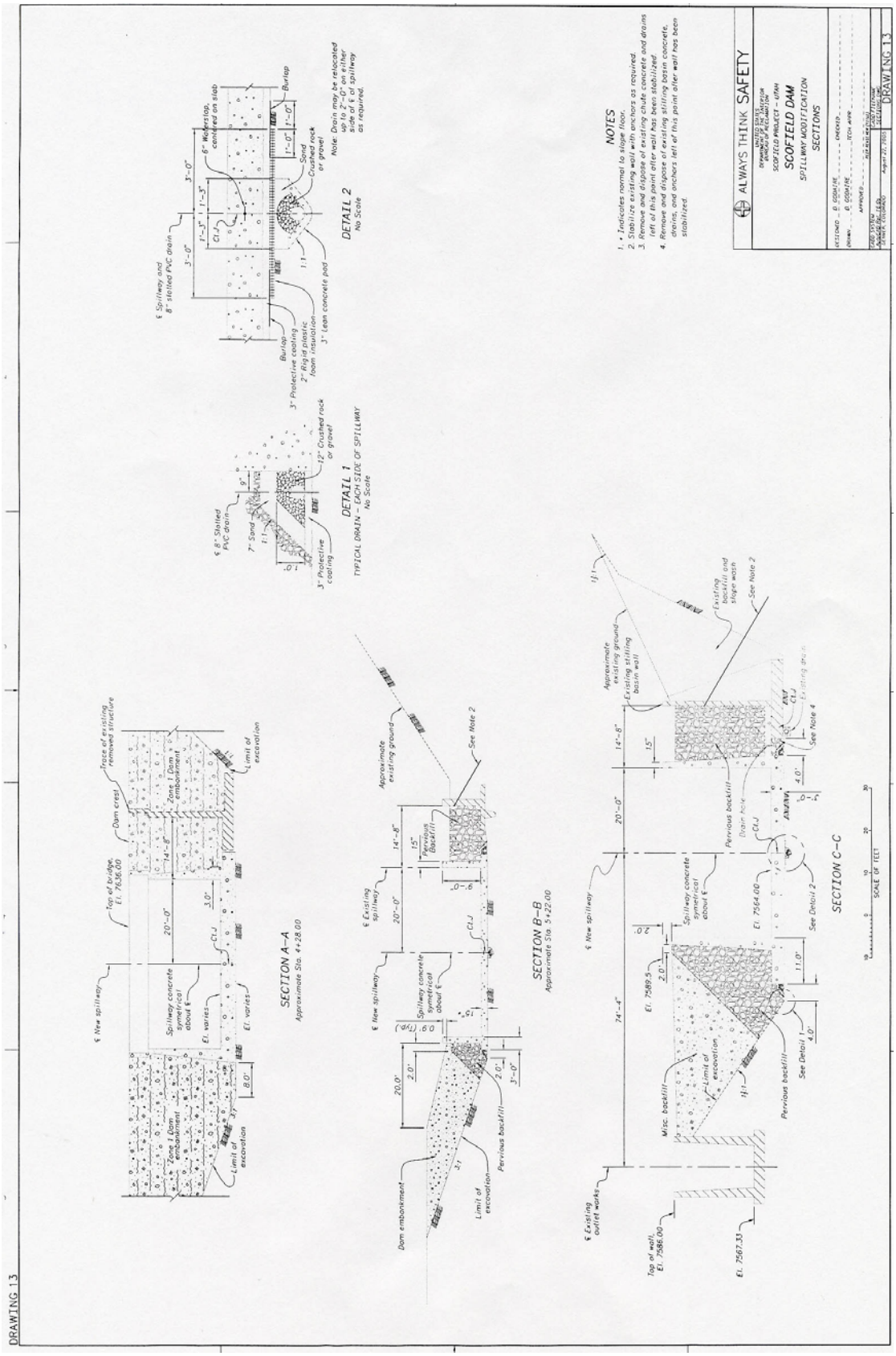
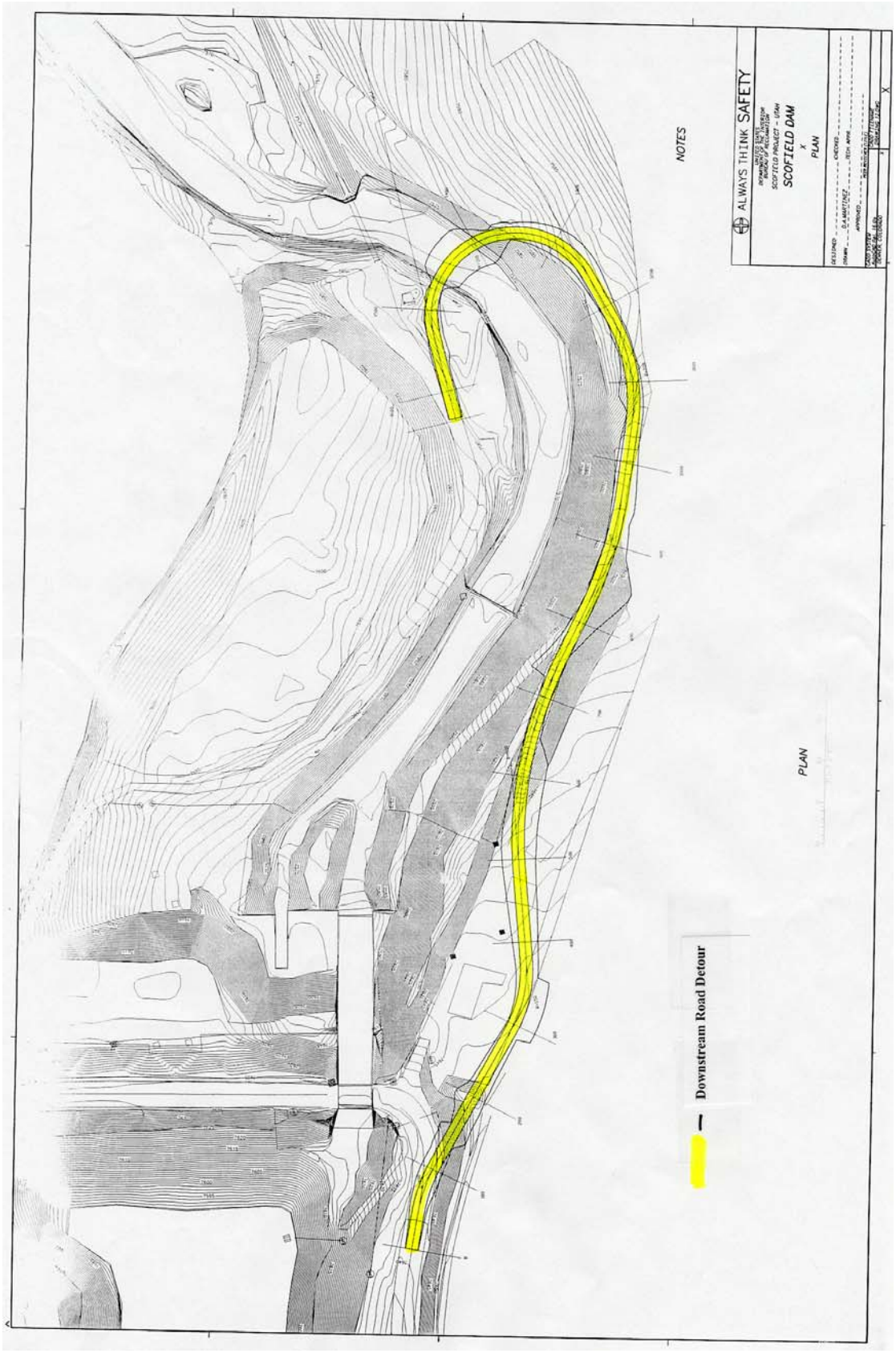


Figure 6 - Downstream Road Detour



Appendix C - Documents

Document 1 - Utah Geological Survey Response Letter

State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Utah Geological Survey

RICHARD G. ALLIS, PH.D.
State Geologist/ Division Director

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

August 12, 2005

Barbara Boyer
Bureau of Reclamation
302 East 1860 South
Provo UT 84606

RE: Paleontological File Search and Recommendations for Scofield Reservoir Dam, Carbon County, Utah

Dear Barbara:

I have conducted a paleontological file search for the Scofield Dam Project in response to your telephone call of August 11, 2005.

There are no paleontological localities in the project area. Quaternary alluvial deposits (Qal) that are exposed here have a low potential for yielding significant fossil localities. Unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

If you have any questions, please call me at (801) 537-3311.

Sincerely,

Martha Hayden
Paleontological Assistant

1594 West North Temple, Suite 3110, PO Box 146100, Salt Lake City, UT 84114-6100
telephone (801) 537-3300 • facsimile (801) 537-3400 • *geology.utah.gov*

Document 2 – Tribal Consultation Letter

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Colorado Region
Provo Area Office
302 East 1860 South
Provo, Utah 84606-7317

IN REPLY REFER TO:

PRO-772
ENV-6.00

Honorable Maxine Natchees
Chairwoman, Northern Ute Tribe
Uintah and Ouray Reservation
P.O. Box 190
Fort Duchesne, UT 84026

AUG 18 2005

Subject: Recommended Determination of No Effect, Scofield Dam Safety of Dams Modification Project, Carbon County, Utah (U-05-BE-0828f)

Dear Chairwoman:

In accordance with the Bureau of Reclamation's responsibilities under Section 106, of the National Historic Preservation Act, the purpose of this letter is to consult with you regarding the proposed Safety of Dams construction activities at Scofield Dam in Carbon County, Utah. The Cultural Resource Report has been sent, by copy of this letter, to Ms. Betsy Chapoose, Ute Tribal Cultural Rights and Protection Department. The report includes maps showing the proposed project location. No tribal lands are included within the proposed project area. However, the proposed project area was part of the aboriginal territory used by the Utes, and there is a possibility of finding Ute cultural material in the area.

Pursuant to the Safety of Dams Act of 1978 (Public Law 95-578 as amended), Reclamation proposes to replace the concrete spillway structure on Scofield Dam, built in 1946. Also proposed is the replacement of the existing gatehouse because the historic concrete material is crumbling.

Concurrent with Reclamation's project, the Utah Department of Transportation (UDOT) proposes to remove and replace the bridge on State Highway 96, that crosses over the Scofield Dam and spillway. This work would be funded by the Federal Highway Administration (FHWA). UDOT would also realign the roadway to improve the turning radius on both ends of the dam.

The project will involve an area of 5.5 acres of land at and below the dam. Gravel will be used from the existing 2-acre borrow area near the dam. Due to extreme past disturbance, this area was not inventoried. Actual ground disturbing activity will be limited to approximately 4 acres or less within the project area boundaries.

A Class I Literature Search was conducted at the Bureau of Reclamation Provo Area Office files. Our records included a report: *A Cultural and Paleontological Resource Inventory of Selected Parcels at Scofield Lake State Recreation Area, Utah and Carbon Counties, Utah*, completed in the project area in April 1997. Class I and Class III Surveys of a portion of the project area were conducted in 1996 (U-97-SJ-0401w,s). The 1996 Survey, included the recording of the Scofield Dam Complex, which includes the earthen dam, spillway, gatehouse, outlet tunnel and outlet work, spillway and stilling basin, cutoff trench, and dam tender's house. All of these features are still present.

In August 2005, Ms. Barbara Boyer, Provo Area Office archaeologist, conducted a Class III Survey of 5.5 acres within the project area. Areas which were riparian, under the reservoir, and extremely disturbed surfaces (the borrow area) were not included in the inventory (see Figure 2 in the enclosed report for areas surveyed).

Three isolated prehistoric artifacts were located during the inventory in the sagebrush area on the south side of the Price River downstream from the dam (see Figure 3 in the report). No other cultural materials or new historic properties were located as a result of the inventory.

An inadvertent discovery clause will be included in the contract for the project, and the general contractor will invite Ms. Boyer to instruct all heavy equipment operators on the proper process regarding subsurface discoveries of cultural material or human remains during construction. If any cultural material, either on the surface or subsurface is discovered during construction of this project by heavy equipment operators, construction will stop immediately. Ms. Boyer and the contractor shall comply with 36 CFR 800.13(b)(c), and the State Historic Preservation Office and Ms. Chapoose will be notified at that time.

According to 36 CFR 800.5, modification of the spillway and the downstream face of the dam and replacement, in kind, of the gatehouse and bridge over the dam, will not alter, directly or indirectly, any of the characteristics that qualify them for inclusion in the NRHP in a manner that would diminish the integrity of location, design, setting, materials, workmanship, feeling, or association. Therefore, Reclamation is recommending that the project will have no effect on historic properties. Details of the inventory and maps of the project area are included in the enclosed report.

Thank you for your consideration of this project. If you have any concerns regarding Traditional Cultural Properties or sacred sites, please contact Ms. Barbara Boyer at 801-379-1082.

Sincerely,

BEVERLEY HEFFERNAN

Beverley C. Heffernan
Chief, Environmental Group

cc: Ms. Betsy Chapoose
Director, Ute Tribal Cultural Rights
and Protection Department
P.O. Box 190
Fort Duchesne, UT 84026
(w/encl)

Ms. Susan Miller
Region 4 Archaeologist
Utah Department of Transportation
1345 South 350 West
Richfield, UT 84701

Mr. Joe Gregory
Transportation Engineer
Federal Highway Administration
U.S. Department of Transportation
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118-1847
(each w/o encl)

bc: PRO-772
(w/o encl)

WBR:BBoyer:landra:8/11/05:x1082:772/Scofield Dam SOD.Utea.doc

Document 3 – SHPO Consultation Letter

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Colorado Region
Provo Area Office
302 East 1860 South
Provo, Utah 84606-7317

IN REPLY REFER TO:

PRO-772
ENV-6.00

Mr. Jim Dykman
Cultural Resource Coordinator
Utah State Historic Preservation Office
300 Rio Grande
Salt Lake City, UT 84101-1182

AUG 1 9 2005

Subject: Recommended Determination of No Effect, Scofield Dam Safety of Dams Modification Project, Carbon County, Utah (U-05-BE-0828f)

Dear Mr. Dykman:

In accordance with the Bureau of Reclamation's responsibilities under Section 106, of the National Historic Preservation Act, the purpose of this letter is to consult with you regarding the proposed Safety of Dams construction activities at Scofield Dam, in Carbon County, Utah.

Pursuant to the Safety of Dams Act of 1978 (Public Law 95-578 as amended), Reclamation proposes to replace the concrete spillway structure on Scofield Dam, built in 1946. Also proposed is the replacement of the existing gatehouse because the historic concrete material is crumbling.

Concurrent with Reclamation's project, the Utah Department of Transportation (UDOT) proposes to remove and replace the bridge on State Highway 96 that crosses over the Scofield Dam and spillway. This work would be funded by the Federal Highway Administration (FHWA). UDOT would also realign the roadway to improve the turning radius on both ends of the dam.

The project will involve an area of 5.5 acres of land at and below the dam. Gravel will be used from the existing 2-acre borrow area near the dam. Due to extreme past disturbance, this area was not inventoried. Actual ground disturbing activity will be limited to approximately 4 acres or less, within the project area boundaries.

A Class I Literature Search was conducted at the Bureau of Reclamation Provo Area Office files. Our records included a report: *A Cultural and Paleontological Resource Inventory of Selected Parcels at Scofield Lake State Recreation Area, Utah and Carbon Counties, Utah*, completed in the project area in April 1997. Class I and Class III Surveys of a portion of the project area were conducted in 1996 (U-97-SJ-0401w,s).

cc: Ms. Susan Miller
Region 4 Archaeologist
Utah Department of Transportation
1345 South 350 West
Richfield, UT 84701
(w/encl)

Mr. Joe Gregory
Transportation Engineer
Federal Highway Administration
U.S. Department of Transportation
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118-1847
(w/o encl)

bc: PRO-772
(w/o encl)

WBR:BBoyer:landra:8/11/05:x1082:772/Scofield Dam SOD.SHPO.doc

Document 4 – SHPO Consultation Response Letter

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Community and Culture
YVETTE DONOSSO DIAZ
Executive Director

Division of State History / Utah State Historical Society
PHILIP F. NOTARIANNI
Division Director

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September 7, 2005

Beverly C. Heffernan
Chief, Environmental Group
Bureau of Reclamation
Provo Area Office
302 East 1860 South
Provo UT 84606-7317

RE: Scofield Dam Safety of Dams Modification Project U-05-BE-0828f

In Reply Please Refer to Case No. 05-1536

Dear Ms. Heffernan:

The Utah State Historic Preservation Office received the above information on August 29, 2005. The report states that no cultural resources were located in the project area. We, therefore, concur with the report's recommendation of No Historic Properties Affected.

This information is provided on request to assist with Section 106 responsibilities as specified in §36CFR800. If you have questions, please contact me at (801) 533-3555. My email address is: jdykman@utah.gov

As ever,

James L. Dykmann
Deputy State Historic
Preservation Officer - Archaeology

JLD:05-1536 BOR/NPA

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Document 5 – Advisory Council on Historic Preservation – Invitation to Comment Letter

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Colorado Region
Provo Area Office
302 East 1860 South
Provo, Utah 84606-7317

IN REPLY REFER TO:

PRO-772
ENV-6.00

NOV - 2 2005

Mr. Don Klima
Advisory Council on Historic Preservation
Office of Federal Agency Programs
1100 Pennsylvania Avenue NW, Suite 809
Washington, DC 20004

Subject: Invitation to Comment on the Proposed Safety of Dams Modifications and Bridge Reconstruction - Scofield Dam, Scofield Project - Carbon County, Utah

Dear Mr. Klima:

The Scofield Dam complex is the property of the United States, administered by the Bureau of Reclamation, Provo Area Office. Pursuant to the Safety of Dams Act of 1978 (Public Law 95-578 as amended), Reclamation is proposing to replace the concrete spillway structure and the gatehouse on Scofield Dam. Concurrent with Reclamation's project, the Utah Department of Transportation (UDOT) and the Federal Highway Administration (FHWA) propose to replace the bridge on State Highway 96 that crosses over the Scofield Dam and spillway. Reclamation and the FHWA are jointly preparing an environmental assessment (EA) for this project as required by the National Environmental Policy Act of 1960 (NEPA) as amended, P.L. 91-90, and the Council on Environmental Quality. Therefore, we are consulting with you on historic properties, both for Section 106 of the National Historic Preservation Act, and for Section 4(f) compliance required by the FHWA.

The project would encompass an area of 5 ½ acres of land at and downstream from the dam along the Price River; however, actual ground disturbing activity would be limited to approximately 4 acres or less. See enclosed report and project location maps. The enclosed report (U-05-BE-0848f) will provide you with the necessary documentation to comply with 36 CFR 800.11(e).

In 1996 a complete documentation of the Scofield Dam Complex (SJ-501) was completed (U-97-SJ-0401w,s). The dam complex includes the earthen dam, gatehouse, outlet tunnel and outlet works, spillway and stilling basin, cutoff trench, and dam tender's house. All of these features are still present. The dam complex was recommended as eligible for the National Register of Historic Places under criteria c in 1996.

In accordance with FHWA's responsibilities under the Section 4(f), Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property, a letter sent to the Utah State Historic Preservation Office (SHPO) on October 26, 2005, states that a "net benefit" to the historic dam complex would occur as a result of the overall reconstruction and enhancement of the gatehouse, spillway, and bridge replacement. A copy of the SHPO letter and of the Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property report are enclosed.

In compliance with 36 CFR 800.4, a Class I and Class III (U-05-BE-0848f) Survey of the area of potential effect for this project was completed in August 2005, by Ms. Barbara Boyer, Reclamation archaeologist. The determination of effect for the removal and reconstruction of the gatehouse and spillway is an adverse effect to a historic property. Mitigation measures will be stated in a Memorandum of Agreement among the SHPO, FHWA, UDOT, Reclamation, and the Advisory Council, if you choose to participate.

Public involvement for the proposed project is ongoing at this time. A public scoping period for the above referenced EA was conducted, and no comments were received from the interested public. The draft EA will be made available for public review and comment in late October to early November 2005.

The Bureau of Reclamation has consulted with the Northern Ute Tribe's Cultural Rights and Protection Department for this project. Maps and a project description and effects were included. No comment has been received from the tribe.

In accordance with Sections 800.6 (a), and 800.11(e) of NHPA, we are hereby notifying the Advisory Council of the project. Please let us know if you would like to be a signatory on the MOA.

Thank you for your consideration of this project. We are looking forward to working with you in the future. If you have any questions, comments, or concerns regarding this project, please call Ms. Barbara Boyer at 801-379-1082 or e-mail her at bboyer@uc.usbr.gov.

Sincerely,

BEVERLEY HEFFERNAN

Beverley C. Heffernan
Chief, Environmental Group

Enclosures – 3

cc: Ms. Susan Miller
Region 4 Archaeologist
Utah Department of Transportation
1345 South 350 West
Richfield, UT 84701

Mr. Daryl Friant
Utah Department of Transportation
1345 South 350 West
Richfield, UT 84701

Mr. Joe Gregory
Federal Highway Administration
U.S. Department of Transportation
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118-1847
(w/o encls to each)

bc: ✓PRO-772
(w/encls)

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Document 6 – Resource Development Coordinating Committee Response Letter

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Office of The Governor
PUBLIC LANDS POLICY COORDINATION

LYNN STEVENS
Public Lands Policy Coordinator

RESOURCE DEVELOPMENT COORDINATING COMMITTEE
Public Lands Section

November 18, 2005

W. Russ Findlay
Bureau of Reclamation
Provo Area Office
302 East 1850 South
Provo, Utah 84606

SUBJECT: Draft Environmental Assessment for the Proposed Dam Modifications and Bridge Reconstruction at Scofield Dam
Project No. 05-5932

Dear Mr. Findlay:

The Resource Development Coordinating Committee (RDCC) has reviewed this proposal. The Division of Wildlife Resources comments:

> The Utah Division of Wildlife Resources (UDWR) supports the preferred alternative for rebuilding the outlet structure at Scofield Dam and realigning Highway 96, with the following modification to protect downstream aquatic resources:
>
> Discharge of spring and seep water collected in the outlet area should be done in such a manner as to not increase downstream sediment load in Lower Fish Creek (identified as the Price River in the EA). This may require baffling to slow the velocity of the discharge to be equal to or less than the ambient velocity of the flow in the stream. Increased sedimentation would adversely affect these fishery resources:

- Lower Fish Creek below Scofield Dam has been designated as a Blue Ribbon Fishery. Increased sedimentation or disruption of flows in the fall would interfere with brown trout spawning and potentially jeopardize the quality of this premier fishery.

- The Price River downstream of the confluence with the White River has populations of the state sensitive fish species flannelmouth sucker (*Catostomus latipinnis*) and bluehead sucker (*Catostomus discobolus)*. Although these species are located far enough downstream from the dam that little effect from the project could be expected except in the case of a catastrophic event, increased sedimentation would adversely affect spawning or larval survival of this species. Care should be exercised to ensure that a significant release of sediment into the river does not occur.

> The non-preferred alternatives, 2.4.1.1 – Permanent Restriction of the Reservoir Elevation, 2.4.1.2 – Abandoning the Dam and Draining the Reservoir, and 2.4.1.3 – Breaching and Removing the Dam, would eliminate the high-quality fishery currently found in Scofield Reservoir and are therefore unacceptable to UDWR. Scofield Reservoir supports nearly 108,000 angler hours of pressure as determined from a 2004-2005 angler survey, with a value of over $680,000.00 (Table 1). The value of the fishery shown in this table was estimated using figures on average total angler expenditure per trip from the 2001 National Survey of Fishing, Hunting, and Wildlife Associated Recreation (U. S. Department of Interior, et al. 2003). The fishery value in Table 1

5110 State Office Building, Salt Lake City, Utah 84114 • telephone (801) 537-9230 • facsimile (801) 537-9226

does not include, however, an estimate of total economic impact, which usually is much higher than the actual dollars expended.

Table 1. Estimate of the value of the Scofield Reservoir fishery.

Total Angler Hours	Average Trip Length	Number of Angler Trips	Average Expenditure per Day	Total Value
107,903.75	5.22	20,677.06	$ 33.00	$ 682,342.98

The fishery at Scofield Reservoir is maintained by an annual expenditure of monies by the UDWR for fish stocking, and personnel and current expenses for sampling. In 2005, this expenditure was estimated at $198,936.47, as shown in Table 2. This value is a slight underestimate of the actual cost of maintaining the fishery because certain expenditures, such as attendance at administrative meetings regarding the fishery, could not be captured from the available data.

Current expenses (motor pool, equipment, and other purchases) could also not be determined directly from the available data, and were therefore estimated at 30% of personnel costs. This is the ratio used in the UDWR budgeting process for allocating current expense money.

Table 2. Annual expenditures by the UDWR to maintain the Scofield Reservoir fishery.

Stocking Costs	$ 187,461.00
Personnel Costs	$ 8,827.29
Current expense	$ 2,648.19
Total	**$ 198,936.47**

If you have any questions, please call Paul Birdsey, Aquatics Program Manager, at (435) 636-0268.

The Committee appreciates the opportunity to review this proposal. Please direct any other written questions regarding this correspondence to the Resource Development Coordinating Committee, Public Lands Section, at the above address or call Carolyn Wright at (801) 537-9230.

Sincerely,

John Harja
Executive Director
Resource Development Coordinating Committee
Public Lands Section

Literature Cited

U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. 2003. *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.* State Report FHW/01-UT-Rev.

Document 7 – U.S. Fish and Wildlife Concurrence Letter

United States Department of the Interior
FISH AND WILDLIFE SERVICE
UTAH FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UTAH 84119

COPY

In Reply Refer To
FWS/R6
ES/UT
I-0043

November 22, 2005

To: Bureau of Reclamation, Provo Area Office, (Attn.: Bruce Barrett), 302 East 1860 South, Provo, Utah 84606-7317

From: for Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah 84119

Subject: Draft EA and Section 7 Consultation for the Proposed Safety of Dams Modifications and Bridge Reconstruction at Scofield Dam, Carbon County, Utah

Based on information provided in your letter and environmental assessment (EA) of October 31, 2005, we concur with your determination that the proposed action may affect, but is not likely to adversely affect the Ute ladies'-tresses (*Spiranthes diluvialis*), bald eagle (*Haliaeetus leucocephalus*), or Colorado pikeminnow (*Ptychocheilus lucius*).

Should project activities occur within 0.5 miles of a bald eagle roosting site during winter roosting months (approximately November – March), we recommend that construction activities be scheduled during daylight (non-roosting) hours, with activities beginning after 9:00 am and terminating at least one hour prior to official sunset. Site-specific topography or vegetation could allow for a smaller buffer, and should be determined by a project biologist in coordination with the Service.

Should project plans change or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered. If we can be of further assistance, please contact Betsy Herrmann, Ecologist, at (801) 975-3330, extension 139.

Document 8 – Identification of Potential Section 4(f) Resources

Identification of Potential Section 4(f) Resources

Introduction and Proposed Action Description
The United States Department of Interior, Bureau of Reclamation (BOR) proposes to replace the concrete spillway structure and gatehouse at Scofield Dam located in Carbon County, Utah. This project is in accordance with the Safety of Dams Act of 1978. The Scofield Dam and associated features were constructed in the mid 1940's. The spillway and gatehouse have deteriorated and need to be replaced. The No Action alternative includes not replacing the spillway which could result in the loss of the dam and reservoir. Therefore, the possibility exists that a failure could occur at the dam resulting in extensive losses including:

- Life and property
- Flood control protection to Helper and Price cities
- Recreational resources on the reservoir
- Fish and other wildlife habitat at the reservoir and along the Price River
- Water impoundment by the reservoir for agricultural, industrial and municipal uses

The purpose and need for this project is described in Chapter 1.0 of this Environmental Assessment.

In connection with the BOR project, the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT) propose to replace the deteriorated bridge over the spillway and to improve the bridge approaches. The bridge has a sufficiency rating of 21.8 percent and is considered structurally deficient and functionally obsolete (see section 1.2 of the Environmental Assessment).

Definition of Section 4(f)
Section 4(f) of the Department of Transportation provides protection to publicly owned parks and recreational areas, wildlife and waterfowl refuges, and historic sites on or eligible for inclusion onto the National Register of Historic Places (NRHP). Specifically, Section 4(f) of the Department of Transportation Act of 1966 states:

> "The Secretary [of Transportation] may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if
>
> 1 - there is no prudent and feasible alternative to using that land; and
> 2 - the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use (49 USC 303(c)).

This section discusses the resources within the project corridor that may qualify for protection under Section 4(f) as defined in 23 CFR 771.135.

Publicly Owned Parks and Recreational Area
The Scofield Reservoir is a state park administered by the Utah State Parks and Recreation under agreement with the U.S. Bureau of Reclamation (BOR). Scofield State Park is both a summer and winter recreation destination and is situated in the Manti-LaSal Mountains. The reservoir's 2,800 acres offer excellent boating and year-round fishing. During winter months, the area serves as a base for snowmobiling and cross-country skiing. Other activities include camping, site seeing, swimming, nearby ATV trails, biking, and hiking.

Section 4(f) Applicability – Determination of Use for Publicly Owned Parks and Recreational Areas
The Proposed Action will not impact or use the Scofield Reservoir recreational area; therefore, no Section 4(f) analysis is required.

Historic Properties
Section 4(f) also applies to historic properties on or eligible for inclusion onto the National Register of Historic Places (NRHP). A cultural resources survey was conducted of the project area by the Bureau of Reclamation (BOR). To identify historic properties, a cultural resources survey was conducted at the project location by the BOR cultural resources specialist.

Cultural Resources Inventory

The BOR completed a literature survey and a field survey in August 2005 within the project limits to identify historical and archaeological sites. Three historic resources were identified near the project area:

- Union Pacific Railroad Tracks
- Bridge over Spillway (bridge #OD 202)
- Scofield Dam Complex (previously recorded in 1996 as site SJ-501)

Section 4(f) Applicability – Determination of Use for Historical Resources Eligible for the NRHP

UPRR Tracks – The UPRR tracks were identified as a historic resource and potentially eligible for the NRHP (see attached in Exhibit A); however, they were not recorded because it is outside of the project limits and will not be impacted. No Section 4(f) is required for the UPRR tracks.

Bridge (OD 202) – The bridge over the spillway on SR-96 was constructed at the same time as the Scofield Dam Complex. However, the bridge was extensively modified and reconstructed in 1982 and is not eligible for inclusion onto the NRHP and not part of the historic Scofield Dam Complex. No Section 4(f) is required.

Scofield Dam Complex – The Scofield Dam was completed in 1946. Historic elements of the Scofield Dam Complex include the earthen dam, gatehouse, outlet tunnel and outlet works, spillway and stilling basin, cutoff trench, and dam tenders house (see the figure in Exhibit A). This Section 4(f) Evaluation is being prepared for the Adverse Effects to the Scofield Dam Complex; specifically, the reconstruction of the spillway and gatehouse.

The BOR has prepared a *Consultation and Concurrence letter* for SHPO that states the findings of the cultural resources report. The letter also identifies the impacts anticipated to the Scofield Dam Complex. SHPO will review the letter and concurrence will be required prior to completion of the Environmental Assessment (see draft letter in Exhibit B).

Impacts to the Scofield Dam Complex

The impacts to historic properties resulting from the Proposed Action are categorized by criteria established by Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800), which include *No Effect, No Adverse Effect, or Adverse Effect.* The definitions are as follows:

No Effect is defined as "either there are no historic properties present or there are historic properties present but the undertaking would have no effect upon them as defined in 36 CFR 800.16(i)."

No Adverse Effect is defined in 36 CFR 800 as "when the undertaking's effects do not meet the criteria of 36 CFR 800.5(a)(1) 'Adverse Effect' or the undertaking is modified or conditions are imposed to avoid adverse effects." The Proposed Action results in a *No Adverse Effect* when the impacts to a historic property are minimal but do not completely alter the historic characteristics that qualify it for eligibility onto the NRHP.

Adverse Effect includes "when the undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register." (36 CFR 800.5(a))

For this project, the historic Scofield Dam Complex will be impacted by the Proposed Action. The BOR determined that the impacts will result in an *Adverse Effect.* SHPO's concurrence of the Adverse Effect will be required prior to completion of the Environmental Assessment (see *Consultation and Concurrence letter* in Exhibit B). The Proposed Action includes replacing the deteriorated spillway and reconstructing the gatehouse. Each is discussed below:

Spillway - Pursuant to the Safety of Dams Act of 1978 and due to the possibility of failure, the Bureau of Reclamation proposes to replace the concrete spillway and stilling basin. The spillway was constructed without water-stops between the transverse joints. The transverse joints in the concrete spillway have the potential to fail due to hydraulic jacking (the process of water seeping under the concrete spillway structure and causing it disintegrate and fail). For these reason, the existing spillway and stilling basin need to be replaced.

Gatehouse - The gatehouse is located adjacent to SR-96 on the upstream side of the reservoir (see figure in Exhibit A). The gatehouse contains the valves for the outlet works. This structure is in poor condition including deteriorated concrete foundation and no safe location for maintenance vehicles to park off of the narrow SR-96 across the dam. The BOR proposes to replace the gatehouse with a new structure with the same design, setting, and feeling as the existing one. Also, a parking pad would be constructed off of SR-96 for maintenance vehicles to safely park.

Applicability to Programmatic Net Benefit

This project qualifies for FHWA's Net Benefit Programmatic Section 4(f) Evaluation. The Net Benefit is achieved when the project uses certain measures to minimize harm and mitigation commitments that benefit the overall enhancement of the Section 4(f) resource when compared to both the No Action or avoidance alternatives and its present condition. The overall Section 4(f) resource is the Scofield Dam Complex which includes the earthen dam, gatehouse, outlet tunnel and outlet works, spillway and stilling basin, cutoff trench, and dam tenders house. As documented in this Environmental Assessment and Section 4(f) Evaluation the spillway and gatehouse will be removed and reconstructed. The No Action alternative could result in the complete loss of the historic Scofield Dam Complex and its associated elements. For these reasons, the Net Benefit Programmatic Section 4(f) is applicable to this project since it will enhance the historic Scofield Dam Complex.

Programmatic Section 4(f) Evaluation

For Net Benefit to Section 4(f) Properties

FEDERAL HIGHWAY ADMINISTRATION – UTAH DIVISION
PROGRAMMATIC SECTION 4(f) DETERMINATION AND APPROVAL
UNDER THE NATIONWIDE PROGRAMMATIC 4(f) EVALUATION
AND APPROVAL FOR FHWA PROJECTS THAT HAVE A
NET BENEFIT TO A SECTION 4(f) PROPERTY

Project # PRO-EA-05-001, Scofield Dam Modifications and Bridge Reconstruction

Description/Location of Historic Property

The U.S. Bureau of Reclamation (BOR) proposes to replace the Scofield Dam spillway structure and gatehouse in accordance with the Safety of Dams Act of 1978 (see figure in Exhibit A). The Scofield Dam modifications are needed due the spillway's deteriorated state and possibility of failure and deteriorated condition of the gatehouse. In connection with the BOR project, the Utah Department of Transportation (UDOT) proposes to replace the bridge that carries State Route 96 (SR-96) over the spillway and approach sections. This bridge has a sufficiency rating of 21.8 percent and has been determined structurally deficient and functionally obsolete. This Net Benefit Programmatic Section 4(f) is for impacts to the Scofield Dam and its associated features (spillway and gatehouse). The bridge replacement is being funded by the Federal Highway Administration (FHWA) and therefore subject to Section 4(f) of the Department of Transportation.

Any response with a box ([ ]) requires additional information prior to approval. Consult Nationwide 4(f) evaluation.

	APPLICABILITY	Yes	No
1.	Does the proposed transportation project use a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site?	X	[ ]
2.	Does the proposed project include all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection?	X	[ ]
3. a.	For historic properties, does the project require the major alteration of the characteristics that qualify the property for the National Register of Historic Places (NRHP) such that the property would no longer retain sufficient integrity to be considered eligible for listing?	[ ]	X
b.	For archaeological properties, does the project require the disturbance or removal of the archaeological resources that have been determined important for preservation in-place rather than for the information that can be obtained through data recovery?	[ ]	N/A
4.	For historic properties, is there an agreement amongst the SHPO and/or THPO, as appropriate, the FHWA and the Applicant on measures to minimize harm for the use of the Section 4(f) property and have these measures been incorporated into the project?	X	[ ]
5.	Has the official(s) with jurisdiction over the Section 4(f) property agreed in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property?	X	[ ]

Programmatic Section 4(f) Evaluation, Net Benefit

ALTERNATIVES CONSIDERED	Yes	No
1. The "Do Nothing" alternative has been evaluated and is considered not to be feasible and prudent.	X	[ ]
2. Improving the transportation facility in a manner that addresses the project's purpose and need without a use of the Section 4(f) property is not considered to be feasible and prudent.	X	[ ]
3. Building the transportation facility at a location that does not require use of the Section 4(f) property is not considered reasonable and prudent.	X	[ ]

MEASURES TO MINIMIZE HARM	Yes	No
1. Does the project ensure that the proposed action includes all possible planning to minimize harm, includes appropriate mitigation measures, and that the official(s) with jurisdiction agree in writing?	X	[ ]

COORDINATION	Yes	No
1. Has there been early coordination with the Federal, State, and/or local agency official(s) with jurisdiction over the Section 4(f) property?	X	[ ]
2. For non-Federal Section 4(f) properties, i.e. State or local properties, has the official(s) with jurisdiction been asked to identify any Federal encumbrances?	NA	[ ]
3. Have copies of the final written report been offered to the official(s) with jurisdiction over the Section 4(f) property and to other interested parties as part of the normal NEPA project documentation distribution practices and policies?	X	[ ]

PUBLIC INVOLVEMENT	Yes	No
1. Has the proposed project included public involvement activities that are consistent with the specific requirements of 23 CFR 771.111?	X	[ ]

SUMMARY AND APPROVAL

Based on a review of the project documentation it is determined that:

1. The project meets the applicability criteria set forth in the Applicability section of the programmatic Section 4(f) evaluation approved on April 20, 2005.

Programmatic Section 4(f) Evaluation, Net Benefit

2. All of the alternatives set forth in the Findings section have been fully evaluated.

3. The findings in the programmatic evaluation (which conclude that the alternative recommended is the only feasible and prudent alternative) result in a clear net benefit to the section 4(f) property.

4. The project complies with the Mitigation and Measures to Minimization Harm

5. The coordination and public involvement efforts required by this programmatic evaluation have been successfully completed and necessary written agreements have been obtained.

6. The project has documented the information that clearly identifies the basis for the above determinations and assurances.

11-30-05
Date

Approved
FHWA Division Administrator

Programmatic Section 4(f) Evaluation, Net Benefit

Supporting Documentation

Programmatic Section 4(f) Evaluation and Approval under the Nationwide Programmatic Section 4(f) Evaluation for Transportation Projects that have a Net Benefit to a Section 4(f) Property
Scofield Dam Complex

Introduction

This Programmatic Section 4(f) Evaluation was prepared using Federal Highway Administration (FHWA) guidance issued and affective on April 20, 2005 and published in the Federal Register (Volume 70, Number 75). The following answers the questions from the Programmatic Section 4(f) Evaluation for Minor Use of Historic Properties. The sections are divided into Applicability, Alternatives Considered, Measures to Minimize Harm, Coordination, and Summary and Approval.

Applicability	Response/Findings
1. Does the proposed transportation project use a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site?	The Scofield Dam Complex has been recommended eligible for the National Register of Historic Places (NRHP) under criterion c. The Scofield Dam Complex includes the earthen dam, gatehouse, outlet tunnel and outlet works, spillway and stilling basin, cutoff trench, and dam tenders house. The Proposed Action includes reconstructing and relocating the spillway and reconstructing the gatehouse; both are contributing elements of the historic Scofield Dam Complex.
2. Does the proposed project include all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection?	The Proposed Action includes all appropriate measures to minimize harm and mitigation measures to the Scofield Dam Complex. The historic elements of the dam complex that will not be impacted include the earthen dam itself, outlet tunnel and outlet works, cutoff trench, and dam tenders house. In addition, the BOR will execute a Memorandum of Agreement (MOA) with the Utah State Historical Preservation Office (SHPO), Federal Highway Administration (FHWA), and the Utah Department of Transportation (UDOT). A copy of the draft MOA is found in Exhibit B. Components of the MOA include: • Documentation of the spillway and gatehouse; • SHPO may monitor construction activities, if desired; and • The BOR will monitor the construction activities during and after the implementation of the project to assure the integrity of design, size, and location of the spillway and gatehouse.
3. For historic properties, does the project require the major alteration of the characteristics that qualify the property for the National Register of Historic Places (NRHP) such that the property would no longer retain sufficient integrity to be considered eligible for listing? (i.e. does not result in a substantial diminishment of the activities, features, and attributes that qualify the property for Section 4(f) protection)	The historical integrity of the Scofield Dam Complex will remain unchanged even if the Proposed Action is implemented. The overall historical setting and feeling of the Scofield Dam Complex will not be altered such that it would be considered ineligible for inclusion onto the NRHP as a result of the Proposed Action. Other historic elements of the dam complex will not be impacted including the earthen dam, outlet tunnel and outlet works, cutoff trench, and dam tenders house. A *Consultation and Concurrence* letter has been prepared by the BOR (see Exhibit B). This letter outlines the applicability of the Net Benefit of the project to the Scofield Dam Complex and establishes the project impacts and its eligibility to the NRHP.

4. For historic properties, is there an agreement amongst the SHPO and/or THPO, as appropriate, the FHWA and the Applicant on measures to minimize harm for the use of the Section 4(f) property and have these measures been incorporated into the project?	The BOR has prepared a *Consultation and Concurrence* letter to SHPO that outlines the results of the cultural resources report. Prior to completion of the Environmental Assessment, concurrence will be received from SHPO. The BOR has also prepared a draft MOA which includes SHPO, FHWA, and UDOT as signatories. The MOA states the measures to minimize harm and mitigation measures (see Exhibit B for copy of the draft MOA). The spillway will be reconstructed and function as the existing spillway. The new gatehouse will be constructed in the same location, have the same feeling and setting, and be designed and have the same size as closely as possible to the existing gatehouse. As discussed above, other historical features of the Scofield Dam Complex will not be impacted.
5. Has the official(s) with jurisdiction over the Section 4(f) property agreed in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property?	Prior to completion of the Environmental Assessment, concurrence from SHPO will be received regarding the assessment of impacts to the Scofield Dam Complex, the measure to minimize harm, and the mitigation measures (see *Consultation and Concurrence* letter and draft MOA in Exhibit B). The *Consultation and Concurrence* letter outlines the overall Net Benefit to the Scofield Dam Complex as a result of the Proposed Action. The Proposed Action and improvements to the Scofield Dam will further protect this historical feature.
Alternatives Considered	**Findings**
1. The "Do Nothing" alternative has been evaluated and is considered not to be feasible and prudent.	The "Do Nothing" alternative has been studied as part of the National Environmental Policy Act (see Chapter 2 of the Environmental Assessment). However, this alternative does not meet the project's purpose and need and is considered **not prudent.** The "Do Nothing" will not correct the current deficiencies and safety issues of the spillway and gatehouse now will it address the project's Purpose and Need. Therefore, the "Do Nothing" was discarded as a prudent alternative.
2. Improving the transportation facility in a manner that addresses the project's purpose and need without a use of the Section 4(f) property is not considered to be feasible and prudent.	The proposed FHWA and UDOT bridge replacement project will not require the relocation and replacement of the concrete spillway and gatehouse. These two historic elements of the Scofield Dam Complex will be replaced as part of the BOR dam modifications project. The Section 4(f) use of the spillway and gatehouse is a result of the BOR need to upgrade the Scofield Dam to meet current safety standards and to protect the historical integrity of the dam complex. The existing spillway was completed in 1946 and does not have water stops or shear reinforcement, making it susceptible to failure. Failure of the spillway would result in extensive impacts to the reservoir area and downstream natural and built environment as described in the Environmental Assessment. The gatehouse located adjacent to SR-96 is in need of replacement due to deteriorated conditions and lack of adequate and safe parking.
3. Building the transportation facility at a location that does not require use of the Section 4(f) property is not considered reasonable and prudent.	Same discussion as number 2 directly of Alternatives Considered.

Programmatic Section 4(f) Evaluation, Net Benefit

Measures to Minimize Harm	Response
1. Does the project ensure that the proposed action includes all possible planning to minimize harm, includes appropriate mitigation measures, and that the official(s) with jurisdiction agree in writing?	The Proposed Action includes replacing the spillway and gatehouse to meet current dam safety standards and because of their deteriorated condition. The Scofield Dam Complex includes the spillway and still basin, gatehouse, the earthen dam itself, outlet tunnel and works cutoff trench, and dam tenders house. The other elements will not be impacted by the proposed project. A draft MOA has been prepared and will be executed between the BOR, SHPO, FHWA, and UDOT.
Coordination	**Response**
1. Has there been early coordination with the Federal, State, and/or local agency official(s) with jurisdiction over the Section 4(f) property?	SHPO is the jurisdictional agency over historic resources in the state of Utah. Concurrence from SHPO on the determination that the Scofield Dam Complex is eligible for inclusion onto the NRHP will be received prior to completion of the Environmental Assessment. Also, the BOR has prepared a draft MOA with SHPO, FHWA, and UDOT as signatories. The MOA outlines the measures to minimize harm, and the MOA prepared by the BOR (see *Consultation and Coordination* letter and draft MOA in Exhibit B). The MOA will be executed prior to construction.
2. For non-Federal Section 4(f) properties, i.e. State or local properties, has the official(s) with jurisdiction been asked to identify any Federal encumbrances?	Not applicable.
3. Have copies of the final written report been offered to the official(s) with jurisdiction over the Section 4(f) property and to other interested parties as part of the normal NEPA project documentation distribution practices and policies?	Concurrence from SHPO is required prior to the completion of the Environmental Assessment on the Net Benefit determination, eligibility of resources, and impacts. The *Consultation and Concurrence* letter identifies the eligibility of the historic resources, the impacts, and a Net Benefit discussion (see letter in Exhibit B). Also, an Environmental Assessment has been prepared and a formal opportunity for public hearing will be offered.
Public Involvement	**Response**
1. Has the proposed project included public involvement activities that are consistent with the specific requirements of 23 CFR 771.111?	As part of the NEPA process, an opportunity for public hearing will be advertised per the requirements set forth in the UDOT Environmental Manual of Instructions and NEPA guidelines.
Summary and Approval	**Response**
	This Programmatic Section 4(f) Evaluation has been prepared according to FHWA guidance and meets all of the criteria for programmatic evaluations for net benefits to Section 4(f) properties. The Proposed Action has included an alternatives evaluation for complete avoidance of the historic site, measures to minimize harm, and the appropriate agencies have been contacted and consulted.

Programmatic Section 4(f) Evaluation, Net Benefit

Exhibit A – Section 4(f) Map

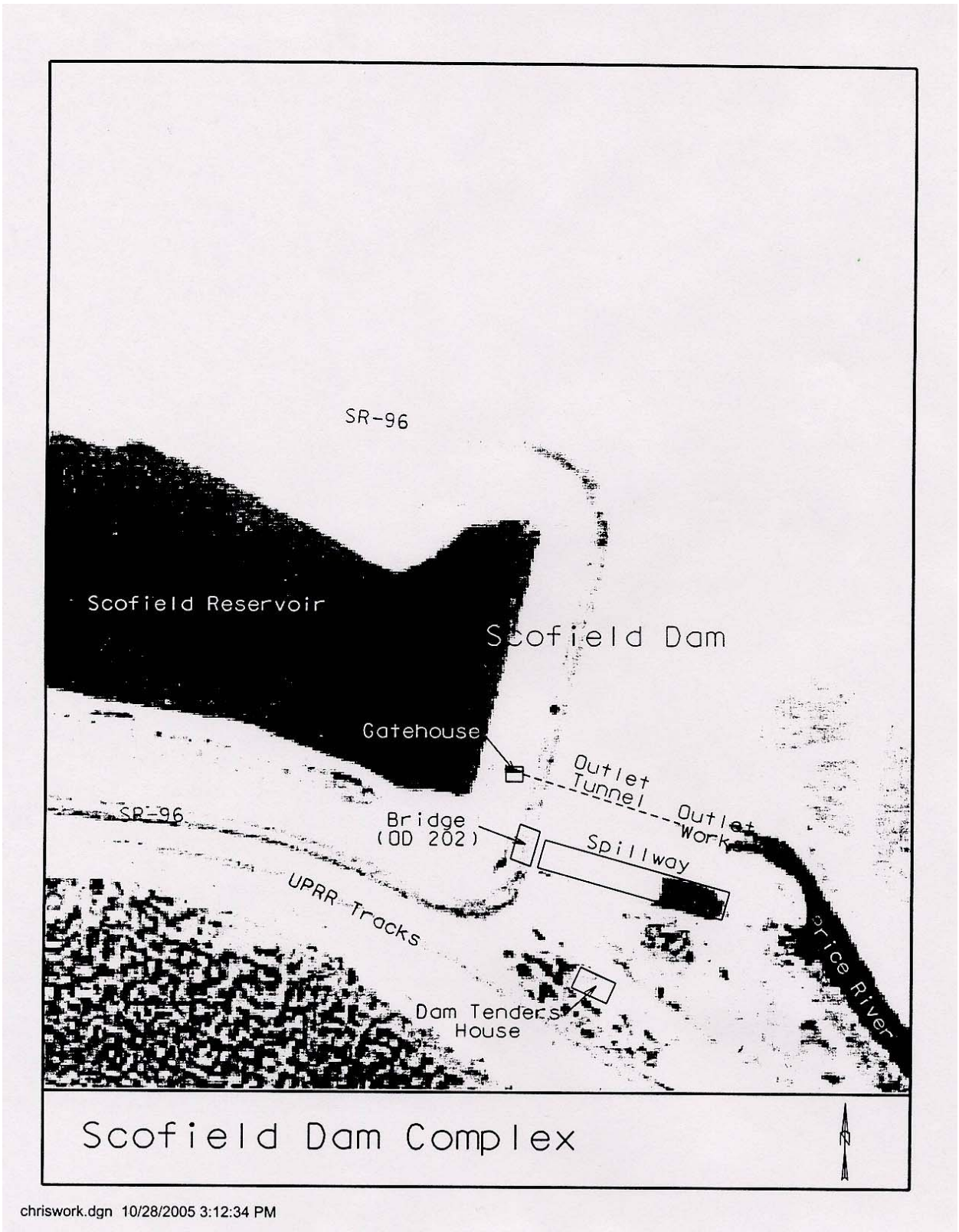

SR-96
Scofield Reservoir
Scofield Dam
Gatehouse
Outlet Tunnel
Outlet Work
SR-96
Bridge (OD 202)
Spillway
UPRR Tracks
Dam Tenders House
Price River
Scofield Dam Complex
chriswork.dgn 10/28/2005 3:12:34 PM

Exhibit B – Correspondence

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Colorado Regional Office
125 South State Street, Room 6107
Salt Lake City, Utah 84138-1102

IN REPLY REFER TO:

PRO-772
ENV-6.00

NOV 1 2005

Ms. Barbara Murphy
Deputy State Historic Preservation Officer
Utah State Historic Preservation Office
300 Rio Grande
Salt Lake City, UT 84101-1182

Subject: Scofield Dam Safety of Dams Modification Project, Carbon County, Utah
SHPO Case No. 05-1536

Dear Ms. Murphy:

In accordance with the Bureau of Reclamation's responsibilities under Section 106 of the National Historic Preservation Act, the purpose of this letter is to consult with you regarding the proposed Safety of Dams construction activities at Scofield Dam in Carbon County, Utah. This letter supersedes our letter of August 18, 2005, although the report transmitted with that letter is still germane.

Pursuant to the Safety of Dams Act of 1978 (Public Law 95-578 as amended) and due to the possibility of failure, Reclamation proposes to replace the concrete spillway structure on Scofield Dam, completed in 1946. Also proposed, due to safety concerns, is the reconstruction of the existing gatehouse because the historic concrete material is crumbling.

Concurrent with Reclamation's project, the Utah Department of Transportation (UDOT) proposes to remove and replace the bridge on State Highway 96 that crosses over the Scofield Dam and spillway (bridge No. OD 202). This work would be funded by the Federal Highway Administration (FHWA).

The proposed project will involve an area of 5.5 acres of land at and below the dam. Gravel will be used from the existing 2-acre borrow area near the dam. Due to extreme past disturbance this area was not inventoried. Actual ground disturbing activity will be limited to approximately 4 acres or less within the project area boundaries.

A Class I literature search was conducted using Reclamation records filed at the Bureau of Reclamation's Provo Area Office. These results were:

A Cultural and Paleontological Resource Inventory of Selected Parcels at Scofield Lake State Recreation Area, Utah and Carbon Counties, Utah, completed in the project area in April 1997. Class I and Class III surveys of a portion of the project area were conducted in 1996 (U-97-SJ-0401w,s). The 1996 survey included the recording of the Scofield Dam Complex, which includes the earthen dam, gatehouse, outlet tunnel and outlet works, spillway and stilling basin, cutoff trench, and dam tender's house. All of these features are still present. The dam complex was recommended as eligible for the National Register of Historic Places under criteria c in 1996. Reclamation agrees with this determination of eligibility.

In August 2005, Ms. Barbara Boyer, Provo Area Office archaeologist, conducted a Class III survey of 5.5 acres within the project area. Heavily vegetated riparian areas, areas under the high-water mark on the reservoir, and extremely disturbed surfaces (the borrow area) were not included in the inventory (see Figure 2 in the report for areas surveyed). A copy of the report (U-05-BE-0828f) was sent to Mr. Jim Dykmann, of your office, on August 18, 2005.

A consultation letter and copy of the report were sent to Ms. Betsy Chapoose, Cultural Rights and Protection Department, Northern Ute Tribe on August 19, 2005.

Three isolated prehistoric artifacts were located during the inventory in the sagebrush area on the south side of the Price River downstream from the dam. No other archaeological sites or new historic properties were located as a result of the inventory.

In accordance with FHWA's responsibilities under the Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property, this letter establishes a net benefit to the historic dam complex as a result of the overall reconstruction and enhancement of the gatehouse, spillway, and bridge replacement. A "net benefit" is achieved when the transportation use, the measures to minimize harm, and the mitigation incorporated into the project results in an overall enhancement of the Section 4(f) property when compared to both the No Action or avoidance alternatives and its present condition, considering future use of the features, and attributes that qualify it for Section 4(f) protection. Analysis of the proposed No Action and Action alternatives are discussed in the Draft Environmental Assessment for the Safety of Dams Modifications and Bridge Reconstruction, Scofield Dam, Scofield Project, Utah - October 2005 (EA).

Net benefit would result by the replacement of the spillway and bridge because this would prevent future failure of the transverse joints. Joint failure would have the potential to initiate a failure mode for the dam due to hydraulic jacking. Because of the early design and construction of the existing spillway, the joints do not have water stops or shear reinforcement incorporated into their design which are now considered a standard safety feature and are part of the proposed new design. Also, replacement of crumbling concrete would reinforce and strengthen the spillway. A copy of the Section 4 (f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4 (f) Property Report is enclosed.

In addition, Reclamation is required to comply with stipulations stated in the Safety of Dams Act. Failure of the dam could result in uncontrolled release of water from the reservoir which could cause significant loss of life and property downstream, the loss of continued water delivery for municipal, industrial and agricultural use, loss of flood control for the cities of Price and Helper, elimination of essential fish and wildlife habitats at the reservoir, degradation of

downstream habitats, and loss of the recreational benefits associated with Scofield Reservoir and State Park.

The new gatehouse, which sits adjacent to SR-96 will be placed in the same location as the original gatehouse, have the same setting, feeling and association, be the same size, and be designed as closely as possible to the historic metal and concrete structure. There is presently no place for the dam tender to safely park a vehicle. The new road construction will allow for safe parking beside the gatehouse. The old concrete is crumbling at the base of the present structure which is elevated above and hangs out over the reservoir water. Age, close and constant traffic vibration, and freeze-thaw action are increasing the cracks in the building foundation which could cause an unsafe structure in the near future. The building houses and the original gate operation mechanism will remain functional and in place. The replacement of the crumbling historic concrete base, and the advantage of safely being able to park a vehicle for the dam tender will provide a net benefit to the future stability of this structure and maintaining the overall historic integrity of the dam complex.

Public involvement for the proposed project is ongoing at this time. A public scoping period for the above referenced EA was conducted, and no comments were received from the interested public. The draft EA will be made available for public review and comment in late October to early November 2005.

Compliance with the programmatic evaluation meets the applicability criteria for the requirements of Section 4(f) if the jurisdictional officials agree, in writing, with the assessment of the effects to eligible historic properties, the proposed mitigation measures, and the net benefit to the properties. These requirements can be met through the analysis completed for the EA, and in a Memorandum of Agreement (MOA) among Reclamation, the Utah State Historic Preservation Office (SHPO), FHWA, the Advisory Council on Historic Preservation (Council), and UDOT.

According to 36 CFR 800.4, Reclamation has determined that the dam complex is within the area of potential effect and we agree with the evaluation that it is eligible for the NRHP under criteria c. The results of the identification and evaluation are that there would be an adverse effect to the spillway and gatehouse from the implementation of the proposed project. The bridge across the dam (OD 202), built in 1944, was extensively modified in 1982. The alterations included widening and replacement of the original guardrails with Jersey barriers. It is a non-contributing element of the dam complex and is designated as non-eligible for the NRHP in the UDOT Structure Inventory and Appraisal Report, located at UDOT, Salt Lake City, Utah.

According to 36 CFR 800.6, resolution of the adverse effect will be further consultation with SHPO, notification to the Council, and stipulations regarding mitigation measures established in the MOA among SHPO, FHWA, Reclamation, UDOT, and the Council, if they choose to participate.

A copy of this letter, signed by your office, signifies your concurrence with the above process to satisfy both Section 106 of the National Historic Preservation Act, and the Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f)

Property. Enclosed are four copies of this letter, please return three original signed letters, and keep one for your files. A signed copy will be added as an appendix to the EA.

Thank you for your consideration of this project. If you have any questions, please contact Ms. Barbara Boyer at 801-379-1082. For questions regarding the requirements for the Section 4(f) Evaluation, please contact Mr. Jeff Berna, FHWA Environmental Specialist at 801-963-0078 x235.

Sincerely,

BEVERLEY HEFFERNAN

Beverley C. Heffernan
Chief, Environmental Group

I, _____ concur with Reclamation's Determination of Eligibility and Finding of Effect according to Section 106 and agree there will be a net benefit under Section 4(f) for the proposed subject project.

Enclosure

cc: Ms. Susan Miller
Region 4 Archaeologist
Utah Department of Transportation
1345 South 350 West
Richfield, UT 84701

Mr. Joe Gregory
Transportation Engineer
Federal Highway Administration
U.S. Department of Transportation
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118-1847
each w/enclosure

bc: PRO-772
w/o encl

WBR:BBoyer:Awilliams:10/25/05:x1082:g/700/scofie-1

Draft as circulated for signature, November 2005

MEMORANDUM OF AGREEMENT

AMONG THE

UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION,
PROVO AREA OFFICE,
THE UTAH STATE HISTORIC PRESERVATION OFFICE,
THE FEDERAL HIGHWAY ADMINISTRATION, AND THE
UTAH DEPARTMENT OF TRANSPORTATION

REGARDING

THE SAFETY OF DAMS MODIFICATIONS AND BRIDGE RECONSTRUCTION,
SCOFIELD DAM, SCOFIELD PROJECT (PRO-EA-05-001), CARBON COUNTY, UTAH

WHEREAS, the United States of America, under the administration of the Bureau of Reclamation (Reclamation) owns the Scofield Dam complex, including the earthen dam, gatehouse, outlet tunnel and outlet works, spillway and stilling basin, cutoff trench, and dam tender's house, and

WHEREAS, pursuant to the Safety of Dams Act of 1978 (Public Law 95-578 as amended) and due to the possibility of failure, Reclamation proposes to replace the concrete spillway structure on Scofield Dam, and the existing gatehouse, and

WHEREAS, in 1996 the gatehouse and spillway which are part of the Scofield Dam complex (SJ-501) were recommended as being eligible for the NRHP under Criterion C, and

WHEREAS, concurrent with Reclamation's project, the Utah Department of Transportation (UDOT) and the Federal Highway Administration (FHWA), proposes to remove and replace the bridge on State Highway 96 that crosses over the Scofield Dam and spillway, and

WHEREAS, the bridge (#OD-202) which was extensively modified in 1982, is now a non-contributing element to the dam complex and is listed on the Utah Department of Transportation's Structure Inventory and Appraisal report as non-eligible for the National Register of Historic Places (NRHP), and

WHEREAS, the proposed project will involve an area of five and one-half acres of land at and downsteam from the dam along the Price River, with actual ground-disturbing activity limited to approximately four acres or less within the project boundaries, and

WHEREAS, Reclamation and the FWHA have determined that, pursuant to 36 CFR 800.5(a)(1) and (2), the replacement of both the spillway and the gatehouse on this property will constitute an adverse effect to these elements of the historic property (SJ-501), and

WHEREAS, the stipulations that follow will serve as mitigation for the adverse effect, and

WHEREAS, Reclamation has consulted with the Advisory Council on Historic Preservation (Council) and the Utah State Historic Preservation Office (SHPO), and pursuant to 36 CFR Part 800.3(f)(2), with the Northern Ute Tribe of the Uintah and Ouray Reservation, Utah, and

WHEREAS, pursuant to 36 CFR 800.5(c)(3), the15 day period provided for Council to participate has expired, and thus Council has declined to participate; and

NOW THEREFORE, Reclamation, the Utah SHPO, UDOT, and FHWA agree that the mitigation actions shall be conducted in accordance with the following stipulations to satisfy Reclamation's and FHWA's responsibilities under Section 106 and Section 110 (f) and the Guidelines (a-i) of the National Historic Preservation Act (as amended) and with the FHWA's Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property for this project.

STIPULATIONS

I. APPLICABILITY OF AGREEMENT

This agreement applies to all actions of the participating signatories regarding the Safety of Dams Modifications and Bridge Reconstruction, Scofield Dam, Scofield Project. The processes established by this Memorandum of Agreement (MOA) shall be completed prior to the date specified in Part XIII of this document. The signing of this MOA obligates the parties to carry out its terms. If the terms of this MOA cannot be carried out, the document must be amended, or further comments of the Council must be sought in accordance with 36 CFR 800.5.

II. DESCRIPTION OF THE UNDERTAKING

The first dam at this location was constructed by the Price River Water Conservancy District from 1925 to 1926. This original dam was determined to be unsafe, and could not be economically repaired. The existing dam was authorized by the Water Conservation and Utilization Act of 1939. Construction began in 1943, and was

completed in June 1946. Recent evaluation of the dam and spillway identified structural deficiencies that must be corrected to ensure public safety. Reclamation, therefore, proposes to replace the concrete spillway structure and the concrete and metal gatehouse. Concurrent with Reclamation's replacement of the spillway and gatehouse, UDOT proposes to remove and replace the bridge on State Highway 96 that crosses over the spillway of Scofield Dam.

III. DEFINITION OF THE AREA OF POTENTIAL EFFECT (APE)

The Scofield Dam complex is located approximately 22 miles northwest of Price, Utah. Reclamation has preliminarily defined the APE for the entire project on the map contained in Attachment A of this agreement.

IV. BUREAU OF RECLAMATION RESPONSIBILITIES

Reclamation, Provo Area Office, will serve as the overall project lead and Federal contact with and among FHWA, the Utah SHPO, the Council, UDOT, and other interested parties. Reclamation's Provo Area Office archaeologist may be called upon to facilitate coordination with FHWA, the Utah SHPO, UDOT, and the Council to distribute information and/or reports to reviewers.

Reclamation will provide, in addition to the cultural resource report already submitted (U-05-BE-0828f), black and white photographic documentation of the original spillway and gatehouse to the Utah SHPO prior to project implementation.

Reclamation shall notify UDOT when the above mentioned mitigation documentation is completed and accepted by the Utah SHPO so that no conflict of construction activity will occur.

Reclamation shall invite the Utah SHPO to monitor activities carried out pursuant to this MOA, and/or the Council will review such activities if so requested.

Reclamation will coordinate its review and monitoring responsibilities with FHWA, the Utah SHPO, UDOT, and with the Council if so requested.

Monitoring will be conducted by Reclamation's Provo Area Office archaeologist during and after project implementation to assure the integrity of design, size, and location of both the spillway and the gatehouse as stated in the letter to the Utah SHPO dated November 1, 2005.

Reclamations Provo Area Office archaeologist shall attend a preconstruction meeting to discuss and distribute a "quick reference" card to heavy equipment operators and field supervisors. The card summarizes the process for complying with federal laws in the case of an inadvertent discovery of subsurface human remains or deposits of cultural

material.

V. UTAH STATE HISTORIC PRESERVATION OFFICE RESPONSIBILITIES

The Utah SHPO shall review the information concerning the mitigation measures, to ensure compliance with the terms of this MOA.

VI. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION RESPONSIBILITIES

The FHWA shall provide the necessary 4(f) documentation to be appended to the Environmental Assessment for the proposed project.

The FHWA shall provide assistance, guidance, and advice on the application of the Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property.

VII. THE ADVISORY COUNCIL ON HISTORIC PRESERVATION RESPONSIBILITIES

The Council may provide assistance, guidance, and advice on the application of Section 106 compliance and the Section 4(f) Evaluation and Approval for Transportation Projects that Have a Net Benefit to a Section 4(f) Property to specific portions of this project, including resolution of disagreements, even though Council has chosen not to formally be involved in the review process.

VIII. NATIVE AMERICAN CONSULTATION

Consultation in the form of letters and maps for this project was conducted with the Northern Ute Tribe of the Ouray and Uintah Indian Reservation in Fort Duchesne, Utah, in August 2005. No comments were received.

IX. REPORTING

Reclamation shall ensure that all final reports/documentation resulting from actions pursuant to this MOA will be provided to the Utah SHPO, UDOT, FWHA, and the Council.

X. PROFESSIONAL STANDARDS

Historic preservation work in accordance with the terms of this MOA shall be carried out meeting 36 CFR 68 (Standards for Reconstruction) 1995. A thorough archaeological investigation to locate and identify all surface and subsurface features, where possible, of both the spillway and the gatehouse was completed and are documented in two reports to SHPO (U-96-SJ-0401w,s and U-05-BE-0828f). Reclamation shall consult

with UDOT, FHWA, and SHPO as necessary, to determine the appropriate expertise required to accomplish each activity or type of work scheduled.

XI. INADVERTENT DISCOVERIES

During construction, if there is any inadvertent discovery of human remains, the work will stop immediately and the Provo Area Office archaeologist or her intermediary will be notified. See Part IV of this MOA.

XII. DISPUTE RESOLUTION

Should the Utah SHPO, FHWA, UDOT, or Reclamation object within 10 days to any specifications provided pursuant to this MOA, Reclamation shall consult with the objecting party to resolve the objection. If Reclamation determines that objection cannot be resolved, Reclamation shall forward all documentation relevant to the dispute to the Council. Within 15 days after receipt of all pertinent documentation, the Council will either:

1. Provide Reclamation with recommendations on how to resolve the dispute, which Reclamation will take into account in reaching a final decision regarding the dispute; or

2. Notify Reclamation that it will comment pursuant to 36 CFR § 800.6(b), and proceed to comment. Any Council comment provided in response to such a request will be taken into account by Reclamation in accordance with 36 CFR 800.6(c) (2) with reference to the subject of the dispute.

XIII. TIME FRAMES

All documentation, photographs, maps, and other materials collected or developed for any identification, evaluation, or treatment activities will be sent by Reclamation to UDOT Region 4, and to the Utah SHPO in Salt Lake City. A third copy will be filed at the Provo Area Office in Provo, Utah, at the time the final report associated with that activity is completed.

If any party to the agreement, or any other interested parties fail to respond to Reclamation within 30 days of the receipt of a submission, Reclamation shall presume concurrence with Reclamation's findings and recommendations as detailed in the submission, and proceed accordingly.

XIV. DURATION

Pursuant to 36 CFR §800.6(c) (5) this MOA shall be effective for four years from the

date of signing of this agreement. If extenuating circumstances occur before the four year term is expired, such as security restraints which would interfere with the stipulations of this MOA, renegotiation can take place at that time. If this MOA is in place as written for the full four years, terms may be reconsidered by all of the signatories at the end of that time.

XV. AMENDMENTS AND ADDENDA

Any party to this Agreement may request that an addendum be added or that it be amended pursuant to 36 CFR 800.6(c)(7), whereupon the parties will consult in accordance with 36 CFR §800.6(c)(8) to consider such amendment or addendum.

XVI. TERMINATION

Any party to this MOA may terminate it by providing 30 days notice to the other parties of the reasons for termination, provided that the parties consult during the period prior to that termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, Reclamation will comply with 36 CFR §800.4-800.6 with regard to individual undertakings covered by this Agreement.

EXECUTION AND IMPLEMENTATION of this MOA shows evidence that Reclamation has afforded the Council a reasonable opportunity to comment on its support of the implementation of the project as described in Part II of this MOA, and that Reclamation, FWHA, and UDOT have taken into account the effects of this project on historic properties.

SIGNATORIES:

THE BUREAU OF RECLAMATION, PROVO AREA OFFICE

By: _____ Date:

Bruce C. Barrett
Title: Area Manager

UTAH STATE HISTORIC PRESERVATION OFFICER

By: _____ Date:

Wilson Martin
Title: Utah State Historic Preservation Officer

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date:

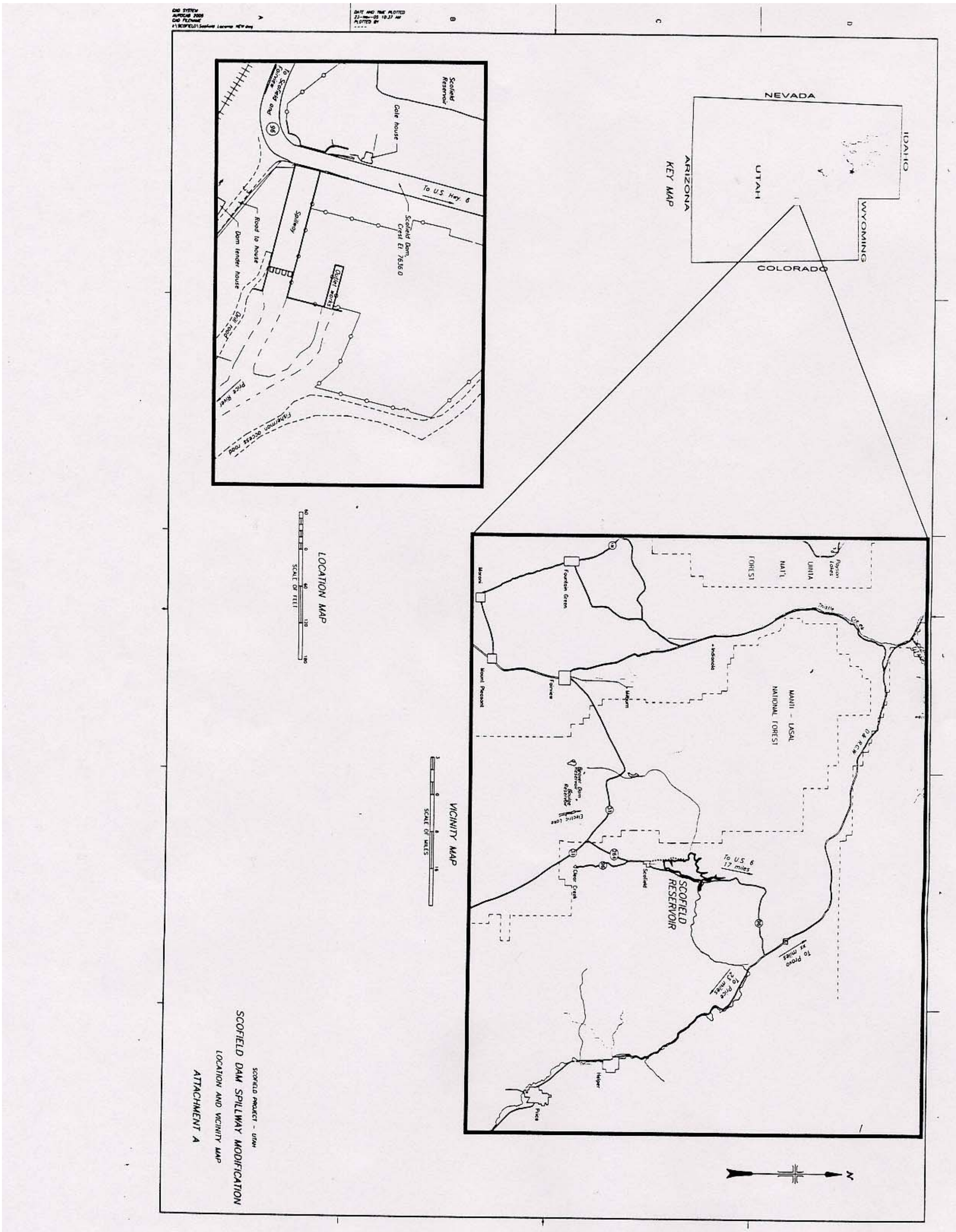
Walter Waldelich
Title: Division Administrator

UTAH DEPARTMENT OF TRANSPORTATION

By: _____ Date:

Dal Hawks
Title: Region 4 Director

ATTACHMENT A


NEVADA
IDAHO
WYOMING
COLORADO
ARIZONA
UTAH
KEY MAP
Scofield Reservoir
Gate house
To U.S. Hwy. 6
Scofield Dam, Crest El. 7630.0
Spillway
Outlet works
Road to house
Dam tender house
Price River
Fisherman access road
LOCATION MAP
SCALE OF FEET
MANTI - LASAL NATIONAL FOREST
UINTA NAT'L FOREST
SCOFIELD RESERVOIR
To U.S. 6 17 miles
VICINITY MAP
SCALE OF MILES
SCOFIELD PROJECT - UTAH
SCOFIELD DAM SPILLWAY MODIFICATION
LOCATION AND VICINITY MAP
ATTACHMENT A