



U.S. Department
of Transportation

**Federal Highway
Administration**

Central Federal Lands
Highway Division

554 Zang Street, Room 259
Lakewood, CO 80228

FEB 17 1999

In Reply Refer To:
HPD-16

Mr. Robert Williams
Field Supervisor
U.S. Fish and Wildlife Service
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147

Dear Mr. Williams

Subject: Hoover Dam Bypass, U.S. 93

The Federal Highway Administration (FHWA) wishes to initiate formal consultation with the Fish and Wildlife Service on the subject project. Enclosed are three copies of the Biological Assessment. We understand that you will forward a copy to your Las Vegas and Phoenix offices.

As you are aware, the FHWA has taken over the lead agency status that the Bureau of Reclamation held from 1989 to 1995. Reclamation's Biological Assessment and your subsequent Biological Opinion (Reference 2-21-89-F-170) are included as enclosures to this Biological Assessment.

Your office received copies of the Draft Environmental Impact Statement (DEIS) in September 1998. The Biological Assessment was not included, since we had not specified a preferred alternative in the DEIS. Late last year, after evaluating comments received on the DEIS, the Sugarloaf Mountain Alternative was selected as the preferred alternative.

As noted in the Biological Assessment, we believe that the Sugarloaf Mountain Alternative may affect the desert tortoise, but will not affect any of the other listed species in the project area. It is unlikely that fish species, such as the Devil's Hole pupfish and razorback sucker would be affected by activities associated with bridge construction, if proper blasting and rock scaling measures are utilized.

We would like to know if you concur with the findings in the Biological Assessment. We look forward to working with your office in developing appropriate mitigation for other species of concern. If you have any questions, please contact me at 303-716-2116 or write to the above address, Attention: HPD-16.

Sincerely yours,

Terry K. Haussler, P.E.
Project Manager

Enclosures



United States Department of the Interior

FISH AND WILDLIFE SERVICE
NEVADA FISH AND WILDLIFE OFFICE
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NEVADA 89502

June 3, 1999
File No. 1-5-99-F-105

Mr. Terry K. Haussler
Federal Highway Administration
Post Office Box 25246
Lakewood, Colorado 80225-0246

Dear Mr. Haussler:

Subject: Biological Opinion for Construction of the Hoover Dam Bypass Project,
Clark County, Nevada and Mohave County, Arizona

The Fish and Wildlife Service (Service) received your February 17, 1999, request for formal consultation on construction of the Sugarloaf Mountain Alternative for the Hoover Dam Bypass Project. Your request was made pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 et seq.) and 50 CFR § 402 of our interagency regulations governing section 7 of the Act. This document represents the Service's biological opinion on the potential effects of the proposed action on the Mojave desert tortoise (*Gopherus agassizii*), a species federally listed as threatened under the Act.

Federal Highway Administration (FHWA) has determined that the proposed project is *not likely to adversely affect* the bald eagle (*Haliaeetus leucocephalus*), American peregrine falcon (*Falco peregrinus anatum*), razorback sucker (*Xyrauchen texanus*), or southwestern willow flycatcher (*Empidonax traillii extimus*), which are federally listed species. This determination is based on: (1) Distribution and abundance of the species, (2) perceived effects that may result from the proposed project, and (3) measures proposed by FHWA to avoid or minimize potential impacts to the species, itemized below in the **Description of the Proposed Action**. Following review of your request, we concur with FHWA's determination that the proposed project will not likely affect the bald eagle, American peregrine falcon, razorback sucker, or southwestern willow flycatcher. Furthermore, FHWA determined that construction of the proposed Hoover Dam Bypass Project would not affect the bonytail chub (*Gila elegans*) or Devil's Hole pupfish (*Cyprinodon diabolis*).

This biological opinion is based on information provided in FHWA correspondence dated February 17, 1999; biological assessment for the Hoover Dam Bypass Project dated February 1999; draft environmental impact statement (EIS) and section 4(f) evaluation dated September 1998; biological opinion for the Hoover Dam Bypass Project issued to the Bureau of Reclamation (Reclamation) on February 2, 1993; conversations with FHWA staff; and our files. A complete administrative record of this consultation is on file in the Service's Southern Nevada Field Office, in Las Vegas, Nevada.

Consultation History

File No. 2-21-89-F-170. On February 2, 1993, the Service issued a non-jeopardy biological opinion to Reclamation for construction of a bridge across the Colorado River and its associated roads and interrelated infrastructure in the vicinity of Hoover Dam. The biological opinion evaluated the potential effects to desert tortoise that may result from the project. The Service concurred with Reclamation's determination that the proposed project will not likely adversely affect the bonytail chub, bald eagle, American peregrine falcon, razorback sucker, or Devil's Hole pupfish. Subsequent to issuance of the biological opinion, Reclamation withdrew from the project as the lead agency because their mission emphasis changed from constructing major public works projects to water resource management.

File No. 1-5-97-SP-346. The Service provided FHWA a list of threatened and endangered species and species of concern on November 12, 1997. The list identified seven listed species and 23 species of concern that are known to occur, or potentially occur within the proposed project area. Potential impacts to those listed species are addressed this document and biological assessment for the proposed project (FHWA 1999).

File No. 1-5-98-TA-027. An interagency workshop was held in Las Vegas, Nevada on October 29, 1997, to inform all agencies of the EIS process and proposed project schedule, to enlist support, and identify and address issues and concerns raised by agency representatives. The Service provided preliminary scoping comments on the proposed project at the workshop. On November 21, 1997, the Service provided additional comments to FHWA on the preparation of an EIS for construction of the proposed project. FHWA addressed these comments in the preliminary draft EIS for the project.

File No. 1-5-98-I-167. On May 4, 1998, the Service provided comments to FHWA on the sections of the EIS prepared for the Hoover Dam Bypass Project that discussed the purpose and need of the proposed project and alternatives chosen for evaluation. The Service concluded that

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(1) The purpose and need section provided an adequate description of deficiencies of the existing road system across the Hoover Dam, and (2) the alternatives chosen for further evaluation were reasonable.

File No. 1-5-98-TA-257. The Service reviewed the administrative draft EIS for the proposed project and provided verbal comments at a meeting held in Boulder City, Nevada on August 12, 1998. The Service provided written comments to FHWA on September 3, 1998.

On February 19, 1999, the Service received your February 17, 1999, request for consultation on construction of the Sugarloaf Mountain Alternative of the Hoover Dam Bypass Project, at which time formal consultation was initiated.

Description of the Proposed Action

The present route of U.S. Highway 93 (US 93) traverses the crest of Hoover Dam as a bridge to cross the Colorado River, and provides vehicular flow between Nevada and Arizona. Because US 93 cannot safely accommodate all of the traffic where it crosses over the dam, FHWA proposes to bypass Hoover Dam with a new bridge and approach roadway crossing the Colorado River. Design and construction of the project involves cooperation and consultation primarily with Reclamation, National Park Service (NPS), the Service, Arizona Department of Transportation, Nevada Department of Transportation (NDOT), Arizona Game and Fish Department (AGFD), and Nevada Division of Wildlife (NDOW). The 3.35-mile-long construction right-of-way would average 300 feet in width. Roughly half of the right-of-way width would occur outside the actual roadway and will be restored if affected. The new route would eliminate the steep grades, sharp curves, narrow highway width, insufficient shoulders, poor sight distances, and slow travel speeds of the existing route. In addition to public safety concerns and traffic, re-routing traffic to bypass the dam should safeguard the dam and waters of the Colorado River and Lake Mead from spills or explosions involving hazardous cargo, and improve conditions for operation and maintenance of the dam facilities.

FHWA chose the Sugarloaf Mountain Alternative on the basis of screening criteria including environmental impacts. This preferred route would cross the Colorado River approximately 1,500 feet downstream (south) of Hoover Dam and require 2.2 miles of new road construction in Nevada, a 1,900-foot bridge over the river, two highway bridges, a tunnel, and 1.1 miles of highway construction in Arizona (Figure 1). The project will entail construction of four-lane highway and approaches to the new river bridge. Construction of the Sugarloaf Mountain Alternative would likely begin in 2002 and be completed by 2007. The project would be located

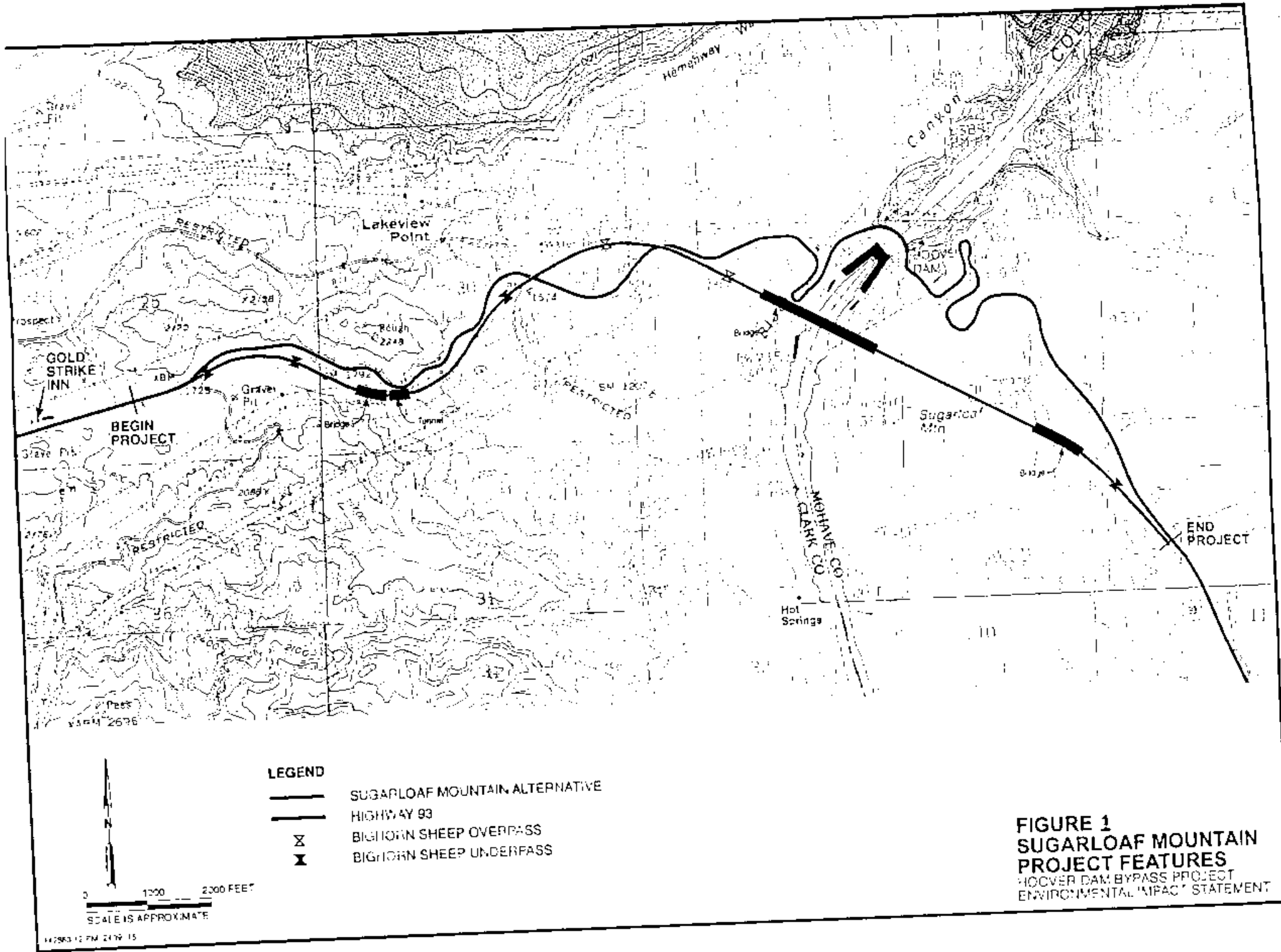


FIGURE 1
SUGARLOAF MOUNTAIN
PROJECT FEATURES
 HICOVER DAM BYPASS PROJECT
 ENVIRONMENTAL IMPACT STATEMENT

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on lands administered by Reclamation and NPS. The Sugarloaf Mountain Alternative would result in the least amount of disturbance to desert tortoise habitat of the three construction alternatives evaluated by FHWA in the EIS.

The new highway begins on the Nevada side of the project area about 1,000 feet east of the Gold Strike Inn, following a route just south of the existing US 93 to the Reclamation warehouse area. A highway bridge, approximately 400 feet long, would cross a bend in upper Gold Strike Canyon to eliminate the need for a large fill area, thus keeping the canyon bottom unchanged for drainage flows and allowing wildlife to pass underneath the bridge. A 300-foot-long tunnel would be constructed just east of the highway bridge. The highway grade then steepens to 3 percent, passes through a gap in the high rock ridge that parallels the river, and then descends to the southeast to the proposed bridge over the Colorado River.

From the Arizona end of the proposed river bridge, traveling eastward, the highway traverses a deep cut along the north slope of Sugarloaf Mountain. The highway then passes through an area containing two existing sewage evaporation ponds. To the east of the sewage ponds, an 800-foot-long highway bridge would be constructed across a large ravine. The highway then turns southeast at a 6-percent downgrade, and intersects existing US 93 approximately 1.1 miles from the dam.

The Sugarloaf Mountain Alternative would include four wildlife overpasses, two additional wildlife passes provided by the two highway bridges, one additional wildlife overpass provided by the tunnel, and fencing to continue approximately 2,400 feet beyond the intersection of the new highway with US 93.

FHWA proposes the following measures to minimize take of tortoise (FHWA 1999):

1. Qualified desert tortoise biologists will conduct preconstruction surveys on the exact highway routes according to current survey methods established by the Service, NDOW, and AGFD.
2. To compensate for habitat lost, FHWA will contribute to the habitat compensation program using a formula set by the Desert Tortoise Management Oversight Group. This formula will consider habitat value, existing disturbances, and indirect effects (Hastey, et al. 1991).
3. Any tortoises found in the construction right-of-way will be moved according to protocol used by the Service.

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4. A qualified tortoise biologist will be available for handling tortoises found during construction.
5. FHWA will ensure that construction workers are briefed on tortoise activity patterns, tortoise sensitivity to human disturbance, and proper notification procedures for removal from project right-of-way.
6. Measures will be taken to prevent road kills in areas with high tortoise densities and where tortoise movements would be likely. These will be designed from the most effective measures to date from specifications provided from the Nevada, Arizona, and California Departments of Transportation.

In addition, FHWA proposes the following measures to avoid or minimize potential effects to peregrine falcon, bald eagle, Devil's Hole pupfish, razorback sucker, and bonytail chub. If unavoidable impacts to these five listed species are identified, FHWA will request reinitiation of formal consultation (FHWA 1999).

- The AGFD will conduct follow-up surveys of peregrine falcons in the project area for at least 2 years before construction, through construction, and into 1 year of public use of the new bridge.
- If occupied peregrine falcon nests are found within 0.5-mile of construction activities, consultation will be reinitiated with the Service to determine appropriate mitigation measures.
- Biologists from the AGFD, NDOW, NPS, and/or Reclamation will monitor bald eagle use of the bridge crossing site(s) during the winter before construction. Any preferred hunting perch sites or night roosts will be identified. Measures will be taken to not affect any preferred hunting perch sites or night roosting sites for bald eagles. If bald eagles were to nest in the project vicinity, consultation with the Service will be resumed [reinitiated].
- No construction below the water line will occur in the Colorado River in Black Canyon. A catch net and temporary spill containment system will be constructed at the Colorado River crossing to catch falling debris and collect contaminants if spilled. For construction of the bridge abutments, loose rocks will be scaled prior to and during excavation work; and netting on the canyon slopes will be used during blasting to minimize rock fall.

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- An assessment of the potential effects of the blasting activities of the project will be completed prior to implementation.

Status of the Species/Environmental Baseline

The desert tortoise, a large, herbivorous reptile, is generally active when annual plants are most common (spring, early summer, autumn). Desert tortoises usually spend the remainder of the year in sheltered sites, escaping the extreme weather conditions of the desert. Sheltering habits of desert tortoises vary greatly in different geographic locations. Shelter sites may be located under bushes, in the banks or beds of washes, in rock outcrops, or in caliche caves. The size of desert tortoise home ranges vary with respect to location and year. Females have long-term home ranges that are approximately half that of the average male, which range from 25 to 200 acres (Berry 1986). Over its lifetime, each desert tortoise may require more than 1.5 square miles of habitat and make forays of more than 7 miles at a time (Berry 1986). In drought years, the ability of tortoises to drink while surface water is available following rains may be crucial for tortoise survival. During droughts, tortoises forage over larger areas, increasing the likelihood of encounters with sources of injury or mortality including humans and other predators. Desert tortoises possess a combination of life history and reproductive characteristics which affect the ability of populations to survive external threats. Tortoises may require 20 years to reach sexual maturity (Turner, et al. 1987). Further information on the range, biology, and ecology of the desert tortoise can be found in Berry and Burge (1984); Burge (1978); Burge and Bradley (1976); Bury, et al. (1994); Hovik and Hardenbrook (1989); Karl (1981, 1983a, 1983b); and Weinstein, et al. (1987).

The range of the Mojave population of the desert tortoise includes a portion of the Mojave Desert and the Colorado Desert subdivision of the Sonoran Desert and spans portions of four States. The Mojave Desert is located in southern California, southern Nevada, northwestern Arizona, and southwestern Utah. It is bordered on the north by the Great Basin Desert, on the west by the Sierra Nevada and Tehachapi Ranges, on the south by the San Gabriel and San Bernardino Mountains and the Colorado Desert, and on the east by the Grand Wash Cliffs and Hualapai Mountains of Arizona. In Nevada, the native range of this species is generally restricted to Clark County and those portions of Nye and Lincoln Counties south of 37 degrees north latitude and below approximately 1,330 meters elevation (4,000 feet).

The Mojave desert tortoise is most commonly found within the desert scrub vegetation type, primarily in creosote bush scrub vegetation, but also in succulent scrub, cheesebush scrub, blackbush scrub, hopsage scrub, shadscale scrub, microphyll woodland, and Mojave saltbush-allscale scrub (Service 1994). Within these vegetation types, desert tortoises potentially can

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survive and reproduce where their basic habitat requirements are met. Throughout most of the Mojave Region, tortoises occur most commonly on gently sloping terrain with soils ranging from sand to sandy-gravel and with scattered shrubs, and where there is abundant inter-shrub space for growth of herbaceous plants. Throughout their range, however, tortoises can be found in steeper, rockier areas. In southern Nevada, tortoises are considered to be active from approximately March 1 through October 31.

Desert tortoises in southern Nevada are found primarily in valley bottoms and on bajadas where current and historical threats to tortoise and its habitat are most prevalent. Desert tortoise surveys were conducted in the project area during April and May 1990 in accordance with Service-approved protocol (Rorabaugh and Allen 1990). Standard transects consist of walking the perimeter of an equilateral triangle, 0.5-mile on each side, while recording observations of desert tortoise sign in an area 33 feet (10 meters) wide. Average total adjusted sign (TAS) is determined and relative desert tortoise density is calculated based on the formula developed by Berry and Nicholson (1984). During the 1990 survey, 43 transects were walked in the proposed project area totaling 93,450 feet (17.7 miles). The results of the survey include four TAS, none of which were tortoises or tortoise remains. Based on the results of the survey, a very low-density tortoise population occurs in the project area.

Brussard and Britten (1993) identified four genetically discernable groups based on differences in mtDNA among Nevada desert tortoise populations. These groups are: (1) Piute Valley, (2) Amargosa Desert/Pahrump, (3) southern-central Nevada, and (4) north-central group. The latter two groups merge in the Las Vegas Valley and are fairly homogeneous. Genetic differences among these groups are not large, nor are they accompanied by any significant shell-shape differentiation, as seen between Mojave Desert and Sonoran Desert populations. However, tortoise populations in the Piute Valley have a different mtDNA clone from the rest of the Nevada populations and should be protected (Lamb, et al. 1989, Brussard and Britten 1993). Further information on the desert tortoise and its habitat can be found in Karl (1990) and Clement Associates (1990).

Description of the Affected Area.

The proposed project area occurs within the Black Canyon of the Colorado River and is characterized by precipitous rocky terrain and rolling hills dissected by desert washes. Plant communities in the area are typical of the Eastern Mojave Desert biome, characterized by creosotebush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Approximately 79 percent of the habitat along the Sugarloaf Mountain Alternative has been previously disturbed. Although the project area includes portions of the federally threatened Mojave desert tortoise

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population (Nevada) and the non-listed Sonoran desert tortoise population (Arizona), this biological opinion will only evaluate those potential effects to the Mojave population

Previous disturbances in the project area and vicinity include the Hoover Dam, mining, paved and unpaved roads including US 93, utility construction, hotel/casino, a warehouse, sewage ponds, hiking trails, and developed recreation facilities. Other activities occurring in the area of the proposed project affecting the desert tortoise and its habitat include cattle grazing, OHV use not associated with organized events, tourism, and urban development. Because of the hot, dry conditions, the project area and surrounding region are susceptible to high particulate concentrations during construction.

Desert Tortoise Listing and Recovery Actions

Listing. On April 2, 1990, the Service determined the Mojave population of the desert tortoise to be threatened (55 FR 12178). The Mojave population includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Colorado Desert in California (a division of the Sonoran Desert). Reasons for the determination included loss of habitat from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture. Grazing and off-road vehicles have degraded additional habitat. Also cited as threatening the desert tortoise's continuing existence were illegal collection, upper respiratory tract disease (URTD), and predation on juvenile desert tortoises by common ravens (*Corvus corax*). Fire is an increasingly important threat to desert tortoise habitat. Over 500,000 acres of desert lands burned in the Mojave Desert in the 1980s. Fires in Mojave Desert scrub degrade or eliminate habitat for desert tortoises (Appendix D of Service 1994).

Critical habitat. On February 8, 1994, the Service designated approximately 6.4 million acres of critical habitat for the Mojave population of the desert tortoise (59 FR 45748), which became effective on March 10, 1994. Approximately 1.2 million acres were designated as critical habitat in Nevada. Critical habitat units (CHUs) were based on recommendations for desert wildlife management areas (DWMAs) outlined in the *Draft Recovery Plan for the Desert Tortoise (Mojave Population)* (Service 1993). These DWMAs are also identified as "desert tortoise areas of critical environmental concern (ACECs)" by the BLM. Because the CHU boundaries were drawn to optimize reserve design, the CHUs may contain both "suitable" and "unsuitable" habitat. Suitable habitat can be generally defined as areas that provide the constituent elements of nesting, sheltering, foraging, dispersal, and/or gene flow. Of the 16 CHUs designated, 4 occur entirely, or partially, within Nevada.

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Recovery plan. On June 28, 1994, the Service approved the final Recovery Plan (Service 1994). The Recovery Plan divides the range of the desert tortoise into 6 distinct population segments or recovery units (RUs) and recommends establishment of 14 DWMA/ACECs throughout the RUs. Within each DWMA/ACEC, the Recovery Plan recommends implementation of reserve-level protection of desert tortoise populations and habitat, while maintaining and protecting other sensitive species and ecosystem functions. The design of DWMA/ACECs should follow accepted concepts of reserve design. As part of the actions needed to accomplish recovery, land management within all DWMA/ACECs should restrict human activities that negatively impact desert tortoises (Service 1994). DWMA/ACECs will be designated by the BLM through development or modification to resource management plans or management framework plans in Nevada, Arizona, Utah, and California. The regulation of activities within critical habitat through section 7 (of the Act) consultation will be based on recommendations in the Recovery Plan.

Summary of Regional HCPs in Clark County, Nevada

Short-Term HCP. On May 23, 1991, the Service issued a biological opinion on the issuance of incidental take permit PRT-756260 (File No. 1-5-91-FW-40) under section 10(a)(1)(B) of the Act. The Service concluded that the incidental take of 3,710 desert tortoises on up to 22,352 acres of habitat within the Las Vegas Valley and Boulder City in Clark County, Nevada, was not likely to jeopardize the continued existence of the desert tortoise. The permit application was accompanied by the *Short-Term Habitat Conservation Plan for the Desert Tortoise in the Las Vegas Valley, Clark County, Nevada* (Regional Environmental Consultants 1991) (short-term HCP) and an implementation agreement that identified specific measures to minimize and mitigate the effects of the action on desert tortoises.

On July 29, 1994, the Service issued a non-jeopardy biological opinion (File No. 1-5-94-FW-237) on the issuance of an amendment to the short-term HCP and incidental take permit to extend the expiration date of the existing permit by 1 year (to July 31, 1995) and include an additional disturbance of 8,000 acres of desert tortoise habitat within the existing permit area. The amendment did not authorize an increase in the number of desert tortoises allowed to be taken under the existing permit. Additional measures to minimize and mitigate the effects of the additional loss of tortoise habitat were also identified. Approximately 1,300 desert tortoises were taken under the authority of PRT-756260, as amended. Under the short-term HCP and extension, a total of 29,261 acres of tortoise habitat was disturbed and 2,067 tortoises collected, which translates to a mean average of 0.0706 tortoises per acre or 45 tortoises per square mile.

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During the short-term HCP and incidental take permit as amended, approximately 541,000 acres of desert tortoise habitat were conserved in perpetuity on lands administered by the BLM and NPS in southern Clark County. For purposes of the short-term HCP, tortoise habitat is considered to be conserved when the following conditions are met: (1) Grazing permits are acquired; (2) the area to be conserved is located within an area identified for such purpose; (3) land-use controls are in place to restrict or eliminate adverse effects to tortoise; (4) adequate funding is available for ongoing management of the area; (5) the area includes sufficient acreage to support viable tortoise populations or be modified through management to meet this goal; and (6) the area is designed to minimize land-use conflicts.

Desert Conservation Plan. On July 11, 1995, the Service issued an incidental take permit (PRT-801045) to Clark County, Nevada, including cities within the county and NDOT. The permit became effective August 1, 1995, and allows the "incidental take" of desert tortoises for a period of 30 years on 111,000 acres of non-Federal land in Clark County and approximately 2,900 acres associated with NDOT activities in Clark, Lincoln, Esmeralda, Mineral, and Nye Counties, Nevada. The *Clark County Desert Conservation Plan* (CCDCP) (Regional Environmental Consultants 1995) serves as the permittees' habitat conservation plan and details their proposed measures to minimize, monitor, and mitigate the effects of the proposed take on the desert tortoise. The permittees will impose, and NDOT will pay, a fee of \$550 per acre of habitat disturbance to fund these measures. The permittees propose to expend \$1.35 million per year, and up to \$1.65 million per year for the first 10 years, to minimize and mitigate the potential loss of desert tortoise habitat. It is anticipated that the majority of these funds will be used to implement minimization measures, such as increased law enforcement; construction of highway barriers; road designation, signing, closure, and rehabilitation; and tortoise inventory and monitoring. The benefit to the species, as provided by the CCDCP, should substantially minimize and mitigate those effects which will occur through development within the permit area and aid in recovery of the desert tortoise.

Desert tortoises collected through voluntary survey and removal under the CCDCP or picked up by the county are transported to a transfer/holding facility. Subsequently, some of these tortoises are transferred to adoption and educational programs, zoos, and research projects. Because more tortoises are collected than are needed for these programs, a translocation program was developed to allow these tortoises to live out their lives in suitable habitat in the wild. A research component has been initiated by the Biological Resources Division of the U.S. Geological Survey and the University of Nevada, Reno to determine habitat requirements of tortoises and conditions necessary for effective translocation. The translocation site is on lands managed by the BLM near Jean, Nevada, at least 10 miles from desert tortoise management areas, and are fenced adjacent to

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roads. Tortoises are evaluated for URTD, and only those which are healthy are released. Approximately 1,200 desert tortoises have been released to date, as part of the translocation effort.

On July 9, 1995, CCDCP funds were used to purchase the Boulder City Conservation Easement (BCCE) as mitigation for loss of tortoise habitat under the CCDCP and incidental take permit. The BCCE provides for protection and conservation of approximately 85,000 acres of tortoise habitat, which includes a portion of the acreage conserved under the short-term HCP as described above. The BCCE is contiguous with the northern boundary of the Piute-Eldorado CHU and the southern boundary of the City of Boulder City. The project would not directly affect any conserved habitat.

Summary of Programmatic Consultations Completed in Nevada for Desert Tortoise

On September 26, 1991, the Service issued a biological opinion (File No. 1-5-91-F-112) to the BLM for implementation of their 1984 Management Framework Plan (MFP) within the boundaries of the short-term HCP. As a result of the action, approximately 42,240 acres of BLM land were authorized for disposal by sale, land exchange, mineral leases, rights-of-way leases, or recreation or public purpose leases. These lands could be developed for residential, industrial, commercial, and public infrastructure projects to accommodate rapid urban development.

On April 11, 1996, the Service issued a programmatic biological opinion (File No. 1-5-96-F-23R) to the BLM's Las Vegas District for implementation of portions of their MFP and proposed Stateline [Las Vegas District] Resource Management Plan pertaining to land sales, exchanges, leases, and rights-of-way within the Las Vegas Valley. Consultation was reinitiated on the 1991 biological opinion (File No. 1-5-91-F-112) to increase the programmatic area from 42,240 acres to 125,000 acres of BLM lands to meet the needs of development in the Las Vegas Valley and to implement BLM land use plans. As a result of urban expansion, most BLM lands within the Las Vegas Valley are highly fragmented and impacted by human activities, particularly a 4,000-acre "exclusionary" zone. The BLM delineated an exclusionary zone within the programmatic boundary which does not contain suitable desert tortoise habitat. Except for lands within the exclusionary zone, the BLM will collect a remuneration fee of \$587 per acre, or as indexed for inflation effective March 1, 1999, to compensate for the loss of tortoise habitat within the programmatic boundary. The fees will be used to fund management actions which are expected to provide direct and indirect benefits to the desert tortoise over time.

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On November 21, 1997, the Service issued a programmatic biological opinion (File No. 1-5-97-F-251) to the BLM for implementation of multiple-use actions within their Las Vegas District, excluding desert tortoise critical habitat, proposed desert tortoise ACECs, and the area covered by the Las Vegas Valley programmatic consultation. The BLM proposes to authorize activities within the programmatic area that may result in loss of tortoises or their habitat through surface disturbance, land disposal, and fencing, for a period of 5 years. The total area covered by this programmatic biological opinion is approximately 2,636,600 acres, which includes approximately 263,900 acres of BLM-withdrawn lands in Clark County. This programmatic consultation is limited to activities which may affect up to 240 acres per project, and a cumulative total of 10,000 acres, of desert tortoise habitat excluding land exchanges and sales. Only land disposals by sale or exchange within Clark County may be covered under this consultation up to a cumulative total of 14,637 acres. Therefore, a maximum total of 24,637 acres of desert tortoise habitat may be affected by the proposed programmatic activities. As in the Las Vegas Valley programmatic, the BLM will collect a remuneration fee of \$587 per acre of disturbance of desert tortoise habitat, as indexed for inflation effective March 1, 1999.

On June 18, 1998, the Service issued a programmatic biological opinion to the BLM for implementation of the Las Vegas District RMP. The project area for this consultation covers all lands managed by the BLM's Las Vegas Field Office, including desert tortoise critical habitat, proposed desert tortoise ACECs, and BLM-withdrawn land. The Las Vegas Field Office designated approximately 648 square miles of tortoise habitat as desert tortoise ACEC in the Northeastern Mojave RU, and approximately 514 square miles of tortoise habitat as desert tortoise ACEC in the Eastern Mojave RU, through the final RMP. As identified in the RMP, the BLM would manage 743,209 acres of desert tortoise habitat within four tortoise ACECs for desert tortoise recovery. To accomplish recovery of the desert tortoise in the Northeastern and Eastern Mojave RUs, the Las Vegas Field Office will implement appropriate management actions in desert tortoise ACECs through the RMP which includes:

1. Manage for zero wild horses and burros within desert tortoise ACECs.
2. Limit utility corridors to 3,000 feet in width, or less.
3. Do not authorize new landfills or military maneuvers.
4. Require reclamation for activities which result in loss or degradation of tortoise habitat, with habitat to be reclaimed so that pre-disturbance condition can be reached within a reasonable time frame.

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5. Limit all motorized and mechanized vehicles to designated roads and trails within ACECs and existing roads, trails, and defined dry washes outside ACECs.
6. Allow non-speed OHV events within ACECs, subject to restrictions and monitoring determinations.
7. Prohibit OHV speed events, mountain bike races, horse endurance rides, four-wheel hill climbs, mini-events, publicity rides, high-speed testing, and similar speed based events.
8. Within ACECs, do not allow commercial collection of flora. Only allow commercial collection of fauna within ACECs upon completion of a scientifically credible study that demonstrates commercial collection of fauna does not adversely impact affected species or their habitat. This action will not affect hunting or trapping, and casual collection as permitted by the State.

EFFECTS OF THE PROPOSED ACTION ON THE LISTED SPECIES

Direct and indirect effects. Direct effects encompass the immediate, often obvious effect of the proposed action on the tortoise or its habitat. Indirect effects are caused by, or result from, the proposed action, are later in time, and are reasonably certain to occur. In contrast to direct effects, indirect effects are more subtle, and may affect tortoise populations and habitat quality over an extended period of time, long after construction activities have been completed. Indirect effects are of particular concern for long-lived species such as the tortoise because project-related effects may not become evident in individuals or populations until years later.

Construction of the Sugarloaf Mountain Alternative may result in the direct loss of 5 desert tortoises and 80 acres of desert tortoise habitat. Project personnel may illegally collect tortoises for pets, removing them from the wild population. Tortoises that are physically moved out of project areas to prevent mortality or injury could be inadvertently harmed if not handled properly. Urine and large amounts of urates are frequently voided during handling and may represent a severe water loss, particularly to juveniles (Luckenbach 1982). Overheating can occur if tortoises are not placed in the shade when ambient temperatures equal or exceed temperature maximums for the species (Desert Tortoise Council 1996). FHWA proposals to: (1) Allow only qualified tortoise biologists to handle tortoises; (2) inform workers about the desert tortoise; and (3) contribute to a fund for the conservation of desert tortoises and their habitat, should reduce these effects.

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Impacts will occur from grading and removal of vegetation; digging of tunnels; deposition of spoil material; construction of new roads and bridges; and other activities requiring the use of blasting, heavy equipment, and machinery. Desert tortoises may be killed or injured by vehicles and may be harassed through removal from the construction area. The proposed project could result in the death or injury of desert tortoises that move onto the construction site and roads used by pre-construction and construction crews (Bury 1978; Luckenbach 1975; Nicholson 1978). Vehicles that stray from the construction area and roads may crush desert tortoises above ground or in their burrows. Habitat used by tortoises for foraging, breeding, and cover will be temporarily disturbed or permanently destroyed. Desert tortoises may be harmed from noise and ground vibrations produced by vehicles and heavy equipment and by blasting operations (Bondello 1976; Bondello, et al. 1979). Shock waves from blasting may collapse burrows, thereby crushing tortoises. Measures proposed by FHWA to inform workers about the desert tortoise and implement recommended measures to prevent road kills from state departments of transportation should minimize these effects.

Construction and maintenance actions associated with the project may provide food in the form of trash and litter, or water, which attract important tortoise predators such as the common raven, kit fox, and coyote (Berry 1985; BLM 1990). Natural predation in undisturbed, healthy ecosystems is generally not an issue of concern. However, predation rates may be altered when natural habitats are disturbed or modified. Common raven populations in some areas of the Mojave Desert have increased 1500 percent from 1968 to 1988 in response to expanding human use of the desert (Boarman 1992). Since ravens were scarce in this area prior to 1940, the current level of raven predation on juvenile desert tortoises is considered to be an unnatural occurrence (BLM 1990).

The Service has determined that the level of effect described herein will not reduce appreciably the likelihood of survival and recovery of the Mojave population of the desert tortoise in the wild because:

- (1) Desert tortoise densities within the proposed project area are very low;
- (2) the proposed project does not occur within conserved habitat or an area designated for recovery of the desert tortoise;
- (3) impacts to desert tortoises within the project area represent a small impact to the Mojave population of the desert tortoise when total desert tortoise population numbers and geographical extent are considered.

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Cumulative Effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The majority of the land surrounding the proposed project is administered by Reclamation, NPS, or BLM. Any action on those lands will be subject to consultation under section 7 of the Act.

Actions on private lands within Clark County are expected to increase as the human population increases. The purpose of this project is to meet the traffic needs for travelers between Nevada and Arizona in the vicinity of Hoover Dam. The rapid growth of the human population as well as tourism has resulted in loss and degradation of habitat and loss of individual tortoises. These impacts are expected to continue. The CCDCP and associated incidental take permit addresses take of desert tortoises and destruction of their habitat from future development projects on non-Federal lands within Clark County. It is anticipated that measures in the CCDCP will continue to mitigate and minimize such effects.

Conclusion

After reviewing the current status of the desert tortoise, the environmental baseline for the action area, the effects of the proposed construction of the Sugarloaf Mountain Alternative of the Hoover Dam Bypass Project, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the desert tortoise, and is not likely to destroy or adversely modify designated critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act, as amended, prohibits take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 CFR § 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR § 17.3). Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant. Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, taking

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that is incidental to, and not intended as part of the agency action, is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The Service hereby incorporates by reference the minimization measures proposed by FHWA into this incidental take statement as part of these terms and conditions. The following terms and conditions: (1) Restate measures proposed by FHWA, (2) modify the measures proposed by FHWA, or (3) specify additional measures considered necessary by the Service. Where these terms and conditions vary from or contradict the minimization measures proposed under the *Description of the Proposed Action*, specifications in these terms and conditions shall apply. The measures described below are nondiscretionary and must be implemented by FHWA so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply.

FHWA has a continuing duty to regulate the activity that is covered by this incidental take statement. If FHWA (1) fails to require the project proponent to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

EXTENT OF TAKE

Based on the analysis of impacts provided above, minimization measures proposed by FHWA, and anticipated project duration, the Service anticipates that the following take could occur as a result of the proposed action, in Nevada:

1. Five (5) desert tortoises may be incidentally injured or killed by project vehicles and equipment or blasting operations during construction activities.
2. All desert tortoises found in the construction area and on access roads may be harassed by capture and removal from the proposed project area. The Service estimates the number of tortoises handled in Nevada will be less than twenty (20).
3. An unknown number of desert tortoise eggs may be destroyed during construction activities.

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4. An unknown number of desert tortoises may be taken in the form of indirect mortality through predation by ravens drawn to trash in the project area.
5. An unknown number of desert tortoises may be taken indirectly in the form of harm through increased noise and ground vibrations associated with construction, blasting operations, use of heavy equipment, and other project activities.

A total of 80 acres of desert tortoise habitat may be destroyed during activities associated with the proposed project, which could result in harm and/or harassment of desert tortoises.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species. Construction of the Sugarloaf Mountain Alternative of the Hoover Dam Bypass Project will not impact designated critical habitat to the extent that the constituent elements are appreciably diminished and the habitat no longer serves its role in the survival and recovery of the species; therefore, the Service does not anticipate destruction or adverse modification of critical habitat as a result of the proposed action.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of desert tortoises:

1. Measures shall be taken to minimize mortality or injury of desert tortoises due to construction activities, blasting operations, and use of heavy equipment.
2. Measures shall be taken to minimize predation on tortoises by ravens drawn to the project area.
3. Measures shall be taken to minimize destruction of desert tortoise habitat, such as soil compaction, erosion, or crushed vegetation, due to construction and maintenance activities.
4. Measures shall be taken to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.

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Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement Reasonable and Prudent Measure Number 1, FHWA shall fully implement the following measures:
 - a. Prior to the initiation of construction, a desert tortoise education program will be presented to all personnel who will be onsite, including surveyors, construction engineers, employees, contractors, contractors' employees, supervisors, inspectors, sub-contractors, delivery personnel, and all visitors operating a vehicle in the project area. This program will contain information concerning the biology and distribution of the desert tortoise, its legal status and occurrence in the project area, the definition of "take" and associated penalties, the measures designed to minimize and mitigate the effects of construction activities, the means by which employees can help facilitate this process, and reporting procedures to be implemented in case of desert tortoise encounters.
 - b. At least 7 days and no more than 30 days prior to the initiation of construction within rights-of-ways without tortoise-proof fencing, a qualified biologist(s) will survey the site for desert tortoises using techniques providing 100-percent coverage. Transects will be no greater than 10 meters apart. The site boundaries will be flagged prior to the biological survey.

All burrows found in the construction zone, whether occupied or vacant, will be excavated by a qualified biologist and collapsed or blocked to prevent desert tortoise re-entry. All burrows will be excavated by hand with hand tools to allow removal of desert tortoises or desert tortoise eggs. All desert tortoise handling and burrow excavations will be conducted by a qualified desert tortoise biologist in accordance with Service-approved protocol (Desert Tortoise Council 1994, revised 1996).
 - c. All desert tortoises and desert tortoise eggs located in the linear right-of-way will be relocated 300 to 1,000 feet into adjacent undisturbed habitat. Tortoises found above ground will be placed under a marked bush in the shade. A tortoise located in a burrow will be placed in an existing unoccupied burrow of the same size and

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orientation as the one from which the tortoise was taken. If a suitable natural burrow is unavailable, a qualified biologist will construct one of the same size and orientation as the one from which the tortoise was removed utilizing the protocol for burrow construction in section B.5.f (Desert Tortoise Council 1994, revised 1996). Any tortoise found within 1 hour before nightfall will be placed in a separate clean cardboard box and held overnight in a cool location. The box will be covered and kept upright at all times to minimize stress to the tortoise. Each box will be used once and then disposed of properly. The tortoise will be released the following day in the same area from which it was collected and using the procedures described above. Each tortoise will be handled with a different pair of disposable latex gloves. After each use, the gloves will be properly discarded and a fresh set used for each subsequent tortoise handling.

- d. Desert tortoises will be moved only by a qualified desert tortoise biologist and solely for the purpose of moving them out of harm's way. Appropriate State permits will be acquired from Nevada Division of Wildlife and Arizona Game and Fish Department prior to handling any live desert tortoise, desert tortoise carcass, or desert tortoise egg.
- e. All desert tortoises observed by project workers will be reported immediately to the qualified biologist, who will move the tortoise offsite into adjacent undisturbed habitat. Tortoises will be handled only when necessary, and in accordance with guidelines provided in this biological opinion.
- f. If blasting is required in desert tortoise habitat, a desert tortoise biologist will be assigned to each blasting crew or to each area in which blasting will occur. Prior to any blast, a 200-foot radius around the blast site will be surveyed for desert tortoises using techniques providing 100 percent coverage; transects will be no greater than 10 meters apart. Above-ground tortoises will be relocated at least 500 feet from the blast site. Desert tortoises located in burrows that are within 50 feet of the blast site will be relocated at least 75 feet away from the blast site to an unoccupied existing burrow of the same size and orientation. If a suitable existing burrow is unavailable, an artificial burrow of the same size and orientation will be constructed by an approved biologist utilizing Service-approved protocol (Desert Tortoise Council 1994, revised 1996). Burrows either occupied by desert tortoise or with undetermined occupancy status and located 50 feet or further

away from the blast site will be flagged and stuffed with newspaper prior to the blast. The newspaper will be removed immediately after the blast and the burrows assessed for damage.

- g. Any time a vehicle is parked in desert tortoise habitat, the ground around and underneath the vehicle will be inspected for desert tortoises prior to moving the vehicle. If a desert tortoise is observed, an authorized biologist will be contacted. If possible, the tortoise will be left to move on its own. If the tortoise does not move within 15 minutes, the tortoise will be removed and relocated by the authorized biologist in accordance with the tortoise handling provisions of this biological opinion.
 - h. Herbicides shall not be used in the project area unless approved in writing by the Service.
 - i. Vehicles shall not exceed the legal speed limit (posted or unposted) of the roads used during construction activities. The Clark County speed limit for unposted roads is 25 miles per hour.
2. To implement Reasonable and Prudent Measure Number 2, FHWA shall fully implement the following measure:
- Trash and food items will be disposed of promptly in predator-proof containers with resealable lids. Trash includes, but is not limited to, cigarettes, cigars, gum wrappers, tissue, cans, paper, and bags. Trash containers will be removed regularly (at least once per week). This effort will reduce the attractiveness of the area to opportunistic predators such as desert kit fox, coyotes, and common ravens. Any construction refuse, including, but not limited to, broken parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, boxes, and welding rods will be removed from the site each day and disposed of properly.
3. To implement Reasonable and Prudent Measure Number 3, FHWA shall fully implement the following measures:
- a. Project vehicles will remain within designated areas or on existing roads. Off-road travel is prohibited except to complete a specific task within designated areas or emergency situations.

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- b. All areas to be disturbed will have boundaries flagged prior to construction, and all disturbance will be confined to the flagged areas. All employees will be instructed that their activities must be confined to locations within the flagged areas. Disturbance beyond the actual construction zone is prohibited.
- c. Stockpile areas, vehicle turn-arounds, and vehicle service locations will be approved by the appropriate land manager (i.e., Reclamation or NPS) prior to the initiation of construction activities. These areas will be surveyed for desert tortoise and desert tortoise eggs. Any desert tortoises or desert tortoise eggs found within these areas will be removed in accordance with the tortoise handling provisions of this biological opinion. Whenever possible, stockpile areas, vehicle turn-arounds, and vehicle service locations will be restricted to previously disturbed areas. If not in previously disturbed sites, stockpile areas, vehicle turn-arounds, and vehicle service locations will be considered habitat disturbance for payment of remuneration fees.
- d. Topsoil will be removed to a depth of 6 to 12 inches in all areas of potential seed-bearing soil where ground breaking will take place. The determination of which soils are potentially seed-bearing will be the responsibility of the tortoise biologist.
- e. Removed topsoil will be stockpiled in a separate area and designated as "topsoil" to prevent contamination by or combination with other excavated soils. Reasonable measures will be taken to ensure the protection and preservation of the stockpiled topsoil to prevent loss of the seed bed from wind and rain or contamination by other soils or manmade contaminants. Stockpile areas for topsoil will be located in areas that are secure from construction traffic or flash floods.
- f. Excavated tunnel material will be disposed of in designated areas previously approved by the individual Federal agency that has administration authority over the affected land.
- g. Equipment and materials storage will be located in previously disturbed areas whenever possible. If not in previously disturbed sites, equipment and storage areas will be considered habitat disturbance for payment of remuneration fees.

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- h. Any fuel or hazardous waste leaks or spills will be stopped or repaired immediately and cleaned up at the time of occurrence. Service/maintenance vehicles will carry a bucket and pads to absorb leaks or spills.
- i. Contaminated soil will be removed and disposed of at an appropriate facility. If spills occur in a maintenance yard, they will be cleaned up after construction is complete.
- j. All waste and leftover materials remaining after construction of this project will be removed from the site after project completion.
- k. Prior to initiation of construction, FHWA shall ensure that \$587 per acre of disturbance is paid into the account administered by Clark County for the CCDCP, as offsite mitigation for destruction of desert tortoise habitat resulting from the project. This rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31 of each year. The next adjustment shall occur on January 31, 2000. Fees assessed or collected for projects covered under this biological opinion after January 31st of each year will be adjusted based on the CPI-U. Information on the CPI-U can be found on the Internet at: <http://stats.bls.gov/news.release/cpi.mws.htm>.

This fee will be paid directly to the Desert Tortoise Public Lands Conservation Fund Number 730-9999-2315, administered by Clark County. The administrator serves as the banker of these funds and receives no benefit from administering these funds. These funds are independent of any other fees collected by Clark County for desert tortoise conservation planning.

The payment shall be accompanied by the *Section 7 Fee Payment Form* (enclosure), and completed by the payee. The project proponent or applicant may receive credit for payment of such fees and deduct such costs from desert tortoise impact fees charged by local government entities. Payment shall be by certified check or money order payable to Clark County, and delivered to:

Clark County
Department of Comprehensive Planning
500 South Grand Central Parkway, Third Floor
Las Vegas, Nevada 89155-1712
Attn: Christina Gibson

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FHWA anticipates that 80 acres of desert tortoise habitat will be disturbed as a result of the proposed project, requiring \$46,960 in remuneration fees.

4. To implement Reasonable and Prudent Measure Number 4, FHWA shall fully implement the following measures:
 - a. FHWA will designate a field contact representative responsible for overseeing mitigation compliance and for coordination with the agencies.
 - b. A qualified biologist(s) will be available during all phases of construction. In accordance with *Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise* (Service 1992), a biologist should: (1) Possess a bachelor's or graduate degree in biology, ecology, wildlife biology, herpetology, or related fields; (2) demonstrate a minimum of 60 days prior field experience using accepted resource agency techniques to survey for desert tortoises; and (3) have the ability to recognize and to accurately identify and record all types of desert tortoise sign. The Service does not endorse any individual or company with respect to their abilities to conduct satisfactory surveys.
 - c. The qualified biologist(s) will be responsible for determining compliance with mitigation measures as defined by the biological opinion. If the Service-approved biologist believes that halting construction is necessary to avoid harm to the desert tortoise, he/she shall notify the FHWA Contracting Officer, who will direct the contractor to halt construction. Construction and maintenance activities will be halted only long enough to remedy the immediate situation and will apply only for the equipment and parties involved in the situation. All actions of non-compliance or conditions of threat to federally proposed or listed species will be recorded immediately by the qualified biologist(s) and reported to FHWA. FHWA will immediately report all such actions and conditions to the Service.
 - d. All fuel or hazardous waste leaks, spills, or releases will be reported immediately to the FHWA and the Federal agency that administers the land where the incident occurs.
 - e. Upon locating dead or injured desert tortoises, the field contact representative will notify FHWA immediately by phone and within 5 days by writing. Initial notification also must be made immediately to the Service's Division of Law Enforcement in Las Vegas, Nevada, at telephone number (702) 388-6380. Written

notification to the Service (Southern Nevada Field Office, 1510 North Decatur Boulevard, Las Vegas, Nevada 89108) will be made within 15 days of the date of the finding or incident, and will include the following information: (1) Date and time of finding or incident; (2) location of carcass or injured tortoise; (3) a photograph; (4) cause of death or injury; and (5) other pertinent information. Care will be taken in the handling of sick or injured specimens to ensure effective treatment and care, and in the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of a sick or injured desert tortoise or preservation of the biological materials from a dead desert tortoise, the finder has the responsibility to carry out instructions provided by the Service's Division of Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

- f. The qualified biologist(s) will maintain a record of each observation of desert tortoise during the project. The information gathered will include the following: (1) Location; (2) date and time of observation; (3) whether tortoise was handled; (4) general health and whether it voided its bladder; (5) location tortoise moved from and location moved to; and (6) any observed unique physical characteristics of each individual.
- g. FIIWA and a qualified biologist will prepare a report to be distributed to NPS, Reclamation, the Service, and NDOW no later than 90 days following the completion of construction activity. The report will document the numbers and location of desert tortoises encountered, their disposition, effectiveness of mitigation measures, practicality of mitigation measures, recommendations for future mitigation measures that allow for better protection or more workable implementation, and an estimate of acreage disturbed.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With implementation of these measures, the Service believes that no more than 5 desert tortoises will be killed or injured and an estimated 20 harassed in association with construction of the Sugarloaf Mountain Alternative of the Hoover Dam Bypass Project. An unquantifiable number eggs and nests may be destroyed on the project site, however the Service estimates this number to be very low. In addition, 80 acres of desert tortoise habitat may be further degraded or destroyed during construction activities associated with the proposed project. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take represents new

information requiring review of the reasonable and prudent measures provided. FHWA must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Reporting Requirements

Upon locating a dead, injured, or sick endangered or threatened species specimen, initial notification must be made to the Service's Division of Law Enforcement in Las Vegas, Nevada, at telephone number (702) 388-6380. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by the Division of Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

Sick or injured desert tortoises shall be delivered to any qualified veterinarian for appropriate treatment or disposal. Dead desert tortoises suitable for preparation as museum specimens shall be frozen immediately and provided to an institution holding appropriate Federal and State permits per their instructions. Should no institutions want the desert tortoise specimens (crushed, spoiled, etc.) for preparation as a museum specimen, then they may be buried away from the project area or cremated upon authorization of the Division of Law Enforcement. The applicant or project proponent shall bear the cost of any required treatment of injured desert tortoises, euthanasia of sick desert tortoises, or cremation of dead desert tortoises. Should sick or injured desert tortoises be treated by a veterinarian and survive, they may be transferred as directed by the Service.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

As a conservation recommendation, the Service urges FHWA to cooperate with ongoing and proposed efforts to minimize impacts to desert tortoise from highways such as construction of barriers and underpasses.

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File No. 1-5-99-P-105

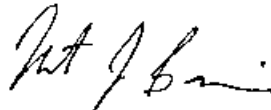
In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

Reinitiation

This concludes formal consultation on the proposed action referenced in your February 17, 1999, request. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

We appreciate the assistance and cooperation of your staff throughout this consultation process. If we can be of any further assistance, please contact Michael Burroughs, in our Southern Nevada Field Office, at (702) 647-5230.

Sincerely,



For Robert D. Williams
Field Supervisor

Enclosure

cc:
Director of Public Lands, The Nature Conservancy, Las Vegas, Nevada
Desert Conservation Plan Administrator, Department of Comprehensive Planning, Clark County,
Las Vegas, Nevada
Administrator, Arizona Game and Fish Department, Phoenix, Arizona
Chief, Environmental Services Division, Nevada Department of Transportation, Carson City,
Nevada

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File No. 1-5-99-F-105

Administrator, Nevada Division of Wildlife, Reno, Nevada
Regional Manager, Nevada Division of Wildlife, Las Vegas, Nevada
District Manager, Las Vegas District, Bureau of Land Management, Las Vegas, Nevada
Manager, Environmental Compliance Group, Lower Colorado Regional Office, Bureau of
Reclamation, Boulder City, Nevada
Superintendent, Lake Mead National Recreation Area, National Park Service, Boulder City,
Nevada
Field Supervisor, Arizona Field Office, Fish and Wildlife Service, Phoenix, Arizona
Assistant Regional Director, Ecological Services, Fish and Wildlife Service, Portland, Oregon
(Attn: Larry Salata)
Senior Resident Agent, Division of Law Enforcement, Fish and Wildlife Service, Boise, Idaho

Literature Cited

- Berry, K. H. 1985. Avian predation on the desert tortoise (*Gopherus agassizii*) in California. U.S. Bureau of Land Management, Riverside, California. Report to Southern California Edison Company, Rosemead, California.
- Berry, K. H. 1986. Desert tortoise (*Gopherus agassizii*) research in California, 1976-1985. *Herpetologica* 42:62-67.
- Berry, K. H. and B. L. Burge. 1984. The desert tortoise in Nevada. Chapter 8 *In*: The status of the desert tortoise (*Gopherus agassizii*) in the United States. Report from the Desert Tortoise Council to the U.S. Fish and Wildlife Service, Sacramento, California. Order Number 11310-0083-81.
- Berry, K. H. and L. L. Nicholson. 1984. The distribution and density of desert tortoise populations in California in the 1970's. Pages 26-60 *In*: The status of the desert tortoise (*Gopherus agassizii*) in the United States. Report to U.S. Fish and Wildlife Service from the Desert Tortoise Council. Order No. 11310-0083-81.
- Boarman, W. L. 1992. The raven management program: Status as of 1992. Paper presented at the 1992 Desert Tortoise Council Symposium. pp. 113-116.
- Bondello, M. C. 1976. The effects of high-intensity motorcycle sounds on the acoustical sensitivity of the desert iguana (*Dipsosaurus dorsalis*). M.A. Thesis, Biology Department, California State University, Fullerton. 37 pp.
- Bondello, M. C., A. C. Huntley, H. B. Cohen, and B. H. Brattstrom. 1979. The effects of dune buggy sounds on the telencephalic auditory evoked response in the Mojave fringe-toed lizards (*Uma scoparia*). Report, Contract Number CA-060-CT7-2737, U.S. Department of the Interior, Bureau of Land Management, Riverside, California. 31 pp.
- Brussard, P. F., and H. B. Britten. 1993. Allozyme and morphological variation in Nevada populations of the desert tortoise. Final Report, Part B, prepared for Nevada Division of Wildlife.
- Bureau of Land Management. 1990. Draft raven management plan for the California Desert Conservation Area. Prepared by Bureau of Land Management, California Desert District, Riverside, California. April 1990.

- Burge, B. L. 1978. Physical characteristics and patterns of utilization of cover sites by *Gopherus agassizii* in southern Nevada. Proceedings of the 1978 Desert Tortoise Council Symposium. pp. 80-111.
- Burge, B. L. and W. G. Bradley. 1976. Population density, structure and feeding habits of the desert tortoise (*Gopherus agassizii*), in a low desert study area in southern Nevada. Proceedings of the 1976 Desert Tortoise Council Symposium. pp. 51074.
- Bury, R. B. 1978. Desert tortoises and off-road vehicles: Do they mix? Proceedings of the 1978 Desert Tortoise Council Symposium. p. 126.
- Bury, R. B., T. C. Esque, L. A. DeFalco, and P. A. Medica. 1994. Distribution, habitat use, and protection of the desert tortoise in the eastern Mojave Desert. *In*: R. B. Bury and D. J. Germano, editors. Biology of the North American tortoises. National Biological Survey, Fish and Wildlife Research 13. pp. 57-72.
- Clement Associates Incorporated. 1990. The status and viability of the desert tortoise in the Las Vegas Valley. Unpublished report prepared by Clement Associates Incorporated, Fairfax, Virginia, for submission to Fish and Wildlife Service, Portland, Oregon.
- Desert Tortoise Council. 1994 (Revised 1996). Guidelines for handling desert tortoises during construction projects. Edward L. LaRue, Jr., editor. San Bernardino, California. Unpublished document prepared for Fish and Wildlife Service, Bureau of Land Management, California Department of Fish and Game, Nevada Department of Wildlife, Arizona Game and Fish Department, and Utah Division of Wildlife Resources.
- Federal Highway Administration. 1999. Biological assessment for Hoover Dam Bypass Project. Prepared for FHWA Central Federal Highway Division by CH2MHill. February 1999. Unpublished report. 27 pages plus appendices.
- Fish and Wildlife Service. 1992. Procedures for Endangered Species Act compliance for the Mojave desert tortoise. Regions 1, 2, and 6. October 1992. 18 pp. plus appendices.
- Fish and Wildlife Service. 1993. Draft recovery plan for the desert tortoise (Mojave population). Prepared for Regions 1, 2, and 6 of the Fish and Wildlife Service, Portland, Oregon. 170 pp. plus appendices.

- Fish and Wildlife Service. 1994. Desert tortoise (Mojave Population) recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon. 73 pp. plus appendices.
- Hastey, E., L. K. Rosenkrance, B. R. Templeton, J. M. Parker, W. H. Radtkey, D. L. Harlow, B. D. Taubert, F. Worthley, W. A. Molini, R. D. Radantris. 1991. Compensation for the desert tortoise. A report prepared for the Desert Tortoise Management Oversight Group. November 1991. 16 pp.
- Hovik, D. C. and D. B. Hardenbrook. 1989. Summer and fall activity and movements of desert tortoise in Pahrump Valley, Nevada. Abstract of paper presented at the fourteenth annual meeting of the Desert Tortoise Council.
- Karl, A. 1981. The distribution and relative densities of the desert tortoise (*Gopherus agassizii*) in Lincoln and Nye Counties, Nevada. Proceedings of the 1981 Desert Tortoise Council Symposium. pp. 76-92.
- Karl, A. 1990. Assessment of tortoise habitat quality along the peripheries of the Clark County habitat conservation plan permit area and exclusionary zones. Submitted to RECON, San Diego, California. November 12, 1990. 9 pp. plus maps.
- Karl, A. E. 1983a. The distribution and relative densities of the desert tortoise (*Gopherus agassizii*) in Clark County, Nevada. Unpublished Report to Bureau of Land Management, Denver, Colorado. Contract Number YA-512-CT9-90. 46 pp.
- Karl, A. E. 1983b. The distribution, relative densities, and habitat associations of the desert tortoise (*Gopherus agassizii*) in Nevada. MS Thesis, California State University, Northridge. 111 pp.
- Lamb, T., J. C. Advise, and J. W. Gibbons. 1989. Phylogeographic patterns in mitochondrial DNA of the desert tortoise (*Xerobates agassizii*), and evolutionary relationships among the North American gopher tortoises. *Evolution* 43(1):76-87.
- Luckenbach, R. A. 1975. What the ORVs are doing to the desert. *Fremontia* 2:3-11.
- Luckenbach, R. A. 1982. Ecology and management of the desert tortoise (*Gopherus agassizii*) in California. In: R. B. Bury, editor. North American tortoise: Conservation and ecology. U. S. Fish and Wildlife Service, Wildlife Research Report 12, Washington, D.C.

- Nicholson, L. 1978. The effects of roads on desert tortoise populations. *Proceedings of the 1978 Desert Tortoise Council Symposium*. pp. 127-129.
- Rorabaugh, J. and J. Allen. 1990. Desert tortoise occurrence: Proposed U.S. Highway 93-466 Hoover Dam bypass routes. Bureau of Reclamation, Yuma, Arizona.
- Regional Environmental Consultants. 1991. Short-term habitat conservation plan for the desert tortoise in Las Vegas Valley, Clark County, Nevada. Prepared for Clark County, 225 Bridger Avenue, Las Vegas, Nevada 89155. January 1991. 143 pp.
- Regional Environmental Consultants. 1995. Clark County Desert Conservation Plan. Prepared for Clark County, 500 South Grand Central Parkway, P.O. Box 551712, Las Vegas, Nevada 89155-1712. August 1995. 123 pp. plus appendices.
- Turner, F. B., P. A. Medica, and R. B. Bury. 1987. Age-size relationship of desert tortoises (*Gopherus agassizii*) in southern Nevada. *Copeia* 1987:974-979.
- Weinstein, M., K. H. Berry, and F. B. Turner. 1987. An analysis of habitat relationships of the desert tortoise in California. A report prepared for Southern California Edison Company. 96 pp.

ENCLOSURE

SECTION 7 FEE PAYMENT FORM

Entire form is to be completed by Federal agency and project proponent

Biological Opinion File Number: 1-5-99-F-105

Species: Desert tortoise (*Gopherus agassizii*)

Location of Fish and Wildlife Service Office that Issued the Opinion: Reno, Nevada

Project: Hoover Dam Bypass Project

Amount of Payment Received: _____

Total Payment Required: \$46,960.00

Date of Receipt: _____

Check or Money Order No.: _____

Number of Acres to be Disturbed: 80

Project Proponent:

Authorizing Agency: Federal Highway Administration
P.O. Box 25246
Lakewood, CO 80225

Make checks payable to: Clark County Treasurer

Deliver check to: Clark County Habitat Conservation
Department of Comprehensive Planning
Clark County Government Center, Third Floor
500 South Grand Central Parkway
Las Vegas, Nevada 89155
(702) 455-3530

If you have questions call the U.S. Fish and Wildlife Service, Southern Nevada Field Office, Las Vegas, Nevada, at (702) 647-5230.