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Pahrump Valley Desert Tortoise Habitat Conservation Plan

Nye County Planning Department

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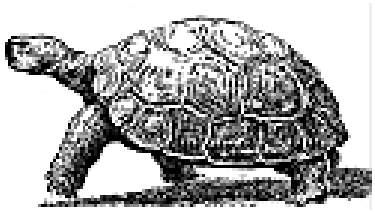
Pahrump Valley

Desert Tortoise

Habitat Conservation Plan



Prepared by

Nye County Planning Department

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Acronyms

BLM	Bureau of Land Management
BOCC	Board of County Commissioners
County	Nye County
DTCC	Desert Tortoise Conservation Center
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
NAC	Nevada Administrative Code
NEPA	National Environmental Policy Act
NRS	Nevada Revised Statutes
PRPD	Pahrump Regional Planning District
FWS	U.S. Fish and Wildlife Service
ITP	Incidental Take Permit

INTRODUCTION

This edition includes amendments from verbal comments made at the July 21, 2009 Nye County Commission HCP Workshop, written comments submitted at the workshop and public comments received by county staff in the following weeks up to the date on the front cover.

EXECUTIVE SUMMARY

Nye County is proposing this HCP to address the urban development of land within the limits of the Town of Pahrump and adjacent lands designated for disposal and sale by the Bureau of Land Management (BLM). The scope or Permit Area of this plan is 92,489 acres and includes the private land in Pahrump and 6,022 acres of public land administered by BLM and identified for disposal. The HCP estimates that up to 1,000 acres of desert tortoise habitat may be lost as a result of urban development within the Permit Area over the next 10 years.

The Pahrump Valley Desert Tortoise Habitat Conservation Plan (HCP) has been prepared to:

- Support an application for a Section 10(a)(1)(B) Incidental Take Permit (Permit) under the federal Endangered Species Act (ESA) for the incidental take of the desert tortoise, a species listed as threatened under the ESA on 1,000 acres of private land or BLM disposal lands, upon transfer of ownership to a non-federal entity, in the Pahrump Regional Planning District (PRPD), hereafter referred to as the Planning Area. The request for the incidental take of desert tortoises is based on tortoise surveys conducted by the BLM, Nye County, private land owners and others that indicate tortoises occur in relatively low densities in the Planning Area that will be defined hereafter.
- This HCP is intended to support the issuance, by the United States Fish and Wildlife Service (FWS) of a Section 10(a)(1)(B) incidental take permit (Permit) under the Endangered Species Act (ESA)which would allow the "take" of the threatened desert tortoise resulting from otherwise lawful activities on non-Federal property within the Planning Area.

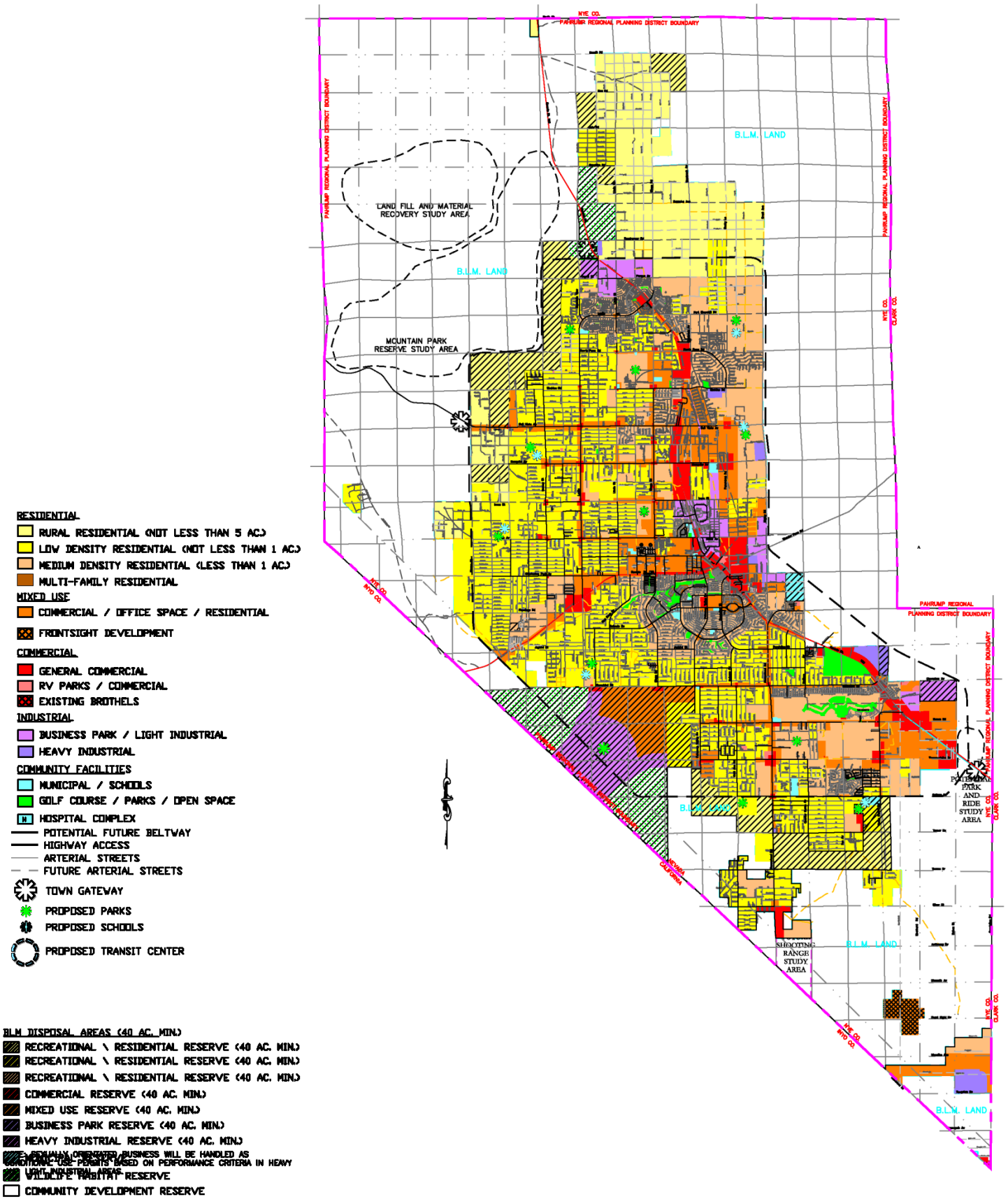
Subsequent to the issuance of a Permit, the Pahrump Valley Desert Tortoise Habitat Conservation Plan (HCP) will be implemented to minimize, mitigate, and monitor the impacts of incidental take of desert tortoise.

The approval of the Permit would be a requisite for the development and implementation of a long term desert tortoise habitat conservation plan for the Planning Area.

Purpose and Need

The purpose of developing this HCP is to minimize and mitigate the effects of ongoing urban development within the Planning Area (see Figure 1) on the desert tortoise. The HCP will be submitted by the Nye County Planning Department on behalf of Nye County to support an application for a Permit to incidentally take tortoises. The Permit would authorize the incidental take of tortoise on 1,000 acres of desert tortoise habitat that may be subject to development over a ten (10) year period. The applicant needs to obtain a Permit because desert tortoises are wide ranging and occur throughout the Planning Area; therefore, take of the tortoise may be unavoidable as a result of urban growth in the valley.

Figure 1 Planning Area



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Measures to Minimize and Mitigate Take

The applicant proposes the following measures to minimize, mitigate and monitor incidental take:

Minimization Measures

- Desert tortoises will be cleared from construction sites prior to ground disturbing activities.
- A desert tortoise education program will be developed by the County and approved by FWS, which will be presented to all personnel involved in development activities. The program will consist of instructing on-site workers about desert tortoise biology, what to do if a tortoise is encountered, and terms of the HCP.
- Public outreach activities will be developed, such as course curriculum for Junior High and High School science classes on desert biology, and school assemblies that will teach the students about the desert tortoise.
- Fencing will be required around new development in accordance with this HCP.

Mitigation Measures

- Off-road vehicle activities on non-Federal public lands within the Planning Area will be limited to existing roads recognized by Nye County.
- Appropriate roads that cross through or into tortoise habitat will be posted with signs warning of the presence of tortoises.
- Speed limits will be limited to 25 miles per hour along unsigned dirt roads.
- A litter control program will be implemented to minimize predation on tortoise by ravens.
- Fees from development will be contributed to the Desert Tortoise Conservation Center (DTCC).

Reporting

Local government agencies [Nye County Planning – Building Departments, etc.] will be required to keep accurate records regarding:

- The disposition of all desert tortoises collected and/or taken;
- The amount of all land disturbed within the permit area;
- All fees collected or paid
- Administrative costs and habitat rehabilitation efforts and expenses.
- Conservation projects funded by disturbance fees and costs associated with these projects.

The records will be maintained by Nye County and summarized in an annual report to the FWS.

Funding

Minimization measures will not totally offset the potential impact from land development activities on the desert tortoise and its habitat within the Planning Area. Therefore, a fee of $550 per acre will be assessed for disturbance of up to 1,000 acres of potentially suitable desert tortoise habitat on non-federal property within the designated Fee Zone of the Planning Area. When building/ grading permits are being requested for work on properties greater than one half acre in size within the fee zone, the private developer will pay the per acre fee. The fees will then be put into an interest bearing account by Nye County where the fees will be held until the fees are used in support of implementation of this Plan.

Chapter 1: Introduction and Background

Overview

The rapid growth in southern Nevada, especially in nearby Las Vegas, has created heavy demand for quality residential and commercial properties in the largest neighboring community, the Town of Pahrump. Development within and immediately around Pahrump will result in the loss of potentially suitable habitat for the desert tortoise. See Figure 2, Region Map.

Nye County, (applicant), is proposing this HCP to address the urbanized development of land within the limits of the Town of Pahrump and adjacent lands designated for disposal and sale by the Bureau of Land Management (BLM). The Planning Area for this HCP is defined as the boundaries of the PRPD. This area is approximately 209,239 acres in size. The Permit Area, which lies within the boundaries of the PRPD, is 92,489 acres and includes the private land in Pahrump and 6,022 acres of public land administered by BLM that are identified for disposal. The Permit Area includes a 23,717 acre Fee Zone and a 62,750 acre No Fee Zone. The zones were delineated based on the general quality and condition of desert tortoise habitat. The No Fee Zone generally encompasses the central part of Pahrump on the west side of State Route 160, where most of the land has been developed for residential or commercial purposes, or is dominated by abandoned agricultural fields and salt desert scrub. The Fee Zone generally encompasses areas with higher quality tortoise habitat which are located on the northern, eastern, and southern edges of the town boundaries. The plan proposes to disturb up to 1,000 acres of desert tortoise habitat over a period of ten (10) years as a result of urban development anywhere within the Fee Zone during the time of the Permit.

This document is being prepared as Phase I in the preparation of a long-term desert tortoise conservation plan in the PRPD, in support of an application for a more expansive permit pursuant to Section 10 (a)(1)(B) of the ESA.

Purpose and Need

The purpose of developing this HCP is to minimize and mitigate the effects of ongoing urban development within the Planning Area on the desert tortoise. The HCP will be submitted by the Nye County Planning Department on behalf of Nye County to support an application for a Permit for the tortoise. The permit would authorize the incidental take of desert tortoise habitat that will be subject to development. The applicant needs to obtain a Permit because desert tortoises are wide ranging and occur throughout the Planning Area; therefore, take of the tortoise may be unavoidable as a result of urban growth in the valley.

Proposed Action and Permit Duration

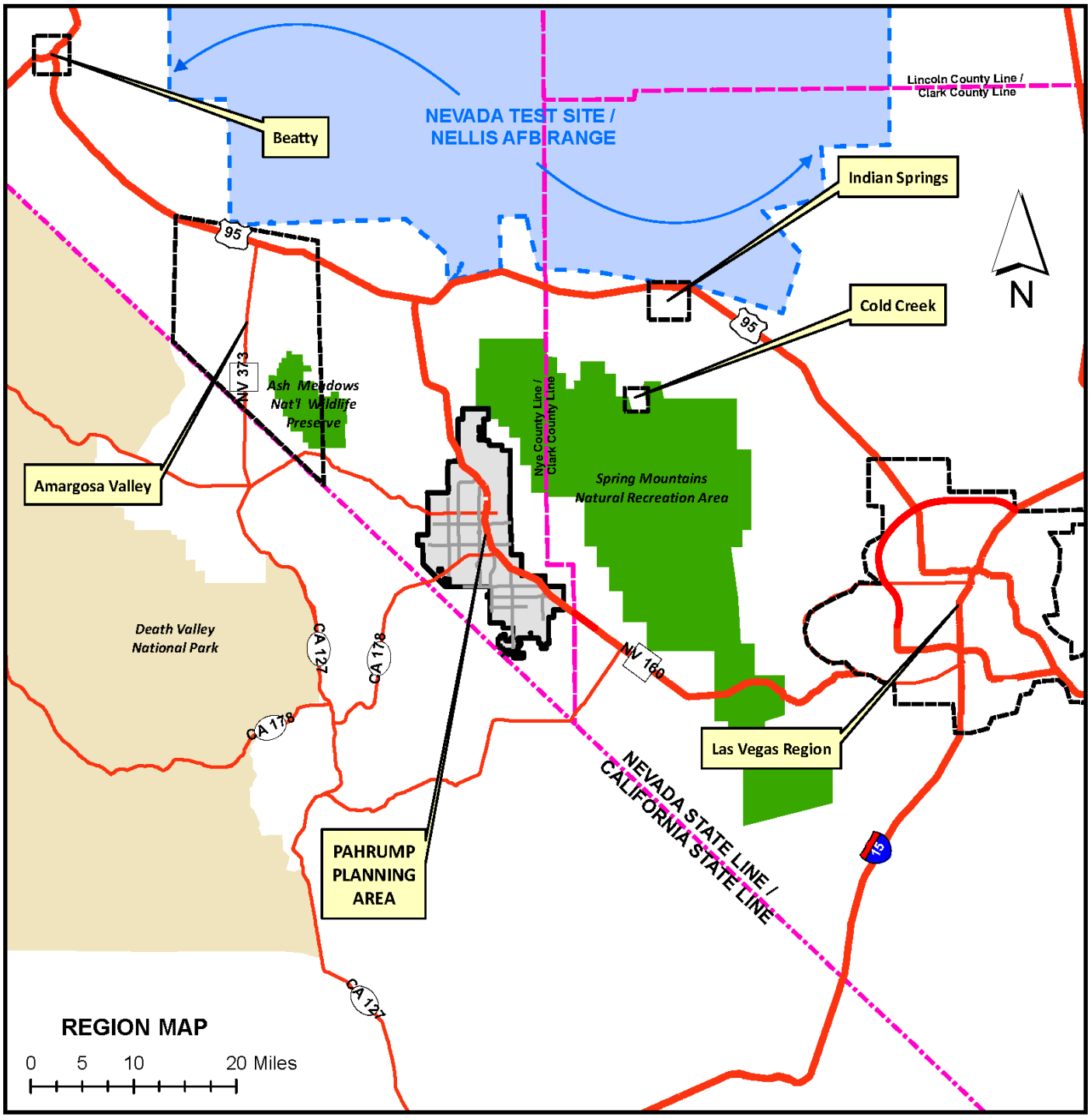
The applicant proposes to authorize activities associated with urban development on up to 1,000 acres of desert tortoise habitat for a period of ten (10) years.

Covered Activities

Applicant's activities which may result in incidental take of the desert tortoise and / or its habitat includes the following:

- Land clearance operations
- Activities associated with the construction of buildings and infrastructure.

Figure 2 Region Map



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Activities to be Covered Under this HCP

Covered Activities for this HCP include proposed land development (i.e., residential, commercial and other master planned activities) that will occur within the Planning Area (defined in Chapter 2) to support the urban growth in the Pahrump Valley. The construction-related activities associated with the proposed land development to be covered by the Permit for this HCP include the following:

- Earth work and site work operations including use of equipment, including heavy equipment, vegetation removal, excavation, trampling of vegetation, fill and compaction of soils, ground disturbance, and grading;
- Infrastructure development, maintenance, repair, and modification, as needed, including construction of roadways, and installation of utilities, landscaping, sidewalks, fences, signage, drainage and irrigation systems;
- Construction of residential and commercial buildings and other improvements; and
- Storage of heavy equipment.

Regulatory Framework

Federal Endangered Species Act (ESA)

The ESA and its implementing regulations prohibit the taking of listed species without prior approval. The ESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Federal regulation 50 CFR 17.3 further defines the term harm in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation.

Section 10 of the ESA establishes a process for obtaining a Permit which authorizes nonfederal entities to incidentally take federally listed wildlife or fish subject to certain conditions. Incidental take is defined by ESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Preparation of a conservation plan, generally referred to as a Habitat Conservation Plan (HCP), is required for all Section 10 (a) (1) (B) permit applications.

Section 10 Habitat Conservation Plan Requirements and Guidelines

During the HCP development phase, the permit applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of a Permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested
- measures that will be implemented to minimize, mitigate, and monitor impacts
- funding that will be made available to undertake such measures
- procedures to deal with unforeseen circumstances
- alternative actions considered that would not result in take
- additional measures that the FWS may require as necessary or appropriate for purposes of the plan

A Section 10 Permit is granted upon a determination by FWS that all requirements for permit issuance have been met. Statutory criteria for issuance of the permit specify that:

- the taking will be incidental
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable
- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided

- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild
- FWS has received assurances, as may be required, that the HCP will be implemented

During the post-issuance phase, Nye County and other responsible entities implement the HCP. The public is notified of permit issuance by means of the Federal Register.

National Environmental Policy Act

NEPA requires that federal agencies analyze the environmental impacts of their actions (in this instance, issuance of a Permit) and include public participation in the planning and implementation of their actions. The NEPA process helps federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions.

Species to be Covered by the Permit

The threatened Mojave population of the desert tortoise (*Gopherus agassizii*) is the only species identified as a "Covered Species" related to the Permit. There are no other threatened or endangered species that will be affected by the proposed covered activities within the boundaries of the Planning Area.

Chapter 2: Planning Area

The Planning Area consists of those public and private lands within the 209,239 acre PRPD and includes the unincorporated Town of Pahrump and areas of take (the Permit Area) and mitigation such as the Desert Tortoise Conservation Center in Clark County. It is located in southwestern most Nye County adjacent to the California border. The Permit Area of 92,489 acres includes approximately 86,467 acres of private land of which 23,177 acres will be subject to the fee described herein. 6,022 acres of BLM disposal lands are also included.

Existing and proposed land uses within the Permit Area of this HCP include residential, commercial and industrial development and master planned activities described previously. Most of the heavy industrial and commercial land uses are located along State Highways 160 and 372. The permit being sought by Nye County would authorize the incidental take of the desert tortoise from these activities that occur within the Permit Area.

Environmental Setting

Climate

The Pahrump Valley has a typical low-latitude desert climate with very hot summers and arid conditions. Precipitation occurs sporadically from either winter rains or summer thundershowers. In the Pahrump area, the average annual temperature is 78.4°F; the monthly average temperature ranges from 58.0°F in January to 101.5°F in July. Precipitation in the region is scant, with average annual rainfall and snowfall of 5.17 inches. Average monthly precipitation ranges from 0.12 inch in June to 0.83 inch in February. As is typical of the Mojave Desert, the winter precipitation (November through March) is greater than 60 percent of the annual amount. Snowfall seldom occurs, with only 0.4 inch, on average.

Topography

The topography and drainage of southern Nye County is characteristic of the Basin and Range Province, with internally draining basins separated by mountains and mesas. The trend of these mountain ranges, composed mostly of exposed bedrock, is generally north to south. The Pahrump Valley is defined to the northeast by Mt. Charleston and the Spring Mountain Range, to the west by Last Chance Range and to the south by the Resting Spring, Nopah and Kingston ranges. To the southeast, Pahrump Valley is separated from Mesquite Valley by a low topographic divide on the Mount Potosi fan.

The Pahrump Valley basin has a total area of about 1,050 square miles. The valley floor ranges in elevation from approximately 2,460 to 2,700 feet above mean sea level. Pahrump Valley is a hydrographically closed basin; thus, all runoff from the mountainous watersheds drains via four main washes into two playas. Erosional forces transport materials down slope from the mountains where the material coalesces into alluvial fans along the margins of the valleys and basins. These deposits are being actively eroded and dissected by deep gullies.

Geology and Soils

Soil surfaces within the Planning Area are composed primarily of sandy loam with poorly sorted pebble, rock, and cobble. Alluvial deposits of gravel, sand, silt, and clay make up the Pahrump Valley land surface. Near the mountains, in the upper part of the alluvial aprons, the soil surfaces consist largely of highly permeable massive beds of coarse, well-rounded to angular, poorly assorted materials. Lower on the alluvial aprons the beds become more sandy and silty, and on the lowest parts of the alluvial aprons the beds consist of coarser materials.

Surface and Groundwater

Nye County has no major lakes, reservoirs, or rivers, but there are important surface and groundwater resources in many locations throughout the County. All of the surface and groundwater resources are derived from the precipitation that falls over the County or adjacent recharge areas.

In recent years, the demand on groundwater resources has grown significantly, in part reflecting the growth of the various economic sectors of the County (Buqo, 2004). According to the Groundwater Pumpage Inventory for Pahrump Valley (Basin 162), prepared by the Nevada Division of Water Resources, a total of 11,298 acre-feet of commercial, irrigation, golf course, Central Nevada Utilities, Inc., and quasi-municipal water rights were utilized in 2006. In addition to this volume, an estimated 10,826 acre-feet of water was utilized by domestic wells, for a total of 22,124 acre-feet. The vast majority of current water use falls into four (4) categories: public water supply systems, domestic wells, mining, and agriculture (i.e., farming, livestock, and dairies).

Vegetation Communities

The Planning Area includes one main vegetation community: the creosote bush scrub plant community, which is dominated by creosote bush (*Larrea tridentata*) and (*Ambrosia dumosa*). Other plants commonly seen in the area include spiny menodora (*Menodora spinescens*), Nevada ephedra (*Ephedra nevadensis*), little leaf ratany (*Krameria parvifolia*), and the common matchweed (*Gutierreza sarothrae*). Mojave yucca (*Yucca schidigeera*) is also a dominant feature of the landscape. Western honey mesquite (*Prosopis glandulosa var. torreyana*) occurs along drainages and the edges of dry lake beds. The most common cacti are cottontop cactus (*Echinocactus polycephalus*), hedgehog cactus (*Echinocereus engelmannii*), and beavertail (*Opuntia basilaris*).

The majority of the lands within the town of Pahrump on the west side of State Route 160 are moderately to highly disturbed and vegetation observed in this area is not typical of the natural community. Russian thistle (*Salsola iberica*), Russian knapweed (*Acroptilon repens*), and salt cedar (*Tamarix ramosissima*) has invaded many of these disturbed plots of land. Other areas contain four-wing saltbush (*Atriplex canescens*) at densities varying from sparse (intermixed with mostly annuals) to very dense, with very little to no creosote bush. At the south end of the town of Pahrump, the private properties are quite disturbed and mostly cleared of vegetation or as described above for disturbed areas. The vegetation grades into less disturbed areas farther south just outside the town limits until it becomes typical of the native community. Vegetation at the north end of the town of Pahrump on both sides of State Route 160 and throughout the town on the east side of State Route 160 is typical of the native vegetation community.

Land Use

The Pahrump Regional Planning District Master Plan Update 2003 identified seven land use goals:

1. Future land use designations should attempt to accommodate existing land uses that preceded the Master Plan Update when possible.
2. Master planned communities and new subdivisions shall integrate design guidelines and a documented approach to infrastructure development for site plan approval.
3. Create a comprehensive zoning ordinance that designates what uses are allowed in each zoning category.
4. Open space and parks should be provided within the PRPD, especially within new master-planned communities
5. Develop mechanisms in the zoning ordinance to protect public health, safety, and welfare.
6. Community growth and development should maintain the limited, natural resources as an asset to the quality of life of residents.
7. Land use decision-making should be a succinct, participatory, and community-based process.

Since the publication of the Master Plan Update, the largest increase in land use has been medium and high density residential housing. In 2007, there were over 937 construction zoning reviews performed by Nye County Planning Department, the vast majority were for new homes.

Chapter 3: Covered Species

Desert Tortoise- Mojave Population

Scientific Name: *Gopherus agassizii*

Protection

Endangered Species Act

- August 4, 1989: Populations north and west of the lower Colorado River in Arizona and Utah (excluding the Beaver Dam slope population) listed as endangered under an emergency rule, without designated critical habitat (54 FR 32326—32331).
- April 2, 1990: Entire Mojave population west of the lower Colorado River in California and Nevada, and north of the lower Colorado River in Arizona and Utah, including the Beaver Dam slope, listed as threatened (55 FR 12178—12191).
- February 8, 1994: Critical Habitat Designated (59 FR 5820—5866).
- June 28, 1994: Final Recovery Plan approved (FWS 1994).

Nevada Administrative Code (NAC)

- Classified as Threatened under NAC 503.080 (Reptiles: Classification).

Other Rankings

- Nevada Natural Heritage Program State Imperiled (S2S3).

General Description

The desert tortoise is a large, herbivorous reptile found in portions of California, Arizona, Nevada, and Utah. It also occurs in Sonora and Sinaloa, Mexico. The Mojave population of desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Sonoran Desert in California. Desert tortoises reach 8 to 15 inches in carapace length. Adults have a domed carapace and relatively flat, unhinged plastron. Shell color is brownish, with yellow to tan scute centers. The forelimbs are flattened and adapted for digging and burrowing.

Ecology

Desert tortoises are most commonly found within the desert scrub vegetation type, primarily in creosote bush scrub. Optimal habitat has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches, where a diversity of perennial plants is relatively high and production of ephemerals is high (Luckenbach 1982, Turner 1982, Turner and Brown 1982). In addition, they occur in succulent scrub, cheesebush scrub, blackbrushscrub, hopsage scrub, shadscale scrub, microphyll woodland, Mojave saltbush-allscale scrub, and scrubsteppe vegetation types of the desert and semi desert grassland complex (FWS 1994). Within these vegetation types, desert tortoises potentially can survive and reproduce where their basic habitat requirements are met. These requirements include a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and over wintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow.

Throughout most of the Mojave Region, desert tortoises occur most commonly on gently sloping terrain with scattered shrubs, and where there is abundant inter-shrub space for growth of herbaceous plants. Soils must be friable enough for digging of burrows, but firm enough so that burrows do not collapse. Desert tortoises occur from below sea level to 5,300 feet, but the most favorable habitat occurs at elevations between approximately 1,000 and 3,000 feet (Luckenbach 1982).

Desert tortoises are most active during the spring and early summer, when annual plants are most common. Additional activity occurs during warmer fall months and occasionally after summer rainstorms. Desert tortoises spend the remainder of the year in burrows, escaping the extreme conditions of the desert. In Nevada and Arizona, desert tortoises are considered to be active from approximately March 15 through October 15.

Species Status

Planning Area

Within the Planning Area of this HCP, desert tortoise habitat occurs primarily on the east side of State Highway 160; however, tortoise habitat is present elsewhere in the Pahrump Valley at the rural/urban interface south/ southeast of Pahrump and extends out into undeveloped areas.

Desert tortoise habitat quality varies throughout Pahrump Valley, with higher quality less-disturbed habitat occurring on the east side of State Route 160 and in the northern and northwestern edges of the town boundary. In general, the habitat tends to be less disturbed and fragmented the farther east it occurs from the highway. Habitat also occurs in southern areas of Pahrump, but is patchy and interspersed with sandy mesquite hummocks. In general, the central area of Pahrump on the west side of State Route 160 has either been developed for residential and commercial purposes, or is dominated by abandoned agricultural fields and salt desert scrub, and for the most part does not provide suitable habitat for the tortoise.

Estimates of desert tortoise densities in Pahrump Valley are generally very low to moderate. Survey data for Pahrump Valley is limited, and has been conducted mostly on the surrounding Federal lands managed by the BLM. A description of known desert tortoise surveys conducted in Pahrump Valley is summarized below.

The town of Pahrump is surrounded by lands administered by the BLM. Most of the desert tortoise habitat in Pahrump Valley occurs on BLM-managed lands. The BLM collected data on 1,425 standard triangular strip transects from 1979 through the mid-1990's to determine relative densities of desert tortoise habitat in southern Nevada. Approximately 50 of these transects were conducted in Pahrump Valley. Standard transects consisted of walking the perimeter of an equilateral triangle, 0.5 mile on each side, while recording observations of desert tortoise sign in a 33-foot wide area. Average total adjusted sign was determined, and relative desert tortoise density was calculated based on the formula developed by Berry and Nicholson (1984). Most transects were conducted southeast and northwest of Pahrump on BLM-managed land. No surveys were conducted on private land. Relative densities ranged from very low (0 to 10 tortoises per square mile) to high (90 to 140 tortoises per square mile), with most relative densities ranging between 10 and 45 tortoises per square mile.

In 1992, Dames & Moore biologists conducted a field survey of the 80-acre landfill expansion and sewage treatment facility site and surrounding areas within the Town of Pahrump. A combination of survey techniques were employed including a full survey of the site of the proposed project (80 acres), a full survey of other County-owned land adjacent to the project site (50 acres), and zone of influence transects adjacent to the County land (80 acres). The results of the 1992 survey were that one (1) tortoise was observed to the east of the site of the proposed project. Also, a total of 21 sign were observed including a tortoise, burrows, carcass, and scat. Then in 1994, one tortoise was found in a burrow on the site of the' proposed project (WESTEC 1994).

An HCP for the Nye County landfill was completed in 1995. The 80-acre project site was surveyed for desert tortoises prior to initiation of construction activities. Four tortoises were found, which were relocated to adjacent suitable habitat (Coburn 1996). In 1998, the project proponent reported one dead

tortoise which was found on the project site (Darling Environmental and Surveying 1999). The landfill is located in Township 20 South, Range 53 East, south half of the northeast quarter of section 2.

In 2006, Knight and Leavitt Associates was retained to collect biological data for the desert tortoise as well as estimate the numbers of cacti and yucca present for the proposed construction of a new access roadway and water tank on approximately 2.0 acres of private land on the eastern extension of Manse Road, across State Route, 160 south of Pahrump. A desert tortoise survey was conducted according to the FWS Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise within the project area and the zones of influence (ZOI) at 33, 100, 200, and 400' meters from the project area perimeter. However, no observations of Mojave Desert Tortoise or sign were encountered during the field inventory on March 7, 2006 for 'the proposed project area and surrounding lands (Knight & Leavitt Associates, Inc. 2006).

On November 12 and 13, 2007, 100 percent pedestrian presence/absence surveys were conducted within the 120-acre project site of a proposed Federal detention facility located at 2250 East Mesquite Avenue in Pahrump (Louis Berger Group 2008). A total of 13 desert tortoise burrows were observed. Desert tortoise sign observed on the project site included six tortoise burrows and four burrows with tortoise scat, which indicates occupancy. One burrow was occupied by a burrowing owl, and two burrows were collapsed. No desert tortoises were encountered during the surveys. Based on results of the survey, the FWS estimated a relative density of 0 to 10 tortoises per square mile (FWS 2008).

Other HCPs in the Planning Area

A Permit for an HCP for the Nye County Landfill Expansion and Sewage Treatment Facility was issued on February 10, 1995, and is effective until February 10, 2025 (WESTEC 1994). The landfill and sewage treatment facility is located on the eastern edge of Pahrump and encompasses 80 acres. The permit was issued to Nye County. Preconstruction surveys for desert tortoises were required, and tortoises were relocated prior to initiation of construction activities.

Residential/Commercial Development and Master Plan Activities

Project Impacts to Desert Tortoise

The Pahrump Valley Desert Tortoise HCP addresses potential impacts to the desert tortoise that are related to possible development actions on private land. The permit would authorize the incidental take of tortoises on up to 1,000 acres of potentially suitable desert tortoise habitat on private land within the Fee Zone to meet the need for residential and commercial development in the Pahrump Valley.

Direct and Indirect Impacts / Anticipated Take

The Covered Activities will result in the loss of up to 1,000 acres of variable quality desert tortoise habitat, and the displacement of all desert tortoises that occur within this acreage. In addition, desert tortoises that wander on to construction sites may be incidentally injured or killed.

Trash deposition and accumulation within the Planning Area may attract and concentrate predators such as the common raven (*Corvus corax*) (Boarman and Berry 1995; Boarman et al. 1995; Boarman et al. 2006). Ravens and other predators such as coyotes (*Canis latrans*), kit fox (*Vulpes macrotis*), and free-roaming dogs tend to concentrate around urban areas where food resources are subsidized by human populations, thus increasing predation on available prey species such as desert tortoises. Raven numbers were shown to decrease with distance from urban sites in the west Mojave, placing tortoises that occur in the urban-desert interface at higher risk of predation (Kristan and Boarman 2003). Trash can also pose a threat to tortoises if eaten. Trash items known to be eaten by tortoises, including balloons, plastic, and other non-food items, can become lodged in the gastrointestinal tract or entangle heads and legs, causing injury or death (Burge 1989; USFWS 1994).

Urban development may promote the spread of invasive plants. Invasive plants outcompete and replace many native plants desert tortoises favor as a food source. Non-native plants may not be as nutritious as native plants. Recent studies have shown that calcium and phosphorus availability are higher in forbs than in grasses and that desert tortoises lose phosphorus when feeding on grasses but gain phosphorus when eating forbs (Hazard et al. 2002; Nagy et al. 1998). This suggests that the proliferation of non-native grasses such as *Schismus barbatus* (Mediterranean grass) and *Bromus madritensis* var. *rubens* (red brome) to the exclusion of native forbs and other plants places desert tortoises at a nutritional disadvantage (D'Antonio and Vitousek 1992).

The spread of invasive plants promotes greater frequency of wildfire. Wildfires in Pahrump Valley have resulted in the injury and death of wild desert tortoises (J. Krueger, USFWS, pers. comm.. 2009). Fire can also compromise the quality of tortoise habitat by reducing the vegetation that provides shelter, cover and nutrition for tortoises (Brooks and Esque 2002; Esque et al. 2003). Subsequent conversion of the native desert scrub vegetation to a non- native grassland can result in a change in the plant community that is less desirable for tortoises.

Urbanization promotes increased human use of the area and surrounding wildlands, which results in habitat degradation and destruction, and injury and mortality of tortoises. Unconfined pets may kill or wound tortoises, and unauthorized collection of desert tortoises results in uncontrolled loss of individuals from wild populations. Release of pet tortoises into wild populations promotes the spread of disease and dilution of the gene pool. Off-highway vehicle access, dumping of trash, and removal of vegetation or unimproved road proliferation are activities that occur in and beyond the urban-wildland

interface that may result in injury and mortality to tortoises and degradation of their habitats. Urbanization also promotes habitat fragmentation from the building of infrastructure such as residential fencing, roads, railroads, and utilities (Edwards et al. 2004; Brooks and Lair 2005). These barriers to movement and population connectivity have implications to exchange of genetic material, which can lead to inbreeding (Boarman and Sazaki 1996). Construction of new roads through desert tortoise habitat increases the chance of mortality from vehicle encounters.

Chapter 5: Minimization and Mitigation Measures

Minimization and mitigation measures are those actions that minimize, and mitigate the potential impacts of the Covered Activities on the Covered Species (FWS 1998). Nye County is proposing the implementation of minimization and mitigation measures described below, to minimize and mitigate the impact of authorized incidental take of the desert tortoise to the maximum extent practicable and to meet the biological goals and objectives of this HCP. Implementation of the minimization and mitigation measures in this HCP is anticipated to be a cooperative effort among Nye County, the FWS, and BLM.

Biological Goals and Objectives

The biological goals and objectives for the desert tortoise envisioned under this HCP are listed below. The purpose of identifying these goals and objectives is to establish a framework for developing the minimization and mitigation measures for this HCP.

Biological Goal 1: Reduce desert tortoise mortality in Pahrump Valley

Objective 1

Minimize the potential impact on desert tortoises as a result of development activities.

Biological Goal 2: Compensation for the loss of desert tortoise habitat.

Objective 2:

Provide quality habitat lands in the Pahrump Valley or monetary support for such elsewhere.

Objective 3:

Support conservation and recovery efforts for the desert tortoise.

Desert Tortoise Conservation Measures

Conservation measures are typically categorized as avoidance/ minimization and mitigation.

- Avoidance/ Minimization measures reduce the potential effects to lesser levels over time.
- Mitigation measures compensate for the remaining effects after minimization measures are implemented.

Collectively, the purpose of these conservation measures is to offset the potential effects of an action on the desert tortoise from construction-related activities as part of the proposed development within the Planning Area.

The following sections describe the proposed conservation measures to minimize and mitigate potential effects to the desert tortoise and its habitat anticipated under this HCP.

Avoidance/ Minimization Measures

Avoidance/ Minimization measures for the Pahrump Valley Desert Tortoise Habitat Conservation Plan will consist of the following:

- Desert tortoise clearance surveys
- An Education program
- Fencing/ barriers around new development

The following Minimization measures are applicable to all lands in the Fee Zone, including those lands owned by Nye County and the Town of Pahrump.

Desert Tortoises Clearance Surveys

Prior to surface disturbing activities within the Fee Zone, the landowner will install a temporary tortoise-proof fence around the perimeter of the construction footprint. Fencing around new development will be maintained during the time that construction or operational activities continue on these sites.

A Nye County employee who is a qualified biologist approved by the FWS (County qualified biologist) will conduct 100 percent clearance surveys of the property. Two complete passes shall be conducted. If a tortoise is located during the second survey, a third survey will be required. All desert tortoise burrows, and other species' burrows that may be used by tortoises, shall be examined to determine whether the burrow is occupied by desert tortoises. Tortoises that are found during clearance surveys will be relocated to a location to be determined upon consultation with the FWS. Options for tortoise relocation will include either moving to adjacent Federal lands or transporting to the DTCC.

All potential desert tortoise burrows located within the construction zone shall be excavated by hand by the County qualified biologist, tortoises and eggs removed, and burrows collapsed or blocked to prevent occupation by tortoises and other wildlife species. All desert tortoise handling and removal, and burrow excavations, including nests, shall be conducted by the County qualified biologist in accordance with the FWS-approved protocol (Desert Tortoise Council 1994, revised 1999). If the Desert Tortoise Council or FWS releases a revised protocol for handling of desert tortoises before initiation of project activities, the revised protocol shall be implemented for the project area.

Prior to construction activities, the County qualified biologist shall present a desert tortoise education program to all personnel who will be on-site, including but not limited to contractors, contractors' employees, supervisors, inspectors, and subcontractors. 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 under the Endangered Species Act, the terms of the HCP and Permit, the means by which employees can facilitate this process, responsibilities of workers, the County qualified biologist, and supervisors, and reporting procedures to be implemented in case of desert tortoise encounters or non-compliance with the Permit. All informed persons shall sign a statement indicating that they have completed the education program and understand fully its provisions.

Project personnel shall be notified that they are not authorized to handle or otherwise move desert tortoises encountered on the construction site. Instead, project personnel shall immediately contact the County qualified biologist. The County qualified biologist will inform project personnel on how to proceed and/or will move the desert tortoise out of harm's way.

Clearance surveys will not be required in the No-Fee zone. Existing development (i.e. development in existence prior to the adoption of this plan) will be considered non-conforming and exempt from clearance requirements.

Educational Component

A desert tortoise education program will be developed by Nye County with assistance from the FWS, which will be incorporated into the science curriculum of the Nye County School district. The Planning Department will make available to the schools of Nye County course materials that will assist the science teachers in presenting to the students of the school district information about the Mojave Desert and its wildlife with a focus on the desert tortoise and understanding it and its environment.

Desert Tortoise Fencing/ Barriers

Urban development indirectly affects desert tortoise populations through spillover of human impacts, such as unauthorized off-highway vehicle use and free-roaming dogs, into the surrounding habitat.

This minimization measure entails installing and maintaining appropriate barriers at the urban wildland interface or adjacent to other uses incompatible with desert tortoise populations. Depending on the particular impacts of interest, the actual type of barrier may differ. For example, permanent tortoise-proof fencing (Appendix B) may be appropriate adjacent to aqueducts or off-highway vehicle areas, temporary fencing around new phased developments, but larger fences, road barriers, or block walls may be necessary adjacent to urban development to limit off-highway vehicle use and free-roaming dogs. If construction occurs during the tortoise inactive period (November-February), temporary fencing or monitoring of phased development may not be required, as determined by the County qualified biologist prior to the initial clearance survey.
Generally, priority areas for this measure include any area of tortoise habitat that will be cleared for urban development. Areas of particular concern are:

- Perimeters of new large residential developments
- Dead-end streets within existing phased residential developments that access road-less, undisturbed desert

As described in the Implementation chapter, Nye County will meet with developers to develop a set of standards that will describe when, where, and what type of fencing will be required around new development in the Fee Zones. If an area is found to be occupied by desert tortoises and adjacent land is vacant suitable habitat, the County qualified biologist may determine that fencing is necessary in certain circumstances. In the instance of large, phased developments, fencing may consist of the temporary plastic design that will enclose the phase area to be disturbed. The temporary fencing may be reused around the next phase of development until the entire development site is graded. The ultimate perimeter wall around the development will be expected to prevent future disturbance of adjacent land and migration of tortoises onto the developed site. If the construction footprint is smaller than the owner's land parcel, only the construction footprint must be fenced, and not the entire parcel.

Existing development (i.e. development in existence prior to the adoption of this plan but excluding deadend streets described previously) will be considered non-conforming and exempt from the fencing requirements.

If it's determined that fencing around new development is required, the developer will be responsible for funding, constructing, inspecting, and maintaining said fencing according to FWS recommended specifications for desert tortoise exclusion fencing (see Appendix B).

Mitigation Measures

Mitigation measures for the Pahrump Valley Desert Tortoise Habitat Conservation Plan will consist of the following:

- Assessment of a mitigation fee
- Contribution to Desert Tortoise Conservation and Recovery Actions
- Litter abatement on construction sites and along roads
- Tortoise warning road signs
- Off Road vehicle use limitation
- Speed limitation

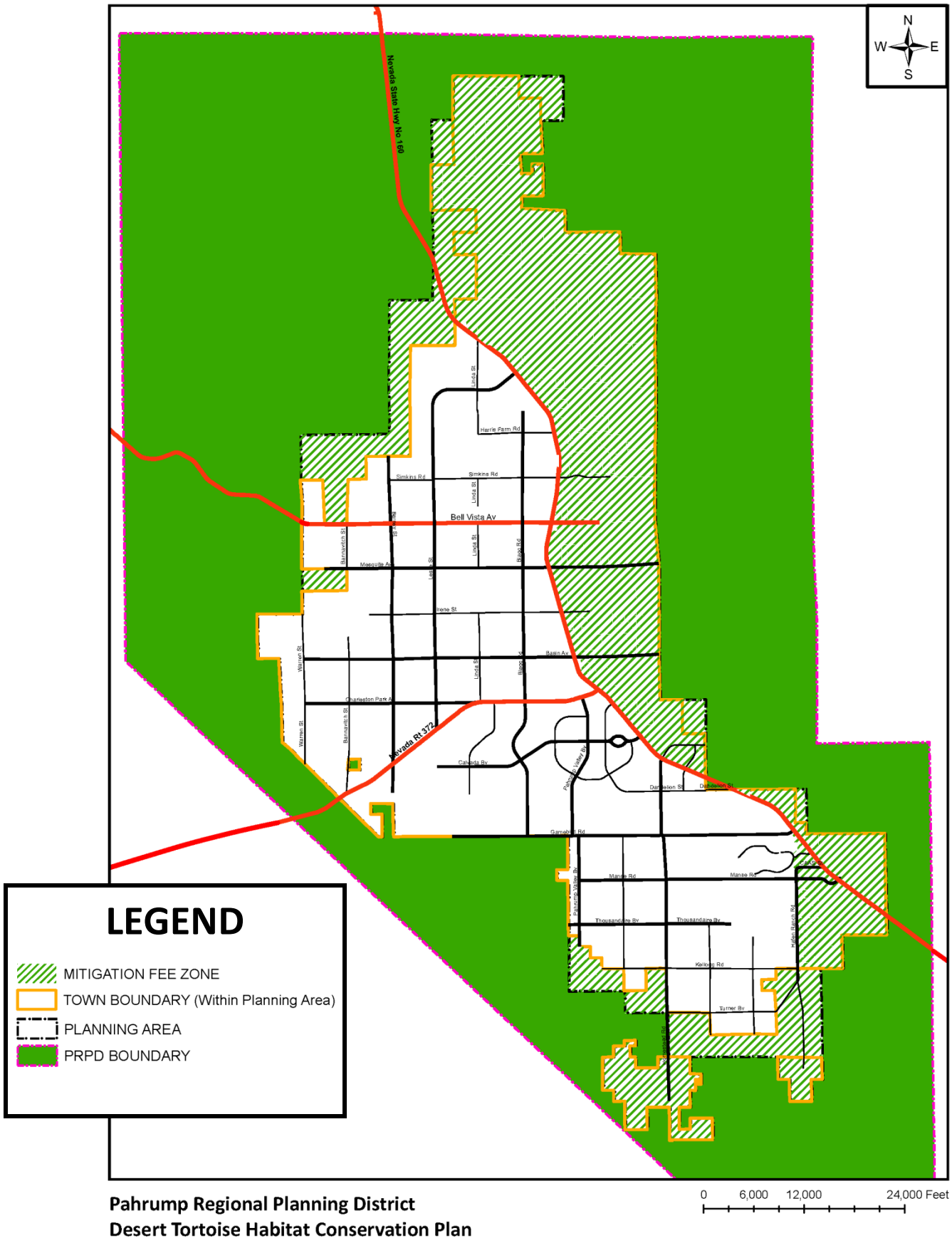
Mitigation Fees

Minimization measures will not totally offset the potential impacts from land development activities on the desert tortoise and its habitat within the Permit Area. Therefore, land developers will pay a per-acre

development fee of $550.00 per acre for disturbance of up to 1,000 acres of potentially suitable desert tortoise habitat on non-Federal property within the Fee Zone (See Figure 3). It is expected that $401,500.00 in fees will be generated from development in the Fee Zone. These development fees will be set aside in an interest bearing account managed by Nye County until needed to implement this plan. The funds generated will be used toward the implementation of the mitigation measures as described to compensate for the incidental take of the desert tortoise. Vacant land owned by Nye County and the Town of Pahrump shall be exempt from said fee requirements when such land is within the Permit Area Fee Zone.

The mitigation fee will be based on a two-zone fee system as defined below. The zones were delineated based on desert tortoise occurrence data and the status of existing desert tortoise habitat within the Permit Area.

Figure 3: Fee Zone



Pahrump Regional Planning District
Desert Tortoise Habitat Conservation Plan

- No Fee Zone: $0/acre: agricultural lands, governmental activities, and lands designated as in the No Fee Zone on the Fee Zone Map, and lands or development one half acre in size or less as described below.
- Fee Zone: $550/acre: area within designated fee zone

Lands that have been or currently are under cultivation within the Pahrump town boundaries no longer support habitat for the desert tortoise. Therefore, these lands are exempt from the payment of mitigation fees.

New development sites that are one half acre or less in size will be exempt from fees. These lands are those within the town boundaries that will have a residential use with ancillary uses, typically on large, multi-acre parcels, to the extreme north or extreme south end of the valley. It is the intent of this plan to support the rural aspects of these areas where a residence is located on a large parcel with undisturbed desert around them.

Determination whether a parcel will be subject to the fee zone system described above will be done when the developer submits to the Nye County Planning Department plans and documentation for a site development review prior to construction.

Contribution to Desert Tortoise Conservation and Recovery Actions

To mitigate for the displacement of tortoises Nye County proposes to utilize a portion of the Mitigation Fee to provide funding to support desert tortoise conservation and recovery actions at the DTCC located south of Las Vegas.

Most of the desert tortoise habitat in Nye County is managed by the BLM for multiple use purposes, and only seven (7) percent is in non-Federal ownership. No designated critical habitat or desert tortoise Areas of Critical Environmental Concern occur within Nye County. Since the desert tortoise needs large expanses of unfragmented habitat to support a viable population, the availability of appropriate locations to manage specifically for the tortoise in Nye County may be limited.

In the event that land availability for desert tortoise habitat restoration and/or protection in Nye County is limited, not feasible, or impractical, a portion of the mitigation fees will be used to support desert tortoise conservation, management, and recovery activities based at the DTCC, as recommended by the FWS's Desert Tortoise Recovery Office (DTRO).

The DTCC is a facility located in Clark County south of Las Vegas, Nevada, that receives desert tortoises displaced from urban development and other construction activities in southern Nevada that are authorized or permitted under section 7 or section 10 of the ESA. As well as providing professional care for displaced tortoises, the DTCC provides facilities for desert tortoise research and development of translocation and head starting programs, which are important for promoting the conservation and recovery of the tortoise. Additional management benefits provided by the DTCC include genetic analysis to maintain variability while ensuring that genetically distinct populations are not hybridized or diluted prior to repatriation back in to wild populations.

The DTCC is managed cooperatively under a Memorandum of Understanding by the FWS, BLM, Nevada Department of Wildlife, and a consortium of zoological institutions known as the Conservation Centers for Species Survival (C2S2). The C2S2 member institutions work together to provide leadership in studying and creating self-sustaining populations *ex situ* and *in situ* of some of the world's most

endangered species. The Zoological Society of San Diego, a member of C2S2, is in charge of daily operations at the DTCC.

Desert tortoise conservation, management, and recovery programs are being developed at the DTCC in conjunction with specific population augmentation efforts to mitigate for loss of desert tortoise habitat associated with approved habitat conservation plans in Nevada. It is the intent of this HCP to contribute funding to support these programs at the DTCC. Nye County will provide this funding to the Zoological Society of San Diego.

Construction Litter Control

A litter control program shall be implemented to minimize predation on tortoise by ravens and other predators. This program will include the instruction of developers by the County qualified biologist of the required removal of trash from construction sites to enclosed trash receptacles following the close of each work day, and proper disposal of trash by developers in a designated waste disposal facility. The program will also include the installation of additional signs along county roads indicating that vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from blowing out along the road. This program will implemented through conditions of approval for site development review applications and building/ grading permits.

Tortoise Warning Signs

A program to locate warning signs along roadways in the fee areas will be implemented. The installation and maintenance of these signs will be the responsibility of Nye County, and will be considered as in kind services to be credited to the total cost of the plan.

Limitation of Off Road Vehicle Use

Access to public lands will be limited to existing roads as defined by Nye County Public Works. Unfinished subdivision streets that deadend at edges of open desert and provide unauthorized access onto federally-managed lands will be fenced or blocked by developers, as will be required in the development plan approved by Nye County. Access from unfinished subdivisions to follow up phases of development will be allowed when permits for development have been obtained. Nye County will consult with BLM to determine those areas where such intrusions have been a concern and coordinate with the development community. This program will be implemented through conditions of approval for site development review applications and building/ grading permits.

Speed Limits of Unsigned Roads

A program of posting signs that limit the speed of vehicles on unsigned roads in the fee areas to 25 MPH will be implemented. Nye County will coordinate with BLM to determine those areas where vehicle speed has been a concern.

Chapter 6: Plan Implementation

HCP Administration

Nye County will be responsible for the administration and implementation of this HCP and the accompanying Permit. County staff will have sufficient knowledge and background to professionally accomplish this task or qualified subcontractors will be hired as needed. The funding source for implementation of this HCP is derived from mitigation fees assessed on development construction.

Monitoring and Reporting

Nye County will prepare an Annual Report no more than 60 days after the end of the calendar year detailing the accomplishments of the previous year and how well the biological goals and objectives of the previous year were met. The annual report will include information on problems encountered in mitigation or minimization.

The Annual Report will include the following information:

- The disposition of all desert tortoises collected and/or taken;
- Number of tortoises displaced, injured or killed
- The number of acres of land disturbed within the Permit Area
- All fees collected
- Fund disbursement, i.e. administration costs, habitat restoration project(s), etc.
- A progress report describing the status of implementing the conservation measures in the plan;
- Progress reports of protection methods for habitat rehabilitation, protection and restoration

The Annual Report will provide sufficient information to document compliance with the Section 10 permit. If additional information is required, the FWS must submit a request in writing to Nye County within 30 days of receipt of the Annual Report. Nye County shall have 30 days to respond to the FWS's request.

Implementation Standards

Upon adoption of this HCP Nye County will form an implementation committee to prepare standards for fencing and barriers around new development; trash enclosures; surveys; plan and permit reviews; and a public information program with brochures and instructional materials consistent with this plan and accepted standards.

Chapter 7: Changed and Unforeseen Circumstances

Section 10 regulations [50 CFS 17.22 (b) (2) (iii)] require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances (No Surprises) Rule [50 CFR 17.21 (b) (5)-(6) and 17.22 (b) (5)-(6); 63 F.R. 8859] defines "changed circumstances" and "unforeseen circumstances" and describes the obligations of Nye County and FWS.

The purpose of the "No Surprises" Rule is to provide assurances to nonfederal landowners participating in habitat conservation planning (under the ESA) that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of Nye County.

Changed Circumstances

Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the FWS and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such an event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the mitigation measures agreed to in this HCP), then Nye County will implement those measures as specified in the plan. However, if additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the FWS will not require these additional measures absent the consent of Nye County, provided that this HCP is being "properly implemented."

The process for responding to Changed Circumstances will be initiated as soon as practicable but no later than 60 days after a Changed Circumstance is revealed. Impacts and responses will be summarized in a report and submitted to the FWS. The low likelihood of changed circumstances during the duration of the permit or until the long-term desert tortoise HCP is approved makes the occurrence of any such circumstance within the permit period unlikely. However, the following addresses circumstances that may be regarded as changed or unforeseen.

Change in Listing Status

If the desert tortoise is delisted no more minimization and mitigation will be required. If its listing status is changed from threatened to endangered, the HCP conditions still apply.

Listing of New Species

If a species that occurs within the project boundary is listed under the ESA during the term of the Permit, the FWS may consider this as a changed circumstance. There are no candidate species or species of concern known to occur within the project boundaries so the likelihood of such a listing is low. However, if a new listing occurred, the section 10 permit will be reevaluated by the FWS and the covered activities may be modified, as necessary, to ensure that the activities covered under the HCP are not likely to jeopardize the continued existence of the species or result in take or adverse modification of any designated critical habitat of the newly listed species. Nye County will implement, as necessary, the modified covered activities identified by the FWS to avoid the likelihood of jeopardy, take, or adverse modification of the designated critical habitat of the newly listed species. Nye County will continue to implement such modifications until such time as Nye County has applied for and the

FWS has approved an amendment of the section 10 permit. As stated above, the likelihood of listing a new species that occurs within the project boundary is low.

Fire
If fire occurs on HCP rehabilitated sites on federal land Nye County, will restore the rehabilitated lands within the constraints of funds from mitigation fees, and maintain them in perpetuity.

Unforeseen Circumstances

The FWS policy defines unforeseen circumstances as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and FWS at the time of the plan's negotiations and development and that result in a substantial and adverse change in status of a covered species. In case of an unforeseen event, the FWS shall have the burden of demonstrating that an unforeseen circumstance has occurred and that such circumstance is having or is likely to have a significant adverse impact on the covered species and/or its habitat. The findings of the FWS must be clearly documented and be based upon the best scientific and commercial data available regarding the status and habitat requirements of the species. Based on the results of an expedited analysis of the changed or unforeseen circumstance(s) and the information provided by Nye County, the FWS shall provide the justification and approval for any reallocation of funds or resources necessary to respond to the circumstance(s) within the existing commitments of Nye County under this HCP.

The FWS will determine that an unforeseen circumstance has occurred by evaluating factors such as 1) the size of the current range of the affected species; 2) percentage of range conserved by the HCP; 3) percentage of range adversely affected; 4) the ecological significance of the portion of the range covered by the HCP; 5) the level of knowledge of the affected species or habitat; and 6) whether failure to adopt additional conservation measures would significantly reduce the likelihood of survival and recovery of the species in the wild. In implementing the "No Surprises" Rule, Congress intended that additional mitigation requirements should not be imposed on a Section 10 (a) (1) (B) Permittee in the event of unforeseen circumstances.

If the FWS determines that an unforeseen circumstance has occurred and additional conservation measures subsequently are deemed necessary to provide for the conservation of a species that is otherwise adequately covered under the HCP, and the HCP is properly functioning, the obligation for such measures shall not rest with Nye County. The FWS agrees that it will consider all practical measures and alternatives, and adopt only those that will have the least effect and impact on the lifestyle and economy of Nye County, while at the same time addressing the unforeseen circumstance and the survival and recovery of the affected covered species and/or its habitat.

In the unlikely case of an unforeseen event, Nye County shall immediately notify the FWS staff that has functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the FWS shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the FWS determines that additional conservation and mitigation measures are necessary to respond to unforeseen circumstances where the HCP is being properly implemented, the additional measures required of Nye County must be as close as possible to the terms of the original HCP, and must be

limited to modifications within conserved habitat areas, if any, or to the conservation plan's operating conservation program, and must maintain the original terms of the conservation plan to the maximum extent possible. Additional conservation and mitigation measures will not involve the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the conservation plan without the consent of Nye County.

Chapter 8: Funding

A demonstration that adequate funding is available for implementation of conservation measures is one of the fundamental elements that the HCP must present before a Section 10 permit is issued. Funding is essential to demonstrate that implementation of the conservation measures is consistent with the cumulative level of take. Funding for implementation of this HCP will be accomplished through the collection of mitigation fees from non-federal landowners prior to land disturbance activities within the Pahrump Valley Regional Planning District.

Funding Sources

Nye County plans to fund the Pahrump Valley Desert Tortoise Habitat Conservation Plan primarily from desert tortoise mitigation fees paid by the developers as presented in Section 6.

Desert Tortoise Mitigation Fee

Nye County proposes the imposition of a mitigation fee ($550) described previously in Chapter 5 for all development activities on private land in the Planning Area. The $550 fee is considered the optimal amount considering the amount of area in the No Fee Zone. The amount is consistent with the five other major municipalities in southern Nevada who, by ordinance have adopted the $550 fee in accordance with NRS 244.386. Although Nye County may not be under same mandate because of its population the success of this HCP is contingent on a level of funding sufficient to accomplish the goals of the Plan. Because of the time length of the HCP and were the option be available per the NRS for an annual adjustment of the fee according to the Consumer Price index, a fee less than $550 would have been considered. In light of the size of the No-fee zone and inability to adjust for the inflation of future costs Nye County will therefore adopt an ordinance establishing the $550 amount as the per acre fee as a mitigation of development in the Pahrump valley prior to the issuance of a Permit.

The mitigation fee will be imposed on all land disturbances resulting from the covered activities, excluding previously or currently used agricultural lands, governmental activities, and single family residential properties one half acre in size or less, in the fee zone on private and public lands subject to disposal within the Permit Area which will be subject to development permits as defined by Nye County Zoning and Building Codes. The subject area of the Fee Zone is generally the portion of Pahrump east of SR 160 in the northern and southern limits of the town boundary and includes BLM disposal lands around the perimeter of the town. Mitigation fees will be paid prior to land disturbance and at the time of issuance of the building or grading permit. Mitigation fees will be paid for disturbance of up to 1,000 acres of desert tortoise habitat on private land within the Fee Zone projected to be developed under this HCP. The above mentioned ordinance will establish the payment of the mitigation fees upon application for said permits.

The fees will be used to develop public education programs and implement the mitigation measures. It is the focus of this HCP that county staff will be qualified to act on behalf of the FWS and perform in kind services so collected mitigation fees may be concentrated towards other mitigation efforts. The science curriculum through the school district will be taught by credentialed teachers as an extension of normal science studies that focus on the uniqueness of the Mojave Desert. When a County qualified biologist is unavailable to conduct clearance surveys, developers are expected to hire qualified biologists for such activities. Nye County will require developers to furnish a copy of the approval letter from the FWS for the authorized biologist that would conduct the survey prior to issuance of a grading or building permit.

Fee Collection and Management

The Nye County Planning Department will collect mitigation fees when the developer pays other mandatory fees when applying for grading or building permits. The revenues collected will be deposited into an "Enterprise" account (interest bearing account). The income from such fees shall be used exclusively to fund all Section 10 permit administration expenses and implementation of the mitigation measures set forth in this HCP.

It is estimated that $401,500.00 will be collected through fees during the 10 year permit period. This is based on full development of the allowed 1,000 acres minus 270 acres of County/ Town lands that are exempted from fees. Adjusted for inflation and after program costs and in kind services are considered net income will result in $439,890.00 which will be available to support habitat restoration activities. See Table 1.

TABLE 1
PROJECTED ANNUAL REVENUES AND COSTS OF THE HCP
(2009 DOLLARS)

Year	Projected Acres Disturbed per Year	Income/year @ $550 per Acre for 730 Acres (1)	Interest Income @ 2 percent plus inflation (3 percent)	Program Costs	Net Annual Income	DT Conservation/ Recovery Cumulative Endowment (2)
1	73	40,150	1,205	24,343.00	17,012.00	29,057.00
2	73	40,150	1,205	24,343.00	17,012.00	41,102.00
3	73	40,150	1,205	24,343.00	17,012.00	53,147.00
4	73	40,150	1,205	24,343.00	17,012.00	65,192.00
5	73	40,150	1,205	24,343.00	17,012.00	77,237.00
6	73	40,150	1,205	24,343.00	17,012.00	89,282.00
7	73	40,150	1,205	24,343.00	17,012.00	101,327.00
8	73	40,150	1,205	24,343.00	17,012.00	113,372.00
9	73	40,150	1,205	24,343.00	17,012.00	125,417.00
10	73	40,150	1,205	24,343.00	17,012.00	$137,462.00

(1) 270 acres of the Fee Zone are owned by the County/ Town of Pahrump
(2) Includes $120,450.00 in kind contributions; $12,045.00 per year (Table 2, pg. 38)

Table 2 below details how the fees will be allocated over the period of the permit.

Table 2
PROJECTED COSTS OF HCP IMPLEMENTATION

TASK	Estimated Cost for 10 years	10 Year value	Estimated Cost per year
Administration	15% of $526,900.00	79,035.00	7,904.00
Fencing around County and Town properties	5% of $401,500.00(1)	20,075.00	2,008.00
Public Information Brochures	10% of $401,500.00	40,150.00	4,015.00
In Kind Contributions			
Tortoise signs	10% of $401,500.00	40,150.00	4,015.00
Covered load signs	10% of $401,500.00	40,150.00	4,015.00
Speed limit signs	10% of $401,500.00	40,150.00	4,015.00
Support of DTCC	40% of $401,500.00	160,600.00	16,060.00
Total		$401,500.00	$40,150.00
Minus In Kind Contributions		158,070.00	15,807.00
Actual Program Cost		$243,430.00	24,343.00

(1) 730 ac x $550 per ac = $401,500.00 or $40,150 per yr for 10 years

Chapter 9: Minor and Major Amendments

There are two types of changes which may be made to the HCP and/or the HCP permits and/or its associated documents:

- Minor Amendments
- Major Amendments

Minor and Major amendments shall be processed in accordance with all applicable legal requirements, including but not limited to the ESA, NEPA, and any applicable federal regulations.

Minor Amendments to the HCP

Minor Amendments to the HCP are changes to the Plan but do not modify the scope or nature of activities or actions covered by the permit or result in operations under the HCP that are significantly different from those contemplated or analyzed in connection with the Plan as approved.

Minor Amendments to the HCP may include, but are not limited to the following:

- Correction of any maps or exhibits to correct mapping errors or to reflect previously approved changes in the Section 10 (a) (1) (B) Permit or HCP.
- Modifying reporting protocols for annual reports.
- Minor changes to monitoring or reporting protocols.
- Other modifications to the HCP that are consistent with the biological goals and objectives of the HCP and that the FWS has analyzed, and that does not affect the scope of the HCP's impact and conservation strategy, change the amount of take, add new species, and change significantly the boundaries of the HCP.

Nye County may submit the proposed minor amendment to FWS for review. The FWS shall respond in writing to a proposed revision within sixty (60) calendar days of receipt of the request. The response shall 1) concur in the proposed revision; 2) identify additional information necessary to enable the FWS to approve or disapprove the revision, or 3) disapprove the revision. If the FWS disapproves the revision; it must be processed as an amendment to the Plan and the Permit and shall include in its written response an explanation of its determination.

Major Amendments to the HCP

Major Amendments to this HCP may or may not require amendment of the Section 10 (a) (1)(B) Permit. The following summarizes the types of changes which may require a Plan Amendment and the procedures for approval.

1. The listing under the ESA of a new species within the Permit Area, which is not an HCP Covered Species but which may be affected by HCP Covered Activities and for which Nye County seeks coverage under the HCP and Section 10 (a)(1)(B) Permit.

2. Significant changes to the HCP which were not addressed in the HCP including, but not limited to the following:

a) Changes to the approach for calculating compensation for incidental take of the desert tortoise within the Permit Area, which would increase the levels of incidental take permitted for the HCP.

b) Changes to the funding except as otherwise provided for in the HCP

c) Changes to the Covered Activities which were not addressed in the HCP as originally adopted, and which otherwise do not meet the revision provisions above.

d) Extending the term of the HCP Permits past the specified 10-year term.

Amendments to the Section 10 (a) (1) (B) Permit

The amendment of a Permit shall be treated as an original permit application. Such applications typically require submittal of a revised HCP, a completed permit application form with appropriate fees, and preparation of an environmental review document prepared in accordance with NEPA.

Following receipt of a complete application package for a proposed Amendment to a Permit, the FWS shall publish a notice of the proposed amendment in the Federal Register. The FWS shall use its reasonable efforts to process the proposed amendment within sixty (60) calendar days of publication, except where longer periods are required by law.

Suspension, Revocation, and Termination

The FWS may suspend, revoke, or terminate a Permit if Nye County fails to implement the HCP in accordance with the terms and conditions of the permits. Suspension, revocation, or termination of the Section 10 (a)(1)(B) permit, in whole or in part, by the FWS shall be in accordance with 50 CFR 13.27-29,17.22 (b)(8), and 17.32 (b)(8). Additionally, notwithstanding anything to the contrary in the HCP, the FWS retains statutory authority, under both Sections 7 and 10 of the Act, to revoke Permits that are found likely to jeopardize the continued existence of a species in the wild.

Chapter 10: Alternatives to Take

The "Proposed Action" Alternative and the "No Action" Alternative have been considered by the Applicant and are summarized below.

No Action Alternative

Under the No Action Alternative, the FWS would not issue a Permit to Nye County for the proposed development within the Pahrump Valley. Under this alternative, the individual landowners would be responsible for obtaining required land use and environmental permits. Without individual section 10(a)(1)(B) permits, actions that could result in take of listed or candidate species on non-federal lands would be prohibited under Section 9 of the ESA. Individual landowners would also be responsible for negotiating mitigation measures with the appropriate regulatory agency. Furthermore, mitigation measures and assessment of mitigation fees for a future long-term HCP would be difficult to implement, because the measures would be identified and implemented for each individual Section 10 permit.

Under the No Action Alternative, the oversight, coordination, and funding mechanisms afforded by the HCP would not be available to the FWS in one consolidated package. As such, the number and dollar amount of fees collected would be sporadic and less predictable. The same level of local desert tortoise conservation efforts proposed for the Pahrump Valley Regional Planning District would be less likely to occur. Voluntary conservation actions would continue to be initiated by private individuals and organizations. The existing FWS recovery plan for the desert tortoise would continue to be the guiding planning document for implementing conservation measures for the tortoise.

Proposed Action Alternative

Under the proposed Project Alternative, the Project would be developed as described in the HCP Covered Activities. Up to 1,000 acres of desert tortoise habitat may be disturbed and all tortoises within this area displaced as a result of the Covered Activities described in Chapter 1. The effect of the covered activities would be minimized and mitigated as described in Chapter 5.

The Mitigation Measures are:

- Assessment of a mitigation fee
- Contribution to Desert Tortoise Conservation and Recovery Actions
- Litter abatement on construction sites and along roadways
- Support of the desert tortoise recovery program at the DTCC
- Off Road vehicle use limitation
- Posting of Tortoise warning signs
- 25 MPH speed limits on non-posted roads

The Minimization Measures are:

- Desert tortoise clearance surveys prior to construction activities
- An Education Program
- Barriers and fencing around new development

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Appendix

A. Desert Tortoise Monitor and Biologist Qualifications

B. Fencing Specifications

C. Temporary Fencing Samples

APPENDIX A

GENERAL DESERT TORTOISE QUALIFICATIONS STATEMENT

Ventura FWS Form revised May 2008

This form should be used to provide your qualifications to agency officials if you wish to undertake the duties of an authorized biologist with regard to desert tortoises during construction or other projects authorized under Sections 7 (Biological Opinions) or 10(a)(1)(B) (i.e. Habitat Conservation Plans) of the Endangered Species Act.

(If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required. Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at http://www.fws.gov/forms/3-200-55.pdf.)

1. Contact Information:

Name	
Address	
City, State, Zip Code	
Phone Number(s)	
Email Address	

2. Date:

3. Areas in which authorization is requested (check all that apply):

□ San Bernardino, Kern, and Los Angeles Counties, California (Ventura office)
□ Riverside and Imperial Counties, California (Carlsbad office)
□ Nevada □ Utah □ Arizona

4. Please provide information on the project:

USFWS Biological Opinion or HCP Permit No.		**Date:**
Project Name		
Federal Agency		
Proponent or Contractor		

5. If you hold, or have held, any relevant state or federal wildlife permits provide the following:

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

6. Education: Provide up to three schools, listing most recent first:

Institution	Dates attended	Major/Minor	Degree received

7. Desert Tortoise Training.

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Classes			
2. Field Training			
3. Translocation			
4.			

8. Experience – Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information for the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5. List most recent experience first. Handling a Mojave desert tortoise must be authorized by a Biological Opinion or other permit and reported to the USFWS. Information provided in this section will be used by the USFWS to track the numbers of tortoises affected by previous projects (baseline). **Be sure to include a project supervisor or other contact that can verify your skills and experience in relation to your job performance.** Attach additional sheets as necessary.

Experience by project and activity:

Project Name, Job Title, Dates	Project Contact name, phone no., & Email address	Conduct Clearance Surveys (Hrs/Days)	Excavate DT burrows (No.)	Locate DT No. < 100mm ≥ 100mm	Relocate DTs (No.)	Excavate, and relocate DT nests (No.)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Experience by project and activity (continued): Each project number should correspond with the project listed on the previous page

Project Number (Corresponds to previous page)	**Construct Artificial Burrows (No.)**	**Monitor project equipment and activities (Hrs/Days)**	**Oversee project compliance (Hrs/Days)**	**Supervise field staff (Hrs/Days)**	**DT fence Installation and inspection (Hrs/Days)**	**Present DT Awareness Training (No.)**
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Summary of experience:

Total time spent for all desert tortoise-related field activities (referenced above):
Specify total number of hours
OR total number of 8-hour days: _____

Total number of miles/kilometers walked conducting survey transects:

Total number of wild, free-ranging desert tortoises you personally handled:

<100 mm: _____

≥100 mm: _____

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief.
I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch.47, Sec. 1001.

Signed: _____ **Date:** _____

APPENDIX B
RECOMMENDED SPECIFICATIONS FOR DESERT TORTOISE FENCING

These specifications were developed to standardize fence materials and construction procedures to confine tortoises or exclude them from harmful situations, primarily roads and highways. Prior to commencing any field work, all field workers should comply with all stipulations and measures developed by the jurisdictional land manager and the U.S. Fish and Wildlife Service for conducting such activities in desert tortoise habitat, which will include, at a minimum, completing a desert tortoise education program.

Fence Construction

Materials

Fences should be constructed with durable materials (*i.e.*, 16 gauge or heavier) suitable to resist desert environments, alkaline and acidic soils, wind, and erosion. Fence material should consist of 1-inch horizontal by 2-inch vertical, galvanized welded wire, 36 inches in width. Other materials include: Hog rings, steel T-posts, and smooth or barbed livestock wire. Hog rings should be used to attach the fence material to existing strand fence. Steel T-posts (5 to 6-foot) are used for new fence construction. If fence is constructed within the range of bighorn sheep, 6-foot T-posts should be used (see New Fence Construction below). Standard smooth livestock wire fencing should be used for new fence construction, on which tortoise-proof fencing would be attached.

Retrofitting Existing Livestock Fence

Option 1 (see drawing). Fence material should be buried a minimum of 12 inches below the ground surface, leaving 22-24 inches above ground. A trench should be dug or a cut made with a blade on heavy equipment to allow 12 inches of fence to be buried below the natural level of the ground. The top end of the tortoise fence should be secured to the livestock wire with hog rings at 12 to 18-inch intervals. Distances between T-posts should not exceed 10 feet, unless the tortoise fence is being attached to an existing right-of-way fence that has larger interspaces between posts. The fence must be perpendicular to the ground surface, or slightly angled away from the road, towards the side encountered by tortoises. After the fence has been installed and secured to the top wire and T-posts, excavated soil will be replaced and compacted to minimize soil erosion.

Option 2 (see drawing). In situations where burying the fence is not practical because of rocky or undigable substrate, the fence material should be bent at a 90E angle to produce a lower section approximately 14 inches wide which will be placed parallel to, and in direct contact with, the ground surface; the remaining 22-inch wide upper section should be placed vertically against the existing fence, perpendicular to the ground and attached to the existing fence with hog rings at 12 to18-inch intervals. The lower section in contact with the ground should be placed within the enclosure in the direction of potential tortoise encounters and level with the ground surface. Soil and cobble (approximately 2 to 4 inches in diameter; can use larger rocks where soil is shallow) should be placed on top of the lower section of fence material on the ground covering it with up to 4 inches of material, leaving a minimum of 18 inches of open space between the cobble surface and the top of the tortoise-proof fence. Care should be taken to ensure that the fence material parallel to the ground surface is adequately covered and is flush with the ground surface.

New Fence Construction

Options 1 or 2 should be followed except in areas that require special construction and engineering such as wash-out sections (see below). T-posts should be driven approximately 24 inches below the ground surface spaced approximately 10 feet apart. Livestock wire should be stretched between the T-posts, 18 to 24 inches above the ground to match the top edge of the fence material; desert tortoise-proof fencing should be attached to this wire with hog rings placed at 12 to 18-inch intervals. Smooth (barb-less) livestock wire should be used except where grazing occurs.

If fence is constructed within the range of bighorn sheep, two smooth-strand wires are required at the top of the T-post, approximately 4 inches apart, to make the wire(s) more visible to sheep. A 20 to 24-inch gap must exist between the top of the fence material and the lowest smooth-strand wire at the top of the T-post. The lower of the top two smooth-strand wires must be at least 43 inches above the ground surface.
(72-inch T-posts: 24 inches below ground + 18 inches of tortoise fence above ground + 20 to 24-inch gap to lower top wire + 4 inches to upper top wire = 66 to 70 inches).

Temporary fence

An example of suitable temporary fencing is found in Appendix C. The fencing shall be installed to the same standards as that of the permanent fence, allowing that it is expected that the installation will be in manner to facilitate the ultimate removal of the fencing.

Inspection of Desert Tortoise Barriers

The risk level for a desert tortoise encountering a breach in the fence is greatest in the spring and fall, particularly around the time of precipitation including the period during which precipitation occurs and at least several days afterward. All desert tortoise fences and cattle guards should be inspected on a regular basis sufficient to maintain an effective barrier to tortoise movement. Inspections should be documented in writing and include any observations of entrapped animals; repairs needed including bent T-posts, leaning or non-perpendicular fencing, cuts, breaks, and gaps; cattle guards without escape paths for tortoises or needed maintenance; tortoises and tortoise burrows including carcasses; and recommendations for supplies and equipment needed to complete repairs and maintenance.
All fence and cattle guard inventories should be inspected at least twice per year. However, during the first 2 to 3 years all inspections will be conducted quarterly at a minimum, to identify and document breaches, and problem areas such as wash-outs, vandalism, and cattle guards that fill-in with soil or gravel. GPS coordinates and mileages from existing highway markers should be recorded in order to pinpoint problem locations and build a database of problem locations that may require more frequent checking. Following 2 to 3 years of initial inspection, subsequent inspections should focus on known problem areas which will be inspected more frequently than twice per year. In addition to semi-annual inspections, problem areas prone to wash-outs should be inspected following precipitation that produces potentially fence damaging water flow. A database of problem areas will be established whereby checking fences in such areas can be done efficiently.

Repair and Maintenance of Desert Tortoise Barriers

Repairs of fence wash-outs: (1) realign the fence out of the wash if possible to avoid the problem area, or (2) re-construct tortoise-proof fencing using techniques that will ensure that an effective desert tortoise barrier is established that will not require frequent repairs and maintenance.

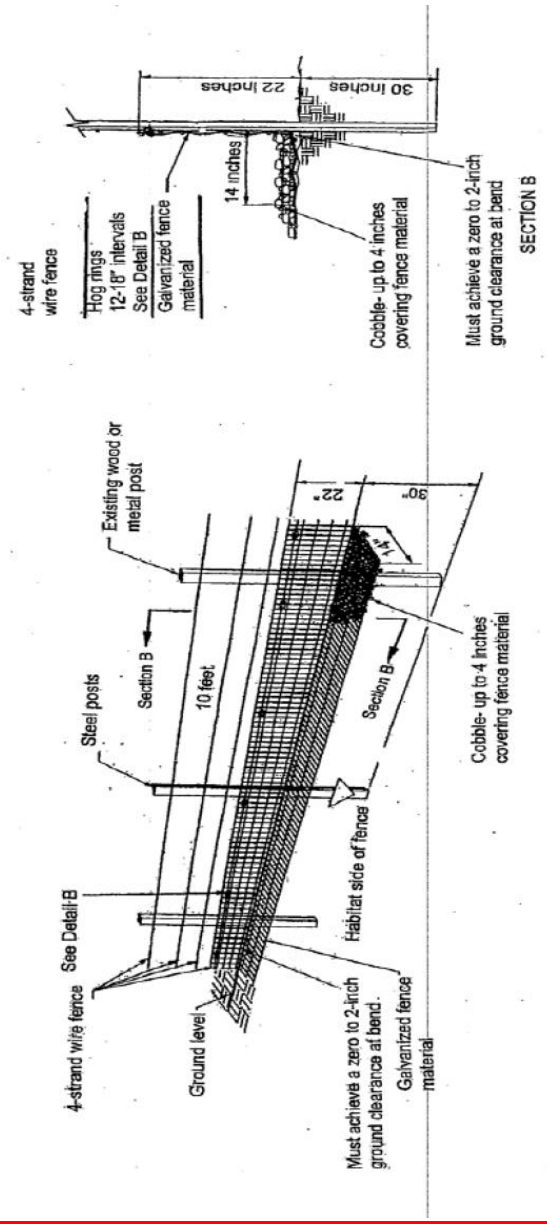
Gaps and breaks will require either: (a) repairs to the existing fence in place, with similar diameter and composition of original material, (b) replacement of the damaged section to the nearest T-post, with new fence material that original fence standards, (c) burying fence, and/or (d) restoring zero ground clearance by filling in gaps or holes under the fence and replacing cobble over fence constructed under Option 2. Tortoise-proof fencing should be constructed and maintained at cattle guards to ensure that a desert tortoise barrier exists at all times.

All fence damage should be repaired in a timely manner to ensure that tortoises do not travel through damaged sections. Similarly, cattle guards will be cleaned out of deposited material underneath them in a timely manner. In addition to periodic inspections, debris that accumulates along the fence should be removed. All cattle guards that serve as tortoise barriers should be installed and maintained to ensure that any tortoise that falls underneath has a path of escape without crossing the intended barrier.

DESERT TORTOISE EXCLUSION FENCE (2005)
4-strand wire fence
Steel posts
Existing wood or metal post
Section A
10 feet
Section A
30"
24"
12"
Ground level
Galvanized fence material
See Detail B
1-inch
2-inch
4-strand wire fence
Hog rings 12-18" intervals See Detail B
Galvanized fence Material
24 inches
12 inches
30 inches
SECTION A
RECOMMENDED DESIGN FOR DESERT TORTOISE EXCLUSION FENCE
GENERAL NOTES:
1. Ensure that fence posts and materials conform to the standards approved by the U.S. Fish and Wildlife Service.
2. Ensure that the height above ground level is no less than 18 inches and no higher than 24 inches.
3. Ensure that the depth of fence material below ground level is about 12 inches but no less than 6 inches. (See SECTION A above)
4. Install additional steel posts when span between existing fence posts exceed 10 feet.
5. Attach fence material to existing fence or wire using hog rings at 12-inch intervals.
6. Fasten fence material to posts with 3 tie wires with a wire near the top, bottom, and center of the fence material.
7. Backfill trenches with excavated material and compact the material.
8. Attach fence material to all gates. Ensure that clearance at base of gate achieves zero ground clearance.
9. Substitute smooth wire for barbed wire if additional support wires are necessary.
10. The number and placement of support wires may be modified to allow sheep and deer to pass safely.
11. Erosion at the edge of the fence material where the fence crosses washes may occur and requires appropriate and timely monitoring and repair.
12. Tie the fence into existing culverts and cattleguards when determined necessary to allow desert tortoise passage underneath roadways.
DETAIL A
4-strand wire fence
Hog rings 12-18" intervals
1-inch
2-inch
Galvanized fence Material
DETAIL B

FOR BEDROCK OR CALICHE SUBSTRATE

1. Use this fence design (see below) only for that portion of the fence where fence material cannot be placed 6 inches below existing ground level due to presence of bedrock, large rocks or caliche substrate.
2. Ensure that the fence height above ground level is no less than 22 inches.
3. Ensure that there is a zero to 2-inch ground clearance at the bend.
4. Ensure that the bent portion of the fence is lying on the ground and pointed in the direction of desert tortoise habitat.
5. Cover the portion of the fence that is flush with the ground with cobble (rocks placed on top of the fence material to a vertical thickness up to 4 inches).
6. When substrate no longer is composed of bedrock or caliche, install fence using design shown above.



Appendix C

Temporary fencing samples from NTG Products Group: