Appendix D
Biological Resources

Appendix D-1

Segment 1 Biological Resources Technical Report

Environmental Intelligence, LLC

BIOLOGICAL RESOURCES TECHNICAL REPORT

GALE TO PISGAH PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

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EXECUTIVE SUMMARY

The Gale to Pisgah Project (Project) is located in San Bernardino County, California, extending east-southeast from Gale Substation for approximately 29 miles to Pisgah Substation. Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to update focused surveys for special-status plant species, desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), and Mojave fringe-toed lizard (*Uma scoparia*). In 2016, BRC Equals 3, Inc. (BRC) conducted initial biological studies for the proposed Project. This Biological Resources Technical Report (BRTR) presents the results of 2017 surveys, summarizes past studies, and will support the preparation of an Environmental Assessment (EA) for the Bureau of Land Management (BLM).

BRC prepared the following reports:

- Habitat Assessment (BRC 2016a),
- Botanical Report (BRC 2016b),
- Desert Tortoise Protocol Survey (BRC 2016c),
- Burrowing Owl Focused Study (BRC 2016d), and
- Mohave Ground Squirrel Habitat Assessment (BRC 2016e).

The Project alignment crosses lands owned by BLM and private landowners. The Project would involve installation of telecommunication all-dielectric self-supporting (ADSS) cable line from Gale Substation to Pisgah Substation along an existing SCE distribution line right-of-way. No poles will need replacement. One additional pole will be installed near Pisgah Substation. No new roads, grading, or lay down areas will be required for this activity.

Numerous erosional features and road-side ditches were identified. These features were not identified as jurisdictional since a formal jurisdictional survey was not conducted. These features are potentially jurisdictional. If Project activities could impact these features, SCE should consult with the appropriate responsible resource agency to verify the limits of jurisdiction results and complete any necessary discretionary permits/authorizations as total avoidance is not likely possible.

Three sensitive vegetation alliances and one sensitive land cover type were identified as occurring in the survey area (BRC 2016a): *Atriplex polycarpa* (Allscale scrub) Alliance, *Prosopis glandulosa* (Mesquite thicket) Alliance, *Suaeda moquinii* (Bush seepweed scrub) Alliance, and Alkali Playa Community.

No federal or state listed plant species were identified during 2017 (EI 2017a), 2016 (BRC 2016b), and 2011 (Tetra Tech 2011) surveys. No federal or state listed plant species are likely to occur in the Project vicinity. Emory's crucifixion-thorn (*Castela emoryi*; California Rare Plant Rank [CRPR] of 2B.2) was identified (one individual) approximately 100 feet outside the Project survey area. Utah vine milkweed (*Funastrum utahense*; CRPR of 4.2) was identified (25 individuals) approximately 50 feet outside the survey area. Small-flowered androstephium (*Androstephium breviflorum*; CRPR of 2B.2) is likely to occur in the eastern portion of the Project based on recent CNDDB and CCH records, with the closest record (CCH 2009) approximately 200 feet north of Pisgah Substation.

No federal or state listed wildlife species were identified during 2017, 2016 (BRC 2016a, 2016c, 2016d), 2012 (PCR 2012), and 2011 (Tetra Tech 2011) surveys. Desert tortoise (federally and state threatened) is likely to occur in the Project vicinity based on numerous CNDDB records (2007-2010) of live desert tortoises and sign north of the eastern portion of the alignment, with the nearest live tortoise approximately 1 mile north of Pisgah Substation and the nearest sign (inactive burrows) approximately 0.5 mile north of Pisgah Substation. Golden eagle (*Aquila chrysaetos*; CDFW fully protected) is likely to occur in the Project vicinity based on the presence of suitable nesting and foraging habitats and historic nest sites. Mojave fringe-toed lizard (CDFW Species of Special Concern [SSC]) is likely to occur based on small patches of suitable habitat and historic populations in the Project vicinity. Tricolored blackbird (*Agelaius tricolor*; CDFW SSC) is likely to occur in the Project vicinity based on potentially extant nesting colony records within 1 mile of the alignment. Le Conte's thrasher (*Toxostoma lecontei*; CDFW SSC) are likely to occur in the Project vicinity based on the presence of suitable nesting and foraging habitats. Burrowing owl

(CDFW SSC) is unlikely to occur based on the lack of suitable burrows and sign observed during focused surveys.

1.0 INTRODUCTION

The Gale to Pisgah Project (Project) is located in San Bernardino County, California, extending east-southeast from Gale Substation for approximately 29 miles to Pisgah Substation. Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to update focused surveys for special-status plant species, desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), and Mojave fringe-toed lizard (*Uma scoparia*). In 2016, BRC Equals 3, Inc. (BRC) conducted initial biological studies for the proposed Project. This Biological Resources Technical Report (BRTR) presents the results of 2017 surveys, summarizes past studies, and will support the preparation of an Environmental Assessment (EA) for the Bureau of Land Management (BLM).

BRC prepared the following reports:

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- Mohave Ground Squirrel Habitat Assessment (BRC 2016e).

2.0 PROJECT LOCATION AND DESCRIPTION

The Project is located in San Bernardino County, California, extending east-southeast (ESE) from Gale Substation (approximately 1 mile ESE of Daggett and 9 miles ESE of Barstow) for approximately 29 miles to Pisgah Substation (Appendix A: Exhibit 1). The Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Minneola, Newberry Springs, Troy Lake, and Hector. Land surrounding the Project includes agricultural areas, off-highway vehicle recreation areas, and undisturbed desert scrub habitats. The Project alignment crosses lands owned by BLM and private landowners.

The Project would involve installation of telecommunication all-dielectric self-supporting (ADSS) cable line from Gale Substation to Pisgah Substation along an existing SCE distribution line right-of-way (Appendix A: Exhibit 2). Approximately 30,300 linear feet (5.7 miles) of ADSS is located on BLM lands, with the remaining work located on private lands. Approximately 7,200 linear feet (1.3 miles) will be underground, of which 2,400 linear feet is located on BLM land. The Gale to Pisgah fiber optic interconnections will support the SCE communication system for the addition of renewable energy generation. This communication system is part of the larger SCE system that provides safe and reliable electrical service consistent with the North American Electric Reliability Corporation, Federal Energy Regulatory Commission, the California Independent System Operators, and SCE's planning design guidelines and criteria. The ADSS is necessary to ensure adequate communication facilities are in place for the Calcite Substation Project, Eldorado-Lugo-Mojave Project, and Lugo-Victorville 500-kV Transmission Line Special Protection Scheme Project.

Overhead ADSS stringing includes all activities associated with the installation of cables onto cross arms on existing wood pole structures. Installation of the ADSS on existing distribution poles will require modifications to meet pole loading requirements. Pole modifications along the alignment include raising pole heights, installing anchor/ down guys, adding guy wires to existing anchors, and installing risers, as identified in SCE's Right-of-Way Application Plan of Development (SCE 2017). No poles will need replacement. One additional pole will be installed to provide intermediate support near Pisgah Substation, on BLM land.

Fiber optic cable stringing includes all activities associated with the installation of cables onto the overhead wood pole structures. This activity includes the installation of vibration dampeners and suspension and dead-end hardware assemblies. Stringing sheaves (rollers or travelers) are attached during the framing process. Although stringing fiber is typically accomplished from trucks and equipment parked on existing access roads and work areas, some pulling site locations may be required in previously undisturbed areas, and fiber may affect existing vegetation during installation. Typically, fiber optic cable pulls occur every 6,000 feet to 10,000 feet and at each line direction change on both flat and mountainous terrain. The

dimensions of the area needed for stringing set ups varies depending upon the terrain, however a typical stringing site is 40 feet by 60 feet. SCE anticipates being able to complete most pulling and splicing from existing roads.

No new roads, grading, or lay down areas will be required for this activity. Most of the poles on Public Lands that will be utilized are immediately adjacent to Highway 66, the National Trails Highway. Where the existing distribution line is offset from the highway, existing service access will be utilized to each pole to allow installation equipment to approach the pole and place the hardware and the cable. Access to facilities would involve use of surface streets and existing dirt and two-track roads to the greatest extent possible. In locations where access roads are not available, trucks will complete overland travel to the poles. No new permanent access roads will be established.

3.0 REGULATORY FRAMEWORK

The Project will comply with applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) throughout Project construction. Potentially applicable LORS are discussed below.

3.1 Federal

3.1.1 FEDERAL ENDANGERED SPECIES ACT (FESA)

This 1973 law, administered by the United States Fish and Wildlife Service (USFWS), is designed to minimize impacts to imperiled plants and animals, as well as facilitate recovery of such species. Declining plant and animal species are listed as "endangered" or "threatened" based on a variety of factors. Applicants for projects requiring federal agency action that could adversely affect listed species are required to consult with and mitigate impacts in consultation with the USFWS. Adverse impacts are defined as "take" (defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct"), which is prohibited except as authorized through consultation under Section 7 or through issuance of an Incidental Take Permit under Section 10. The Palm Springs Fish and Wildlife Office oversees permitting actions relative to the FESA for this Project.

3.1.2 MIGRATORY BIRDS

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The Palm Springs Fish and Wildlife Office oversees actions relative to migratory birds and eagles for this Project.

The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13.

The BGEPA (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald and golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle...or any golden eagle, alive or dead, or any part, nest, or egg thereof." The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb is defined under the BGEPA as to agitate or bother an eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (Pagel et al. 2010).

3.1.3 USFWS HABITAT CONSERVATION PLANS

Habitat Conservation Plans (HCPs) under section 10(a)(1)(B) of the FESA provide for partnerships with non-federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing

to their recovery. A review of the current USFWS-ECOS Conservation Online System revealed the following HCPs are located in the Project area: Desert Renewable Energy Conservation Plan (DRECP) (CEC et al. 2014) and West Mojave Plan (BLM 2006). These plans are described in more detail in Section 5.2 (Designated Critical Habitat and Conservation Lands).

3.2 State of California

3.2.1 California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. This state law prohibits the "take" (defined as to hunt, pursue, catch, capture, or kill) of state listed species except as otherwise provided in state law. CESA, administered by the California Department of Fish and Wildlife (CDFW), is similar to the FESA, although unlike the federal law, CESA applies incidental take prohibitions to species currently petitioned for state-listing status (i.e., candidate species). State lead agencies are required to consult with the CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any state listed species or result in the degradation of occupied habitat. Under Section 2081, CDFW authorizes "take" of state listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. Should a species be both federally and state listed, and if the FESA authorization fulfills CESA requirements, CDFW may streamline the CESA permitting process by adopting a Consistency Determination (Section 2081.1), that concurs with the federal authorization. The CDFW Inland Deserts Region oversees actions relative to CESA for this Project.

3.2.2 California Environmental Quality Act (CEQA)

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and/or local governmental agencies. "Projects" are activities that have the potential to have a physical impact on the environment. The purpose of CEQA is to: (1) disclose to the public the significant environmental effects of a proposed discretionary project, through the preparation of an Initial Study (IS), Negative Declaration (ND), or Environmental Impact Report (EIR); (2) prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring; (3) disclose to the public the agency decision-making process utilized to approve discretionary projects through findings and statements of overriding consideration; (4) enhance public participation in the environmental review process through scoping meetings, public notice, public review, hearings, and the judicial process; and (5) improve interagency coordination through early consultations, scoping meetings, notices of preparation, and State Clearinghouse review. The CDFW Inland Deserts Region oversees actions relative to CEQA for this Project.

3.2.3 Fish and Game Code and Title 14 Laws and Regulations

Fish and Game Code (FGC) Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code or any associated regulation. Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey. It also prohibits the take, possession, or destruction of nests or eggs of any bird of prey. Section 3511 describes bird species, primarily raptors that are "fully protected." Fully protected species may not be taken or possessed, except under specific permit requirements. No incidental take permit may be issued for a fully protected species.

Sections 4700, 5050, and 5515 list mammal, reptile and amphibian, and fish species, respectively, that are classified as fully protected in California.

Section 1900 *et seq.* describes the Native Plant Protection Act (NPPA). The NPPA was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW, for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Title 14, California Code of Regulations (CCR) lists plant and animal species designated as threatened and endangered in California. California Species of Special Concern (SSC) is a category applied by CDFW to those species that are indicators of regional habitat changes or are considered potential future protected species. SSCs do not have any special legal status, but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

3.2.4 California Food And Agriculture Code

The California Desert Native Plants Act, California Food and Agriculture Code Sections 80001-80201, protects California desert native plants from unlawful harvesting on both public and privately owned lands. Section 80073 stipulates that specific native plants or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing. Section 80117 states, "This division does not apply to a public agency or to a publicly or privately owned public utility when acting in the performance of its obligation to provide service to the public. This section does not prevent the landowner or his or her agent from complying with any other federal, state, or local laws or regulations."

3.2.5 Natural Community Conservation Plans

CDFW's Natural Community Conservation Planning Act (NCCPA) allows for the development of broad-based ecosystem-level plans for the protection and perpetuation of biological diversity. The primary objective of Natural Community Conservation Plans (NCCP) prepared under the NCCPA is to conserve natural communities at the ecosystem level while accommodating compatible land use. No NCCPs are located in the Project area.

3.3 Local

3.3.1 County Plans

The Project is subject to the requirements and authority of the San Bernardino County General Plan (URS 2007). The Project is located within the Plan's Desert Planning Region, which aims to preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water, and scenic vistas. Specific goals and policies include:

- Encourage the greater retention of existing native vegetation for new development projects to help conserve water, retain soil in place and reduce air pollutants.
- Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.
- Require retention of existing native vegetation for new development projects, particularly Joshua trees (*Yucca brevifolia*), Mojave yuccas (*Yucca schidigera*), creosote rings, and other species protected by the Development Code and other regulations.
- Reduce disturbances to fragile desert soils as much as practicable to reduce fugitive dust.
- Mechanical removal of vegetation shall be minimized and limited to the areas prepared for permitted accessory uses.
- Encourage the retention of specimen sized Joshua trees.

3.4 Designated Critical Habitat and Conservation Lands

3.4.1 DESERT TORTOISE CONSERVATION AREAS

Desert tortoise conservation areas include desert tortoise habitat within critical habitat, Desert Wildlife Management Areas (DWMAs), Areas of Critical Environmental Concern (ACEC), Grand Canyon-Parashant National Monument, Desert National Wildlife Refuge, National Park Service lands (e.g., Mojave National Preserve), Red Cliffs Desert Reserve, and other conservation areas or easements managed for desert tortoises (USFWS 2011). The Project is located within the Western Mojave Recovery Unit as described in the Revised Desert Tortoise Recovery Plan (USFWS 2011). The Superior-Cronese Desert Tortoise Critical Habitat Unit (DTCHU) is located approximately 4 miles north of the western portion of the alignment, and the Ord-Rodman DTCHU is located just south of the alignment, with an approximately 2-mile segment (eastern portion) of alignment within the Ord-Rodman DTCHU (Appendix A: Exhibit 3).

3.4.2 CALIFORNIA DESERT CONSERVATION AREA

Section 601, the California Desert Conservation Area (CDCA), of the Federal Land Policy and Management Act (FLPMA) of 1976 provides for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality (United States Department of the Interior 2001). The National Forest Service, National Park Service, and Bureau of Land Management are commissioned in FLPMA to allow a variety of uses on their land while simultaneously trying to preserve the natural resources in them. The CDCA includes the West Mojave planning area, which covers the Project. The goal of this plan is to conserve and protect the desert tortoise and nearly 100 other sensitive plants and animals, as well as the ecosystems on which they depend. It provides developers of public and private projects with a streamlined program for compliance with the California and federal endangered species acts, reduce delays and expenses, eliminate uncertainty, and apply the costs of compensation and mitigation equitably to all agencies and parties.

3.4.3 DESERT RENEWABLE ENERGY CONSERVATION PLAN

The Project is located within the Desert Renewable Energy Conservation Plan (DRECP) and in areas governed by the BLM. The DRECP (CEC et al. 2014) is intended to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of Southern California (Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties) consistent with federal and state renewable energy targets and policies while providing long-term conservation and management of special-status species and desert vegetation communities. The DRECP covers 22.5 million acres and is a collaborative effort between BLM, USFWS, CEC, and CDFW. The DRECP is currently in a draft status, with only BLM lands subject to its policies.

3.4.4 BLM AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Areas of Critical of Environmental Concern (ACEC) are special management areas designated by BLM to protect significant historic, cultural, or scenic values; fish and wildlife resources; natural process or systems; and/or natural hazards. The Project passes through the Ord-Rodman Desert Wildlife Management Area (analogous to the Ord-Rodman DTCHU). Other ACECs in the Project vicinity (within 3 miles) include the Mojave Monkeyflower ACEC, Mojave Fringe-toed Lizard ACEC, and Pisgah ACEC (Appendix A: Exhibit 3).

4.0 METHODS

4.1 Database Search and Literature Review

Prior to the initiation of field work, a review of pertinent literature was performed to determine which species/habitats identified as special-status by state, federal, and local resources agencies have the potential to occur along the Project alignment or immediate vicinity (within 3 miles). This included a review of the following pertinent databases and documents:

- USFWS Species Occurrence Data,

- Federal Register listing package and critical habitat determination for each federally listed Endangered or Threatened species potentially occurring within the Project vicinity,
- The 1994 and 2011 Desert Tortoise Recovery Plans (USFWS 1994a, 2011),
- California Natural Diversity Database (CNDDB) RareFind application (CNDDB 2017),
- Electronic Inventory of the California Native Plant Society (CNPS 2017) and Consortium of California Herbaria (CCH 2017),
- San Bernardino County General Plan (URS 2007),
- Desert Renewable Energy Conservation Plan (CEC et al. 2014),
- Previous studies conducted specifically for the Gale to Pisgah Project:
    - Habitat Assessment (BRC 2016a),
    - Botanical Report (BRC 2016b),
    - Desert Tortoise Protocol Survey (BRC 2016c),
    - Burrowing Owl Focused Study (BRC 2016d),
    - Mohave Ground Squirrel Habitat Assessment (BRC 2016e),
    - Mojave Fringe-toed Lizard Habitat Assessment and Focused Survey Results (PCR 2012),
    - Biological Resources Surveys for the Granite Mountain Wind Energy Project (Tetra Tech 2011)
- Previous studies conducted in the immediate vicinity of the Gale to Pisgah Project:
    - Focused Survey for Desert Tortoise for the Interstate 40 Median Regrade and Recontour Project (AMEC 2013),

Special-status species with the potential to occur within the 2017 survey area were evaluated based on SCE's Species Presence/Absence Determination flow-chart:

- **Occurs**: the species and/or positive sign was observed on-site during site visit or field survey.
- **Absent**: the species and/or positive sign was not observed on-site during focused survey(s) during the appropriate blooming/activity period (and, for plants, observed at a reference population).
- **Likely**: all site features indicate this species is very likely present and should be expected. Criteria include:
    - Project site within geographic range;
    - Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
    - Distance to historical record(s) less than 25 years old are less than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).
- **Unlikely**: species could occur, but records of the species are not locally known. Criteria include:
    - Project site within geographic range;
    - Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
    - Distance to historical record(s) less than 25 years old are more than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps); or historical record 26-75 years old indicates it is extant and accurately mapped.

- **Does Not Occur**: species would not occur because the Project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on historical records.

4.2 Field Surveys

For referenced reports (i.e., previous studies), please see the respective report for more detailed methodologies.

4.2.1 WATERS

A jurisdictional delineation has not been conducted for this Project. However, EI Waters Specialist Travis Kegel conducted a desktop review using Google Earth, and Scott Lillie and Rachel MacNutt conducted a field verification survey on August 28-31, 2017. The survey area consisted of a 100-foot buffer around the Project alignment and included all proposed substations, disturbance areas, and tie-in locations along the existing SCE transmission line.

4.2.2 HABITAT ASSESSMENT

4.2.2.1 EI 2017

EI conducted Habitat Assessments in advance of focused surveys to identify areas of suitable habitat. These assessments are described in more detail in the following species-specific sections.

4.2.2.2 Previous Studies

BRC (2016a) conducted a Habitat Assessment for the Project in March 2016. The assessment included a literature and database review; reconnaissance-level surveys to identify suitable habitat for special-status species; vegetation mapping; probability occurrence mapping for desert tortoise, burrowing owl, and Mohave ground squirrel (*Xerospermophilus mohavensis*); and focused surveys for plants, desert tortoise, and burrowing owl (discussed below in respective sections).

Tetra Tech (2011) conducted a Biological Resources Assessment for the Project in 2011. The assessment included a desktop assessment and literature review, vegetation mapping, and focused surveys for plants and desert tortoise (discussed below in respective sections).

4.2.3 BOTANICAL SURVEYS

4.2.3.1 EI 2017

EI (2017a) conducted botanical surveys for the Project in April/May and May/June 2017. The survey area included a 20-foot buffer around the substations (did not survey inside substations), material laydown yards, pole sites, and on either side of the centerline for underground work. Reference population site visits were conducted in the Project region: Mojave menodora (*Menodora spinescens* var. *mohavensis*) and Clokey's cryptantha (*Cryptantha clokeyi*) were present and identifiable; Mojave monkeyflower (*Mimulus mojavensis*) and white-margined beardtongue (*Penstemon albomarginatus*) were not observed to be present or were not identifiable.

4.2.3.2 Previous Studies

BRC (2016b) conducted botanical surveys for the Project in April/May and June 2016. The survey area included 75 feet on either side of the alignment centerline and the entire proposed substation and work area sites. Reference population site visits were conducted in the Project region: Mojave menodora and Parish's phacelia (*Phacelia parishii*) were present and identifiable; creamy blazing star (*Mentzelia tridentata*), Mojave monkeyflower, and white-margined beardtongue were not observed to be present or were not identifiable.

Tetra Tech (2011) contracted Alphabiota Environmental Consulting, LLC (Alphabiota) to conduct botanical surveys for the Project in April/May 2011. The survey area included 50 feet on either side of the alignment centerline.

4.2.4 DESERT TORTOISE SURVEYS

4.2.4.1 EI 2017

Qualified biologists Minh Dao, Ryan Hilgris, Terry Hurt, Rachel MacNutt, Randy Sisk, Tracy Treybig, and Mike Zerwekh conducted desert tortoise protocol-level surveys on May 18-19 and May 22-24, 2017. Surveys were conducted in accordance with the *2010 Field Season Survey Protocol* (USFWS 2010) during weather conditions conducive to observing live tortoises and sign. Ten-meter transects were surveyed over 100 percent of the survey area, which was approved by USFWS and consisted of a 100-foot buffer around the substations (did not survey inside substations), material laydown yards, and on either side of the alignment. The Action Area, defined as the areas to be affected directly or indirectly and not merely the immediate area involved in the Project's disturbance area, was equivalent to the survey area.

Global Positioning System (GPS) handheld units (Trimble and Garmin recreational models), binoculars, digital cameras, and field forms/notes were used to aid in recording tortoise sign and other biological resources. A handheld weather meter was used to record temperatures at the start and end of each transect. Daily focused surveys were ceased if temperatures in the shade at 5 cm above the ground reached 40° Celsius (C; 104° Fahrenheit [F]). All desert tortoise sign, as well as required survey and weather data was recorded on USFWS 2010 Desert Tortoise Pre-Project Survey Datasheets. If applicable, the general health of live desert tortoises encountered was assessed when the head and carapace were visible to surveyors without stressing the animal. Binoculars were used to inspect the eyes, nares, and shell conditions of the tortoises for clinical signs of disease without handling or approaching the animals too closely. Desert tortoises encountered were not touched or handled at any time during the survey, and biological samples were not taken to assist in the assessments of health of the encountered tortoises. All flora and fauna observed were recorded on the field forms or in personal field notes.

4.2.4.2 Previous Studies

BRC (2016c) conducted a focused Habitat Assessment and protocol-level desert tortoise surveys for the Project in May 2016. To estimate the numerical presence of desert tortoises within the survey area, the data from the protocol-level survey were used to calculate abundance with 95 percent confidence intervals. The USFWS uses these numbers to determine the extent of impacts to desert tortoises within the Project area.

AMEC (2013) conducted protocol-level desert tortoise surveys within the median of Interstate 40 (I-40) in September 2013. The survey area included suitable habitat within the I-40 median from Post Mile (PM) 0.0 (I-15/I-40 junction) to PM 25.0 (approximately 1 mile east of Fort Cady Road). The distance between the I-40 median survey area and the Gale to Pisgah 2017 survey area ranges from 0 to approximately 3,000 feet for the 16 miles of parallel survey areas (PM 8.6 to PM 25.0).

Tetra Tech (2011) contracted Sunrise Consulting and Alphabiota to conduct desert tortoise surveys for the Project in May 2011. The survey area included 100 feet on either side of the alignment centerline.

4.2.5 MOJAVE FRINGE-TOED LIZARD SURVEYS

4.2.5.1 EI 2017

Qualified biologists Scott Lillie and Rachel MacNutt conducted a Habitat Assessment to identify Mojave fringe-toed lizard suitable habitat on August 29-31, 2017. In areas of suitable habitat, transects were walked within a 100-foot Project buffer to identify live individuals, suitable burrows, and/or sign.

4.2.5.2 Previous Studies

PCR (2012) conducted a Habitat Assessment for Mojave fringe-toed lizard (*Uma scoparia*) to determine whether suitable habitat occurs in the Project area. Within potentially suitable habitat patches along a 2-mile-long segment located west of Pisgah Crater, PCR conducted a focused survey for Mojave fringe-toed lizard in October 2012. The survey area included 50 feet on either side of the alignment centerline.

4.2.6 BURROWING OWL SURVEYS

4.2.6.1 EI 2017

EI (2017b) conducted a burrowing owl Habitat Assessment and protocol-level focused surveys. All burrowing owl surveys were based on the protocol outlined in the most recent CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). The survey area consisted of a 100-foot buffer around the Project alignment and included all proposed substations, disturbance areas, and tie-in locations along the existing SCE transmission line.

4.2.6.2 Previous Studies

BRC (2016d) conducted a focused Habitat Assessment and focused surveys for burrowing owl in May 2016. Burrowing owl surveys were conducted concurrently with Project-related desert tortoise surveys.

5.0 RESULTS

5.1 Physical Environment

Topography within the Project boundaries is relatively flat with elevations ranging from approximately 1,775 to 2,100 feet (540 to 640 meters) above mean sea level (amsl). The Mojave River Valley is located to the north of the Project. The Newberry Mountains are located directly south of the Project, with the Ord, Fry, and Rodman Mountains located further to the south. The City of Daggett is located near the west terminus of the Project, and Pisgah Crater is located near the east terminus. The Project passes through Troy Dry Lake and the Pisgah Crater lava flows.

5.2 Waters

Numerous erosional features and road-side ditches were identified during the field verification survey. These features were not identified as jurisdictional since a formal jurisdictional survey was not conducted. Troy Dry Lake was confirmed as an alkali playa community (see Section 5.4.2). These features are potentially jurisdictional. If Project activities could impact these features, SCE would consult with the appropriate responsible resource agency to verify the limits of jurisdiction results and complete any necessary discretionary permits/authorizations.

5.3 Vegetation Communities/Land Cover Types

Eleven vegetation communities/land cover types, including three sensitive vegetation communities, one sensitive land cover type, and seven non-sensitive vegetation communities/land cover types were previously documented and mapped during Habitat Assessment studies (BRC 2016a; see report for maps). Desert saltbush scrub is present along the middle portion of the alignment, mesquite thicket woodland is scattered across desert riparian areas within the alignment, and bush seepweed scrub is present near the alkali playa in the central portion of the alignment. Alkali playa is a sensitive land cover type that occurs in dry lake beds along the eastern portion of the alignment. Descriptions of the communities, based on the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009), and land cover types are provided below.

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE

Vegetation Community / Land Cover Type	Rarity Ranking[1]
Sensitive Vegetation Communities	
Atriplex polycarpa (Allscale scrub) Alliance – Desert Saltbush Scrub (36.340.00)	G4 S3
Prosopis glandulosa (Mesquite thicket) Alliance (61.512.00)	G5 S3
Suaeda moquinii (Bush seepweed scrub) Alliance (36.200.00)	G5 S3
Non-sensitive Vegetation Communities	
Atriplex canescens (Fourwing saltbush scrub) Alliance (36.310.00)	G5 S4
Atriplex confertifolia (Shadscale scrub) Alliance (36.320.00)	G5 S4
Larrea tridentata (Creosote bush scrub) Alliance (33.010.00)	G5 S5
Larrea tridentata – Ambrosia dumosa (Creosote bush – white bursage scrub) Alliance (33.140.00)	G5 S5

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE

Vegetation Community / Land Cover Type	Rarity Ranking[1]
Tamarix ssp. (Tamarisk thickets) Semi-Natural Stands (63.810.00)	G5 S4
Land Cover Types	
Active Agriculture	N/A
Alkali Playa Community	G4 S3
Developed	N/A

[1]Rarity and Global/State Ranks: One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. Alliances with State ranks of S1-S3 are considered to be highly imperiled.

5.3.1 SENSITIVE VEGETATION COMMUNITIES

Atriplex polycarpa (Allscale scrub) Alliance – Desert Saltbush Scrub

Allscale (*Atriplex polycarpa*) is dominant in the shrub canopy with white bursage (*Ambrosia dumosa*), burrobrush (*Ambrosia salsola*), fourwing saltbush (*Atriplex canescens*), foxtail brome (*Bromus rubens*), smallseed sandmat (*Chamaesyce polycarpa*), bladderpod (*Cleome isomeris*), alkali goldenbush (*Isocoma acradenia*), and creosote bush (*Larrea tridentata*). Emergent trees may be present at low cover, including honey mesquite (*Prosopis glandulosa*). Habitats include washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. Elevation ranges from -75 to 1,500m.

Prosopis glandulosa (Mesquite thicket) Alliance

Honey mesquite is dominant or co-dominant in the small tree canopy with narrowleaf willow (*Salix exigua*), arroyo willow (*Salix lasiolepis*), and black elderberry (*Sambucus nigra*). Shrubs may include iodine bush (*Allenrolfea occidentalis*), white bursage, fourwing saltbush, allscale, sweetbush (*Bebbia juncea*), sandpaper plant (*Petalonyx thurberi*), arrow weed (*Pluchea sericea*), sugar sumac (*Rhus ovata*), or bush seepweed (*Suaeda moquinii*). Habitats include fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and sand dunes. Elevation ranges from 75 to 1,100 m.

Suaeda moquinii (Bush seepweed scrub) Alliance

Bush seepweed is dominant or co-dominant in the shrub and herbaceous layers with iodine bush, fourwing saltbush, allscale, alkali heath (*Frankenia salina*), Mojave red sage (*Kochia californica*), black greasewood (*Sarcobatus vermiculatus*), and alkali sacaton (*Sporobolus airoides*). Habitats include flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas. Soils are deep; saline or alkaline. Elevation ranges from 0 to 1,300m.

5.3.2 SENSITIVE LAND COVER TYPES

Alkali Playa Community

Alkali playa is a rare community of habitats that are intermittently flooded or saturated. Examples include dry lake beds and margins (Troy Dry Lake), hummocks, lagoon bars, old lake beds perched above current drainages, and seeps (Holland 1986).

5.3.3 NON-SENSITIVE VEGETATION COMMUNITIES

Atriplex canescens (Fourwing saltbush scrub) Alliance

Fourwing saltbush is dominant or co-dominant in the shrub canopy with white bursage, burrobrush, shadscale (*Atriplex confertifolia*), allscale, green rabbitbrush (*Chrysothamnus viscidiflorus*), bladderpod, Mormon tea (*Ephedra viridis*), hop sage (*Grayia spinosa*), creosote bush, and bush seepweed. Emergent trees may be present at low cover, including honey mesquite. Habitats include playas, old beach and shores,

lake deposits, dissected alluvial fans, and rolling hills. Soils are carbonate rich, alkaline, sandy, or sandy clay loams. Elevation ranges from -75 to 1,500m.

Atriplex confertifolia (Shadscale scrub) Alliance

Shadscale is dominant or co-dominant in the shrub canopy with white bursage, allscale, Mojave saltbush (*Atriplex spinifera*), green rabbitbrush, blackbrush (*Coleogyne ramosissima*), acton encelia (*Encelia actoni*), Virgin river brittlebush (*Encelia virginensis*), Nevada ephedra (*Ephedra nevadensis*), Heermann's buckwheat (*Eriogonum heermannii*), hop sage, matchweed (*Gutierrezia microcephala*), winterfat (*Krascheninnikovia lanata*), creosote bush, Anderson's thornbush (*Lycium andersonii*), bud sagebrush (*Picrothamnus desertorum*), black greasewood, and catclaw horsebrush (*Tetradymia axillaris*). Emergent, taller shrubs may be present at low cover. Habitats include bajadas, flats, lower slopes, rocky hills, valleys, minor rills, washes, and edges of playas. Soils are variable: may be carbonate rich, clay rich, or have a high sand content, and may be covered with desert pavement. Elevation ranges from 450 to 2,500m.

Larrea tridentata (Creosote bush scrub) Alliance

Creosote bush is dominant or co-dominant in the shrub canopy with Shockley's goldenhead (*Acamptopappus shockleyi*), rayless goldenhead (*Acamptopappus sphaerocephalus*), white bursage, burrobrush, shadscale, desert holly (*Atriplex hymenelytra*), allscale, wooly brickellbush (*Brickellia incana*), brittlebush (*Encelia farinosa*), California ephedra (*Ephedra californica*), Nevada ephedra, and Anderson's thorn bush. Emergent trees may be present at low cover, including honey mesquite or Joshua tree. Habitats include alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained, sometimes with desert pavement. Elevation ranges from -75 to 1,000m.

Larrea tridentata - Ambrosia dumosa (Creosote bush - white bursage scrub) Alliance

White bursage and creosote bush are co-dominant in the shrub canopy with burrobrush, chaffbush (*Amphipappus fremontii*), shadscale, desert holly, allscale, sweetbush, California croton (*Croton californicus*), buck horn cholla (*Cylindropuntia acanthocarpa*), branched pencil cholla (*Cylindropuntia ramosissima*), downy dalea (*Dalea mollissima*), cottontop cactus (*Echinocactus polycephalus*), brittlebush (*Encelia farinosa)*, Virgin river brittlebush, *Ephedra* spp., California buckwheat (*Eriogonum fasciculatum*), *Krameria* spp., desert allysum (*Lepidium fremontii*), Anderson's thornbush , *Psorothamnus* spp., Mexican bladdersage (*Salazaria mexicana*), desert senna (*Senna armata*), parish viguiera (*Viguiera parishii)*, and Mojave yucca. Emergent trees or tall shrubs may be present at low cover, including ocotillo (*Fouquieria splendens*) or Joshua tree. Habitats include minor washes and rills, alluvial fans, bajadas, and upland slopes. Soils are well-drained, alluvial, colluvial, sandy, sometimes underlain by a hardpan that may be calcareous and/or covered with desert pavement. Elevation ranges from -75 to 1,200 m.

Tamarix ssp. (Tamarisk thickets) Semi-Natural Stands

Saltcedar (*Tamarix ramosissima*) or another *Tamarix* species is dominant in the shrub canopy. Emergent trees may be present at low cover, including Fremont cottonwood (*Populus fremontii*) or *Salix* spp. Habitats include arroyo margins, lake margins, ditches, washes, rivers, and other watercourses. Elevation ranges from -75 to 800m.

5.3.4 NON-SENSITIVE LAND COVER TYPES

Active Agriculture

Agricultural lands are used primarily for production of food and fiber. Such areas include croplands, pastures, orchards, groves, vineyards, nurseries, ornamental horticultural areas, confined feeding operations, and other agricultural land. Fallow agricultural fields are also classified as Active Agriculture.

Developed

Developed lands include urban or built-up areas with much of the land covered by structures. Such areas include cities, transportation, power and communications facilities, mills, shopping centers, and other buildings that may, in some cases, be separate from urban areas. Urban or built-up land may contain a wide variety of native and non-native, ruderal and ornamental plant species.

5.4 General Plants and Wildlife

Plant species identified during botanical surveys are included in their respective reports (EI 2017a; BRC 2016b; Tetra Tech 2011). Wildlife species identified during 2017 surveys (desert tortoise, Mojave fringe-toed lizard, burrowing owl) included western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), western side-blotched lizard (*Uta stansburiana elegans*), Great Basin whiptail (*Aspidoscelis tigris tigris*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), house finch (*Haemorhous mexicanus*), and California towhee (*Melozone crissalis*); for previous studies, a wildlife species compendium was only included in BRC's Habitat Assessment (BRC 2016a).

It should be noted that short-term inventories of this nature are limited in their scope by the seasonality, timing and duration of surveys, plant blooming periods, and the nocturnal and fossorial habits of many animals. Therefore, the lists of species do not necessarily reflect the total number of plants and animals that potentially occupy the survey areas.

5.5 Wildlife Movement

Landscape habitat linkages, wildlife corridors, and wildlife crossings allow for long- or short-distance movements, dispersal, and migration. Landscape habitat linkages are large open space areas that contain natural habitat and provide a connection between at least two larger adjacent open spaces or habitat areas. Wildlife corridors are linear landscape elements that provide for species movement and dispersal between two or more habitats. Wildlife crossings are locations where wildlife must pass through physically constrained environments (e.g., roads, development) during movement within home ranges or during dispersal or migration between core areas of suitable habitat. Maintaining sufficient connectivity between peripheral and core populations and among core habitat areas is essential for conservation of desert wildlife (CEC et al. 2014).

The Project is located within the Mojave and Silurian Valley and Providence and Bullion Mountains ecoregion subareas of the DRECP; within these subareas are existing and planned linkages and corridors between landscape blocks (large undeveloped habitat areas). The Project lies along the northern edge of the Twenty-nine Palms and Newberry-Rodman landscape block. The western portion of the Project (i.e., west of Newberry Springs) is the location of a potential linkage corridor extending from the Twenty-nine Palms and Newberry-Rodman landscape block to the China Lake South Range landscape block located approximately 30 miles north of Barstow. Species that may use this corridor include desert tortoise and American badger (*Taxidea taxus*). In this portion of the Project, Interstate 40 lies approximately one-half mile south of National Trails Highway, and Interstate 15 lies 3 to 7 miles to the north.

National Trails Highway was constructed in 1926, and the SCE Gale to Pisgah alignment was constructed soon after. There are numerous small diameter (less than 3 feet) corrugated metal culverts as well as larger box culverts, paired culverts, and bridges over and through washes that provide wildlife crossings for terrestrial wildlife to cross the roads and highways in the area. As noted in Section 2.0, the Project will not create new roads, no poles will be replaced, and only one pole will be added. Therefore, no new habitat fragmentation or obstructions to existing or planned linkages, corridors, or crossings will occur. Additionally, the Project will not alter, modify, or obstruct Aeolian sand transport, which is the process by which wind moves fine sand particles to form dune habitat suitable for certain species such as Mojave fringe-toed lizard.

5.6 Special-Status Biological Resources

Plant or animal taxa may be considered "sensitive" or "special-status" due to declining populations, vulnerability to habitat change or loss, or because of restricted distributions. Some of these species have been listed as threatened or endangered by the USFWS and/or CDFW, and are thus protected by the federal and state ESAs, respectively. Other species have been identified as sensitive or special-status by the USFWS and CDFW. Still others have been designated as special-status species by private conservation organizations, including the NCCP/HCP and CNPS. The regulatory protection provided by these various agencies is discussed in Section 3.0 of this document.

The database search and literature review described in Section 4.1 identified special-status biological resources occurring or having the potential to occur in the vicinity (within 3 miles) of the Project. Appendix C provides a complete list of these special-status biological resources, their respective conservation status, and occurrence potential along the alignment. Exhibit 3 (Appendix A) provides critical habitat areas and CNDDB special-status species records. Exhibit 4 (Appendix A) provides the locations of special-status biological resources, including special-status species, sign, and bird nests, recorded within the survey area during 2017 surveys; for previous study results, see the respective reports.

The following sections describe the special-status vegetation communities and special-status plant and wildlife species occurring or potentially occurring on or in the immediate vicinity of the Project.

5.6.1 SENSITIVE VEGETATION COMMUNITIES/LAND COVER TYPES

Sensitive vegetation communities/land cover types are associations sometimes afforded special legislative protection. Such communities are normally considered a management priority because of their rarity or imperilment, the sensitivity of the species that they support, or because these areas serve multiple functions, as is often the case with wetlands. Three sensitive vegetation alliances and one sensitive land cover type were identified as occurring in the survey area (BRC 2016a; see Appendix C for description):

- *Atriplex polycarpa* (Allscale scrub) Alliance – Desert Saltbush Scrub
- *Prosopis glandulosa* (Mesquite thicket) Alliance
- *Suaeda moquinii* (Bush seepweed scrub) Alliance
- Alkali Playa Community

5.6.2 SPECIAL-STATUS PLANT SPECIES

Based upon the literature search and Habitat Assessments, 13 special-status plant species occur in the vicinity of the Project (Appendix C). Of these, 10 do not occur or are unlikely to occur based on the absence of suitable habitat and/or the Project being outside the species' geographic or elevation range. Two special-status plant species, Emory's crucifixion-thorn (*Castela emoryi*) and Utah vine milkweed (*Funastrum utahense*), were identified (outside the survey area) during botanical surveys (see Appendix B for photographs). One special-status plant species is likely to occur based on the presence of suitable soils, vegetation alliances, and/or documented collections. See Appendix C for distribution, habitat preference, and habitat suitability for these species.

5.6.2.1 Federal/State Listed Plant Species Observed

No federal or state listed plant species were identified during 2017 (EI 2017a), 2016 (BRC 2016b), and 2011 (Tetra Tech 2011) surveys.

5.6.2.2 Federal/State Listed Plant Species Likely to Occur

No federal or state listed plant species are likely to occur in the Project vicinity.

5.6.2.3 CNPS Listed Plant Species Observed

Emory's Crucifixion-Thorn (*Castela emoryi*)

Emory's crucifixion-thorn is a CNPS species with a California Rare Plant Rank (CRPR) of 2B.2. During 2017 botanical surveys, one individual approximately 100 feet outside the Project survey area was identified in Halloran sandy loam soil and associated with creosote bush habitat (Appendix A: Exhibit 4, page 3). None were identified during 2016 (BRC 2016b) or 2011 botanical surveys (Tetra Tech 2011).

Utah vine milkweed (*Funastrum utahense*)

Utah vine milkweed is a CNPS species with a CRPR of 4.2. During 2017 botanical surveys, 25 individuals approximately 50 feet outside the survey area were identified on desert sand dune soil and associated with creosote bush, white bursage, and non-native Saharan mustard (Appendix A: Exhibit 4, page 7). During

2016 botanical surveys, 14 individuals were identified in the same vicinity (BRC 2016b). None were identified during 2011 botanical surveys (Tetra Tech 2011).

5.6.2.4 CNPS-Listed Plant Species Likely to Occur

Small-flowered Androstephium (*Androstephium breviflorum*)

Small-flowered androstephium is a CNPS species with a CRPR of 2B.2. No plants were identified during Project-related botanical surveys; however, numerous recent CNDDB and CCH records are present in the eastern portion of the Project, with the closest record (CCH 2009) approximately 200 feet north of Pisgah Substation (Appendix A: Exhibit 3).

5.6.3 SPECIAL-STATUS WILDLIFE SPECIES

Based upon the literature search and Habitat Assessments, 11 special-status wildlife species occur or have the potential to occur in the vicinity of the Project (Appendix C). Of these, six do not occur or are unlikely to occur based on the absence of suitable habitat and/or the alignment being outside the species' geographic or elevation range. Five special-status wildlife species are likely to occur based on the presence of suitable habitat and/or documented observations. No special-status wildlife species, or definitive sign of special-status species, were observed during Project-related surveys. See Appendix C for distribution and habitat preference for these species.

5.6.3.1 Federal/State Listed or Fully Protected Wildlife Species Observed

No federal or state listed wildlife species were identified during 2017, 2016 (BRC 2016a, 2016c, 2016d), 2012 (PCR 2012), and 2011 (Tetra Tech 2011) surveys.

5.6.3.2 Federal/State Listed or Fully Protected Wildlife Species Likely to Occur

Desert Tortoise (*Gopherus agassizii*)

The desert tortoise is a federally and state threatened species. During 2017 focused surveys, no desert tortoise live individuals or sign were identified. During 2016 focused surveys (BRC 2016c), two burrows (one Class 3: deteriorated condition, definitely tortoise; one Class 4: deteriorated condition, possibly tortoise) were identified at the eastern end of the alignment. During 2013 focused surveys within the nearby I-40 median (AMEC 2013), 12 Class 5 carcasses (disarticulated and scattered) were identified between PM 4.6 (Nebo Street, approximately 4 miles west of Gale Substation) and PM 14.8 (approximately Minneola Road). During 2011 focused surveys (Tetra Tech 2011), four Class 5 (disarticulated and scattered) carcasses were identified.

Numerous CNDDB records (2007-2010) of live desert tortoises and sign occur north of the eastern portion of the alignment, with the nearest live tortoise approximately 1 mile north of Pisgah Substation and the nearest sign (inactive burrows) approximately 0.5 mile north of Pisgah Substation (Appendix A: Exhibit 3).

Golden Eagle (*Aquila chrysaetos*)

The golden eagle is a CDFW Fully Protected species. No golden eagles were identified during Project-related surveys. Suitable nesting habitat occurs in the mountain ranges located to the south of the Project alignment; the BLM identified the nearby Newberry and Granite Mountains as a "Key Raptor Area" for golden eagles (Raptor Research Foundation, Inc. 1989). A known nesting site (1979) is located approximately two-thirds of a mile south of the alignment in the Newberry Mountains (Appendix A: Exhibit 3). Suitable foraging habitat is present throughout the alignment.

5.6.3.3 Special-Status (Non-Listed) Wildlife Species Observed

No special-status (non-listed) wildlife species were identified during 2017, 2016 (BRC 2016a, 2016c, 2016d), 2012 (PCR 2012), and 2011 (Tetra Tech 2011) surveys.

5.6.3.4 Special-Status (Non-Listed) Wildlife Species Likely to Occur

Mojave Fringe-toed Lizard (*Uma scoparia*)

The Mojave fringe-toed lizard is a California SSC. Most of the sand dune habitat present along the Project alignment was either compacted/stabilized or the sand was too coarse (i.e., unsuitable for Mojave fringe-toed lizard). Patches of suitable habitat were identified in the following locations (Appendix A: Exhibit 4; see Appendix B for photographs):

- Along National Trails Highway southeast of Condor Road, approximately 2.4 miles west of Newberry Springs – system of sandy hammocks.
- Along National Trails Highway between Fremont Road and Ord Street – marginally suitable sand hammocks.
- Along an approximately 2-mile stretch of National Trails Highway through the northwestern extent of the Pisgah Crater lava flow – 11 patches of suitable and marginally suitable sand deposits.

However, no Mojave fringe-toed lizards were observed during 2017 surveys. During 2016 (BRC 2016a), 2012 (PCR 2012), and 2011 (Tetra Tech 2011) focused surveys, no Mojave fringe-toed lizards were identified.

Current populations identified in the DRECP area include dune complexes near Daggett, Yermo, Newberry Springs, and Pisgah (CEC et al. 2014). CNDDB records (2008, 1982) occur at the eastern end of the Project vicinity, with the nearest record (2008) approximately 0.75 mile north of the alignment.

Tricolored Blackbird (*Agelaius tricolor*)

The tricolored blackbird is a California SSC and a candidate to be listed as an endangered species. No tricolored blackbirds were identified during Project-related surveys. However, two potentially extant nesting colony records (2014) are located within 1 mile of the alignment (Appendix A: Exhibit 3):

- NW corner of Elkhorn Street and Spyrock Avenue in cattail marsh in pond, less than 500 feet north of the alignment; and
- NE corner of Minneola Road and Swansea Street in cattail marsh in pond, two-thirds of a mile north of the alignment.

Le Conte's Thrasher (*Toxostoma lecontei*)

The Le Conte's thrasher is a California SSC. No Le Conte's thrashers were identified during Project-related surveys. However, suitable nesting and foraging habitats are present along the alignment.

5.6.3.5 Burrowing Owl (Athene Cunicularia)

The burrowing owl is a California SSC and is unlikely to occur on the Project. During 2017 focused surveys, four potential burrows were identified along the alignment (Appendix A: Exhibit 4); no live burrowing owls or definitive sign were identified. During 2016 focused surveys (BRC 2016d), four potential burrows were identified along the alignment; no live burrowing owls or definitive sign were identified. During 2011 desert tortoise surveys (Tetra Tech 2011), no live burrowing owls or definitive sign were identified. CNDDB records (2008-2009) of live burrowing owls/active burrows occur greater than two miles from the alignment.

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Appendix A:

EXHIBITS

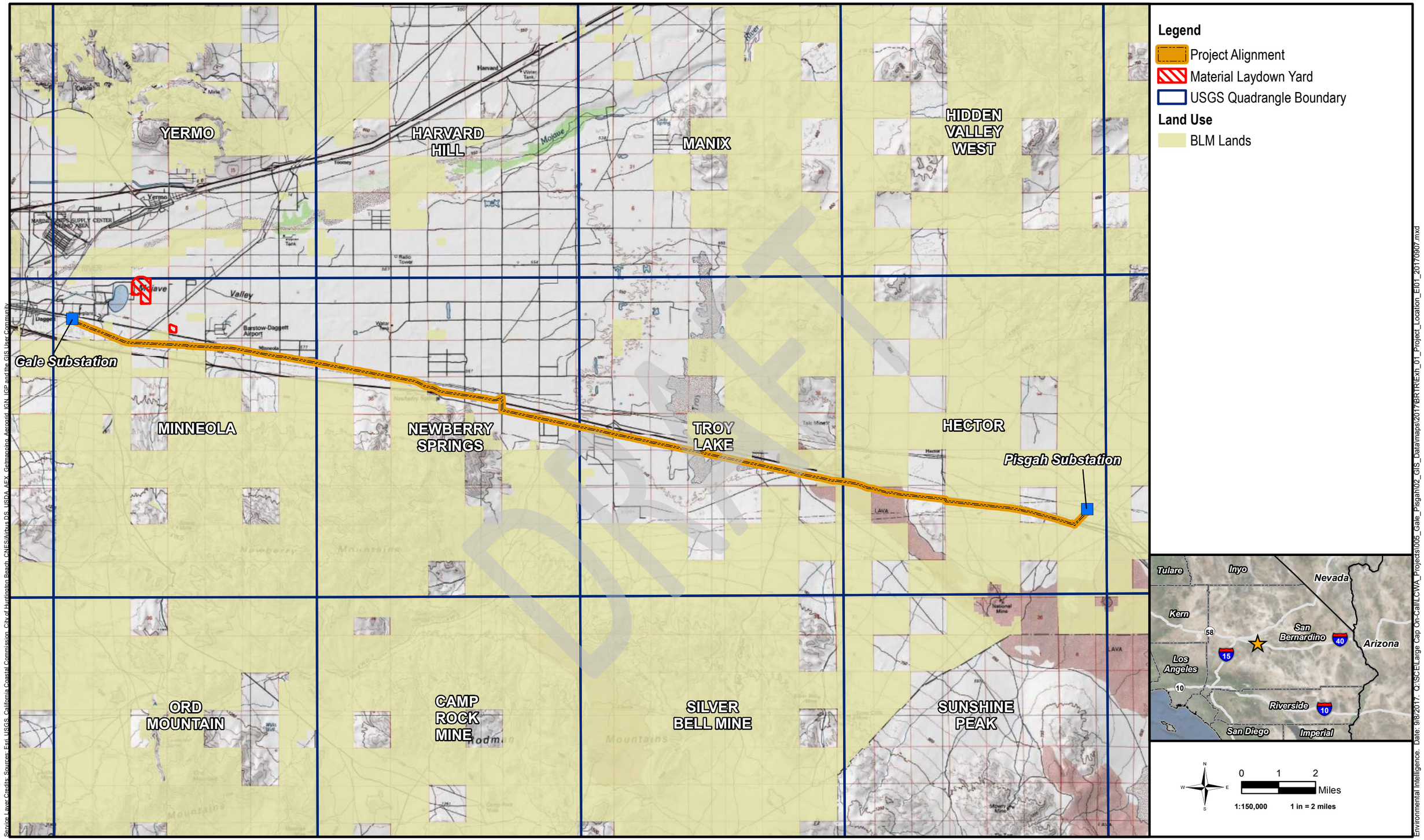
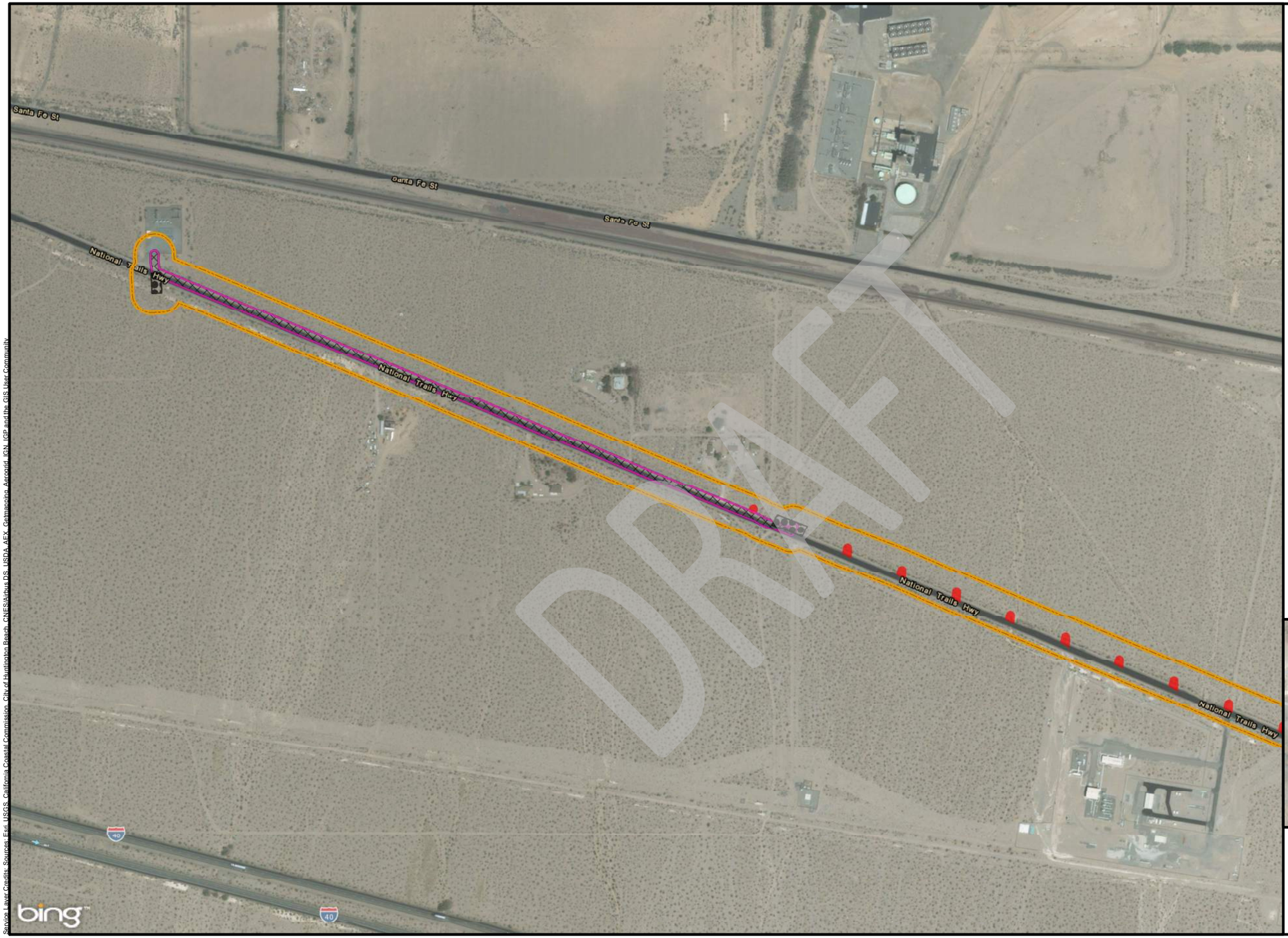


Exhibit 1. Project Location

Gale to Pisgah Project | San Bernardino County, CA



Legend

- Survey Area (100-foot buffer)

Project Components

- Pole Work Areas
- Pull Sites
- Underground Work Area

N
W
E
S

0 250 500 Feet

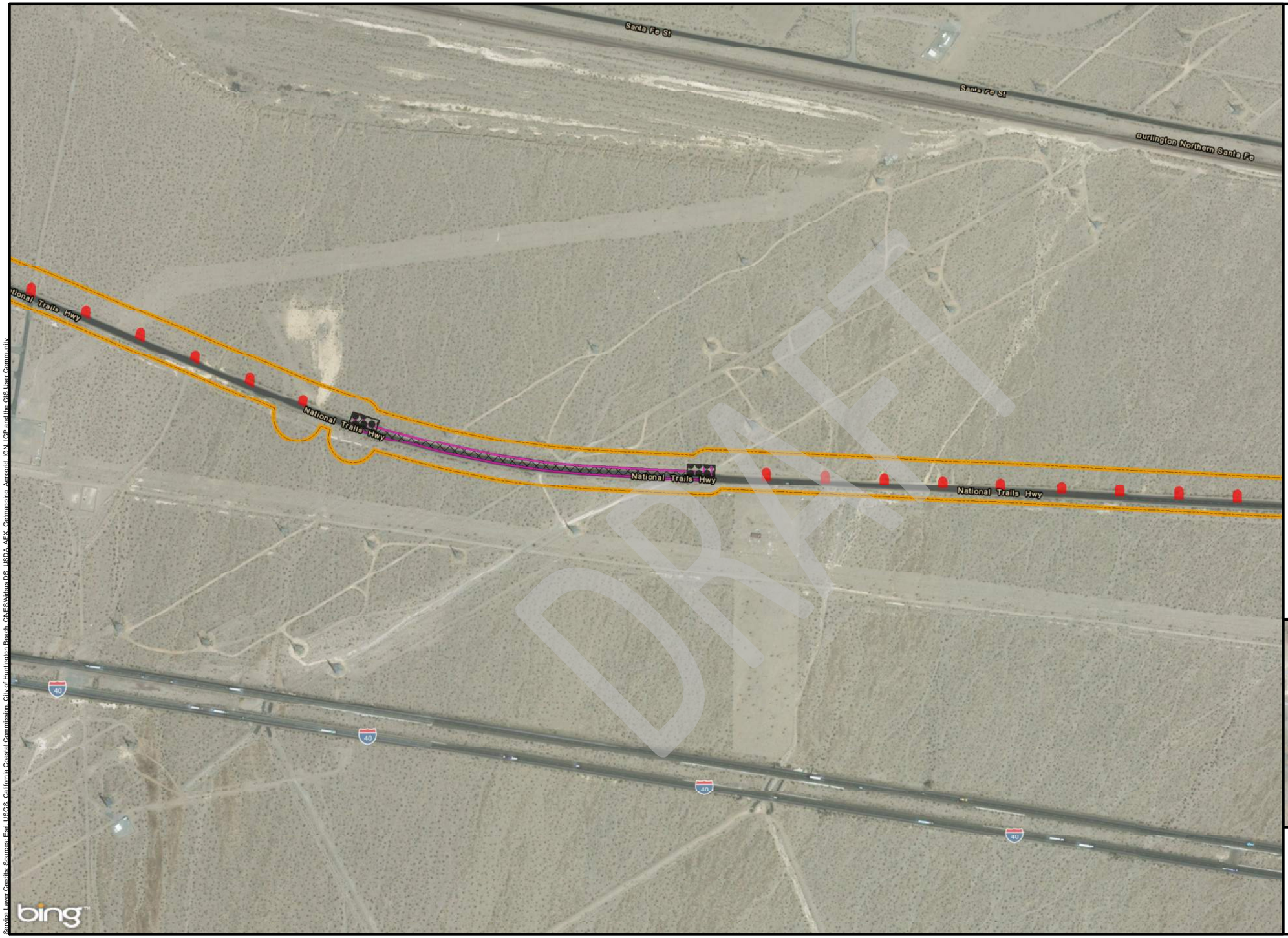
1:6,000 1 in = 500 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. G:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd

Exhibit 2. Project Description Page 1 of 25

Gale To Pisgah Project | San Bernardino County, CA



Legend

- Survey Area (100-foot buffer)

Project Components

- Pole Work Areas
- Pull Sites
- Underground Work Area

N
W
E
S

0 250 500 Feet

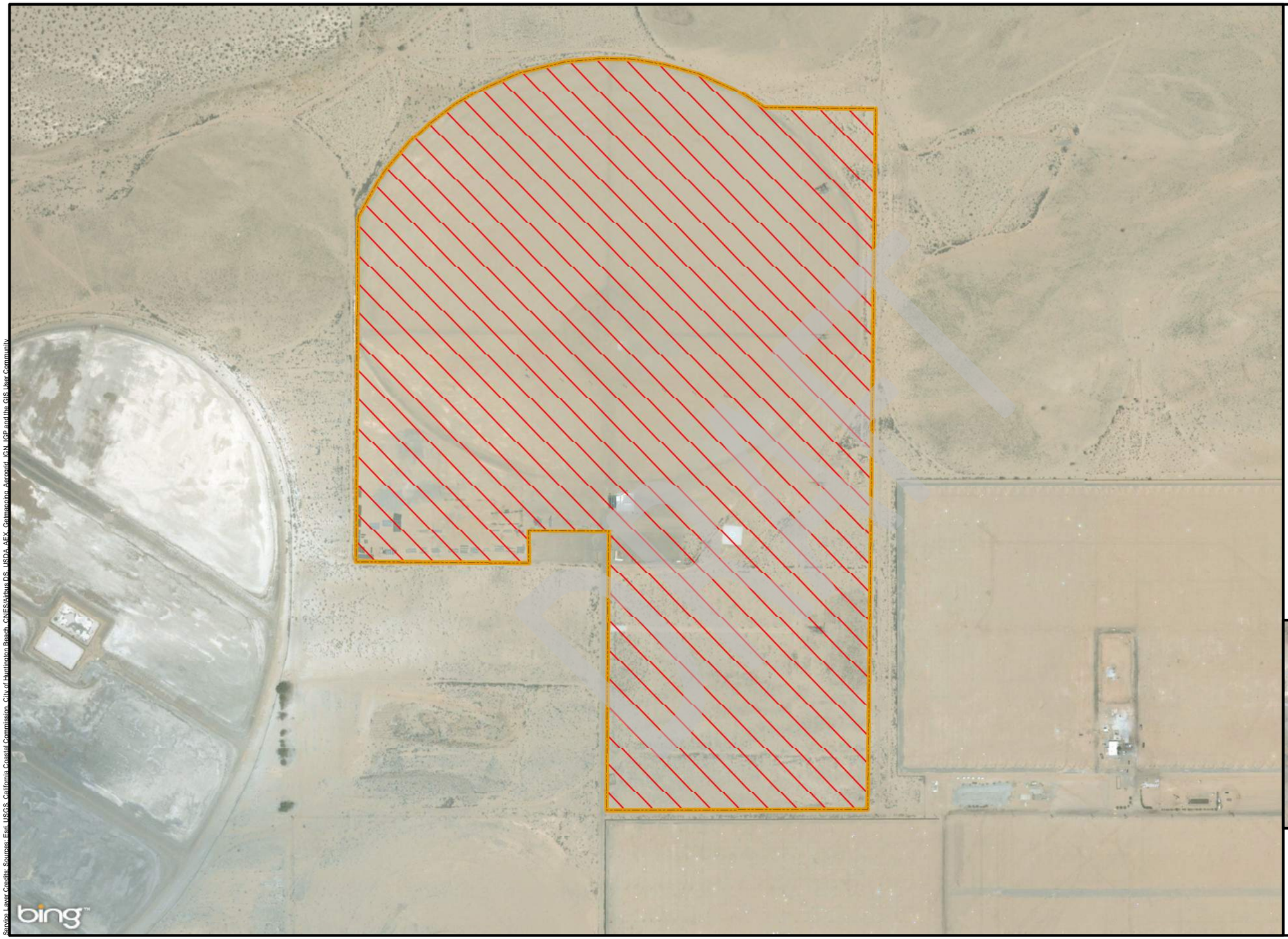
1:6,000 1 in = 500 feet

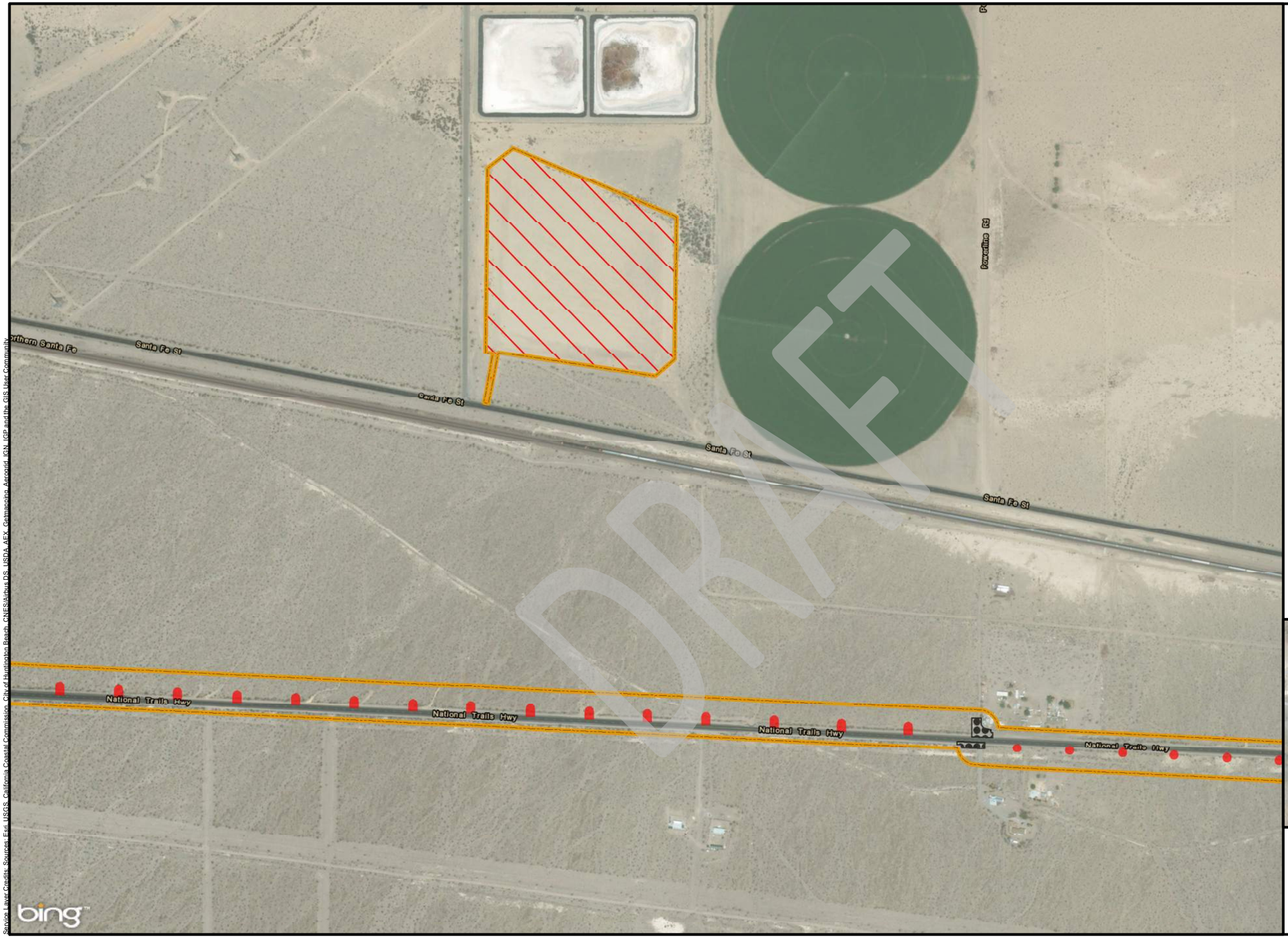
Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SC\ELarge Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd

Exhibit 2. Project Description Page 2 of 25

Gale To Pisgah Project | San Bernardino County, CA


Legend
Survey Area (100-foot buffer)
Material Laydown Yard
bing
0
250
500
Feet
1:6,000
1 in = 500 feet
Source: Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd



Legend

- Survey Area (100-foot buffer)
- Material Laydown Yard

Project Components

- Pole Work Areas
- Pull Sites

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Source: Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNIES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNIES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

Pull Sites

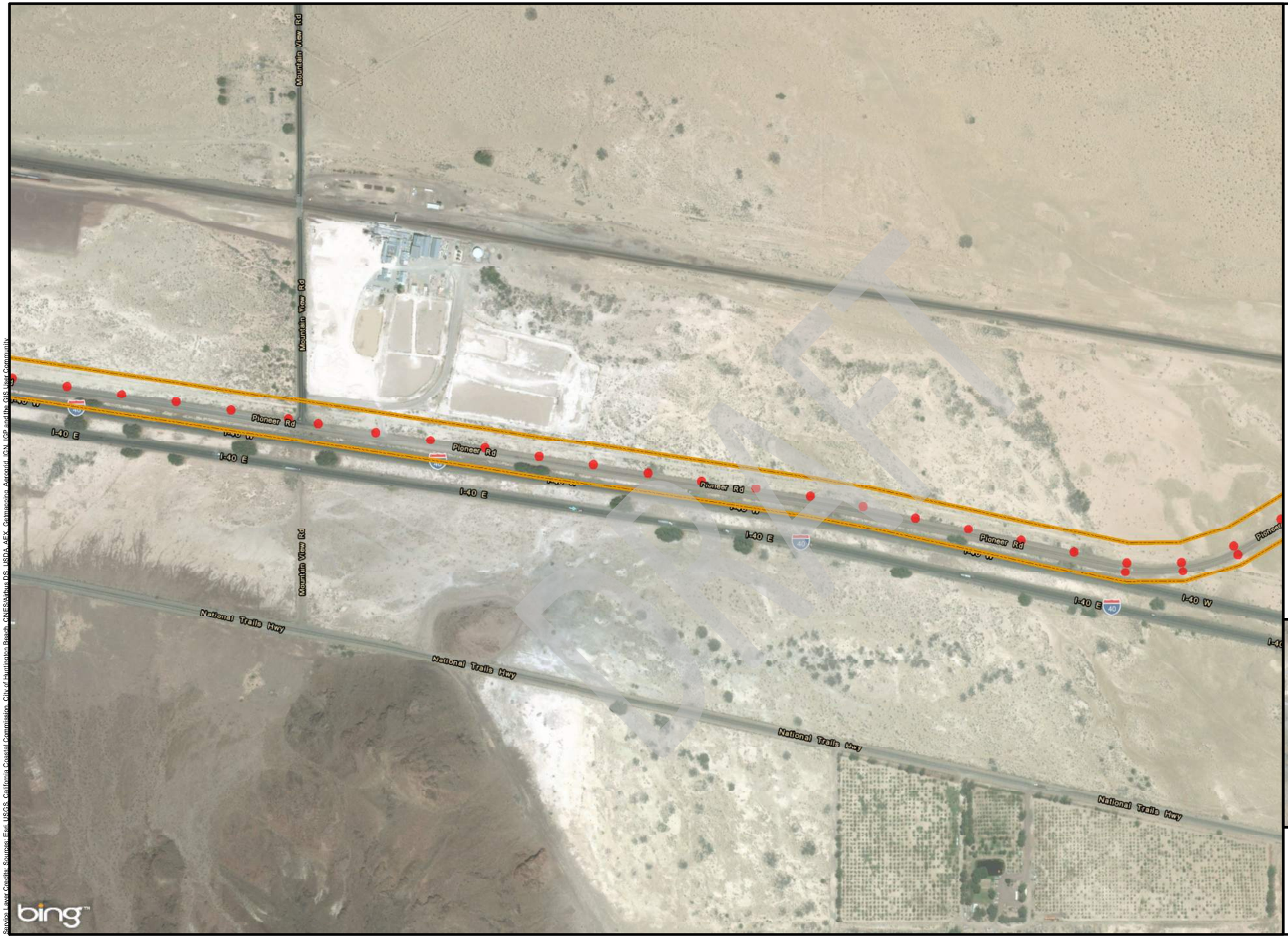
N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Commonine, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd



Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Services Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence; Date: 9/8/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd

Legend

- Survey Area (100-foot buffer)

Project Components

- Pole Work Areas
- Pull Sites

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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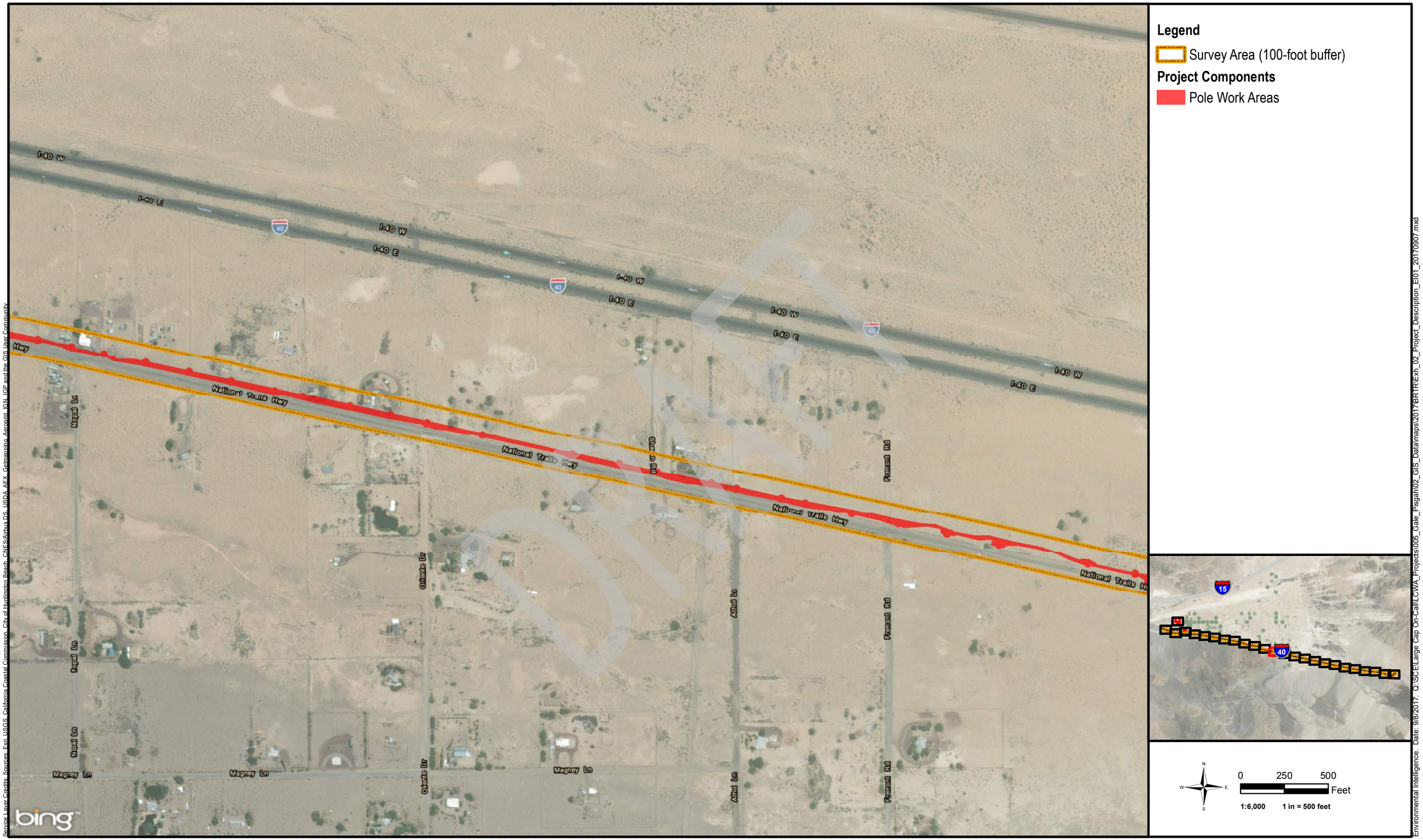
Legend
Survey Area (100-foot buffer)
Project Components
Pole Work Areas
I-40 W
I-40 E
National Trails Hwy
Nepal Ln
Opal Ln
Noel Ln
Magney Ln
Ontario Dr
Shaw Rd
Atlas Ln
Fremont Rd
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N S W E

0 250 500 Feet

1:6,000 **1 in = 500 feet**

Legend

- Survey Area (100-foot buffer)

Project Components

- Pole Work Areas
- Pull Sites
- Underground Work Area

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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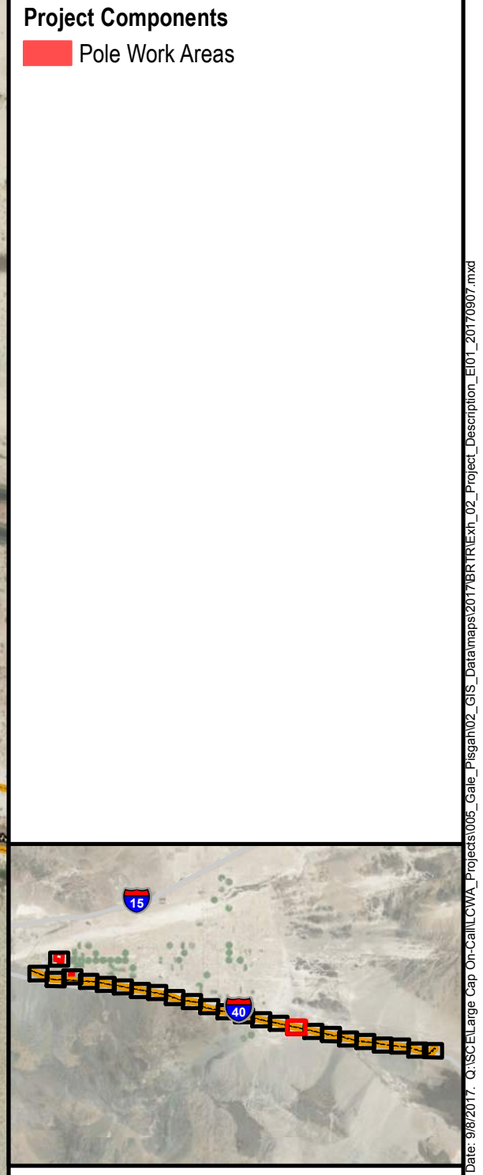
Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNIES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTR\Exh_02_Project_Description_E101_20170907.mxd

Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Source: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. G:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd


I-40 W
I-40 E
National Trails Hwy
Legend
Survey Area (100-foot buffer)
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Services Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNIES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 9/8/2017. Q:\SC\EL\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_El01_20170907.mxd

Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

Pull Sites

Pedestrian Access Structure Work Area

N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd

Legend

- Survey Area (100-foot buffer)

Project Components

- Pole Work Areas
- Pull Sites
- Pedestrian Access Structure Work Area

N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd


Legend
Survey Area (100-foot buffer)
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
Hector Rd
I-40 W
I-40 E
National Trails Hwy
CR-20703
0
250
500
Feet
1:6,000
1 in = 500 feet
Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 9/8/2017. Q:\SC\ELarge Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd

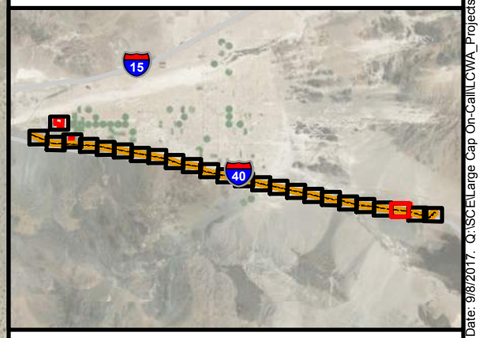
Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

Pedestrian Access Structure Work Area



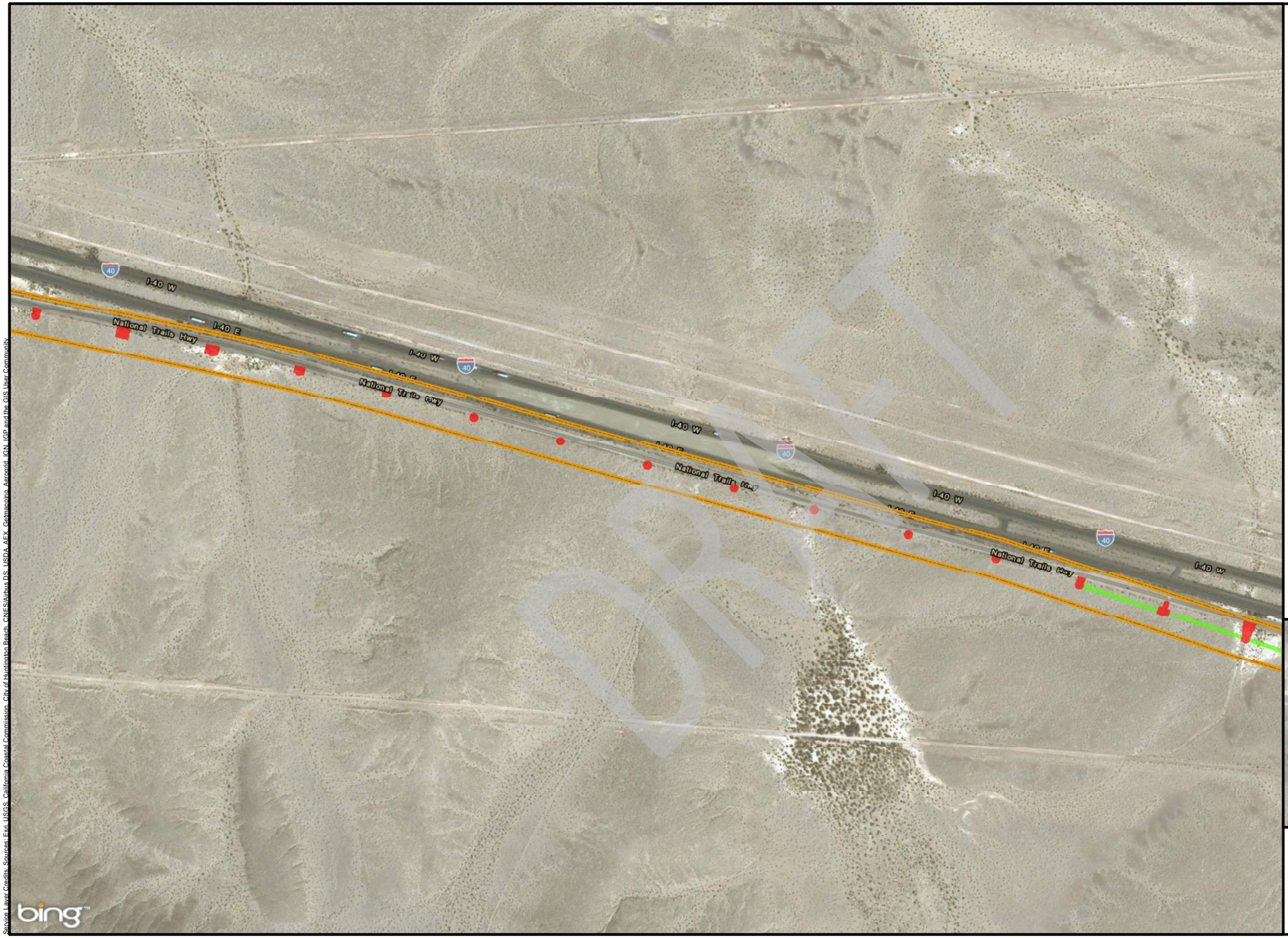
N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence - Date: 9/8/2017 - Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_02_Project_Description_E101_20170907.mxd



Legend

Survey Area (100-foot buffer)

Project Components

Pole Work Areas

Pedestrian Access Structure Work Area

N

W E

S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence - Date: 9/8/2017 - Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTR\Exh_02_Project_Description_E101_20170907.mxd

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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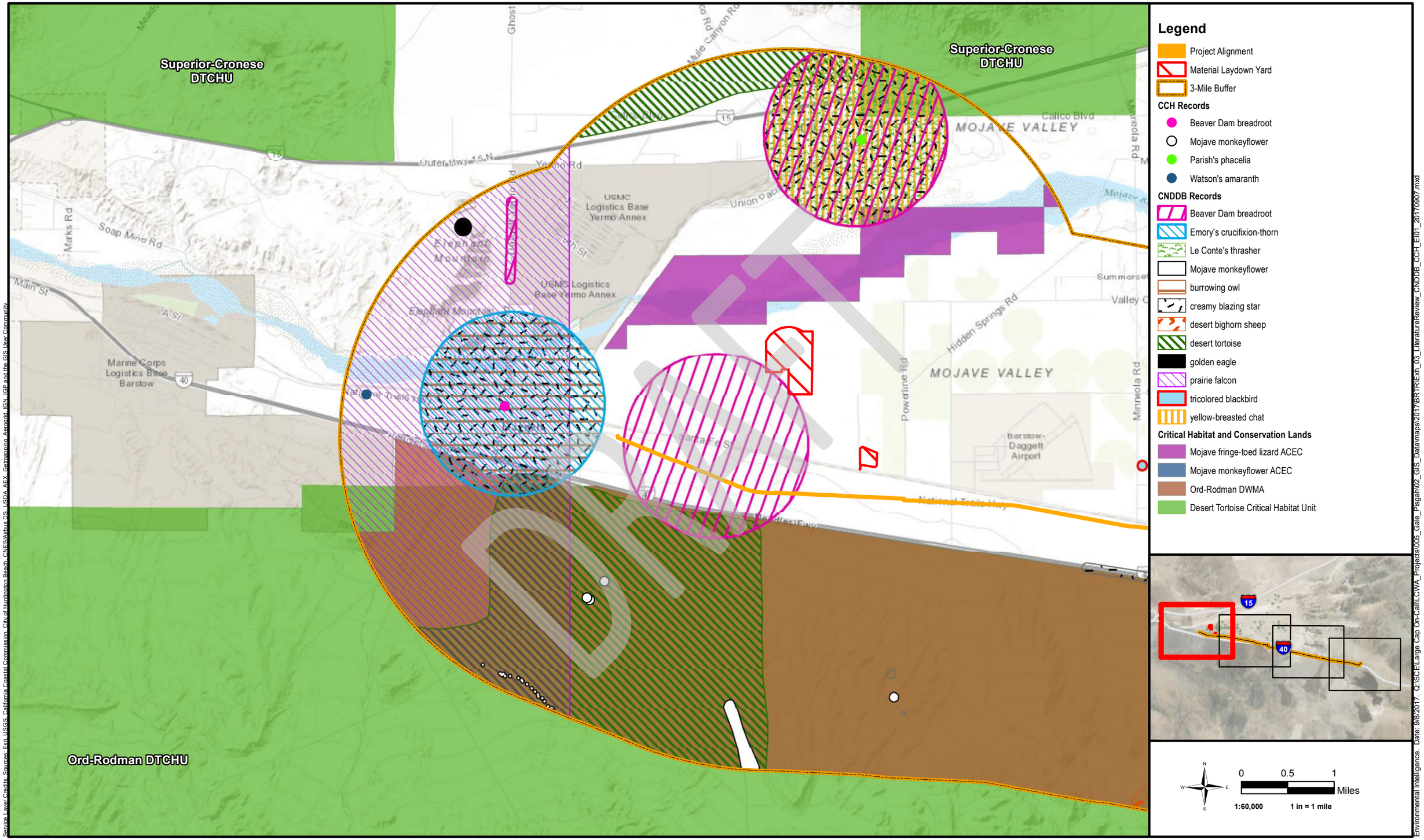
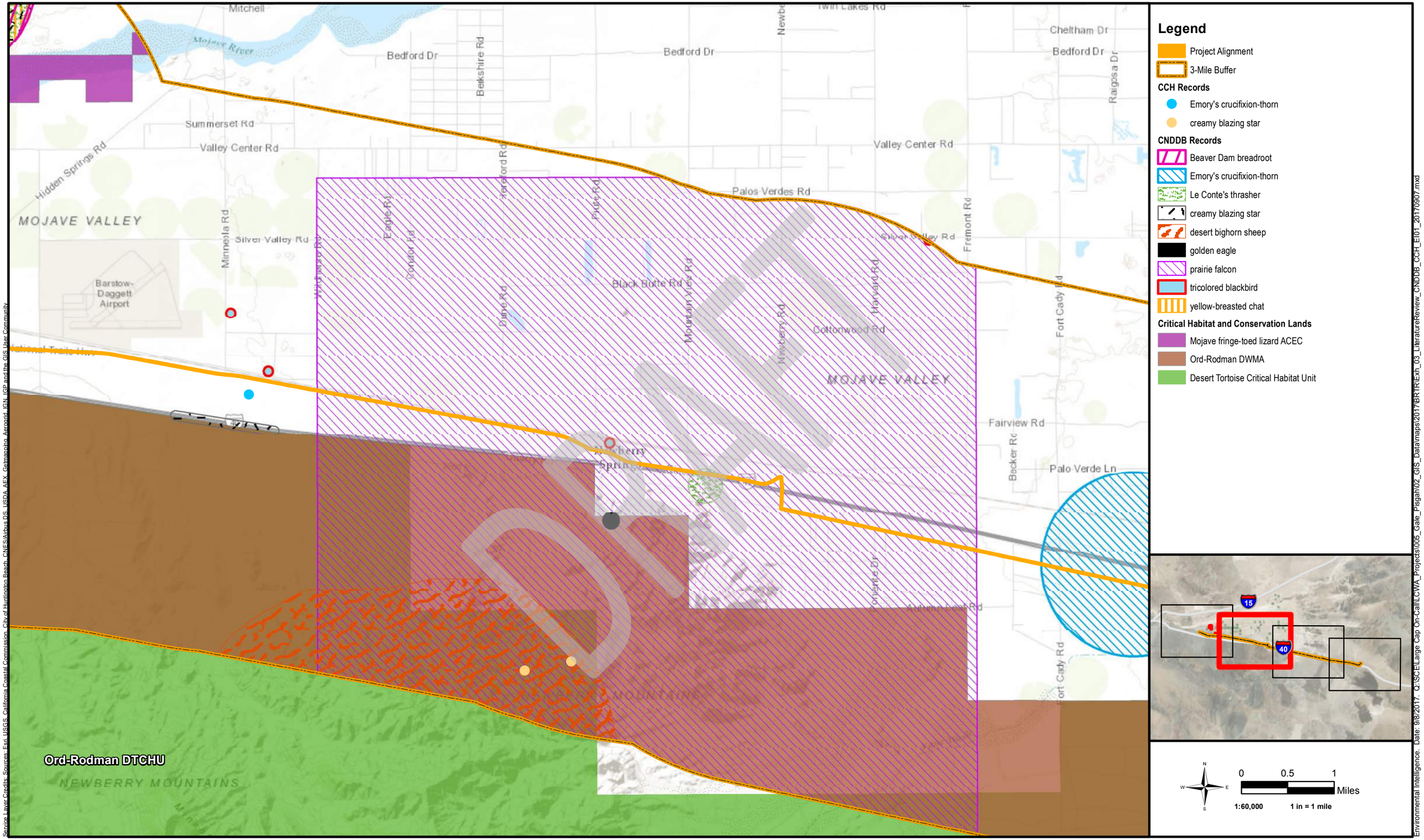


Exhibit 3. CNDDB/CCH Records and Critical Habitat/Conservation Lands Page 1 of 4
Gale to Pisgah Project | San Bernardino County, CA

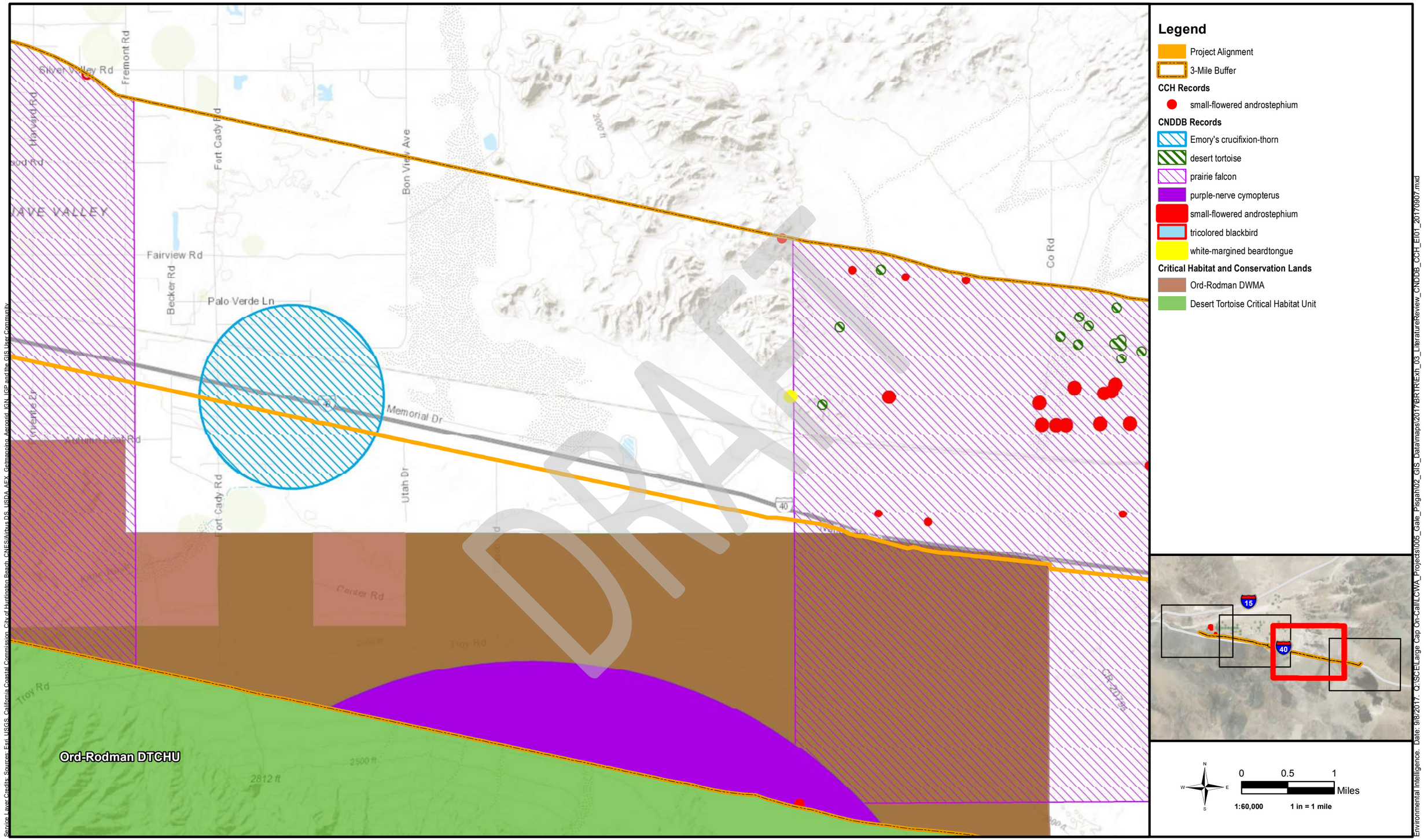


Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence - Date: 9/8/2017 - Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\BR1\Exh_03_LiteratureReview_CNDDB_CCH_EI01_20170907.mxd

Exhibit 3. CNDDB/CCH Records and Critical Habitat/Conservation Lands Page 2 of 4

Gale to Pisgah Project | San Bernardino County, CA


Legend
Project Alignment
3-Mile Buffer
CCH Records
small-flowered androstephium
CNDDB Records
Emory's crucifixion-thorn
desert tortoise
prairie falcon
purple-nerve cymopterus
small-flowered androstephium
tricolored blackbird
white-margined beardtongue
Critical Habitat and Conservation Lands
Ord-Rodman DWMA
Desert Tortoise Critical Habitat Unit
Ord-Rodman DTCHU
Silver Valley Rd
Fremont Rd
Harvard Rd
Fort Cady Rd
Bon View Ave
2000 ft
Fairview Rd
Becker Rd
Palo Verde Ln
Memorial Dr
Utah Dr
Center Rd
Troy Rd
Co Rd
2812 ft
2500 ft
40
15
0
0.5
1
Miles
1:60,000
1 in = 1 mile
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S
E
W
DRAFT
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BR1\Exh_03_LiteratureReview_CNDDB_CCH_EI01_20170907.mxd

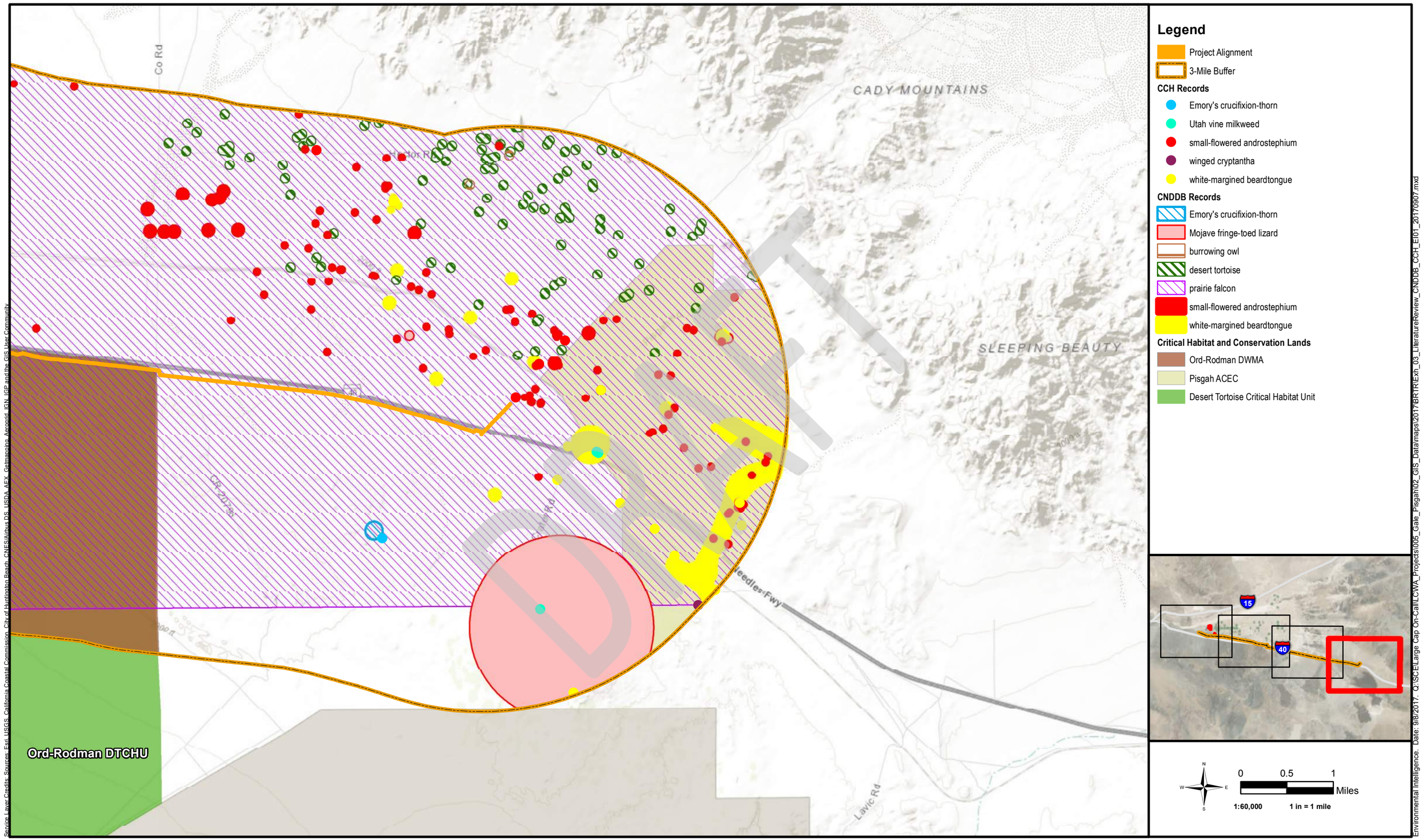
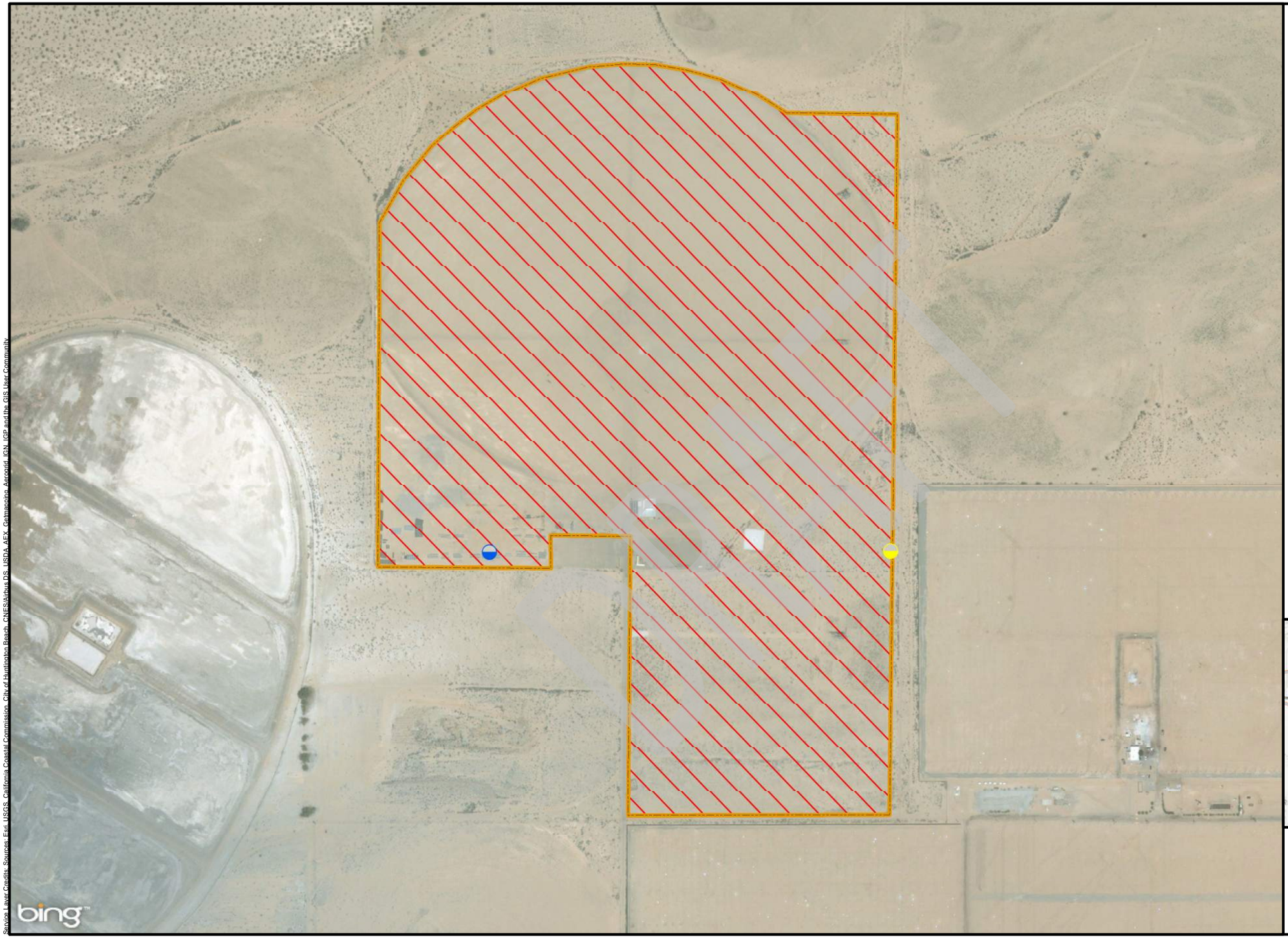


Exhibit 3. CNDDB/CCH Records and Critical Habitat/Conservation Lands Page 4 of 4
Gale to Pisgah Project | San Bernardino County, CA



Legend

- Survey Area
- Material Laydown Yard

Burrowing Owl Survey Results

- Suitable burrow location
- Active kit fox den

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Legend

Survey Area

Project Components

Pole Work Areas

Burrowing Owl Survey Results

Active kit fox den

Suitable Habitat

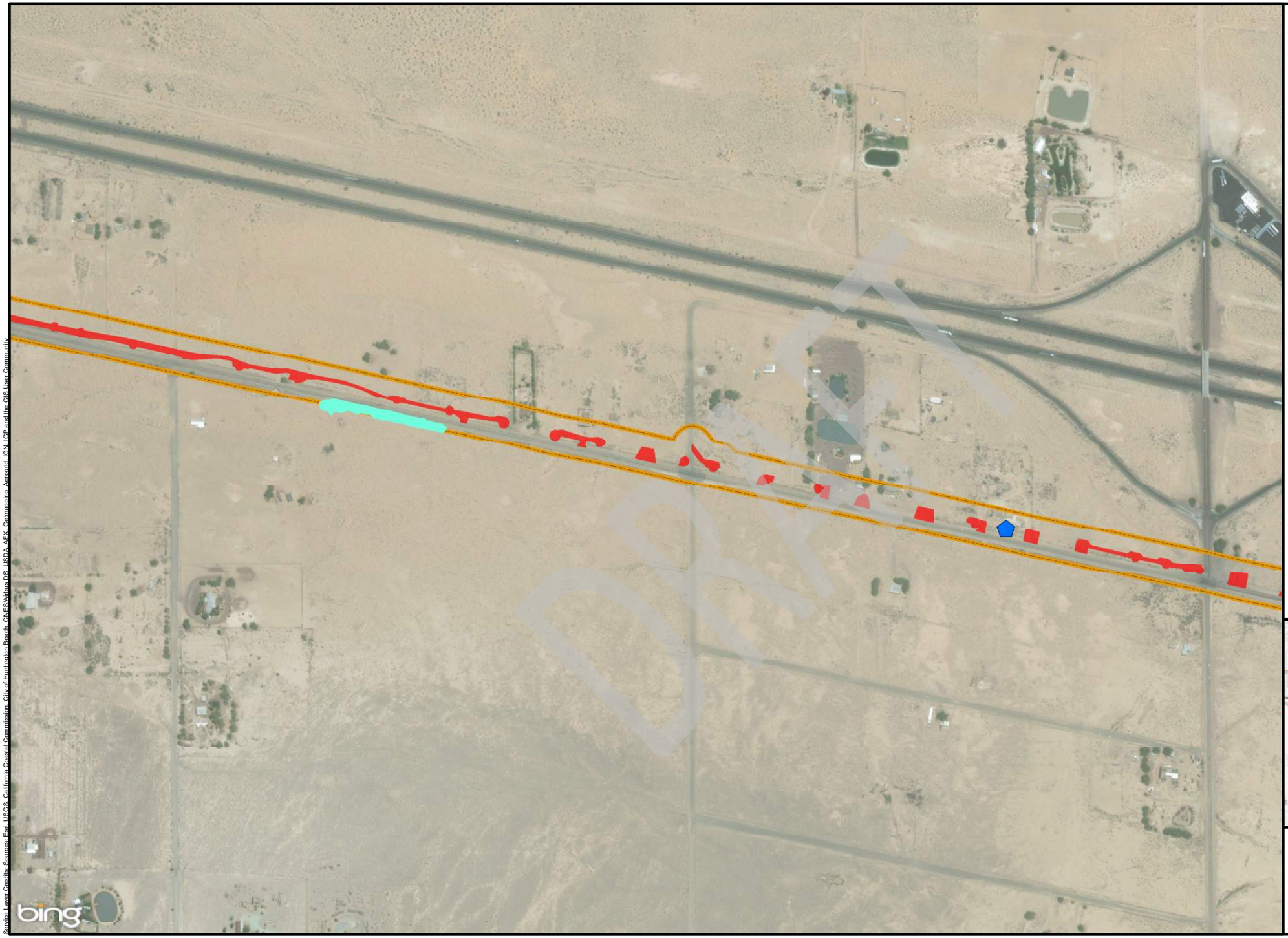
Mojave fringe-toed lizard

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTE\Exh_04_Results_E101_20170907.mxd



Source: Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTR\Exh_04_Results_E101_20170907.mxd

Exhibit 4. Results Page 3 of 7
Gale To Pisgah Project | San Bernardino County, CA

Legend

Survey Area

Project Components

Pole Work Areas

Burrowing Owl Survey Results

Suitable burrow location

N
W
E
S

0 250 500 Feet

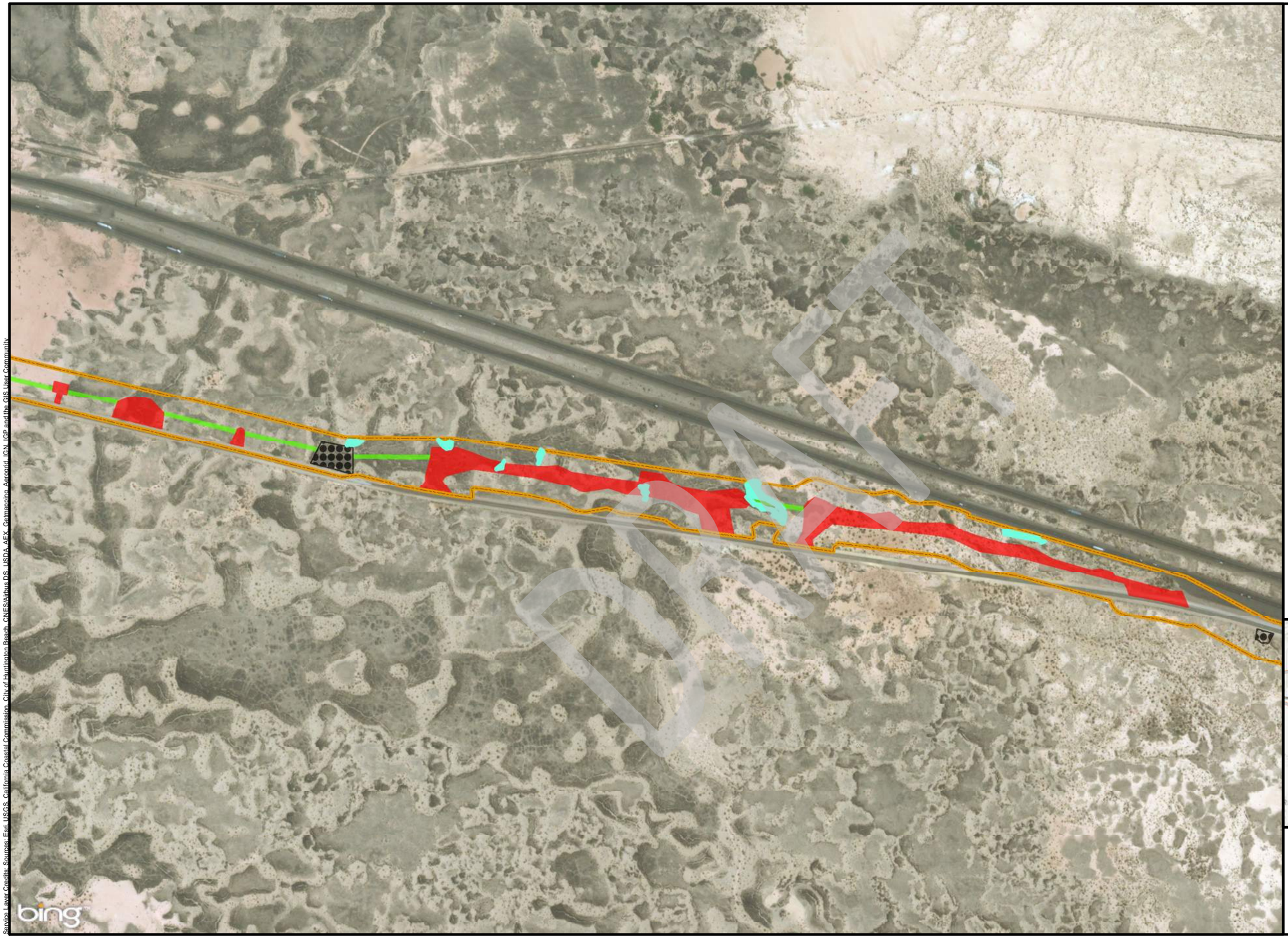
1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTR\Exh_04_Results_E101_20170907.mxd

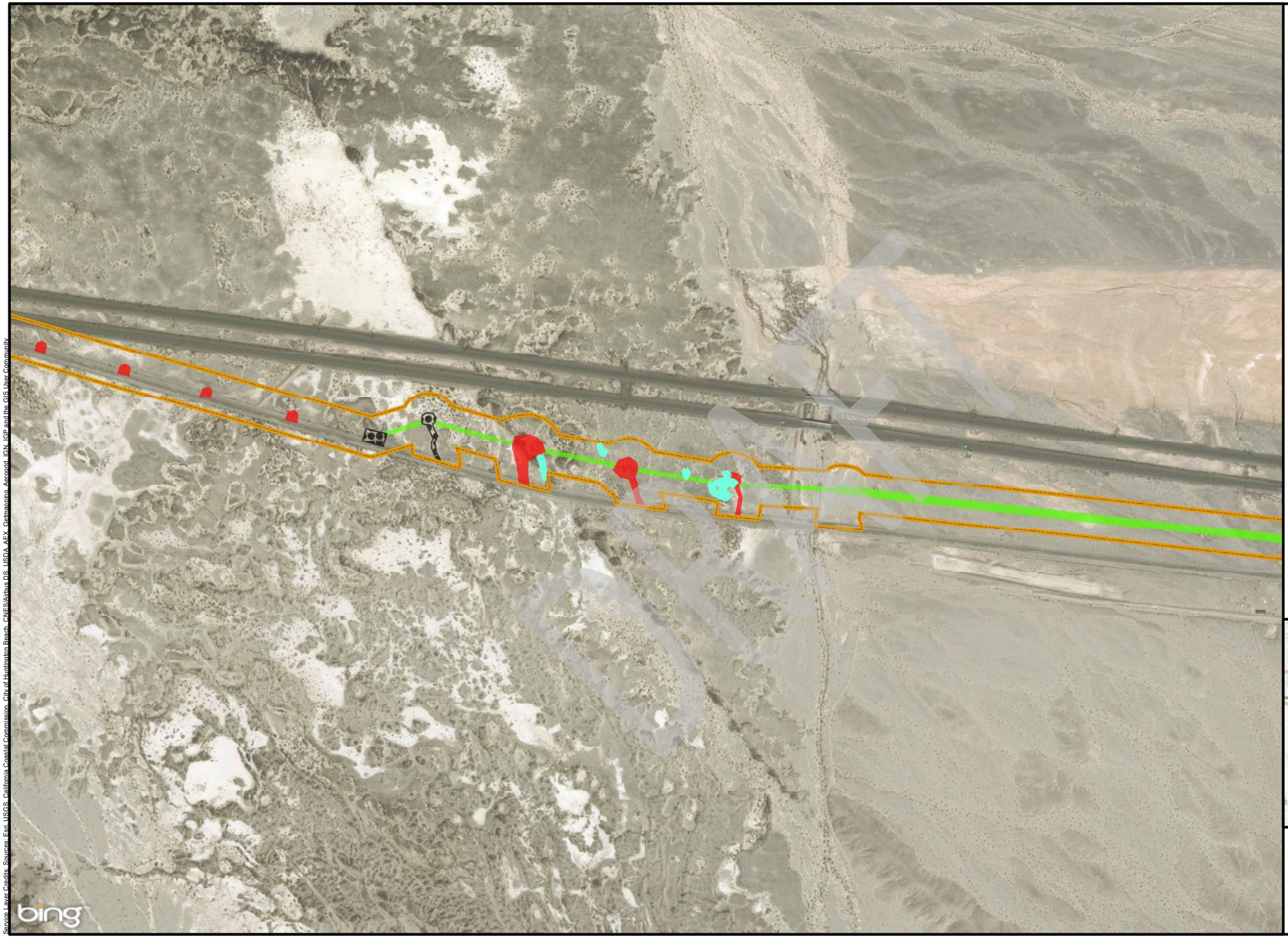
Exhibit 4. Results Page 4 of 7

Gale To Pisgah Project | San Bernardino County, CA



Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Commonwealth of Australia, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTI\Exh_04_Results_E101_20170907.mxd


Legend
Survey Area
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
Suitable Habitat
Mojave fringe-toed lizard
MOJAVE VALLEY
CADY
15
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Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 9/8/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\BRTR\Exh_04_Results_E101_20170907.mxd

Exhibit 4. Results Page 7 of 7

Gale To Pisgah Project | San Bernardino County, CA

Appendix B:

SITE PHOTOGRAPHS

Photo 1:

Emory's Crucifixion-Thorn (*Castela emoryi*): CNPS List 2B.2. A perennial shrub often associated with gravelly soils in creosote bush scrub. One individual was documented on Halloran sandy loam soil 100 feet outside the Proposed Project survey area north of U.S. Route 66. Photo taken on 04/22/2017 .

Photo 2:

Utah Vine Milkweed (*Funastrum utahenseis*): CNPS List 4.2. A perennial herb typically associated with creosote bush communities. Approximately 25 individuals were documented 50 feet outside the survey area on desert sand dune soil with creosote bush, white bursage, and non-native Saharan mustard. Photo taken on 04/26/2017.

Photo 3:

Suitable Mojave fringed-toed lizard habitat consisting of fine sandy hummocks. Photo taken on 08/29/2017.

Photo 4:

Suitable Mojave fringed-toed lizard habitat consisting of fine sandy hummocks. Photo taken on 08/31/2017.

Photo 5:

Marginally suitable sandy dune habitat for Mojave fringed-toed lizard. Photo taken on 08/29/2017.

Photo 6:

Marginally suitable sandy dune habitat for Mojave fringed-toed lizard with volcanic scree in background. Photo taken on 08/31/2017.

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Appendix C:

SPECIAL-STATUS BIOLOGICAL RESOURCES OCCURRING OR POTENTIALLY OCCURRING ON OR IN THE VICINITY (WITHIN 3 MILES) OF THE GALE TO PISGAH PROJECT

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
SENSITIVE VEGETATION COMMUNITIES / LAND COVER TYPES					
Alkali Playa Community	–	S3	–	Alkali playa is a rare community of habitats that are intermittently flooded or saturated. Examples include dry lake beds and margins, hummocks, lagoon bars, old lake beds perched above current drainages, and seeps. **Occurs**. Present at Troy Dry Lake approximately 7-8 miles east of Newberry Springs.	
Atriplex polycarpa (Allscale scrub) Alliance – Desert Saltbush Scrub	–	S3	–	*Atriplex polycarpa* is dominant in the shrub canopy with *Ambrosia dumosa*, *Ambrosia salsola*, *Atriplex canescens*, *Bromus rubens*, *Chamaesyce polycarpa*, *Cleome isomeris*, *Isocoma acradenia*, and *Larrea tridentata*. Emergent trees may be present at low cover, including *Prosopis glandulosa*. Habitats include washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. Elevation ranges from -75 to 1,500m. **Occurs**. Present along alignment west of Troy Dry Lake (alkali playas).	

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Prosopis glandulosa (Mesquite thicket) Alliance	–	S3	–	*Prosopis glandulosa* is dominant or co-dominant in the small tree canopy with *Salix exigua*, *Salix lasiolepis*, and *Sambucus nigra*. Shrubs may include *Allenrolfea occidentalis*, *Ambrosia dumosa*, *Atriplex canescens*, *Atriplex polycarpa*, *Bebbia juncea*, *Petalonyx thurberi*, *Pluchea sericea*, *Rhus ovata*, or *Suaeda moquinii*. Habitats include fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and sand dunes. Elevation ranges from 75 to 1,100m. **Occurs**. Scattered across desert riparian areas within the Project survey area.	
Suaeda moquinii (Bush seepweed scrub) Alliance	–	S3	–	Suaeda moquinii is dominant or co-dominant in the shrub and herbaceous layers with *Allenrolfea occidentalis*, *Atriplex canescens*, *Atriplex polycarpa*, *Frankenia salina*, *Kochia californica*, *Sarcobatus vermiculatus*, and *Sporobolus airoides*. Habitats include flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas. Soils are deep; saline or alkaline. Elevation ranges from 0 to 1,300m. **Occurs**. Present adjacent to Troy Dry Lake approximately 7-8 miles east of Newberry Springs.	
PLANTS					

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Amaranthus watsonii Watson's amaranth	–	–	4.3	An annual herb that occurs in Mojavean and Sonoran desert scrub. 20-1,700m. **Unlikely.** Species preferred habitat is found on-site. CCH record (1958) approximately 2.5 miles west of Project alignment. Not identified during 2017 botanical surveys.	Apr-Sep
Androstephium breviflorum Small-flowered androstephium	–	–	2B.2	A perennial bulbiferous herb found in desert dunes and Mojavean desert scrub (bajadas). 220-800m. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (2010) within 500 feet of Project alignment. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	Mar-Apr
Castela emoryi Emory's crucifixion-thorn	–	–	2B.2	A perennial deciduous shrub found in gravelly areas of playas and Mojavean and Sonoran desert scrub. 90-725m. **Occurs**. During 2017 botanical surveys, one individual approximately 100 feet outside Project survey area was identified in Halloran sandy loam soil and associated with creosote bush habitat.	Jun-Jul
Cryptantha clokeyi Clokey's cryptantha	–	–	1B.2	An annual herb that occurs in Mojavean desert scrub. 725-1,365m. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	April

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Cryptantha holoptera Winged Cryptantha	–	–	4.3	An annual herb found in Mojavean and Sonoran desert scrub. 100-1,690m. **Unlikely**. Species preferred habitat is found on-site. CCH record (1995) approximately 3 miles southeast of Project alignment. Not identified during 2017 botanical surveys.	Mar-Apr
Cymopterus multinervatus Purple-nerve cymopterus	–	–	2B.2	A perennial herb found in sandy or gravelly areas in Mojavean desert scrub and pinyon-juniper woodland. 790-1,800m. **Does not occur**. For the one CNDDB record (date unknown), the exact location is unknown (upper Box Springs Wash, Rodman Mountains). Also outside elevation range. Not identified during 2017 botanical surveys.	Mar-Apr
Funastrum utahense Utah vine milkweed	–	–	4.2	A perennial herb found in sandy or gravelly habitats of Mojavean and Sonoran desert scrub. 100-1,435m. **Occurs**. During 2017 botanical surveys, 25 individuals approximately 50 feet outside the survey area were identified on desert sand dune soil and associated with creosote bush, white bursage, and non-native Saharan mustard. During 2016 botanical surveys, 14 individuals were identified in the same vicinity.	Mar-Oct

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Menodora spinescens var. *mohavensis* Mojave menodora	–	–	1B.2	A perennial deciduous shrub that occurs in Mojavean desert scrub on Andesite gravel, rocky hillsides, and canyons. 690-2,000m. **Does not occur.** During 2017 & 2016 botanical surveys, species was identified at reference sites but not in survey area. Also slightly outside elevation range.	Apr-May
Mentzelia tridentata Creamy blazing star	–	–	1B.3	An annual herb that occurs in rocky, gravelly, and sandy areas of Mojavean desert scrub. 700-1,175m. **Unlikely.** Species preferred habitat is found on-site, although slightly outside elevation range. Several recent records (CCH 2014, CNDDB 2011 & 2014) in western portion of Project, but approximately 2 miles south of alignment. Older CNDDB records (1946, 1924, and unknown date) closer to alignment, but exact locations unknown. Not identified during 2017 botanical surveys. During 2016 botanical surveys, species not identified at reference site or in survey area.	Mar-May
Mimulus mohavensis Mojave monkeyflower	–	–	1B.2	An annual herb that occurs in sandy or gravelly areas, often in washes, in Joshua tree woodland and Mojavean desert scrub. 600-1,200m. **Unlikely.** Species preferred habitat is found on-site. Recent CNDDB records within the Mojave Monkeyflower ACEC south of western portion of Project. During 2017 & 2016 botanical surveys, species not identified at reference site or in survey area.	Apr-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Pediomelum castoreum Beaver Dam breadroot	–	–	1B.2	A perennial herb that occurs in sandy areas, washes, and roadcuts in Joshua tree woodland and Mojavean desert scrub. 610-1,525m. **Does not occur.** Species preferred habitat is found on-site. Species recorded in CNDDB (1943, 1941, and 1915) and CCH (1943) at western end of Project, but exact locations unknown. Not identified during 2017 botanical surveys.	Apr-May
Penstemon albomarginatus White-margined beardtongue	–	–	1B.1	A perennial herb that occurs in stabilized desert dunes and sandy Mojavean desert scrub. 640-1,065m. **Unlikely**. Numerous CNDDB and CCH records from 1943 through 2014 at eastern end of Project, with closest records approximately 2,000 feet from alignment. During 2017 & 2016 botanical surveys, species not identified at reference site or in survey area.	Mar-May
Phacelia parishii Parish's phacelia	–	–	1B.1	An annual herb that occurs in clay or alkaline areas in Mojavean desert scrub and playas. 540-1,200m. **Unlikely.** Species preferred habitat is found on-site. CCH record (1992) approximately 2 miles north of Project material laydown yard. Not identified during 2017 botanical surveys. During 2016 botanical surveys, species was identified at reference site but not in survey area.	Apr-May
FISH					

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Siphateles bicolor mohavensis Mohave tui chub	FE	SE FP	–	Historically, the Mohave tui chub occurred throughout the Mojave River drainage. A small population persisted in isolated ponds near the terminus of the Mojave River at Soda Springs. Historically, within the Mojave River, the Mohave tui chub was associated with deep pools and sloughs of the river and was not found very far into small tributaries. Currently occupies habitats with water depth of four feet with some freshwater flow for a mineralized and alkaline environment, with some aquatic plants. **Does not occur**. Populations in Mojave River near Daggett and Yermo presumed extirpated due to competition and hydrology alteration.	Year-round
REPTILES					

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Actinemys marmorata Northern western pond turtle	–	SSC	–	Found in ponds, lakes, rivers, streams and irrigation ditches with abundant vegetation and logs, rocks and exposed banks for basking. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Usually found in woodland, forest and grasslands. **Does not occur**. Population from Yermo (CNDDB 1987) is considered extirpated.	Feb-Nov
Gopherus agassizii Desert tortoise	FT	ST	–	Throughout the Mojave Desert south along the Colorado river and along the east side of the Salton Basin. A desert species that needs firm ground to dig burrows, or rocks to shelter among. Found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides. **Likely**. During 2017 focused surveys, no desert tortoise or sign identified. During 2016 focused surveys, two burrows (Class 3 and 4) identified at eastern end of alignment. During 2011 focused surveys, four Class 5 carcasses identified. Numerous CNDDB records (2007-2010) of live desert tortoises and sign north of eastern portion of alignment, with nearest live tortoise approximately 1 mile north of Pisgah Substation and nearest sign approximately 0.5 mile north of Pisgah Substation.	Mar-Oct

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Uma scoparia Mojave fringe-toed lizard	–	SSC	–	Inhabits areas of fine windblown sand in the Mojave Desert from the southern end of Death Valley south to the Colorado River around Blythe, and into extreme western Arizona. Found in sparsely-vegetated arid areas with fine wind-blown sand, including dunes, flats with sandy hummocks formed around the bases of vegetation, washes, and the banks of rivers. Needs fine, loose sand for burrowing. **Likely**. Patches of suitable habitat were identified along alignment. During 2017 focused surveys, none identified. During 2016 focused surveys, none identified. According to DRECP, current populations include dune complexes near Daggett, Yermo, Newberry Springs, and Pisgah. CNDDB records (2008, 1982) at eastern end of Project vicinity, with nearest record (2008) approximately 0.75 mile north of alignment.	Feb-Nov
BIRDS					

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Agelaius tricolor Tricolored blackbird (nesting colony)	–	CE SSC	–	Species breeds locally west of the Cascade Range, Sierra Nevada, and southeastern deserts from Humboldt and Shasta counties south to extreme southwest San Bernardino County, western Riverside County, and western and southern San Diego County. Primarily breeds in freshwater marshes dominated by cattails (*Typha* spp.) or bulrushes (*Schoenoplectus* spp.). Small breeding colonies in southern California often occur at private and public lakes, reservoirs, and parks surrounded by shopping centers, subdivisions, and other urban development. **Likely**. Not identified during surveys. Two potentially extant nesting colony records (CNDDB 2014) within 1 mile of alignment: • NW corner of Elkhorn Street and Spyrock Avenue in cattail marsh in pond, less than 500 feet north of alignment; and • NE corner of Minneola Road and Swansea Street in cattail marsh in pond, two-thirds of a mile north of alignment.	Year-round Breeding: Mar-Aug

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Aquila chrysaetos Golden eagle (nesting and wintering)	–	FP WL	–	Found throughout western North America. Occurs primarily in mountainous canyon land, rimrock terrain of open desert, and grassland areas. Usually nests on cliffs, but also nests in trees, on the ground, and in human-made structures. Typically forages in open habitats. **Likely**. Not identified during surveys. Known nesting site (CNDDB 1979) approximately two-thirds of a mile south of alignment in Newberry Mountains. Suitable foraging habitat throughout alignment.	Year-round Breeding: Jan-Aug
Athene cunicularia Burrowing owl	–	SSC	–	Inhabits relatively flat and open areas such as grasslands, coastal dunes, and agricultural areas; requires the presence of burrows for nesting and roosting activities. An uncommon to locally common resident in California. **Unlikely**. During 2017 focused surveys, four potential burrows identified along the alignment; no live owls or definitive sign identified. During 2016 focused surveys, four potential burrows identified along the alignment; no live owls or definitive sign identified. During 2011 desert tortoise surveys, no burrowing owl or sign identified. CNDDB records (2008-2009) greater than two miles from alignment.	Year-round Breeding: Mar-Sep

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Icteria virens Yellow-breasted chat (nesting)	–	SSC	–	A breeding species in the U.S., in California a very locally distributed species throughout Southern Coast Range and Peninsular Range from Santa Clara County south to San Diego County. Largely confined to riparian and shrubby habitats. **Unlikely**. Not identified during surveys. CNDDB record (1911) from Yermo. Could occur at various water features in the vicinity with riparian habitat, but unlikely along alignment.	Breeding: May-Aug
Toxostoma lecontei Le Conte's Thrasher	–	SSC	–	Prefers undisturbed sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having a high proportion of saltbush or shadscale (*Atriplex* spp.) and/or cylindrical cholla cactus (*Opuntia* spp.). It can also occupy other desert habitats with similar structural profiles but lacking saltbush/shadscale or cholla cactus. **Likely**. Not identified during surveys, but suitable habitat present along alignment.	Year-round
MAMMALS					

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Ovis canadensis nelsoni Desert bighorn sheep	–	FP	–	In California, the desert bighorn sheep is found in the dry, desert mountains of southeastern California. Desert bighorn live throughout the inter-mountain west in a large number of desert mountain ranges in eastern California, much of Nevada, northwestern Arizona, New Mexico, southern Utah, southern Colorado, and Mexico. **Unlikely**. CNDDB record (1986) of herd in Newberry Mountains, less than 2 miles south of alignment, but unlikely to be present along alignment.	Year-round
Xerospermophilus mohavensis Mojave ground squirrel	–	ST	–	Found throughout northwestern Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties. Occurs in a variety of desert shrubland habitats. Most often found in creosote bush scrub, but also found in desert saltbush scrub, desert sink scrub, desert greasewood scrub, shadscale scrub, Joshua tree woodland, and Mojave mixed woody scrub. Mohave ground squirrels typically occupy areas with open vegetative cover and small bushes, and prefers deep, sandy to gravelly soils on flat to moderately sloping terrain. **Does not occur**. Project is outside the historic range of the species.	Year-round

[1]Status

Federal

FE: Federally Endangered

FT: Federally Threatened

DL: Delisted

State

SE: State Endangered

ST: State Threatened

SR: State Rare

CE: State Candidate Endangered

CT: State Candidate Threatened

SSC: California Species of Special Concern

FP: Fully Protected

WL: Watch List

DL: Delisted

Vegetation Communities: Ranks are based on a one to five scale, ranging from critically imperiled (S1) to demonstrably secure (S5). S1-S3 communities considered rare.

CNPS (California Rare Plant Rank)

1A: Plants presumed extirpated in California and either rare or extinct elsewhere

1B: Plants rare, threatened, or endangered in California and elsewhere

2A: Plants presumed extirpated in California, but common elsewhere

2B: Plants rare, threatened, or endangered in California, but more common elsewhere

3: Plants about which more information is needed - a review list

4: Plants of limited distribution - a watch list

0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2: Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3: Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

CBR: Considered But Rejected

[2]Occurrence Potential

Special-status species with the potential to occur within the Survey Area were evaluated based on SCE's Species Presence/Absence Determination flow-chart:

Occurs: the species and/or positive sign was observed on-site during site visit or field survey.

Absent: the species and/or positive sign was not observed on-site during focused survey(s) during the appropriate blooming/activity period (and, for plants, observed at a reference population).

Likely: all site features indicate this species is very likely present and should be expected. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old are less than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).

Unlikely: species could occur, but records of the species are not locally known. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old are more than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps); or historical record 26-75 years old indicates it is extant and accurately mapped.

Does Not Occur: species would not occur because the Project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on historical records.

Appendix D-2

Segment 2 Habitat and Resource Assessment Report

Environmental Intelligence, LLC

HABITAT AND RESOURCE ASSESSMENT

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

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Date: November 2016

TABLE OF CONTENTS

TABLES

APPENDICES

EXECUTIVE SUMMARY

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a habitat and resource assessment and focused survey for desert tortoise (*Gopherus agassizii*) in support of the proposed Lugo-Victorville 500-kV Transmission Line Remedial Action Scheme Project (Project) located in San Bernardino County, California. The results of the assessment and focused surveys will (1) support the Mojave National Preserve's (MNP) review of SCE's Special Use Permit application; (2) support the Bureau of Land Management's (BLM) review of SCE's Right-of-Way (ROW) application; and (3) assist in SCE's consultation with the United States Fish and Wildlife Service (USFWS).

The Project is located entirely within San Bernardino County, California, extending from Pisgah Substation (near Ludlow, CA) to the California-Nevada border (near Nipton Road). The Project alignment crosses lands owned by the BLM, private landowners, the State, and the National Park Service. The Project primarily traverses undisturbed natural habitat through the Mojave Desert, with elevations along the alignment ranging from 1,100 to 4,600 feet. Topography consists of valleys, flats, alluvial fans, bajadas, rolling hills, and rocky slopes. The named topographic features found along or adjacent to the ROW include (from southwest to northeast): the Cady Mountains, Kelso Wash, Devil's Playground, Old Dad Mountain, Jackass Canyon, Kelso Mountains, Marl Mountain, Cima Dome, Ivanpah Valley, and Willow Wash.

Twenty-one vegetation communities, including eight sensitive vegetation communities and thirteen non-sensitive vegetation communities, were identified and mapped during the habitat and resource assessment. Sensitive vegetation communities identified include *Chilopsis linearis* (Desert willow woodland) Alliance, *Ericameria paniculata* (Black-stem rabbitbrush scrub) Alliance, *Panicum urvilleanum* (Desert panic grass patches) Alliance, *Pleuraphis rigida* (Big galleta shrub-steppe) Alliance, *Prunus fasciculata* (Desert almond scrub) Alliance, *Psorothamnus spinosus* (Smoke tree woodland) Alliance, *Rhus trilobata* (Basket bush thickets) Provisional Alliance, and *Yucca brevifolia* (Joshua tree woodland) Alliance.

Two CNPS listed plant species, Emory's crucifixion thorn (*Castela emoryi*) and matted cholla (*Grusonia parishii*), were observed during surveys. Twenty-three (23) other CNPS listed species are likely to occur based on the presence of suitable soils, vegetation alliances, and/or documented collections. Three (3) special-status wildlife species, desert tortoise, Mohave fringe-toed lizard, and loggerhead shrike, were observed during Project-related surveys. An additional five (5) special-status wildlife species are likely to occur based on the presence of suitable habitat and/or documented observations.

1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a habitat and resource assessment and focused survey for desert tortoise (*Gopherus agassizii*) in support of the proposed Lugo-Victorville 500-kV Transmission Line Remedial Action Scheme Project (Project) located in San Bernardino County, California. A separate report was prepared for the desert tortoise focused survey (EI 2016); results are also included in this report. The results of the assessment and focused surveys will (1) support the Mojave National Preserve's (MNP) review of SCE's Special Use Permit application; (2) support the Bureau of Land Management's (BLM) review of SCE's Right-of-Way (ROW) application; and (3) assist in SCE's consultation with the United States Fish and Wildlife Service (USFWS).

2.0 PROJECT LOCATION AND DESCRIPTION

The Project is located entirely within San Bernardino County, California, extending from Pisgah Substation (near Ludlow, CA) to the California-Nevada border (near Nipton Road) (Exhibit 1). The Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Hector, Sleeping Beauty, Broadwell Lake, West of Broadwell Mesa, Broadwell Mesa, Soda Lake South, Cowhole Mountain, Old Dad Mountain, Indian Spring, Marl Mountains, Cima, Cima Dome, Joshua, Ivanpah, Nipton, and Crescent Peak; material/laydown yards are located in Dunn and Baker USGS quadrangles. Land use along the Project alignment is primarily undisturbed desert scrub habitat. The Project alignment crosses lands owned by the BLM, private landowners, the State, and the National Park Service.

SCE proposes to install a new 84-mile telecommunication path consisting of Optical Ground Wire (OPGW) fiber optic cable. The Project is required to reliably interconnect and integrate multiple renewable generation projects in the Southern Nevada / Eastern California area onto the electric grid. The primary function of this Project will be to prevent thermal overloading on the jointly owned Lugo-Victorville 500-kV Transmission Line, a major power transfer path between SCE and the Los Angeles Department of Water and Power (LADWP). All work will occur within the existing SCE ROW and will include bucket truck work on disturbed areas at approximately 408 transmission tower locations, installation of guard poles at 14 locations, establishment of helicopter landing zones at 72 locations, pulling/tensioning activities at 27 locations, and establishment of several laydown yards.

3.0 REGULATORY FRAMEWORK

The Project will comply with applicable federal, State, and local laws, ordinances, regulations, and standards (LORS) throughout Project construction. Potentially applicable LORS are discussed below.

3.1 Federal

3.1.1 FEDERAL ENDANGERED SPECIES ACT (FESA)

This 1973 law, administered by the United States Fish and Wildlife Service (USFWS), is designed to minimize impacts to imperiled plants and animals, as well as facilitate recovery of such species. Declining plant and animal species are listed as "endangered" or "threatened" based on a variety of factors. Applicants for projects requiring federal agency action that could adversely affect listed species are required to consult with and mitigate impacts in consultation with the USFWS. Adverse impacts are defined as "take" (defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct"), which is prohibited except as authorized through consultation under Section 7 or through issuance of an Incidental Take Permit under Section 10. The Palm Springs Fish and Wildlife Office oversees permitting actions relative to the FESA for this Project.

3.1.2 MIGRATORY BIRDS

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The Palm Springs Fish and Wildlife Office oversees actions relative to migratory birds and eagles for this Project.

The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13.

The BGEPA (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald and golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle...or any golden eagle, alive or dead, or any part, nest, or egg thereof." The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb is defined under the BGEPA as to agitate or bother an eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (Pagel et al. 2010).

3.2 State

3.2.1 California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. This State law prohibits the “take” (defined as to hunt, pursue, catch, capture, or kill) of State-listed species except as otherwise provided in State law. CESA, administered by the California Department of Fish and Wildlife (CDFW), is similar to the federal ESA, although unlike the federal law, CESA applies incidental take prohibitions to species currently petitioned for state-listing status (*i.e.* candidate species). State lead agencies are required to consult with the CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any State-listed species or result in the degradation of occupied habitat. Under Section 2081, CDFW authorizes “take” of State-listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. Should a species be both federally and State-listed, and if the federal ESA authorization fulfills CESA requirements, CDFW may streamline the CESA permitting process by adopting a Consistency Determination (Section 2081.1), that concurs with the federal authorization. The CDFW Inland Deserts Region oversees actions relative to CESA for this Project.

3.2.2 California Environmental Quality Act (CEQA)

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and/or local governmental agencies. “Projects” are activities that have the potential to have a physical impact on the environment. The purpose of CEQA is to: (1) disclose to the public the significant environmental effects of a proposed discretionary project, through the preparation of an Initial Study (IS), Negative Declaration (ND), or Environmental Impact Report (EIR); (2) prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring; (3) disclose to the public the agency decision-making process utilized to approve discretionary projects through findings and statements of overriding consideration; (4) enhance public participation in the environmental review process through scoping meetings, public notice, public review, hearings, and the judicial process; and (5) improve interagency coordination through early consultations, scoping meetings, notices of preparation, and State Clearinghouse review. The CDFW Inland Deserts Region oversees actions relative to CEQA for this Project.

3.2.3 Fish and Game Code and Title 14 Laws and Regulations

Fish and Game Code (FGC) Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code or any associated regulation. Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey. It also prohibits the take, possession, or destruction of nests or eggs of any bird of prey. Section 3511 describes bird species, primarily raptors that are "fully protected." Fully protected species may not be taken or possessed, except under specific permit requirements. No incidental take permit may be issued for a fully protected species.

Sections 4700, 5050, and 5515 list mammal, reptile and amphibian, and fish species, respectively, that are classified as fully protected in California.

Section 1900 *et seq.* describes the Native Plant Protection Act (NPPA). The NPPA was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW, for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Title 14, California Code of Regulations (CCR) lists plant and animal species designated as threatened and endangered in California. California Species of Special Concern (SSC) is a category applied by CDFW to those species that are indicators of regional habitat changes or are considered potential future protected species. SSCs do not have any special legal status, but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

3.2.4 California Food And Agriculture Code

The California Desert Native Plants Act, California Food and Agriculture Code Sections 80001-80201, protects California desert native plants from unlawful harvesting on both public and privately owned lands. Section 80073 stipulates that specific native plants or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing. Section 80117 states, "This division does not apply to a public agency or to a publicly or privately owned public utility when acting in the performance of its obligation to provide service to the public. This section does not prevent the landowner or his or her agent from complying with any other federal, state, or local laws or regulations."

3.3 Local

3.3.1 Mojave National Park

The National Park Service (NPS), a federal agency in the Department of the Interior, promotes and regulates the use of national parks to conserve scenery and natural and historic objects for the use and enjoyment of future generations. The California Desert Protection Act created the 1.6 million acre Mojave National Preserve in San Bernardino County in 1994. Every action taken or plan proposed by the National Park Service that could affect natural and cultural resources or the quality of the human environment is subject to a host of laws and regulations designed to protect and enhance the environment. The primary goal of the Mojave National Preserve is to protect its resources while providing for visitor enjoyment.

3.3.2 Habitat Conservation Plans / Natural Community Conservation Plans

Habitat Conservation Plans (HCPs) under section 10(a)(1)(B) of the FESA provide for partnerships with non-Federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery. CDFW's Natural Community Conservation Planning Act (NCCPA) allows for the development of broad-based ecosystem-level plans for the protection and perpetuation of biological diversity. The primary objective of Natural Community Conservation Plans (NCCP) prepared under the NCCPA is to conserve natural communities at the ecosystem level while accommodating compatible land use. These Plans, including the California Desert Conservation Act (CDCA) and Desert Renewable Energy

Conservation Plan (DRECP), are described in more detail in Section 5.2 (Designated Critical Habitat and Conservation Lands).

3.3.3 COUNTY PLANS

The Project is subject to the requirements and authority of the San Bernardino County General Plan (URS 2007). The Project is located within the Plan's Desert Planning Region, which aims to preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water, and scenic vistas. Specific goals and policies include:

- Encourage the greater retention of existing native vegetation for new development projects to help conserve water, retain soil in place and reduce air pollutants.
- Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.
- Require retention of existing native vegetation for new development projects, particularly Joshua trees, Mojave yuccas, creosote rings, and other species protected by the Development Code and other regulations.
- Reduce disturbances to fragile desert soils as much as practicable to reduce fugitive dust.
- Mechanical removal of vegetation shall be minimized and limited to the areas prepared for permitted accessory uses.
- Encourage the retention of specimen sized Joshua trees.

4.0 METHODS

4.1 Database Search and Literature Review

Prior to the initiation of field work, a review of pertinent literature was performed to determine which species/habitats identified as special-status by State, federal, and local resources agencies have the potential to occur along the Project alignment or immediate vicinity (within 3 miles) (Exhibit 2). This included a review of the California Natural Diversity Database (CNDDB) RareFind application (CDFW 2016), the 1994 and 2011 Desert Tortoise Recovery Plans (USFWS 1994a & 2011), Biological Assessment for the 2004 Fire Management Plan for the Mojave National Preserve (Dingman 2004), and other pertinent documents. Sources reviewed included the following:

- Special-status species lists from CDFW, USFWS, and California Native Plant Society (CNPS);
- California Natural Diversity Database records since 1995 (CDFW 2016);
- USFWS Species Occurrence Data (USFWS 2016);
- Electronic Inventory of the CNPS (CNPS 2016) and Consortium of California Herbaria (CCH 2016);
- Federal Register listing package and critical habitat determination for each federally listed Endangered or Threatened species potentially occurring within the Project vicinity (USFWS);
- San Bernardino County General Plan (URS 2007)

Special-status species with the potential to occur within the Survey Area were evaluated based on the following criteria:

- **Occurs**: the species and/or conclusive sign was observed on-site during the survey.
- **Likely**: this species is expected to occur in the Survey Area based on presence of suitable habitat and/or based on professional expertise specific to the site or species, and nearby, recent (in the last decade) recorded occurrences for the species.

- **Unlikely**: this species may have been recorded in the Project vicinity, but the Project is on the periphery of the species range, or there are older records (greater than 10 years) on/near the Project, but there is currently marginal suitable habitat on-site (habitat is highly disturbed, degraded, or limited).
- **Does Not Occur**: this species is not expected to occur in the Survey Area. Suitable habitat was not observed in the Survey Area. The Survey Area is outside of the currently known range of the species.

4.2 Field Surveys

4.2.1 2016 Habitat and Resource Assessment

Qualified biologists Luis Aguilar, Jim Buffington, Ben DeLancey, Scott Duff, Paul Flores, Jeremiah George, Mitch Provance, and Susan Seville conducted a habitat and resource assessment on October 11-14, 17-19, 24-26 & 31 and November 1-2, 2016. The habitat and resource assessment Survey Area included a 250-foot buffer from the SCE ROW centerline as well as a 200-foot buffer around all proposed disturbance areas (Exhibit 3). The habitat and resource assessment included a general pedestrian survey to document existing site conditions, map vegetation/habitat communities, identify wildlife species and avian nests present, and identify areas that provide suitable habitat (e.g., vegetation communities, potential bat roosts, raptor nests, burrow complexes, etc.) for any regulated species. Regulated plant and wildlife species or sign were recorded when observed. A formal jurisdictional delineation was not conducted; however, the centerline of potential jurisdictional features was mapped and the vegetation communities associated with the potential feature were identified. All flora and fauna observed were recorded on the field forms or in personal field notes. Global Positioning System (GPS) handheld units (Trimble and Garmin recreational models), binoculars, digital cameras, and field forms/notes were used to aid in recording biological resources.

Vegetation/habitat communities were described to the alliance level in accordance with A Manual of California Vegetation (Sawyer *et al.* 2009). The minimum mapping unit for non-sensitive vegetation communities was 1 acre; sensitive vegetation communities and/or habitat features were individually mapped at a scale appropriate to determine avoidance/minimization and management of that resource.

4.2.2 2016 Focused Surveys for Desert Tortoise

Desert tortoise focused surveys were conducted on October 10-15, 17-22 & 24-26 by EI qualified biologists Jim Buffington, Ben DeLancey, Scott Duff, Paul Flores, Mikaila Negrete, and Susan Seville. The survey was conducted in accordance with the *2010 Field Season Survey Protocol* (USFWS 2010). Ten-meter belt transects were surveyed over 100 percent of the proposed disturbance areas as well as a 200-foot buffer (Exhibit 3). The Action Area, defined as the areas to be affected directly or indirectly and not merely the immediate area involved in the Project's disturbance area, included a 200-ft buffer around all disturbance areas. Access roads and other areas between the Survey Areas were not included in the focused surveys.

Global Positioning System (GPS) handheld units (Trimble and Garmin recreational models), binoculars, digital cameras, and field forms/notes were used to aid in recording tortoise sign and other biological resources. A handheld weather meter was used to record temperatures at the start and end of each transect. Daily focused surveys were ceased if temperatures in the shade at 5cm above the ground reached 40° Celsius (C) (104° Fahrenheit [F]). All desert tortoise sign, as well as required survey and weather data was recorded on USFWS 2010 Desert Tortoise Pre-Project Survey Datasheets. General health of live desert tortoises encountered was assessed when the head and carapace were visible to surveyors without stressing the animal. Binoculars were used to inspect the eyes, nares, and shell conditions of the tortoises for clinical signs of disease without handling or approaching the animals too closely. Desert tortoises encountered were not touched or handled at any time during the survey, and biological samples were not taken to assist in the assessments of health of the encountered tortoises. All flora and fauna observed were recorded on the field forms or in personal field notes.

5.0 RESULTS

5.1 Physical Environment

The Project primarily traverses undisturbed natural habitat through the Mojave Desert, with elevations along the alignment ranging from 1,100 to 4,600 feet. Topography consists of valleys, flats, alluvial fans, bajadas, rolling hills, and rocky slopes. The named topographic features found along or adjacent to the ROW include (from southwest to northeast): the Cady Mountains, Kelso Wash, Devil's Playground, Old Dad Mountain, Jackass Canyon, Kelso Mountains, Marl Mountain, Cima Dome, Ivanpah Valley, and Willow Wash.

5.2 Designated Critical Habitat and Conservation Lands

5.2.1 DESERT TORTOISE CONSERVATION AREAS

Desert tortoise conservation areas include desert tortoise habitat within critical habitat, Desert Wildlife Management Areas (DWMAs), Areas of Critical Environmental Concern (ACEC), Grand Canyon-Parashant National Monument, Desert National Wildlife Refuge, National Park Service lands (e.g. Mojave National Preserve), Red Cliffs Desert Reserve, and other conservation areas or easements managed for desert tortoises (USFWS 2011). The Project is located within the Western Mojave and Eastern Mojave Recovery Units as described in the Revised Desert Tortoise Recovery Plan (USFWS 2011), and it passes through the desert tortoise Ivanpah Valley Critical Habitat Unit (Exhibit 2).

5.2.2 CALIFORNIA DESERT CONSERVATION AREA

Section 601, the California Desert Conservation Area (CDCA), of the Federal Land Policy and Management Act (FLPMA) of 1976 provides for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality. The National Forest Service, National Park Service, and Bureau of Land Management are commissioned in FLPMA to allow a variety of uses on their land while simultaneously trying to preserve the natural resources in them. The CDCA includes the West Mojave and the Northern and Eastern Mojave planning areas, which cover the Project. The goal of these plans is to conserve and protect the desert tortoise and nearly 100 other sensitive plants and animals, as well as the ecosystems on which they depend. These plans provide developers of public and private projects with a streamlined program for compliance with the California and federal endangered species acts, reduce delays and expenses, eliminate uncertainty, and apply the costs of compensation and mitigation equitably to all agencies and parties.

5.2.3 DESERT RENEWABLE ENERGY CONSERVATION PLAN

The Desert Renewable Energy Conservation Plan (DRECP) (California Energy Commission et al. 2014) is intended to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of Southern California (Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties) consistent with federal and state renewable energy targets and policies while providing long-term conservation and management of special-status species and desert vegetation communities. The DRECP covers 22.5 million acres and is a collaborative effort between BLM, USFWS, CEC, and CDFW. The DRECP is currently in a draft status, with only BLM lands subject to its policies.

5.3 Vegetation Communities / Land Cover Types

Twenty-one vegetation communities, including eight sensitive vegetation communities and thirteen non-sensitive vegetation communities, were identified and mapped during the habitat and resource assessment (Exhibit 3). A list of the vegetation communities, their California Natural Community Codes, and their location(s) on Exhibit 3 are presented in Table 1. Descriptions of the communities are based on the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009) and described below (site photographs are presented in Appendix B). Two land cover types were identified and mapped; they are described below.

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type	Rarity Ranking	Page(s) in Exhibit 3
Sensitive Vegetation Communities		
Chilopsis linearis (Desert willow woodland) Woodland Alliance 61.550.00	G4 / S3.2	66, 69, 70
Ericameria paniculata (Black-stem rabbitbrush scrub) Shrubland Alliance 35.340.00	G4 / S3	66, 69, 70, 110, 111
Panicum urvilleanum (Desert panic grass patches) Alliance 42.095.00	G3 / S1.2	58-60, 62-65
Pleuraphis rigida (Big galleta shrub-steppe) Alliance 41.0303.00	G3 / S2.2	44-47, 49-53, 60-65, 111
Prunus fasciculata (Desert almond scrub) Alliance 33.300.00	G4 / S3.3	86, 89, 92
Psorothamnus spinosus (Smoke tree woodland) Woodland Alliance 61.570.00	G4 / S3.3	17, 22, 23, 40-44, 46, 47, 49
Rhus trilobata (Basket bush thickets) Provisional Shrubland Alliance 37.802.00	G4 / S3?	89
Yucca brevifolia (Joshua tree woodland) Woodland Alliance 33.170.00	G4 / S3.2	74-86, 88-114
Non-sensitive Vegetation Communities		
Acacia greggii (Catclaw acacia thorn scrub) Shrubland Alliance 33.040.00	G5 / S4	16, 17, 86, 89, 111-114
Ambrosia dumosa (White bursage scrub) Shrubland Alliance 33.060.00	G5 / S4	24, 26, 27
Ambrosia salsola (Cheesebush scrub) Shrubland Alliance 33.200.00	G5 / S4	14, 17, 18, 25, 26, 28, 65-74, 109-112
Atriplex hymenelytra (Desert holly scrub) Shrubland Alliance 36.330.00	G5 / S4	26, 27
Atriplex polycarpa (Allscale scrub) Shrubland Alliance 36.340.00	G5 / S4	139
Bromus (*diandrus, hordeaceus*) - *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands 42.026.00	NA (Non-Native Invasive Habitat)	61-63
Bromus rubens - *Schismus* (*arabicus*, *barbatus*) (Red brome or Mediterranean grass grasslands) Semi-natural Stands 42.024.00	NA (Non-Native Invasive Habitat)	77, 139, 140
Encelia farinosa (Brittle bush scrub) Shrubland Alliance 33.030.00	G5 / S4	14, 15, 22-24, 27, 59
Ephedra nevadensis (Nevada joint fir scrub) Shrubland Alliance 33.280.00	G4 / S4.3	75
Larrea tridentata (Creosote bush scrub) Shrubland Alliance 33.010.00	G5 / S5	2-7, 14-18, 22, 23, 26, 27, 42, 43, 51, 52, 55-58, 60, 61, 71, 72, 81, 82, 112-131, 136-138
Larrea tridentata - *Ambrosia dumosa* (Creosote bush - white burr sage scrub) Shrubland Alliance 33.140.00	G5 / S5	1-60, 64-76, 79-84, 111, 112, 131-138, 140
Salazaria mexicana (Bladder sage scrub) Shrubland Alliance 33.310.00	G4 / S4	97
Yucca schidigera (Mojave yucca scrub) Alliance 33.070.00	G4 / S4	71, 72, 74, 75, 79, 81-84, 86-89, 131-134
Land Cover		
Barren-Not Developed	NA	73

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type	Rarity Ranking	Page(s) in Exhibit 3
Developed	NA	2, 3, 7-9, 54, 81, 103-105, 123, 125, 132, 133, 139, 140

5.3.1 SENSITIVE VEGETATION COMMUNITIES

Chilopsis linearis (Desert willow woodland) Alliance

Desert willow is dominant or co-dominant in the tree or tall shrub canopy, with smoke tree (*Psorothamnus spinosus*) and Joshua tree (*Yucca brevifolia*). Shrubs may include cheese bush (*Ambrosia salsola*), allscale (*Atriplex polycarpa*), sweetbush (*Bebbia juncea*), encelia (*Encelia virginensis*), California jointfir (*Ephedra californica*), and California buckwheat (*Eriogonum fasciculatum*). Habitats include washes, intermittent channels, canyon bottoms, arroyos, along floodplains, and wash terraces, where flooding is infrequent. Soils are typically well-drained sands and gravels that are moderately acidic to slightly alkaline. Elevation ranges from 100-1,200m.

Ericameria paniculata (Black-stem rabbitbrush scrub) Alliance

Black-stem rabbitbrush is dominant or co-dominant in the shrub canopy with woolly bursage (*Ambrosia eriocentra*), cheesebush, woolly brickellbush (*Brickellia incana*), coyote melon (*Cucurbita palmata*), brittlebush (*Encelia farinosa*), and California buckwheat. Emergent trees or tall shrubs may be present at low cover, including catclaw (*Acacia greggii*) or desert willow. Habitats include intermittently flooded arroyos, channels, and washes. Soils are typically coarse to fine sands, usually well drained and moderately acidic to slightly saline. Elevation ranges from 100-1,100m.

Panicum urvilleanum (Desert panic grass patches) Alliance

Desert panic grass is dominant or co-dominant in the herbaceous and sub-shrub layers with Indian rice grass (*Stipa hymenoides*), desert dicoria (*Dicoria canescens*), sunflower (*Helianthus annuus*), dune primrose (*Oenothera deltoides*) and Thurber's sandpaper plant (*Petalonyx thurberi*). Habitats include active to partially stabilized dunes and sand fields. Elevations range from 10-1,200m.

Pleuraphis rigida (Big galleta shrub-steppe) Alliance

Big galleta is dominant or co-dominant in the herbaceous and sub-shrub layers with Indian rice grass, black grama (*Bouteloua eriopoda*), foxtail brome (*Bromus madritensis* spp. *rubens*), and downy dalea (*Dalea mollissima*). Emergent trees and shrubs may be present at low cover, including catclaw, white bursage (*Ambrosia dumosa*), cheese bush, shadescale (*Atriplex canescens*), and creosote bush (*Larrea tridentata*). Habitats include flat ridges, lower bajadas, slopes, dune aprons, and stabilized dunes. Soils are typically clayey, sandy, or rocky. Elevation ranges from 500-1,400m.

Prunus fasciculata (Desert almond scrub) Alliance

Desert range almond (*Prunus fasciculata*) is dominant or co-dominant in the shrub canopy with catclaw, white bursage, cheesebush, Nevada jointfir (*Ephedra nevadensis*), and California buchwheat. Emergent trees may be present at low cover, including Joshua tree. Habitats include arroyos, canyons, washes, and disturbed upland sites on calcareous and granitic substrates. Soils are typically loams and gravels. Elevation ranges from 15-1,880m.

Psorothamnus spinosus (Smoke tree woodland) Alliance

Smoke tree is dominant or co-dominant in the tree or tall shrub canopy with desert willow. Shrubs may include catclaw, cheesebush, sweetbush, brittlebush, California jointfir, creosote bush, and Parish's wire lettuce (*Stephanomeria pauciflora*). Habitats include arroyos, intermittently flooded channels and washes. Soils are typically sandy and well drained, moderately acidic or slightly saline. Elevation ranges from sea level-1,000m.

Rhus trilobata (Basket bush thickets) Provisional Alliance

Basket bush is dominant in the shrub canopy with turpentine bush (*Ericameria laricifolia*), and Wright's buckwheat (*Eriogonum wrightii*). Emergent trees may be present at low cover. Habitats include stream terraces, swales, shallow valleys, and upland topography. Elevation ranges from 385-2,200m.

Yucca brevifolia (Joshua tree woodland) Alliance

Dominant plant species in this alluvial vegetation community include white bursage, cheese bush, big sagebush (*Artemisia tridentata*), green rabbitbush (*Ericameria teretifolia*), blackbrush (*Coleogyne ramosissima*), Nevada ephedra, and California Buckwheat. The canopy may be open to intermittent, and the herbaceous layer is open to intermittent with perennial grasses and seasonal annuals. Stands occur on alluvial fans and ridges with gentle to moderate slopes. Soils are often coarse sands, very fine silts, gravel, or sandy loams. Elevation ranges from 750-1,800m.

5.3.2 NON-SENSITIVE VEGETATION COMMUNITIES

Acacia greggii (Catclaw acacia thorn scrub) Alliance

Catclaw is dominant or co-dominant in the shrub canopy with woolly bursage, cheesebush, sweetbush, California jointfir, Nevada jointfir, green rabbitbrush, California buckwheat, desert almond, and desert sage (*Salvia dorrii*). Emergent trees may be present at low cover, including desert willow, California juniper, Utah juniper, desert ironwood and smoke tree. Habitats include arroyos, channels, washes, bajadas, canyon walls, rocky slopes, and valleys. Soils are often coarse, well-drained, and moderately acidic to slightly saline. Elevation ranges from 10-1,500 m.

Ambrosia dumosa (White bursage scrub) Alliance

White bursage is dominant or co-dominant in the shrub canopy with goldenhead (*Acamptopappus sphaerocephalus*), shadescale, desert holly (*Atriplex hymenelytra*), blackbrush, jumping cholla (*Cylindropuntia bigelovii*), cottontop cactus (*Echinocactus polycephalus*), brittlebush, creosote bush and beavertail pricklypear (*Opuntia basilaris*). Habitats include older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized and stabilized sand fields, and upland slopes. Soils are often sandy, clay-rich, or calcareous. Elevation ranges from sea level-1,700 m.

Ambrosia salsola (Cheesebush scrub) Alliance

Cheesebush is dominant or co-dominant in the shrub canopy with golden cholla, brittlebush, California jointfir, black-stem rabbitbrush, California buckwheat, sticky snakeweed, beavertail pricklypear, desert sage, and desert globemallow (*Sphaeralcea ambigua*). Emergent trees or tall shrubs may be present at low cover, including catclaw, desert willow, and smoke tree. Habitats include valleys, flats, rarely flooded low-gradient deposits, arroyos, intermittent channels and washes. Soils are typically alluvial, sandy and gravelly. Elevation ranges from sea level-1,600 m.

Atriplex hymenelytra (Desert holly scrub) Alliance

Desert holly is dominant in the shrub canopy with white bursage, shadescale, downy dalea, brittlebush, creosote bush, and honeysweet (*Tidestromia suffruticosa* var. *oblongifolia*). Habitats include alluvial fans, along washes, steep colluviums, recent lava flows, cinder cones, and heavy alkaline lake sediments. Soils develop from metamorphic, igneous, and sedimentary rocks that may be carbonate, alkaline, or salt rich with desert pavements. Elevation ranges from 75-1,400 m.

Atriplex polycarpa (Allscale scrub) Alliance

Allscale is dominant in the shrub canopy with white bursage, cheesebush, shadescale, foxtail brome, smallseed sandmat (*Euphorbia polycarpa*), and creosote bush. Emergent trees may be present at low cover, including honey mesquite. Habitats include washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils are typically carbonate rich, alkaline, sandy, or sandy clay loams. Elevation ranges from 75-1,500 m.

Bromus (*diandrus, hordeaceus*) - *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands

Bromegrass (*Bromus diandrus*) and/or soft brome (*Bromus hordeaceus*) is dominant or co-dominant with nonnatives in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Habitats include all topographic settings in foothills, waste places, rangelands, and openings in woodlands. Elevation ranges from sea level-2,200 m.

Bromus rubens - *Schismus* (*arabicus*, *barbatus*) (Red brome or Mediterranean grass grasslands) Semi-natural Stands

Red brome, Arabian schismus, and/or common Mediterranean grass is dominant or co-dominant with other non-natives in the herbaceous layer. Emergent shrubs may be present at low cover. Habitats include all topography settings and soil textures. Elevation ranges from sea level-2,200 m.

Encelia farinosa (Brittle bush scrub) Alliance

Brittlebush is dominant or co-dominant in the shrub canopy with desert agave (*Agave deserti*), white bursage, jumping cholla, calico cactus (*Echinocereus engelmannii*), California buckwheat, California barrel cactus (*Ferocactus cylindraceus*), and desert wishbone-bush (*Mirabilis laevis*). Emergent trees or tall shrubs may be present at low cover. Habitats include alluvial fans, bajadas, colluvium, rocky hillsides, slopes of small washes and rills. Soils are typically well drained, rocky, and may be covered by desert pavement. Elevation ranges from 75-1,400 m.

Ephedra nevadensis (Nevada jointfir scrub) Alliance

Nevada jointfir is dominant or co-dominant in the shrub canopy with big sagebrush, shadescale, blackbrush, cooper's goldenbush (*Ericameria cooperi*), California buckwheat, spiny desert olive (*Menodora spinescens*), bladder sage (*Salazaria mexicana*) and Mojave yucca (*Yucca schidigera*). Emergent trees may be present at low cover, including Joshua tree. Habitats include dry open slopes, ridges, breaks with southern exposures, canyons, sides of arroyos, floodplains, and washes. Soils are typically well drained, gravelly, or rocky, and may be alkaline or saline. Elevation ranges from 1,000-1,800 m.

Larrea tridentata (Creosote bush scrub) Alliance

Creosote bush is dominant or co-dominant in the shrub canopy with goldenhead, white bursage, cheesebush, shadescale, desert holly, allscale, woolly brickellbush, brittlebush, California jointfir, and Nevada jointfir. Emergent trees may be present at low cover. Habitats include alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained, sometimes with desert pavement. Elevation ranges from 75-1,000 m.

Larrea tridentata - *Ambrosia dumosa* (Creosote bush - white bursage scrub) Alliance

White bursage and creosote bush are co-dominant in the shrub canopy with cheesebush, , shadescale, desert holly, allscale, sweetbush, California Croton (*Croton californicus*), pencil cholla (*Cylindropuntia ramosissima*), downy dalea, cottontop cactus, brittlebush, and Mojave yucca. Emergent trees or tall shrubs may be present at low cover, including ocotillo and Joshua tree. Habitats include minor washes and rills, alluvial fans, bajadas, and upland slopes. Soils are well-drained, alluvial, colluvial, sandy, sometimes underlain by a calcareous hardpan and/or covered with desert pavement. Elevation ranges from 75-1,200 m.

Salazaria mexicana (Bladder sage scrub) Alliance

Bladder sage is dominant or co-dominant in the shrub canopy with cheesebush, shadescale, Nevada jointfir, California buckwheat, spiny hopsage, winterfat, creosote bush, desert sage, and turpentinebroom (*Thamnosma montana*). Emergent trees or tall shrubs may be present at low cover, including catclaw and Joshua tree. Habitats include washes and arroyos on alluvial fans and bajadas. Soils are typically sands, gravels, or clays of alluvial or colluvial origin. Elevation ranges from 875-1,680 m.

Yucca schidigera (Mojave yucca scrub) Alliance

Mojave yucca is dominant or characteristically present in the shrub or small tree canopy with white bursage, blackbrush, brittlebush, Nevada jointfir, California buckwheat, creosote bush, big galleta, and bladder sage. Habitats include alluvial fans, rocky slopes, and upper bajadas. Soils are well-drained, sandy loams. Elevation ranges from 700-1,800 m.

5.3.3 LAND COVER

Barren-Not Developed

Barren-not developed lands include cleared areas devoid of vegetation (e.g., ROW/easement, private property, roadside margin).

Developed

Developed lands include urban or built-up areas with much of the land covered by structures. Such areas include cities, transportation, power and communications facilities, mills, shopping centers, and other buildings that may, in some cases, be separate from urban areas. Urban or built-up land may contain a wide variety of native and non-native, ruderal, and ornamental plant species.

5.4 General Plants and Wildlife

Plant and wildlife species identified during surveys are included in Appendix C. One hundred thirty-nine (139) plant species were identified during surveys. Thirty-three (33) vertebrates were either directly observed or detected through presence of sign during surveys. These included four (4) reptiles, twenty-one (21) birds, and eight (8) mammals. Some of these are resident, common species in the Mojave Desert, while others (i.e., birds) are seasonal migrants passing through the area. Representative common wildlife species detected included, but were not limited to, southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), greater roadrunner (*Geococcyx californianus*), common raven (*Corvus corax*), rock wren (*Salpinctes obsoletus*), Bell's sparrow (*Artemisiospiza belli*), desert woodrat (*Neotoma lepida*), and coyote (*Canis latrans*). The full list of vertebrate species observed during surveys is included in Appendix D.

It should be noted that short-term inventories of this nature are limited in their scope by the seasonality, timing and duration of surveys, plant blooming periods, and the nocturnal and fossorial habits of many animals. Therefore, the lists of species in Appendix C do not necessarily reflect the total number of plants and animals that potentially occupy the Survey Areas.

5.5 Special-Status Biological Resources

Plant or animal taxa may be considered "sensitive" or "special-status" due to declining populations, vulnerability to habitat change or loss, or because of restricted distributions. Some of these species have been listed as threatened or endangered by the USFWS and/or CDFW, and are thus protected by the federal and State ESAs, respectively. Other species have been identified as sensitive or special-status by the USFWS and CDFW. Still others have been designated as special-status species by private conservation organizations, including the NCCP/HCP and CNPS. The regulatory protection provided by these various agencies is discussed in Section 3.0 of this document.

The database search and literature review described in Section 4.1 identified special-status biological resources occurring or having the potential to occur in the vicinity (within 3 miles) of the Project. Appendix D provides a complete list of these special-status biological resources, their respective conservation status, and occurrence potential along the alignment. Exhibit 2 provides critical habitat areas and CNDDB special-status species records (post-1995). Exhibit 3 provides the locations of special-status biological resources, including special-status species, sign, and bird nests, recorded within the Survey Area.

The following sections describe the special-status vegetation communities and special-status plant and wildlife species occurring or potentially occurring on or in the immediate vicinity of the Project.

5.5.1 SENSITIVE VEGETATION COMMUNITIES

Sensitive vegetation communities are plant associations sometimes afforded special legislative protection. Such vegetation communities are normally considered a management priority because of their rarity or

imperilment, the sensitivity of the species that they support, or because these areas serve multiple functions, as is often the case with wetlands. Eight (8) sensitive vegetation alliances were identified as occurring in the Survey Area (see Appendix D for description):

- *Chilopsis linearis* (Desert willow woodland) Alliance
- *Ericameria paniculata* (Black-stem rabbitbrush scrub) Alliance
- *Panicum urvilleanum* (Desert panic grass patches) Alliance
- *Pleuraphis rigida* (Big galleta shrub-steppe) Alliance
- *Prunus fasciculata* (Desert almond scrub) Alliance
- *Psorothamnus spinosus* (Smoke tree woodland) Alliance
- *Rhus trilobata* (Basket bush thickets) Provisional Alliance
- *Yucca brevifolia* (Joshua tree woodland) Alliance

The locations of these habitats within the Survey Area are presented in Table 1 and on Exhibit 3.

5.5.2 SPECIAL-STATUS PLANT SPECIES

Based upon the literature search and habitat assessment, thirty-three (33) special-status plant species occur or have the potential to occur in the vicinity of the Project (Appendix D). Of these, eight (8) do not occur or are unlikely to occur based on the absence of suitable habitat and/or the Project being outside the species' geographic or elevation range. Two special-status plant species, Emory's crucifixion thorn (*Castela emoryi*) and matted cholla (*Grusonia parishii*), were observed during surveys. Twenty-three (23) special-status plant species are likely to occur based on the presence of suitable soils, vegetation alliances, and/or documented collections. See Appendix D for distribution, habitat preference, and habitat suitability for these species.

5.5.2.1 Federal/State Listed Plant Species Observed

No federal or state listed plant species were observed during surveys.

5.5.2.2 Federal/State Listed Plant Species Likely to Occur

No federal or state listed plant species are likely to occur in the Project vicinity.

5.5.2.3 CNPS Listed Plant Species Observed

Emory's Crucifixion Thorn (*Castela emoryi*)

Emory's crucifixion thorn is a CNPS 2B.2 species. Twelve (12) plants were identified within the survey area, including two within 80 feet of the transmission lines, on low-grade alluvial slopes in the valley just northeast of the Cady Mountains (Exhibit 3).

Matted Cholla (*Grusonia parishii*)

Matted cholla is a CNPS 2B.2 species. Ten (10) scattered clumps were observed along the alignment during surveys, approximately 3.6 miles southwest of Cima Road (Exhibit 3).

5.5.2.4 CNPS-Listed Plant Species Likely to Occur

- Wright's beebrush (*Aloysia wrightii*) – CNPS 4.3
- Small-Flowered Androstephium (*Androstephium breviflorum*) – CNPS 2B.2
- San Bernardino Milk-Vetch (*Astragalus bernardinus*) – CNPS 1B.2
- Borrego milk-vetch (*Astagalus lentiginosus* var. *borreganus*) – CNPS 4.3
- Parry's Spurge (*Chamaesyce parryi*) – CNPS 2B.3

- Viviparous Foxtail Cactus (*Coryphantha vivipara* var. *rosea*) – CNPS 2B.2
- Ribbed Cryptantha (*Cryptantha costata*) – CNPS 4.3
- Winged Cryptantha (*Cryptantha holoptera*) – CNPS 4.3
- Purple-Nerve Cymopterus (*Cymopterus multinervatus*) – CNPS 2B.2
- Utah Vine Milkweed (*Cynanchum utahense*) – CNPS 4.2
- Booth's Evening-Primrose (*Eremothera boothii* var. *boothii*) – CNPS 2B.3
- Harwood's Eriastrum (*Eriastrum harwoodii*) – CNPS 1B.2
- Darlington's Blazing Star (*Mentzelia puberula*) – CNPS 2B.2
- Red Four O'clock (*Mirabilis coccinea*) – CNPS 2B.3
- Crowned Muilla (*Muilla coronata*) – CNPS 4.2
- Curved-Spine Beavertail (*Opuntia curvispina*) – CNPS 2B.2
- White-Margined Beardtongue (*Penstemon albomarginatus*) – CNPS 1B.1
- Desert Beardtongue (*Penstemon pseudospectabilis var. pseudospectabilis*) – CNPS 2B.2
- Sky-Blue Phacelia (*Phacelia coerulea*) – CNPS 2B.3
- Desert portulaca (*Portulaca halimoides*) – CNPS 4.2
- Desert Winged-Rockcress (*Sibara deserti*) – CNPS 4.3
- Rusby's Desert-Mallow (*Sphaeralcea rusbyi var. eremicola*) – CNPS 1B.2
- Jackass-Clover (*Wislizenia refracta* var. *refracta*) – CNPS 2B.2

5.5.3 SPECIAL-STATUS WILDLIFE SPECIES

Based upon the literature search and habitat assessment, ten (10) special-status wildlife species occur or have the potential to occur in the vicinity of the Project (Appendix D). Of these, two (2) do not occur or are unlikely to occur based on the absence of suitable habitat and/or the alignment being outside the species' geographic or elevation range. Three (3) special-status wildlife species were observed during Project-related surveys. An additional five (5) special-status wildlife species are likely to occur based on the presence of suitable habitat and/or documented observations. See Appendix D for distribution and habitat preference for these species.

5.5.3.1 Federal/State Listed or Fully Protected Wildlife Species Observed

Desert Tortoise (*Gopherus agassizii*)

The Mojave population of the desert tortoise was listed as threatened by the California Department of Fish and Wildlife (CDFW) on August 3, 1989 and USFWS on April 2, 1990 (USFWS 1990). A desert tortoise recovery plan was prepared in 1994 (USFWS 1994a), which proposed the establishment of recovery units and Desert Wildlife Management Areas (DWMAs) to provide recovery strategies and actions for the long-term persistence of viable desert tortoise populations and the ecosystems upon which they depend. Critical habitat was also designated in 1994 (USFWS 1994b). The recovery plan was revised in 2011 (USFWS 2011), which updated the recovery unit boundaries. Reasons for its protection include loss and degradation of habitat by development, off-road vehicles, military training maneuvers, mining, illegal dumping, livestock grazing and invasion of exotic grasses and forbs, predation by an increasing common raven population, illegal collecting (poaching) and intentional killing and harassment by an increasing human population, and a serious and fatal upper respiratory disease. These factors, coupled with delayed sexual maturity (13 to 20 years of age), low reproductive rates, and high mortality early in life, make recovery of the species difficult.

In the Western Mojave Recovery Unit, most rainfall occurs in fall and winter and produces winter annuals, which are the primary food source of tortoises. Above-ground activity occurs primarily (but not exclusively) in spring, associated with winter annual production. Thus, tortoises are adapted to a regime of winter rains and rare summer storms. Here, desert tortoises occur primarily in valleys, on alluvial fans, bajadas, and rolling hills. Desert tortoises in the Eastern Mojave Recovery Unit are generally found in creosote bush scrub communities of flats, valley bottoms, alluvial fans, and bajadas, but they occasionally use other habitats such as rocky slopes and blackbrush scrub. Desert tortoises are often active in this recovery unit in late summer and early fall, in addition to spring, reflecting the fact that this region receives up to about 40 percent of its annual rainfall in summer and supports two distinct annual floras on which tortoises can feed. They typically eat summer and winter annuals, cacti, perennial grasses, and herbaceous perennials. In the Colorado Desert Recovery Unit, desert tortoises are found in the valleys, on bajadas, desert pavements, rocky slopes, and in the broad, well-developed washes (especially to the south). Vegetation is characterized by relatively species-rich succulent scrub, creosote bush scrub, and blue paloverde-ironwood-smoke tree communities. Tortoises feed on both summer and winter annuals, because this region receives about one-third of its annual rainfall in summer and supports two distinct annual floras on which they can feed. The climate is somewhat warmer than in other recovery units, with very few freezing days per year.

Desert tortoise population densities in the region have been declining since at least 1980. The Mojave National Preserve (MNP) includes the Goffs Permanent Study Plot (a square mile plot in southeastern MNP), established in 1977 and sampled for tortoises in 1977, 1980, 1983-86, 1990, 1994, and 2000 (Berry 2000). Population density estimates across all size classes (tortoises per square mile, with 95 percent confidence intervals) declined from 440 (370-522) in 1980 to 88 (34-230) in 2000; sub-adult and adult size class declined from 195 (162-234) in 1980 to 18 (6-54) in 2000. The 2011 Recovery Plan estimated 2007 adult/sub-adult densities (per square mile) at 12.2 in the Western Mojave Recovery Unit, 12.9 in the Eastern Mojave Recovery Unit, and 11.9 in the Northern Colorado Recovery Unit. Surveys in 2011 for the Ivanpah Solar Electric Generating System Project, approximately 13 miles northwest of the Project, estimated densities at 18.0 adult/sub-adult tortoises per square mile (Sundance Biology 2011). The USFWS range-wide monitoring efforts determined 2014 densities (per square mile) of adult/sub-adult tortoises were 6.2 and 9.3 within the Superior-Cronese Critical Habitat Unit and Ord-Rodman Critical Habitat Unit, respectively, of the Western Mojave Recovery Unit, 6.0 within the Ivanpah Critical Habitat Unit of the Eastern Mojave Recovery Unit, and 12.4 and 7.3 within the Fenner Critical Habitat Unit and Chemehuevi Critical Habitat Unit, respectively, of the Colorado Desert Recovery Unit (USFWS 2015).

A total of thirteen (13) live desert tortoises were observed within Survey Areas (Table 2; Exhibit 3); an additional two (2) sub-adults were incidentally observed on an access road outside of the Survey Area and are not included in population calculations. The thirteen (13) live tortoises observed within Survey Areas included ten (10) adult/sub-adult tortoises with a maximum carapace length (MCL) greater than 160mm and one (1) juvenile tortoise with a MCL less than or equal to 160mm; two (2) tortoises were deep in burrows and unable to be measured (assumed to be adult/sub-adult for population calculations). Eleven (11) of the thirteen (13) live tortoises observed were associated with a burrow (in burrow or at entrance); two (2) tortoises were observed in the open, one of which was an adult with an identification tag (#N92043). Of the tortoises encountered where surveyors could clearly see the animal's eyes, nares, and carapace, one (1) tortoise exhibited indications of possible respiratory infection (i.e., wet nares and swollen/inflamed eyes). Other desert tortoise sign observed included two hundred fifteen (215) tortoise burrows and an additional twenty-eight (28) burrows with tortoise tracks, one hundred eighty-five (185) pallets and an additional seven (7) pallets with tortoise tracks, one hundred forty (140) tortoise scat, thirty-five (35) tortoise carcasses, and five (5) locations with tortoise eggshell fragments (Table 2; Exhibit 3). The high numbers of sign are a strong indication that this area provides high quality desert tortoise habitat. Photographs are presented in the Focused Survey for Desert Tortoise Report (EI 2016).

TABLE 2. DESERT TORTOISE SIGN OBSERVED

Sign Type	Class[1]						
	1	2	3	4	5	Unclassified	Totals
Live Desert Tortoises	8	2	1	0	0	2	13
Burrows	11	53	97	53	1	0	215
Burrows with Tracks	5	21	2	0	0	0	28
Pallets	185						185
Pallets with Tracks	7						7
Scat	140						140
Tracks not associated with burrow	0						0
Carcasses/Shell Remains	0	1	3	1	30	0	35
Drinking Depressions with Tracks	0						0
Locations with Eggshell Fragments	5						5

[1]Desert Tortoise Sign Classification (*sensu* USFWS 2010):

Live Desert Tortoises (Maximum Carapace Length)
Class 1 – Adult (≥215mm)
Class 2 – Sub-Adult (161-214mm)
Class 3 – Juvenile (101-160mm)
Class 4 – Very Young (61-100mm)
Class 5 – Hatchling (≤60mm)
Unclassified – Completely in burrow, unable to measure

Burrows
Class 1 – Currently active with tortoise or recent sign
Class 2 – Good condition (definitely tortoise), but no evidence of recent use
Class 3 – Deteriorated condition (definitely tortoise)
Class 4 – Deteriorated condition (possibly tortoise)
Class 5 – Good condition (possibly tortoise)

Carcasses/Shell Remains
Class 1 – Fresh or putrid
Class 2 – Not fresh or putrid, is of normal color, and scutes adhere to bone
Class 3 – Scutes peeling from the bone
Class 4 – Shell bone is falling apart and growth rings on scutes are peeling
Class 5 – Disarticulated and scattered

Using the calculations provided in the 2010 Field Season Protocol (USFWS 2010), desert tortoise abundance and confidence interval as well as densities were estimated. Due to the difference in annual rainfall across the Project, the density estimates were split into two sections based on the Recovery Unit boundaries. Precipitation preceding the surveys was less than 40 mm in the Western Mojave Recovery Unit and above 40mm in the Eastern Recovery Unit.

In the Western Mojave Recovery Unit, four (4) adult/sub-adult desert tortoises were observed during transects within the Survey Area (Exhibit 3). Precipitation for the previous winter months (and summer months) in the Western Mojave Recovery Unit was less than 40mm (~1.57 inches), so the Pa was assigned a value of 0.64 with a variance of 0.08. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Western Mojave Recovery Unit is 8.9 (2.7 – 28.8) tortoises. The population density is approximately 20.6 adult/sub-adult tortoises per square mile, which is higher than the 2014 USFWS estimates of 6.2-9.3 tortoises per square mile for the Superior-Cronese and Ord-Rodman Critical Habitat Units.

In the Eastern Mojave Recovery Unit, eight (8) adult/sub-adult desert tortoises were observed during transects within the Survey Area, all within the Ivanpah Critical Habitat Unit (Exhibit 3). Precipitation for the previous winter months (and summer months) in the Eastern Mojave Recovery Unit was greater than 40mm (~1.57 inches), so the Pa was assigned a value of 0.80 with a variance of 0.05. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Eastern Mojave Recovery Unit is 14.5 (6.1 – 34.6) tortoises. The population density is approximately

17.5 adult/sub-adult tortoises per square mile, which is higher than the 2014 USFWS estimates of 6.0-12.4 tortoises per square mile for the Ivanpah, Fenner, and Chemehuevi Critical Habitat Units, but similar to Ivanpah Solar's estimate of 18.0 tortoises per square mile.

Discrepancies in densities from various studies could be a result of habitat quality, variation between regional populations, survey time of year, and/or yearly weather fluctuations.

5.5.3.2 Federal/State Listed or Fully Protected Wildlife Species Likely to Occur

Gilded Flicker (*Colaptes chrysoides*)

The gilded flicker is a State Endangered species. It is a year-round resident in southeastern California, known to occur in the Mojave National Preserve. Its range largely coincides with the regional distribution of giant cacti throughout the U.S., but in California, they have been primarily found in the lower Colorado River valley in desert riparian, desert wash, and Joshua tree habitats. They nest in cavities in giant cacti, trees, or posts.

Desert Bighorn Sheep (*Ovis canadensis nelsoni*)

The desert bighorn sheep is a Fully Protected species in California. Desert bighorn live throughout the inter-mountain west in a large number of desert mountain ranges in eastern California, much of Nevada, northwestern Arizona, New Mexico, southern Utah, southern Colorado, and Mexico. In California, the desert bighorn sheep is found in the dry, desert mountains of southeastern California. It is a year-round resident throughout the Project area, inhabiting the North Bristol Mountains and Kelso Peaks/Marl/Old Dad Mountains, which the Project passes through, as well as other adjacent mountain ranges.

5.5.3.3 Special-Status (Non-Listed) Wildlife Species Observed

Mohave Fringe-toed Lizard (*Uma scoparia*)

The Mohave fringe-toed lizard is a California Species of Special Concern (SSC). This species was observed during surveys (Exhibit 3). Suitable habitat occurs along the alignment in areas of fine windblown sand (e.g. near I-40 and Devil's Playground).

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a California SSC for nesting. This species was observed during surveys (Exhibit 3). Suitable nesting and foraging habitat occur in the vicinity of the alignment.

5.5.3.4 Special-Status (Non-Listed) Wildlife Species Likely to Occur

- Burrowing owl (*Athene cunicularia*) – California SSC – year-round. Suitable habitat and burrows are present throughout entire alignment.
- Pallid bat (*Antrozous pallidus*) – California SSC – year-round. Suitable rock outcrops for roosting are present along the alignment.
- American badger (*Taxidea taxus*) – California SSC – year-round. Suitable habitat is present along the alignment.

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Appendix A:

EXHIBITS

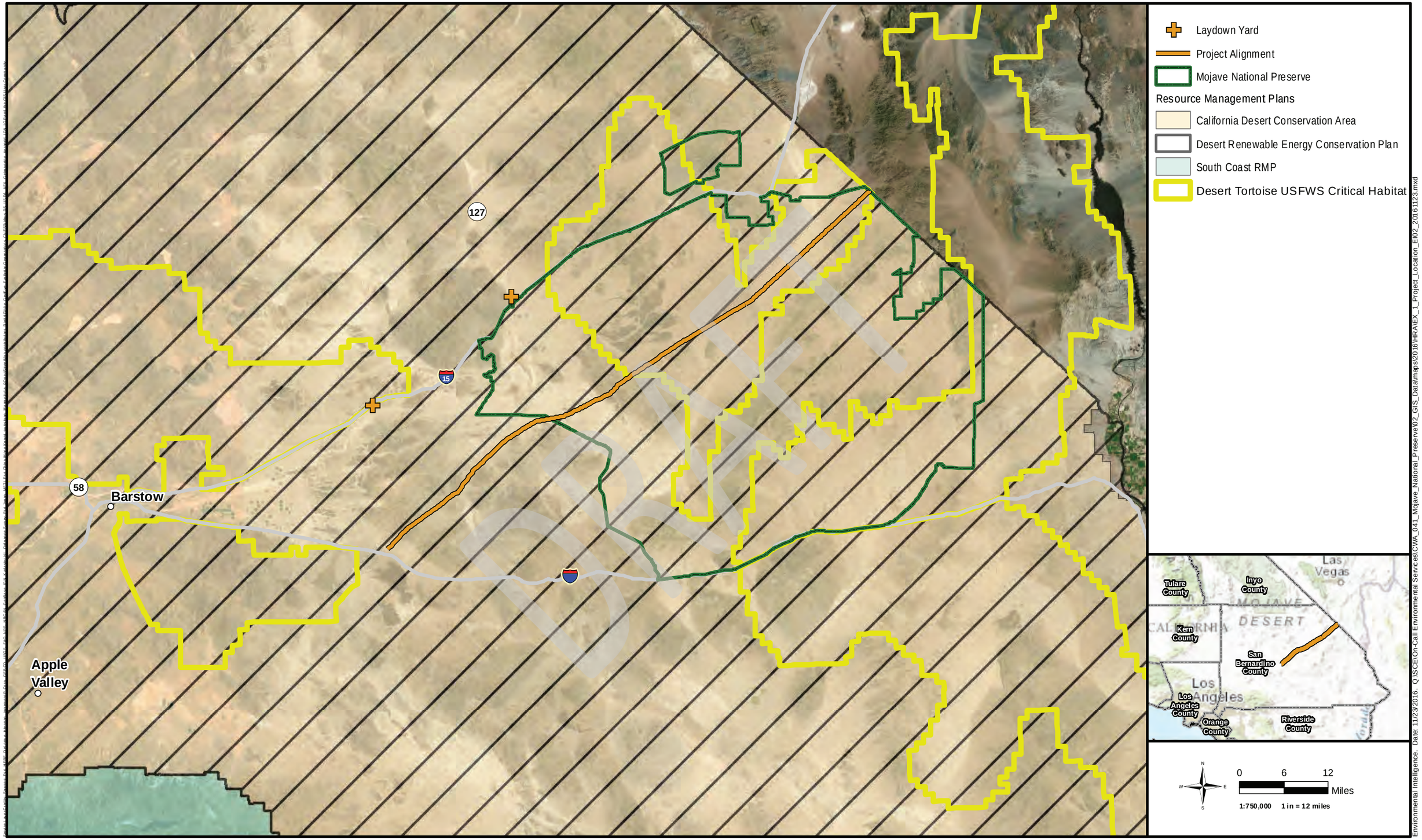

Exhibit 1. Project Location
LVRAS Project | San Bernardino County, CA

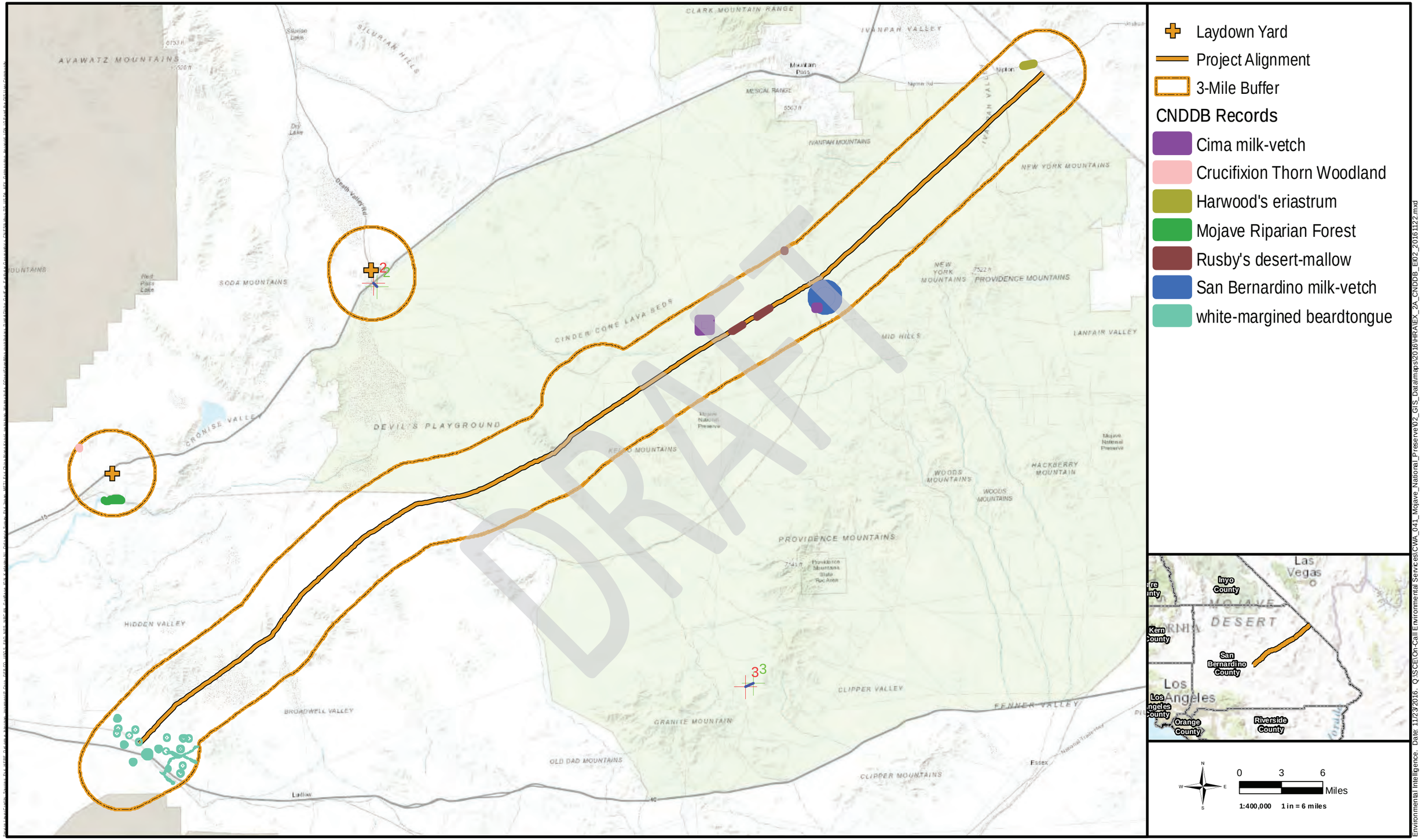

Exhibit 2A. CNDDB Records (Plants and Habitats)

LVRAS Project | San Bernardino County, CA

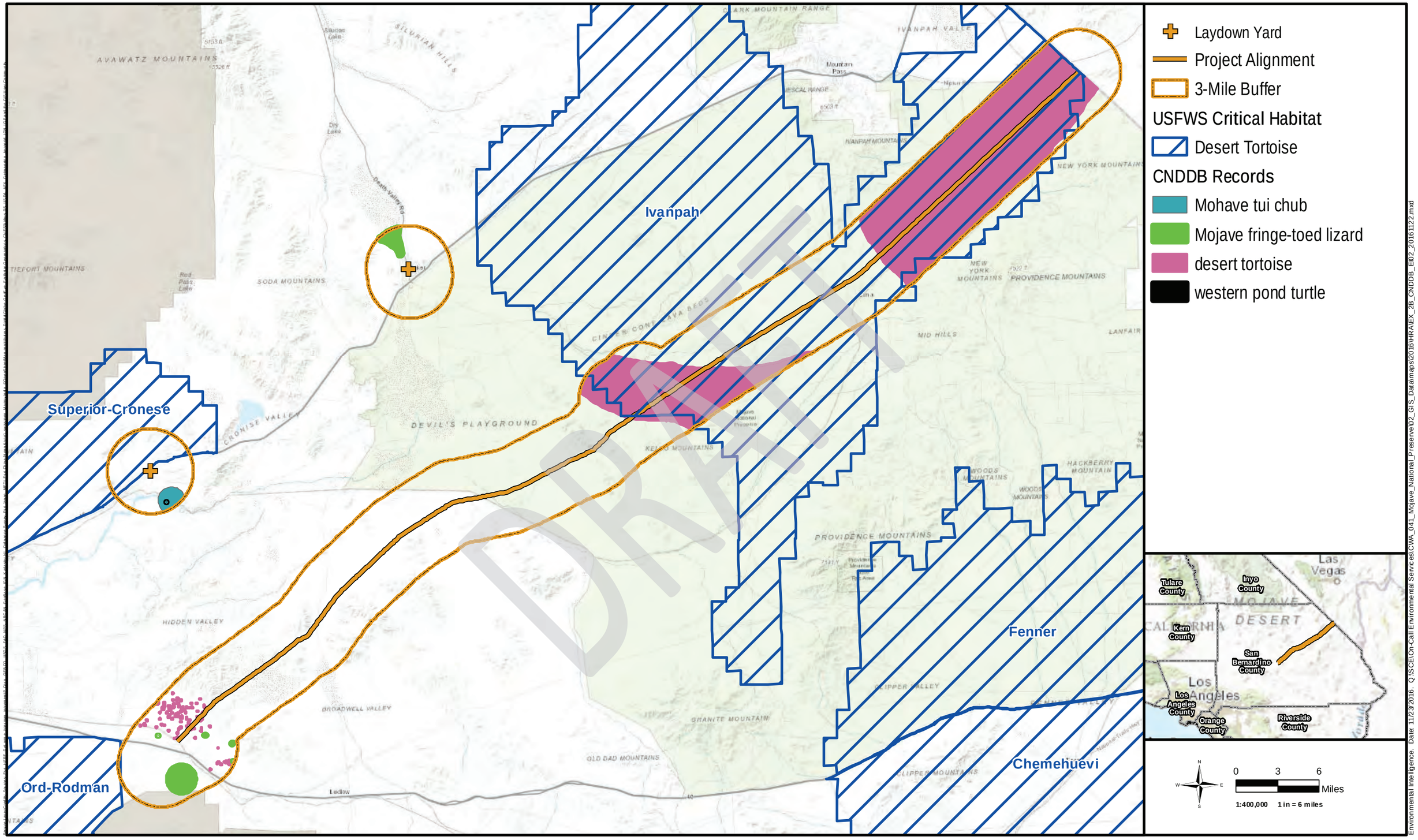

Exhibit 2B. CNDDB Records (Fish and Reptiles)

LVRAS Project | San Bernardino County, CA

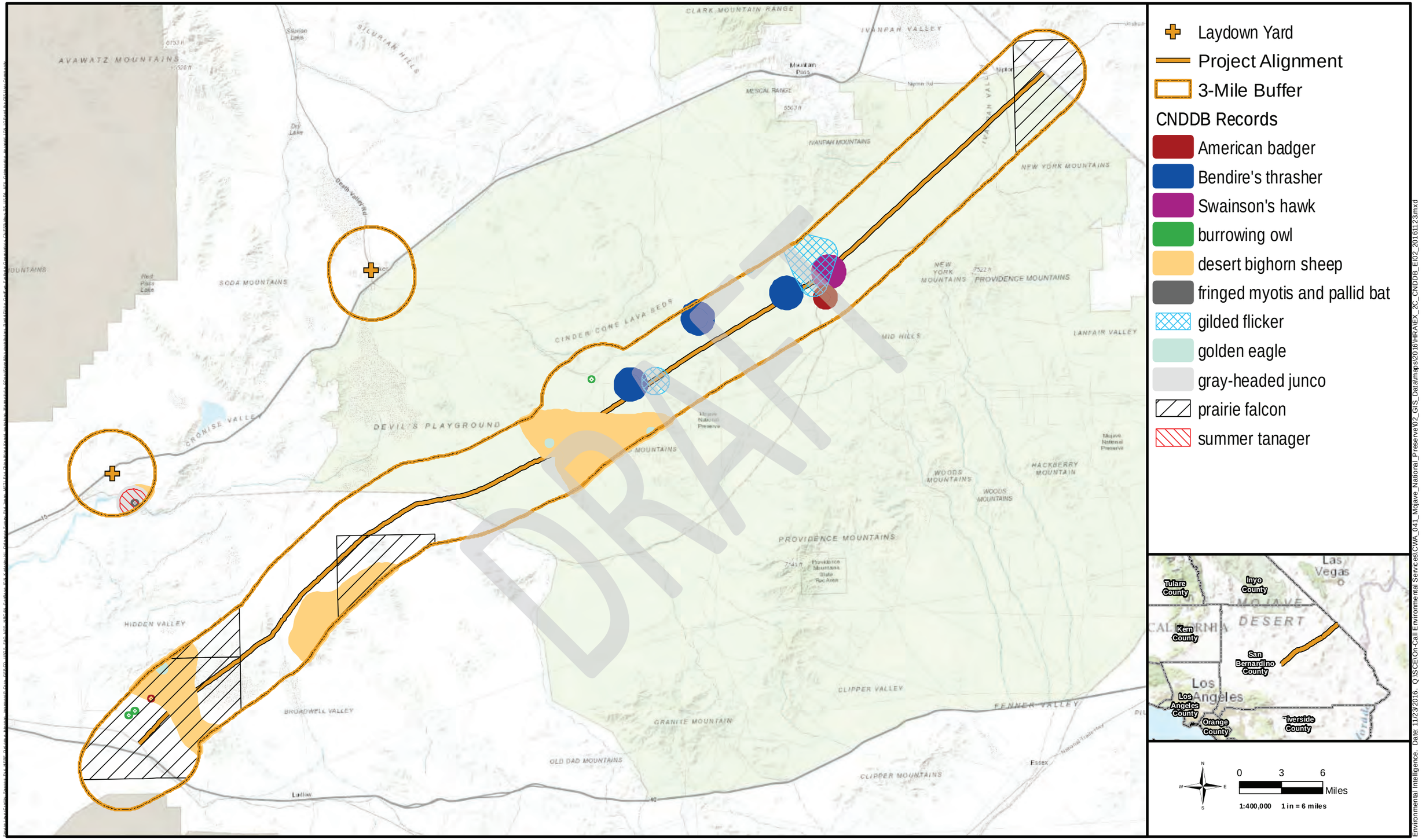

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Exhibit 2C. CNDDB Records (Mammals and Birds)

LVRAS Project | San Bernardino County, CA

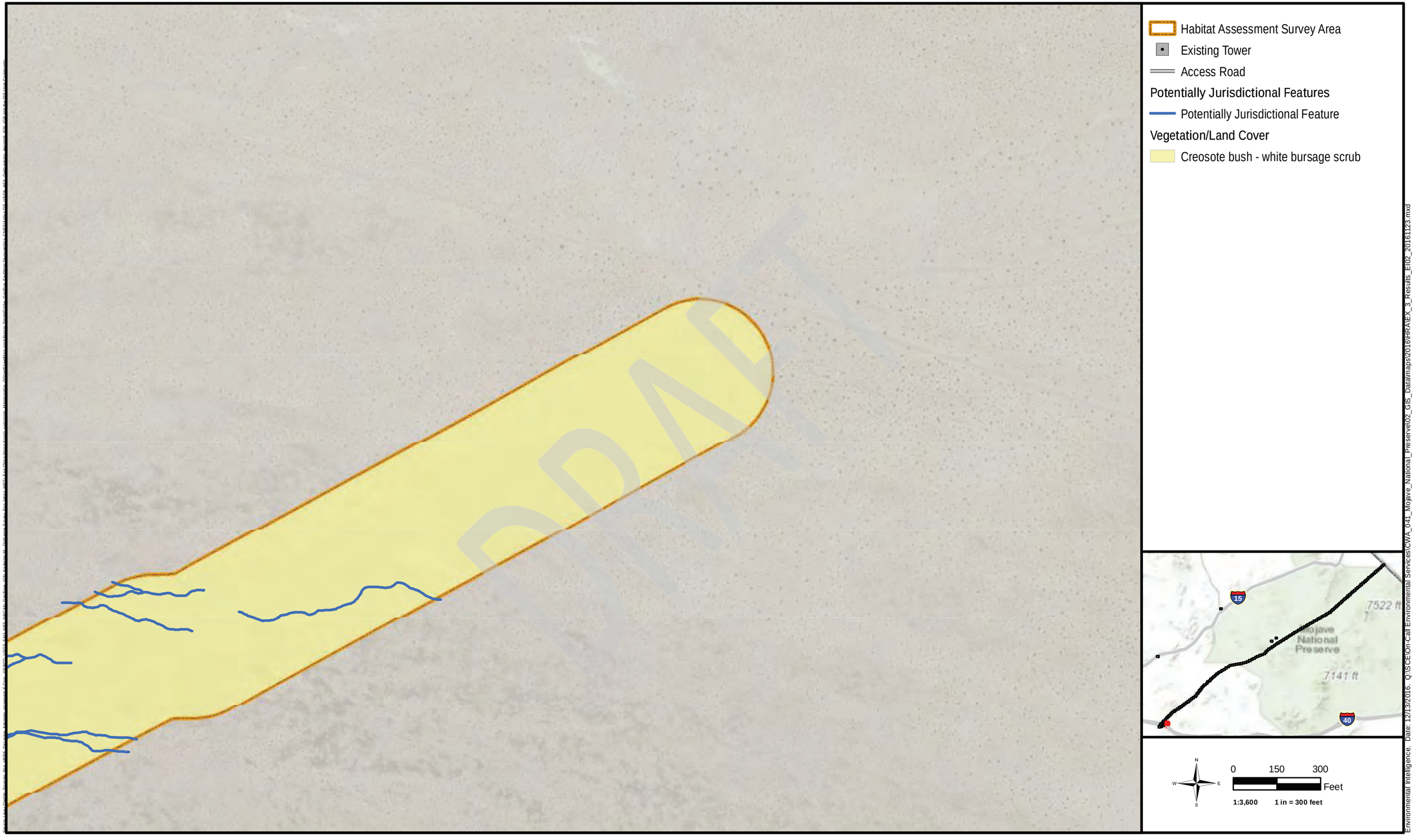

Exhibit 3. Survey Areas and Results (Page 1 of 140)

LVRAS Project | San Bernardino County, CA

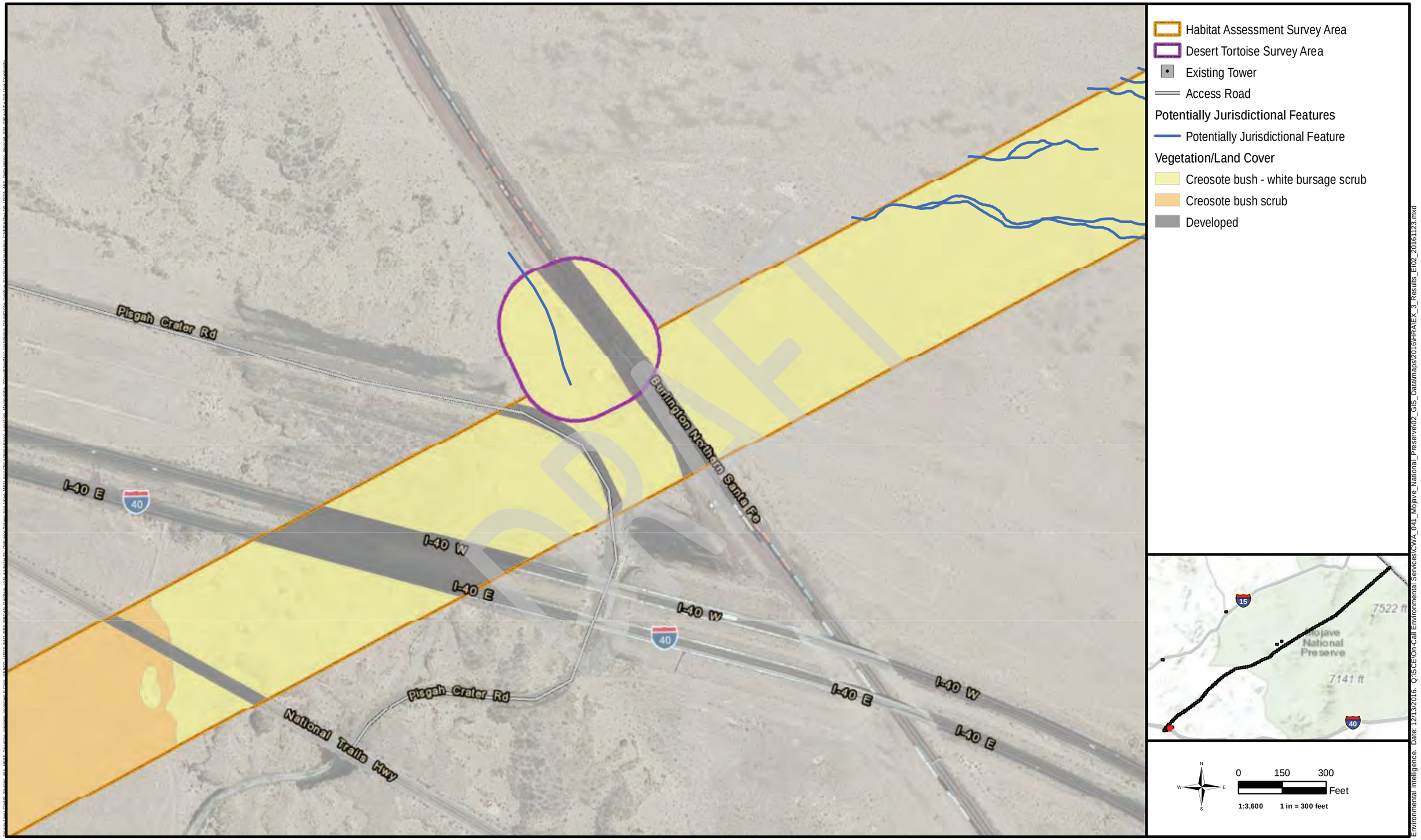

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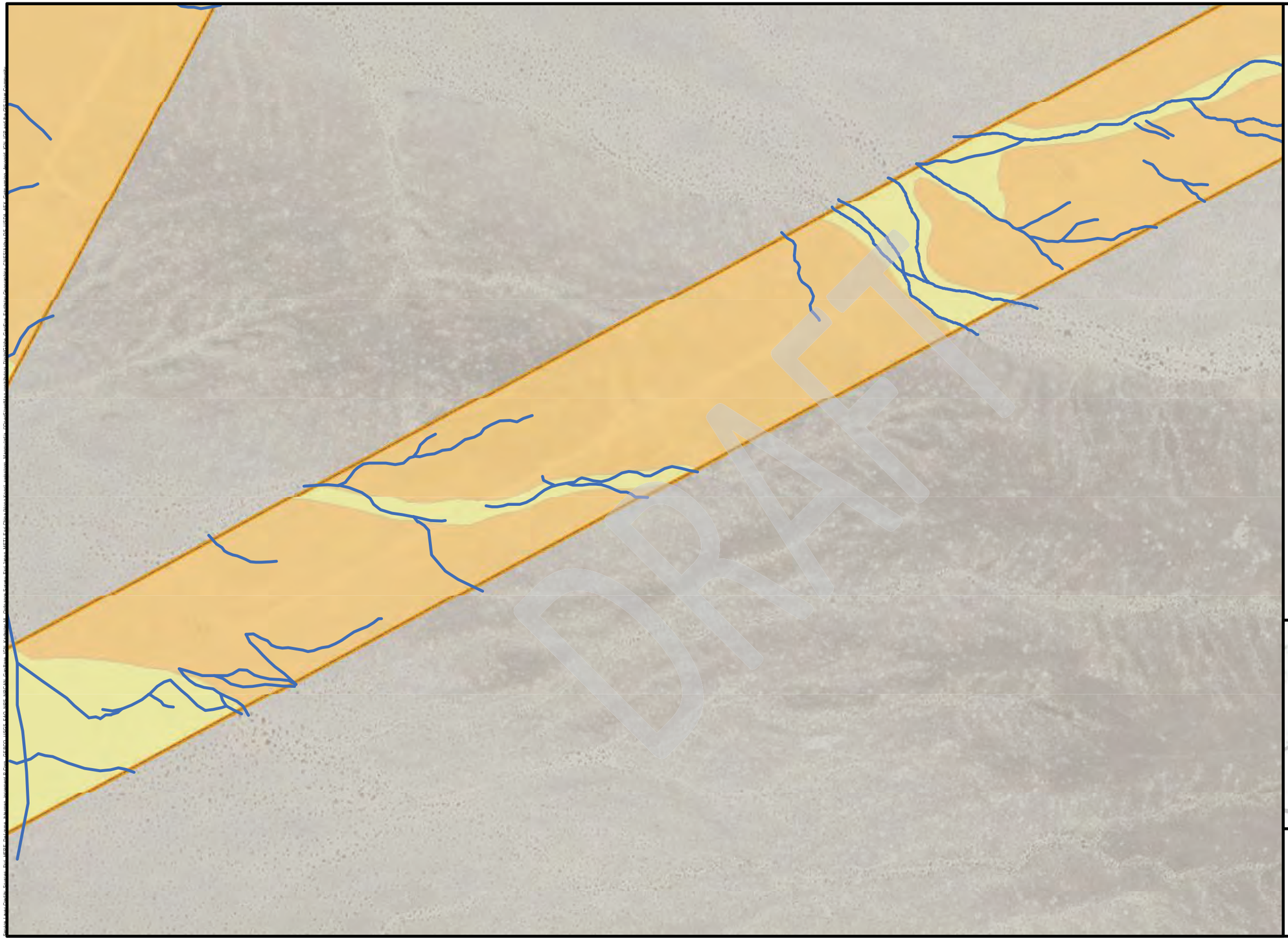
Exhibit 3. Survey Areas and Results (Page 2 of 140)
LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 3 of 140)

LVRAS Project | San Bernardino County, CA


Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ei\02_20161123.mxd


Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_Ei02_20161123.mxd

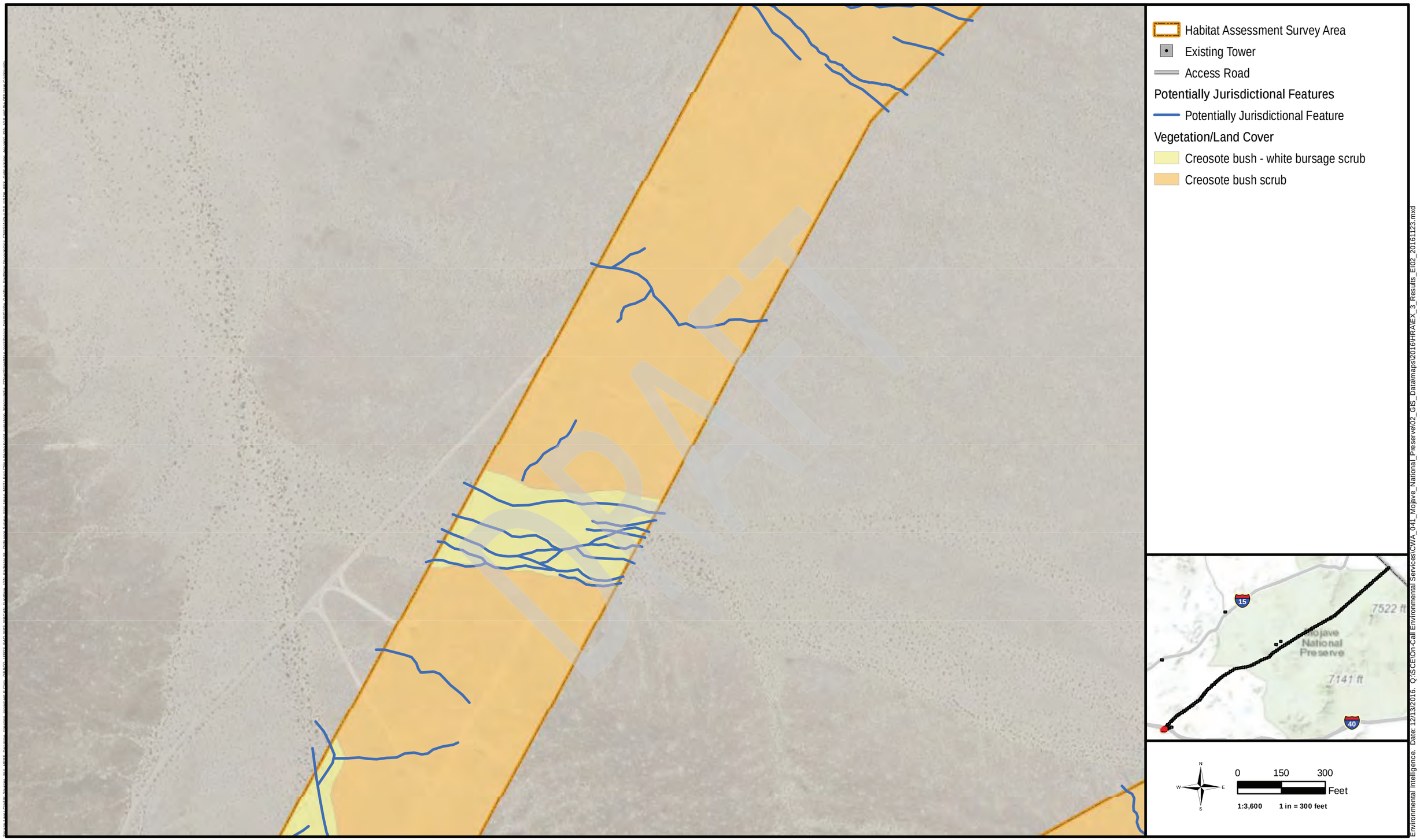
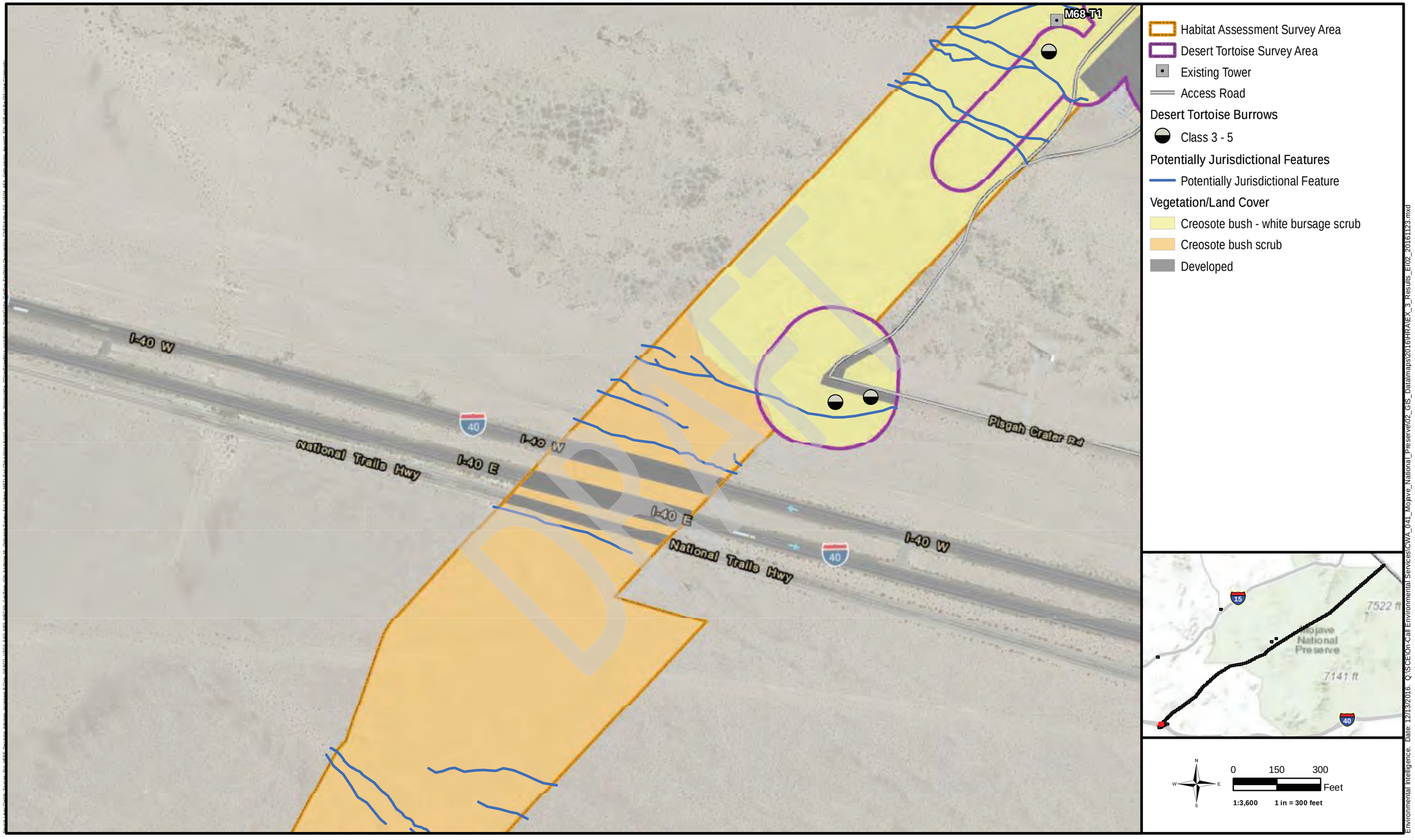


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 6 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M68-T1
I-40 W
National Trails Hwy
I-40 E
I-40 W
I-40 E
National Trails Hwy
I-40 W
Pisgah Crater Rd
40
40
40
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
Developed
15
7522 ft
Mojave National Preserve
7141 ft
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsd\2016\HRA\EX_3_Results_EI02_20161123.mxd

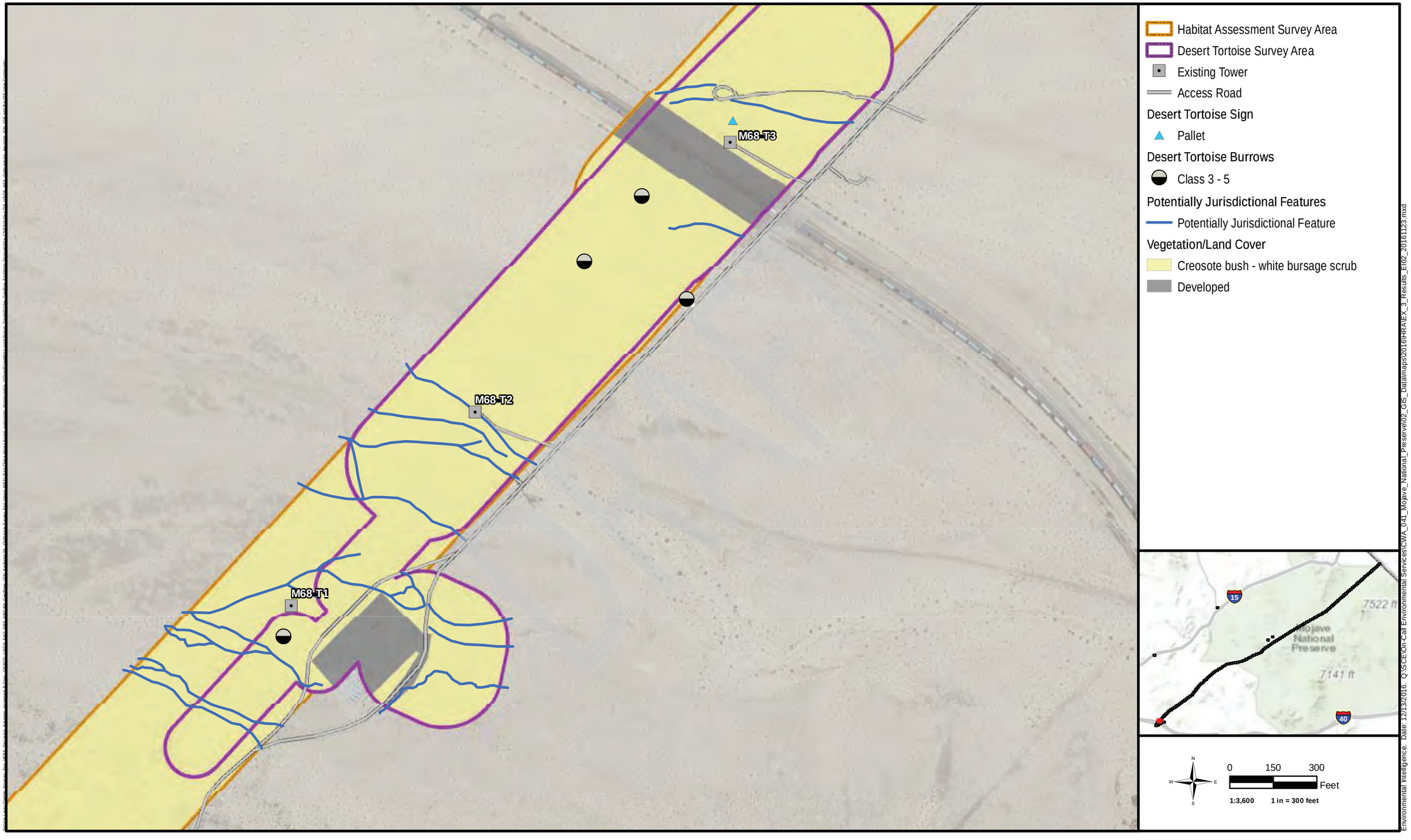


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Exhibit 3. Survey Areas and Results (Page 8 of 140)

LVRAS Project | San Bernardino County, CA

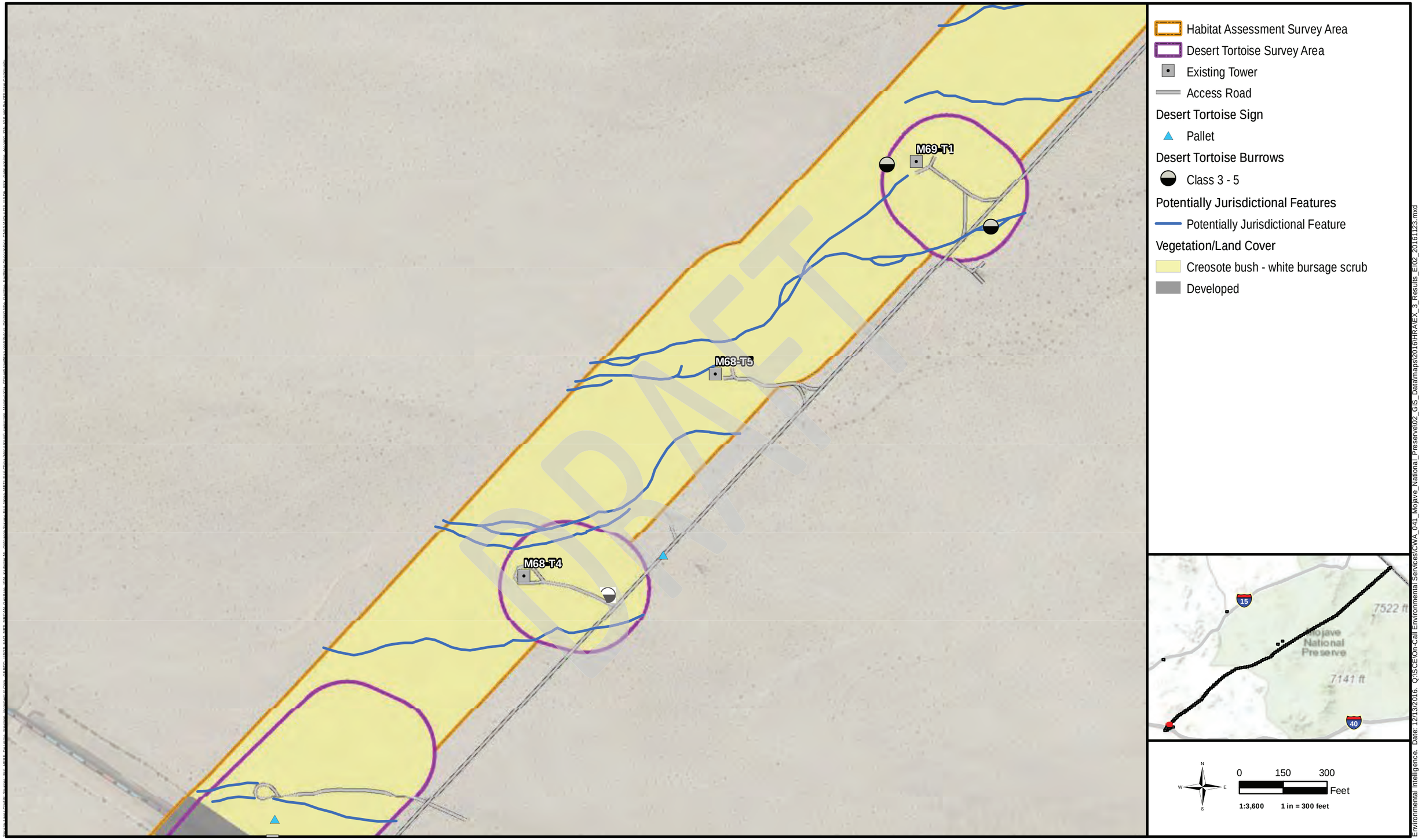
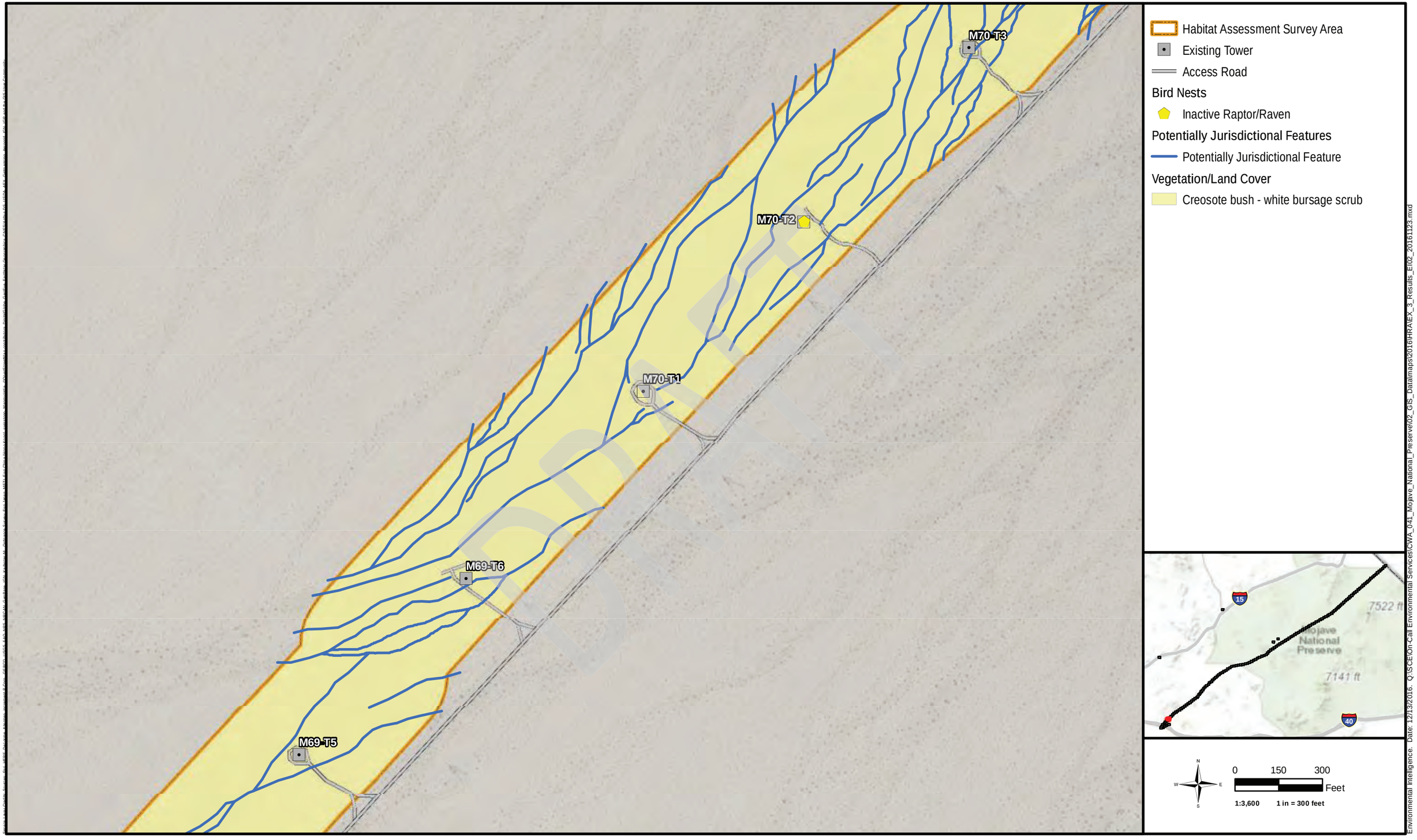


Exhibit 3. Survey Areas and Results (Page 9 of 140)

LVRAS Project | San Bernardino County, CA

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 10 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M70-T3
M70-T2
M70-T1
M69-T6
M69-T5
Habitat Assessment Survey Area
Existing Tower
Access Road
Bird Nests
Inactive Raptor/Raven
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


M70-T6
M70-T5
M70-T4
M70-T3
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

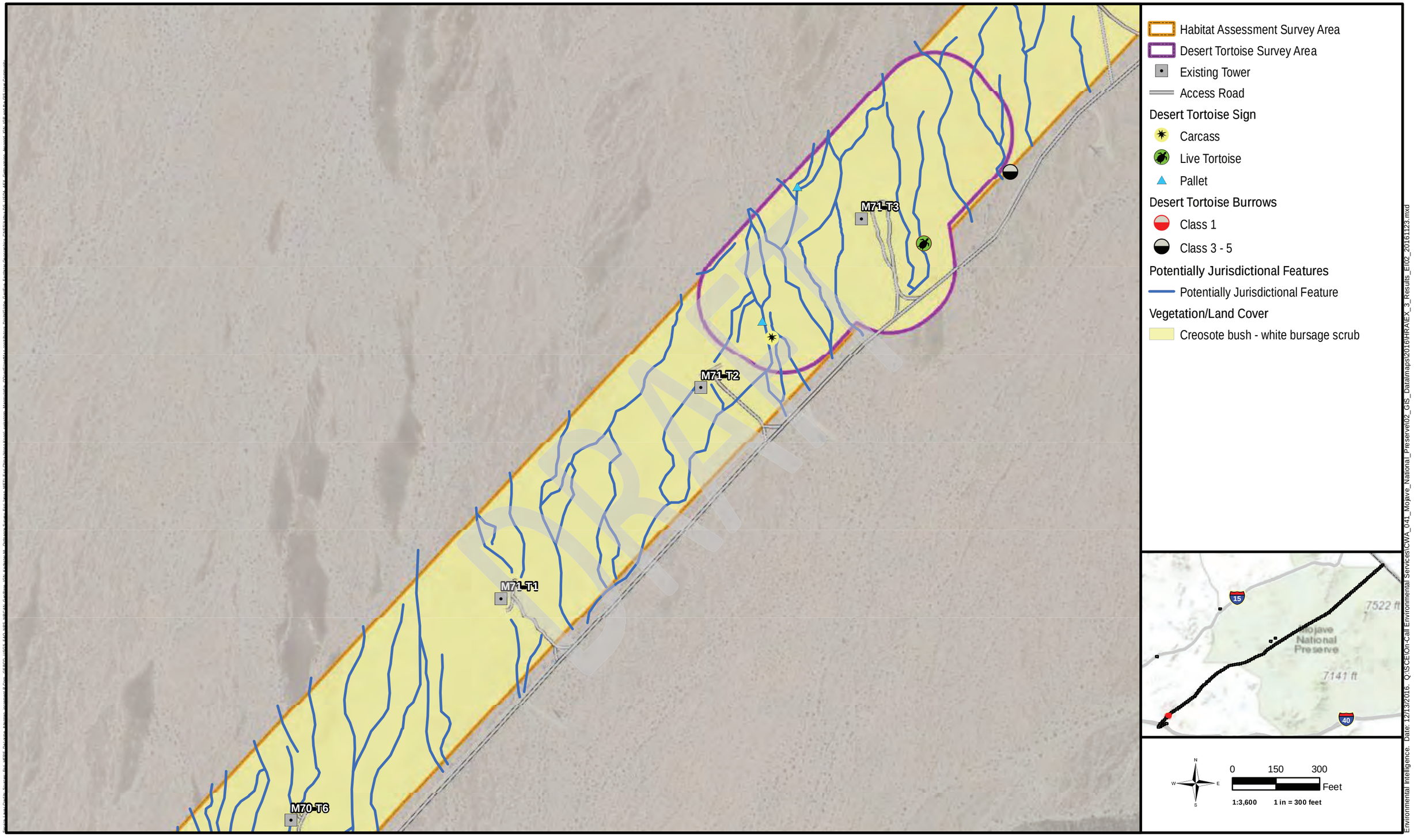

M71-T3
M71-T2
M71-T1
M70-T6
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Desert Tortoise Burrows
Class 1
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 14 of 140)

LVRAS Project | San Bernardino County, CA

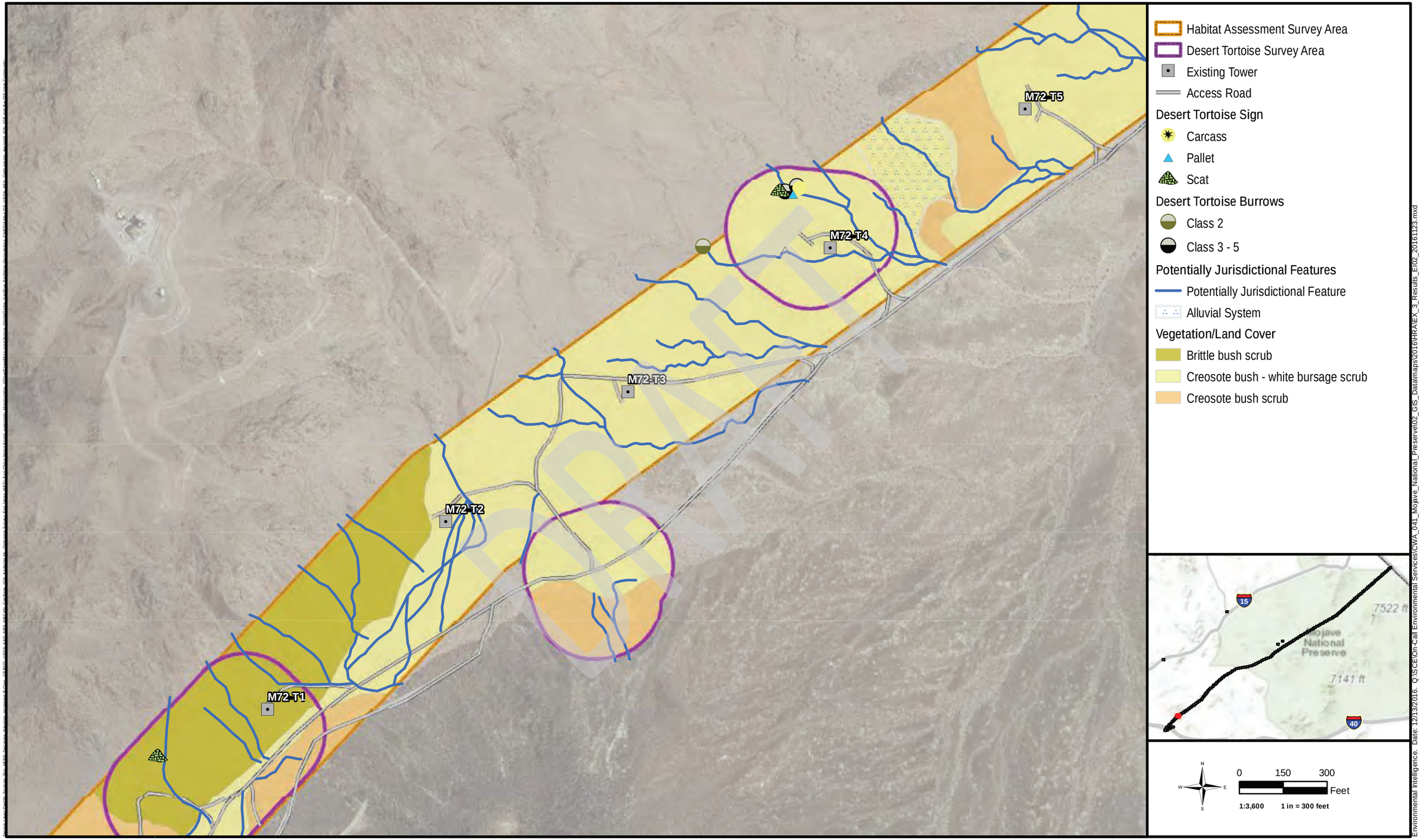


Exhibit 3. Survey Areas and Results (Page 15 of 140)

LVRAS Project | San Bernardino County, CA

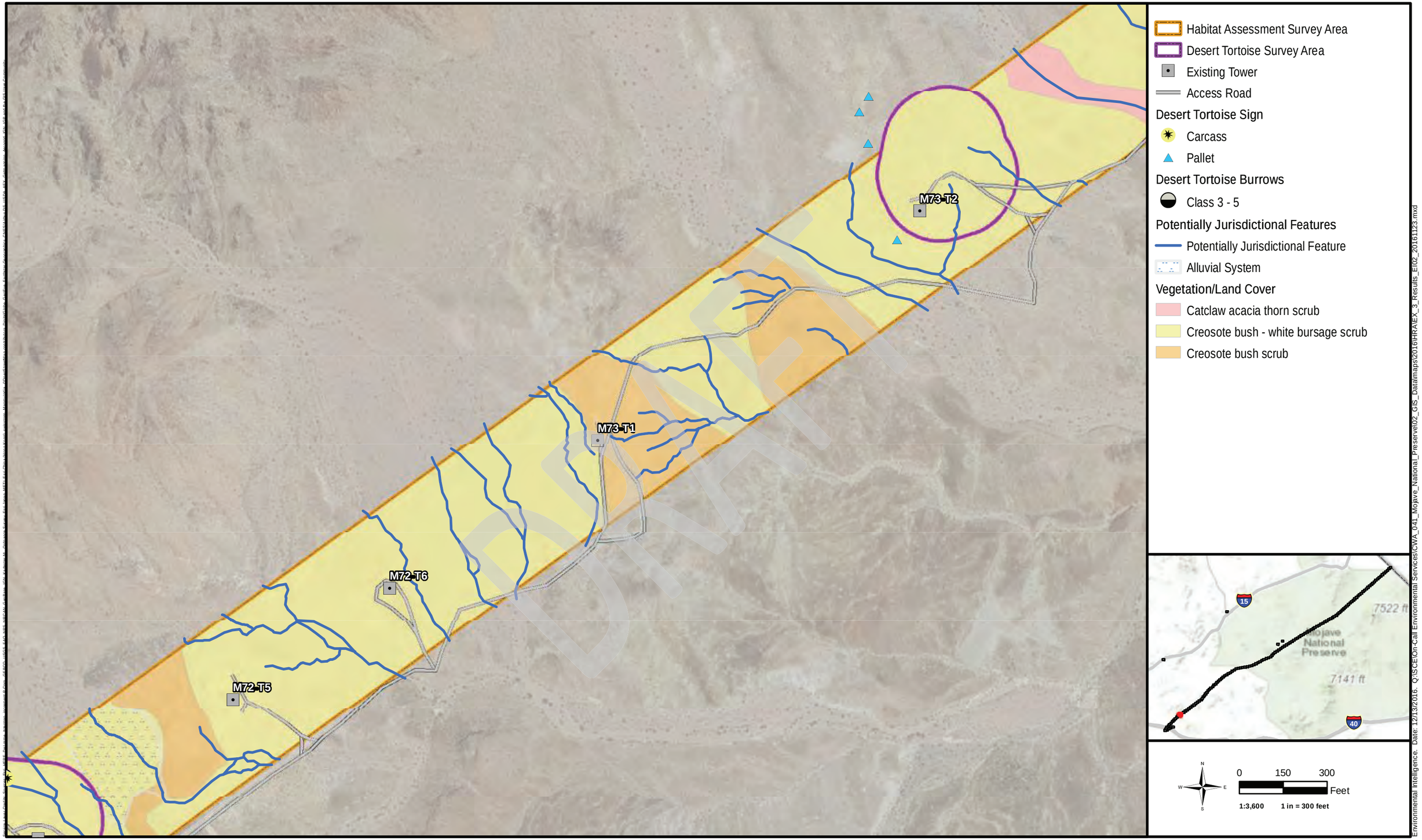


Exhibit 3. Survey Areas and Results (Page 16 of 140)
LVRAS Project | San Bernardino County, CA

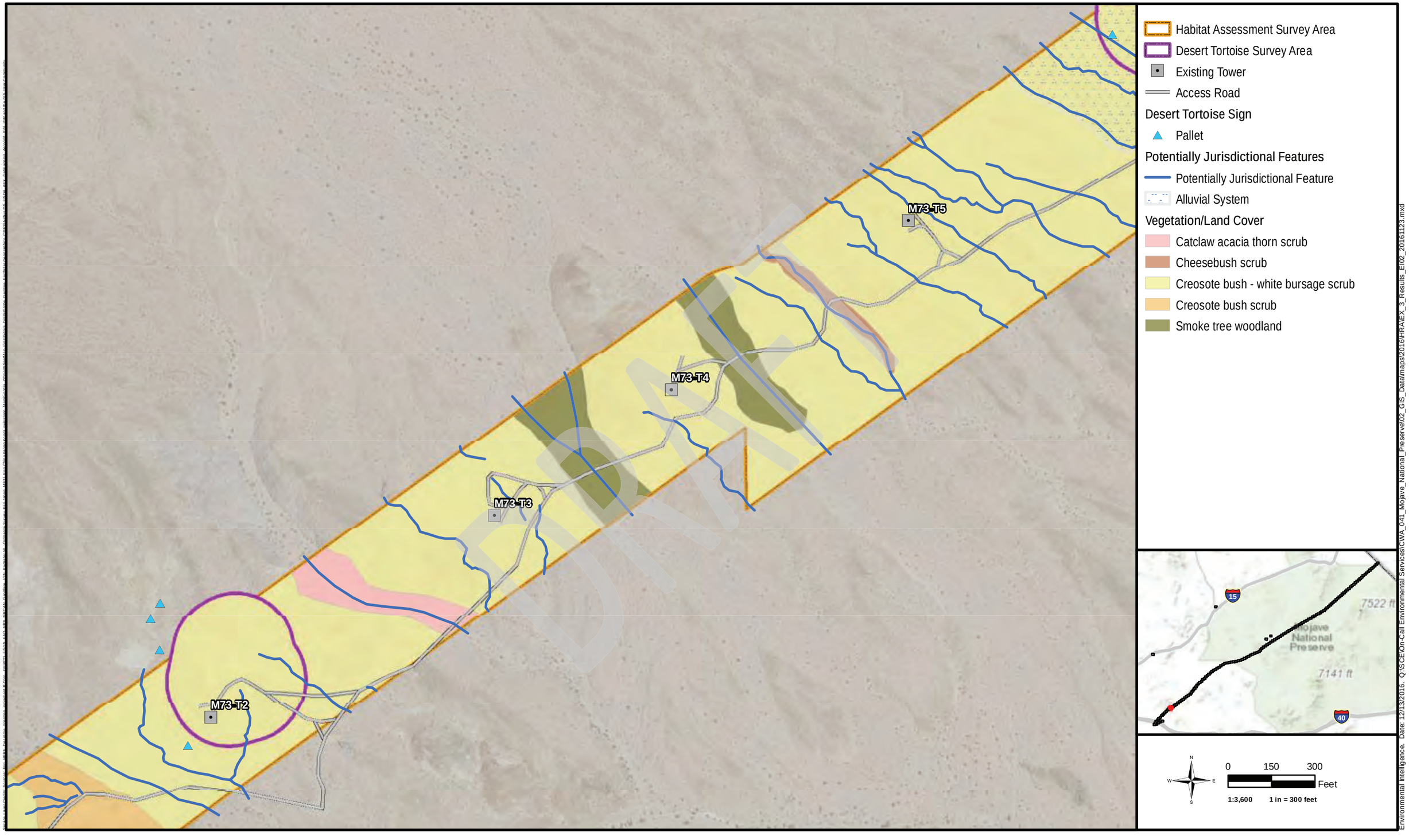


Exhibit 3. Survey Areas and Results (Page 17 of 140)
LVRAS Project | San Bernardino County, CA

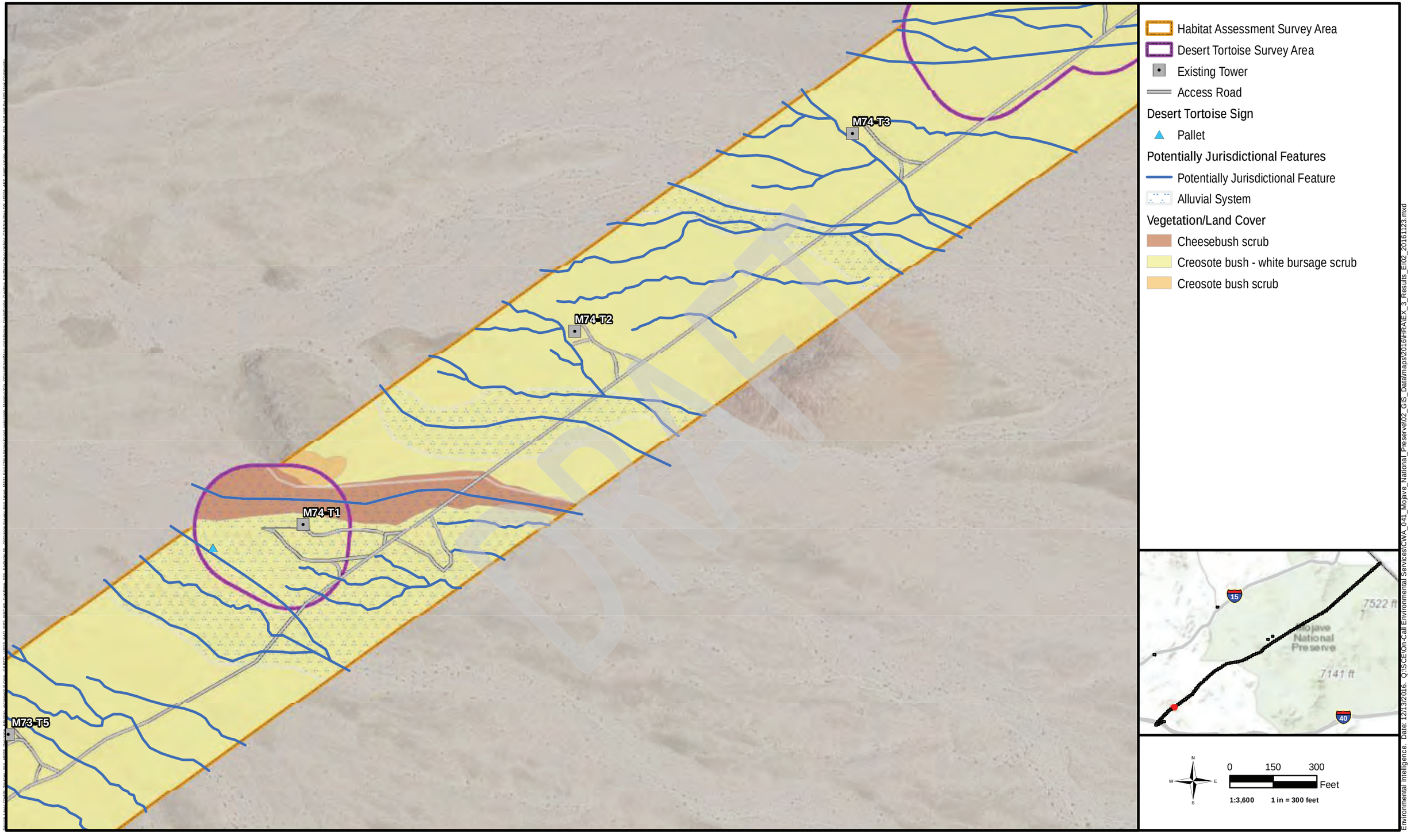
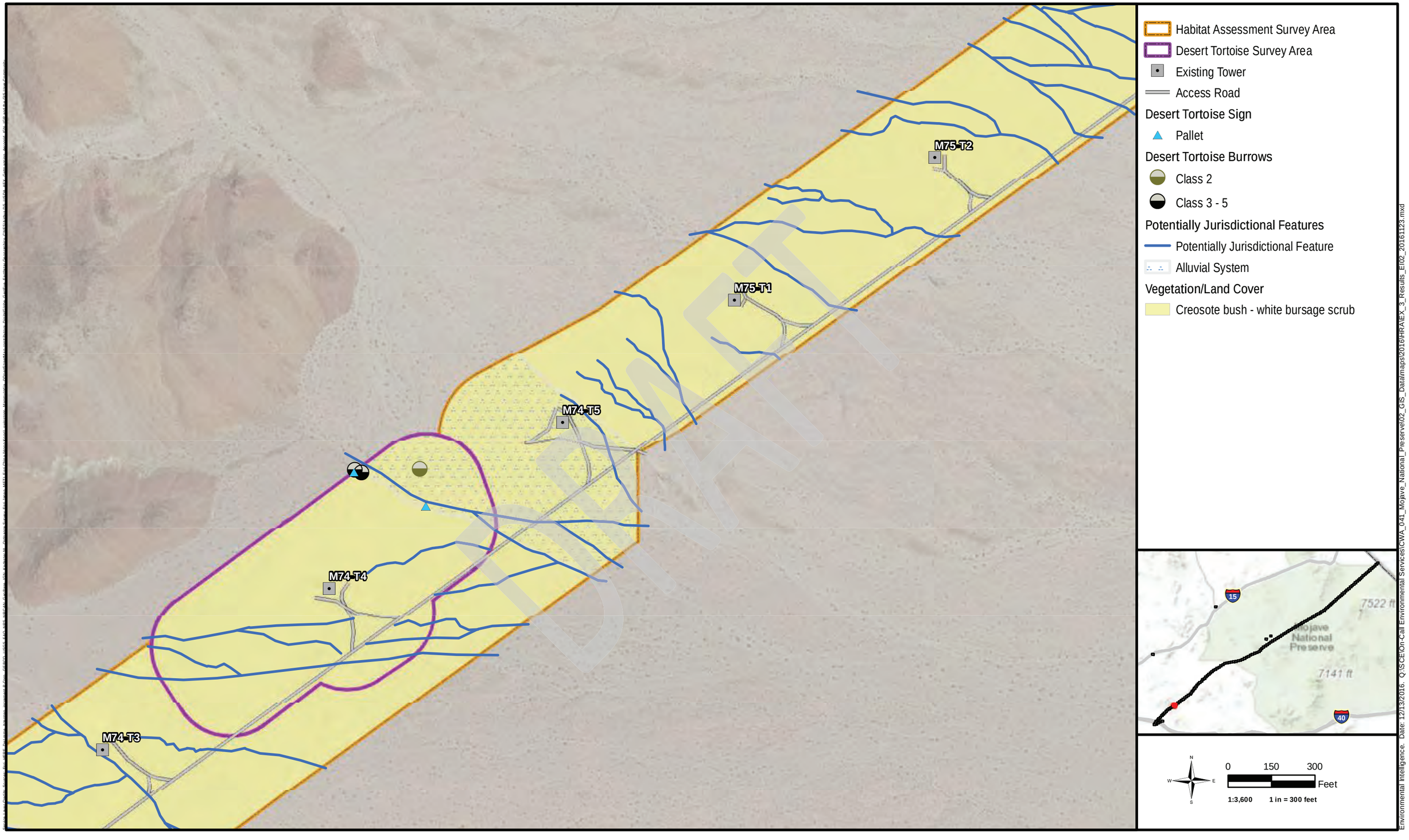


Exhibit 3. Survey Areas and Results (Page 18 of 140)

LVRAS Project | San Bernardino County, CA


M75-T2
M75-T1
M74-T5
M74-T4
M74-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

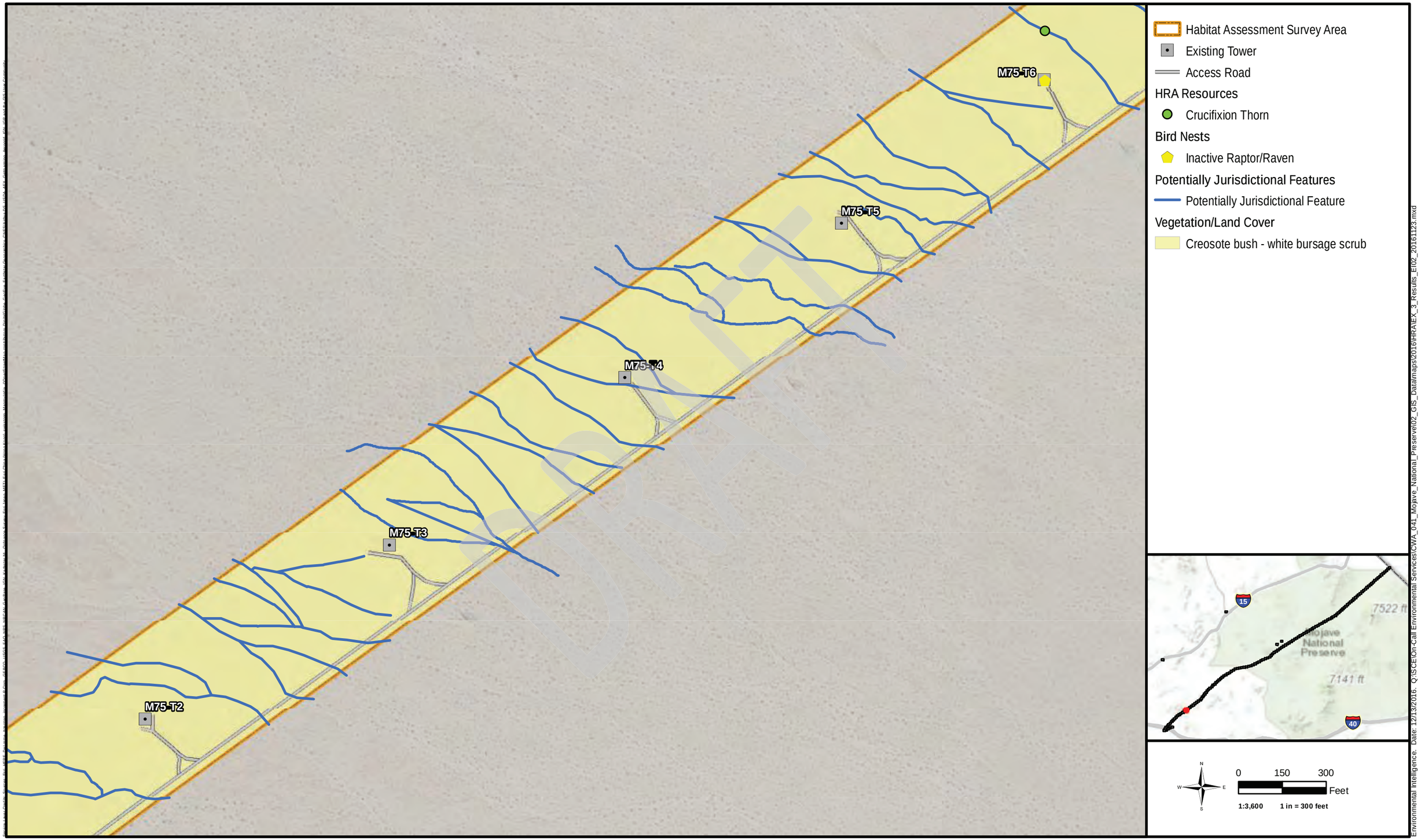
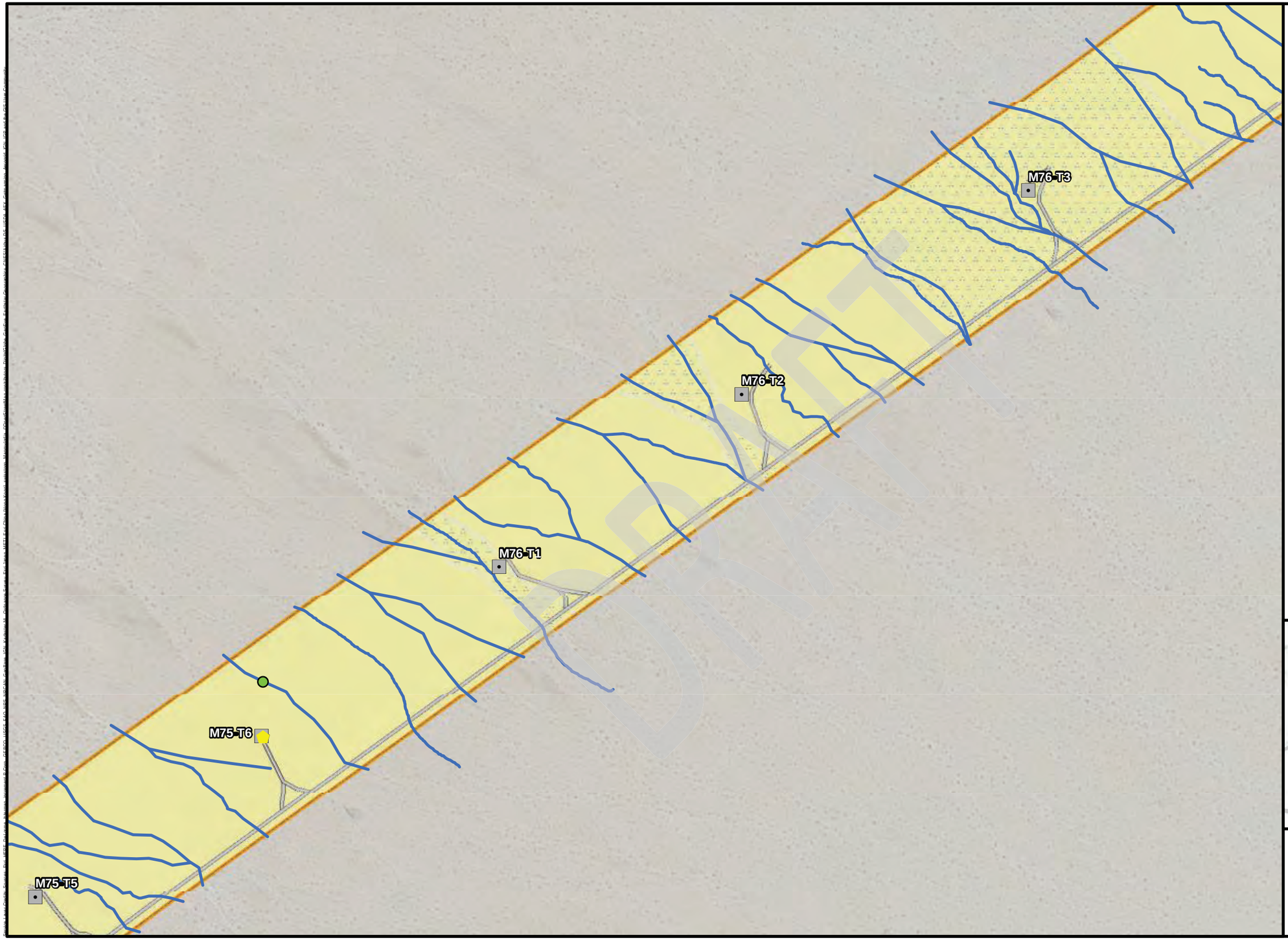


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 20 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA



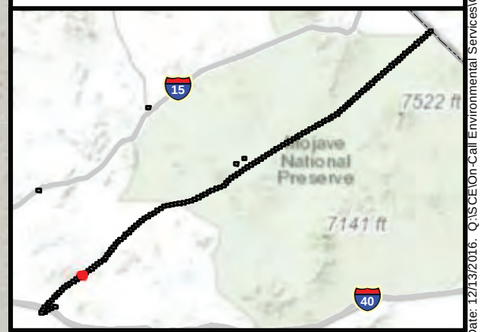
Habitat Assessment Survey Area
Existing Tower
Access Road

HRA Resources
Crucifixion Thorn

Bird Nests
Inactive Raptor/Raven

Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System

Vegetation/Land Cover
Creosote bush - white bursage scrub



N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 21 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

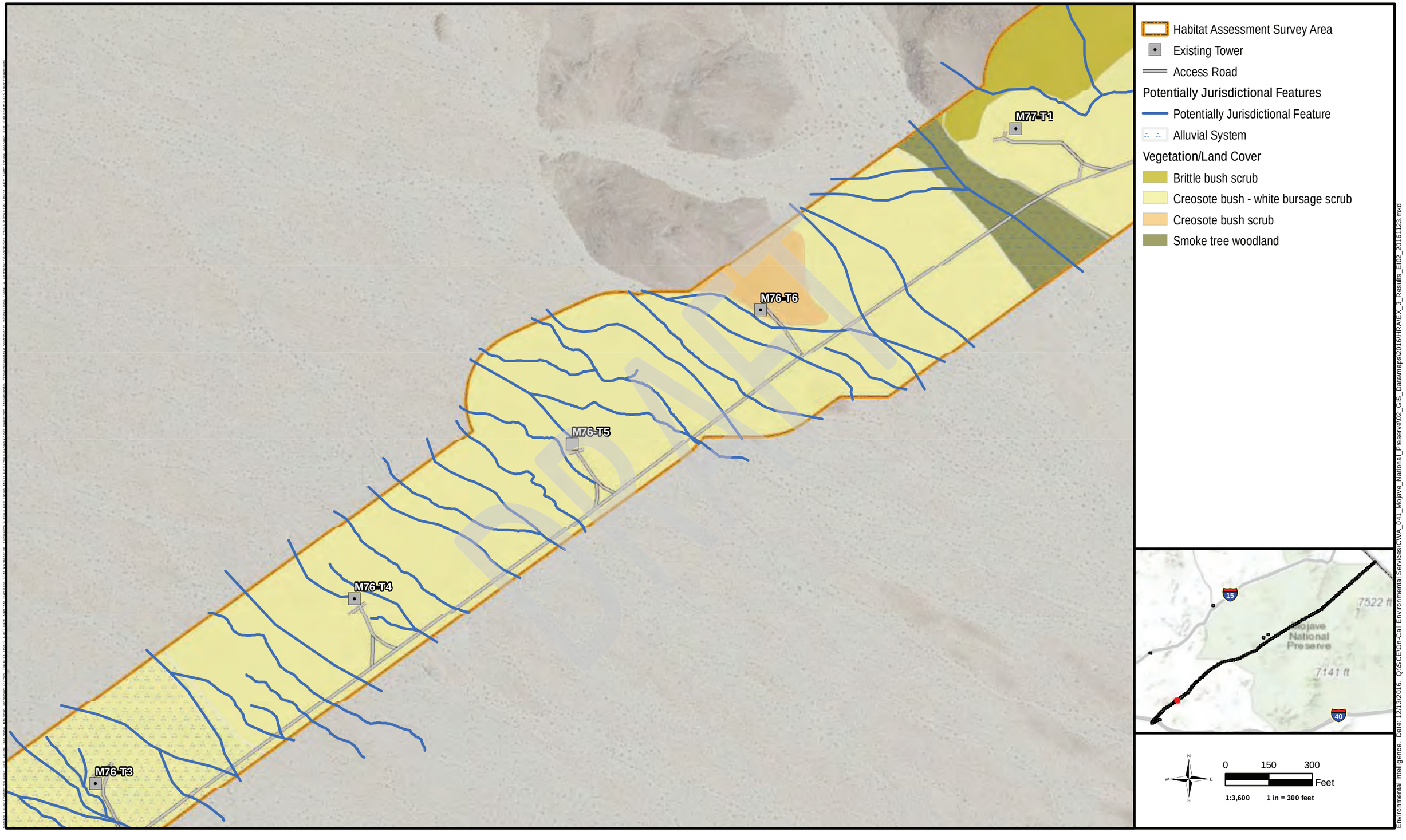


Exhibit 3. Survey Areas and Results (Page 22 of 140)

LVRAS Project | San Bernardino County, CA

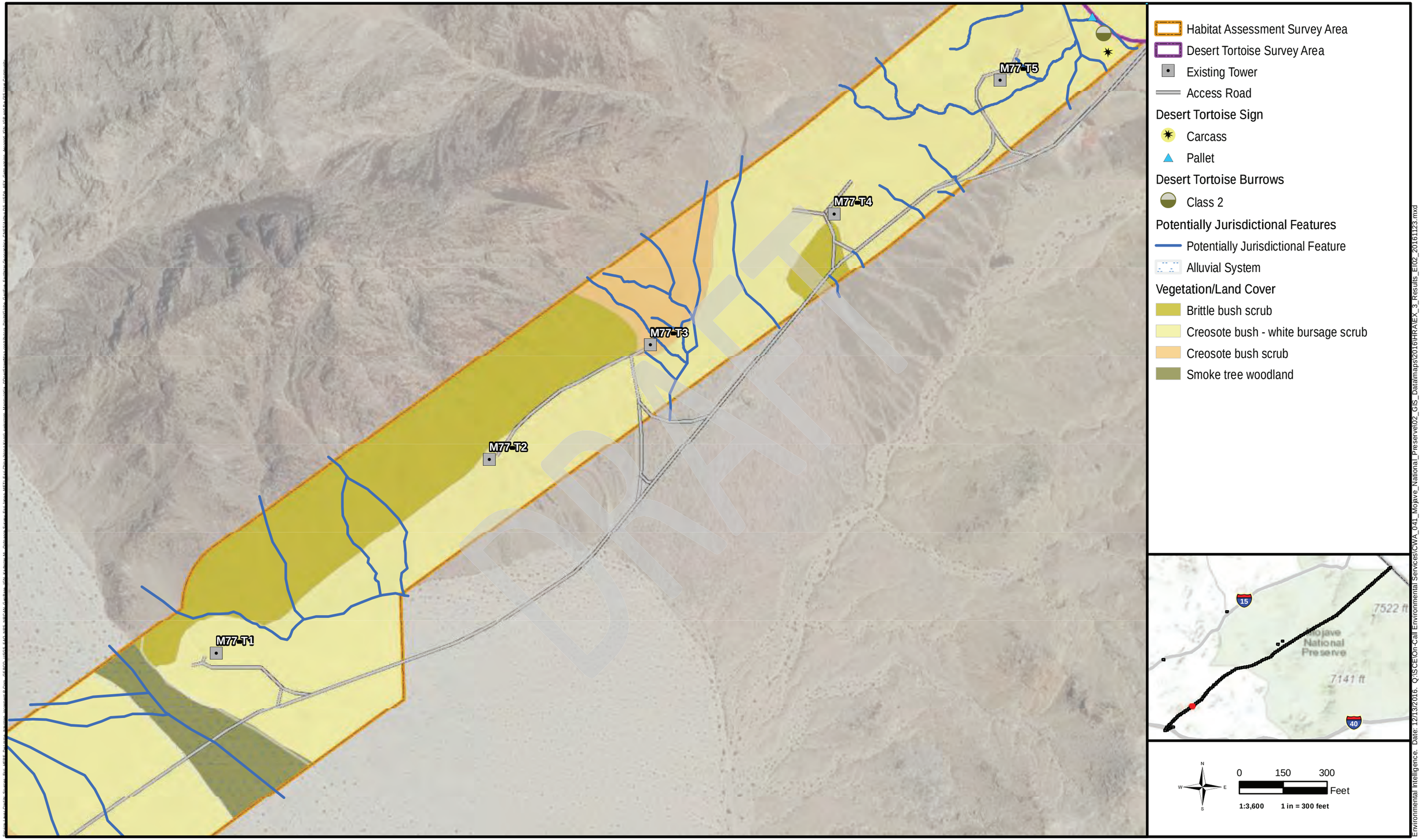


Exhibit 3. Survey Areas and Results (Page 23 of 140)

LVRAS Project | San Bernardino County, CA

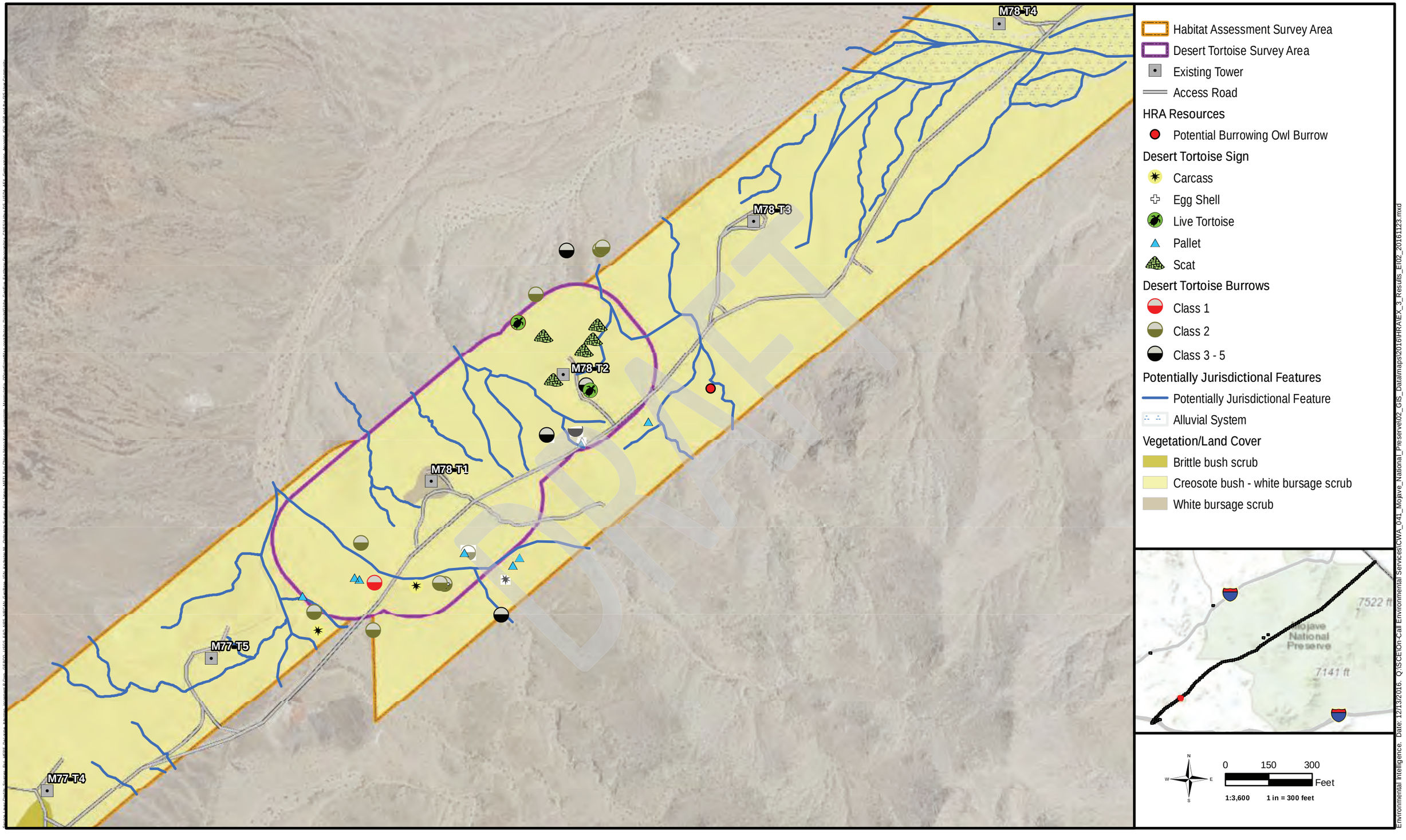
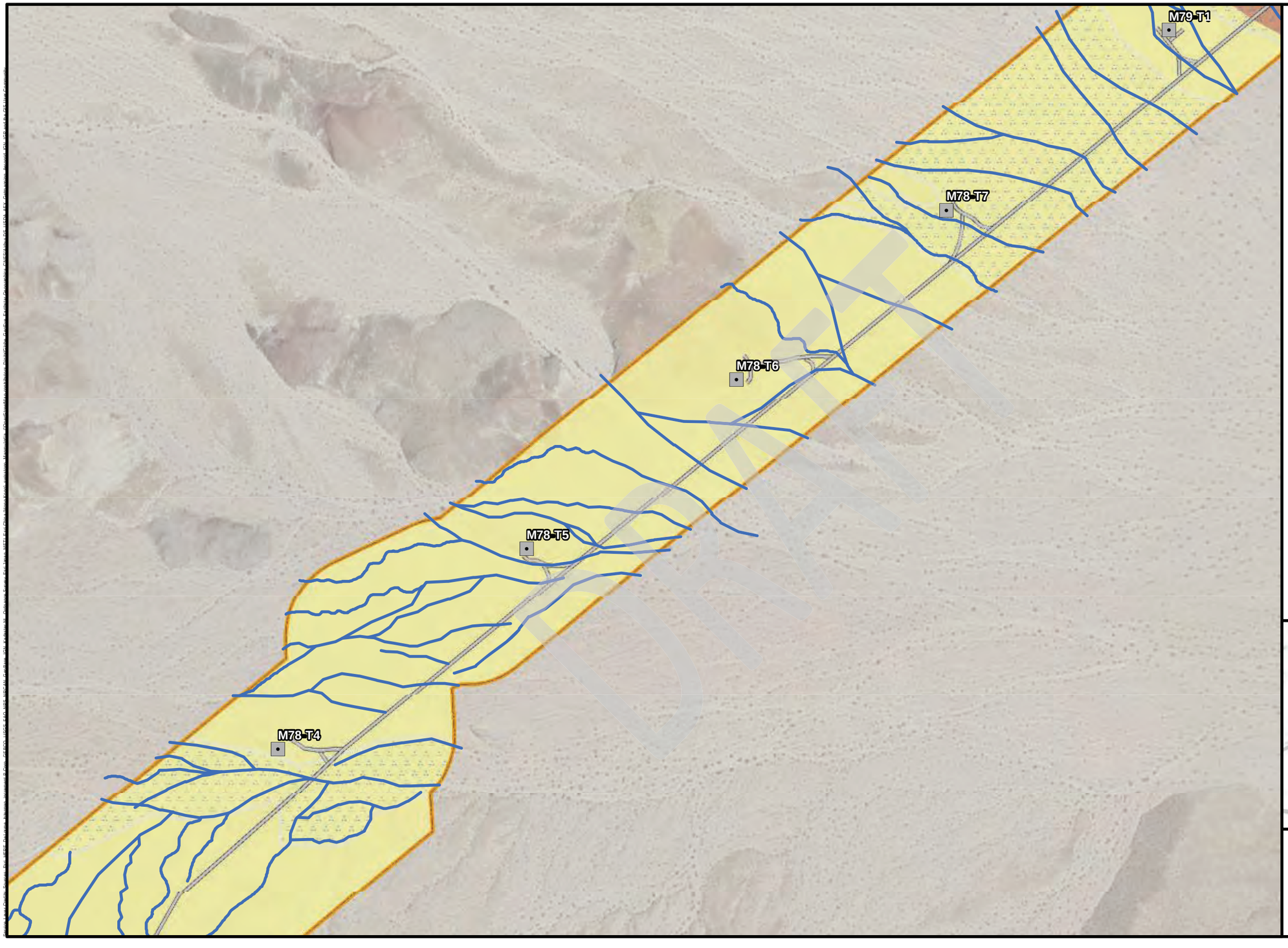


Exhibit 3. Survey Areas and Results (Page 24 of 140)
LVRAS Project | San Bernardino County, CA



Habitat Assessment Survey Area
Existing Tower
Access Road

Potentially Jurisdictional Features

Potentially Jurisdictional Feature
Alluvial System

Vegetation/Land Cover

Cheesebush scrub
Creosote bush - white bursage scrub

N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 25 of 140)

LVRAS Project | San Bernardino County, CA

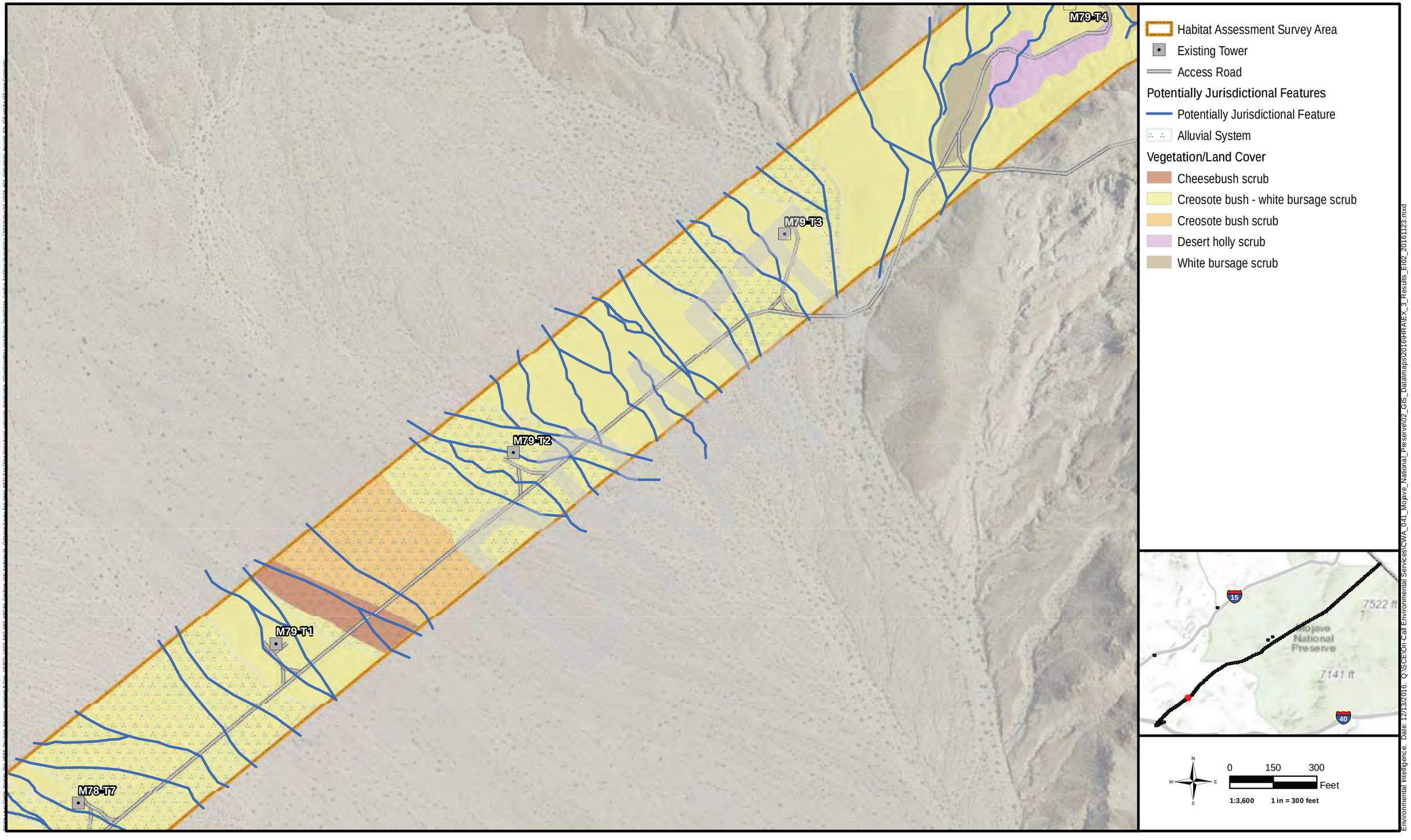


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Exhibit 3. Survey Areas and Results (Page 26 of 140)

LVRAS Project | San Bernardino County, CA

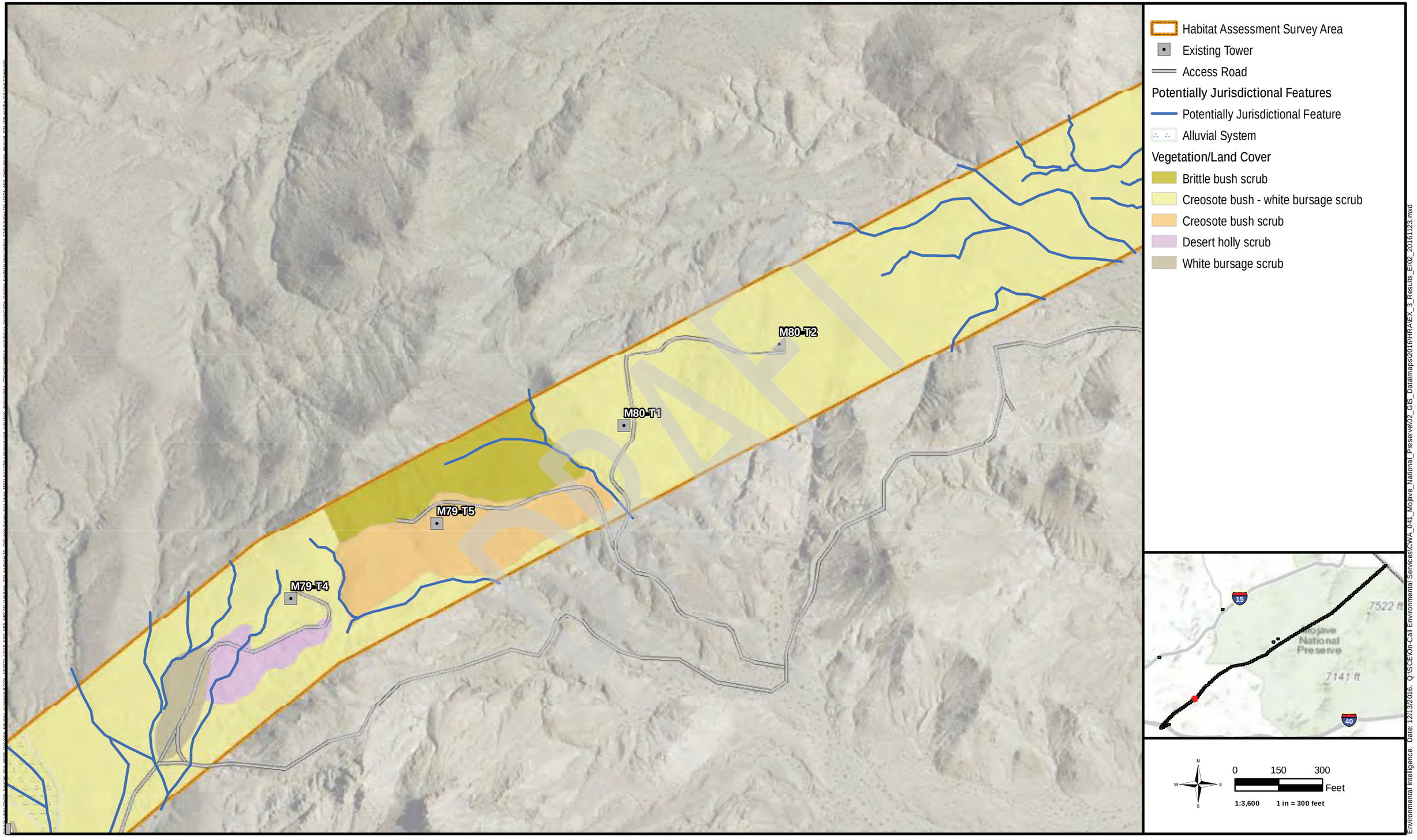
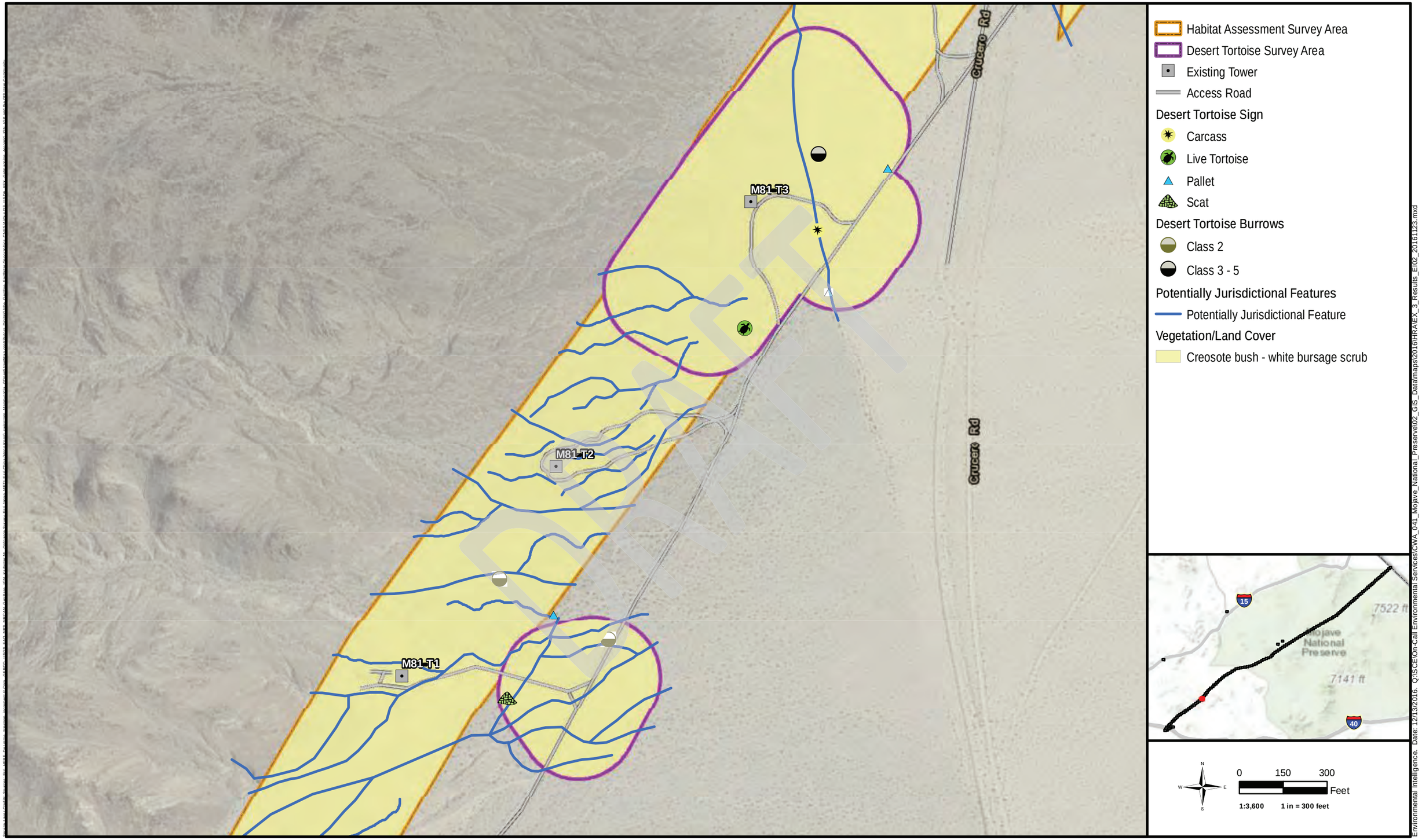


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 27 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

Exhibit 3. Survey Areas and Results (Page 28 of 140)

LVRAS Project | San Bernardino County, CA


M81_T3
M81_T2
M81_T1
Crucero Rd
Crucero Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Scat
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd


M82_T1
M81_T6
M81_T5
M81_T4
Crucero Rd
Crucero Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 31 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

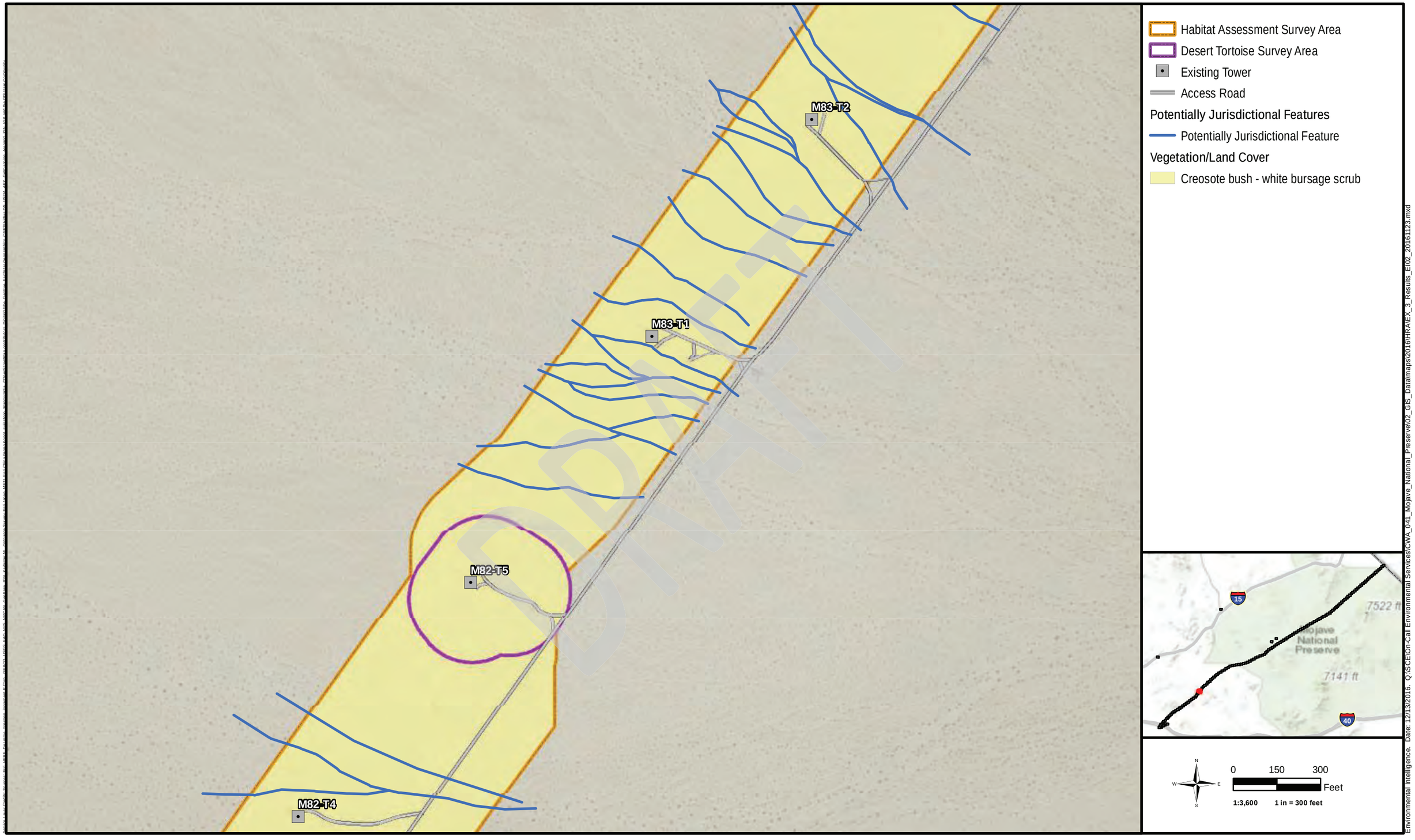
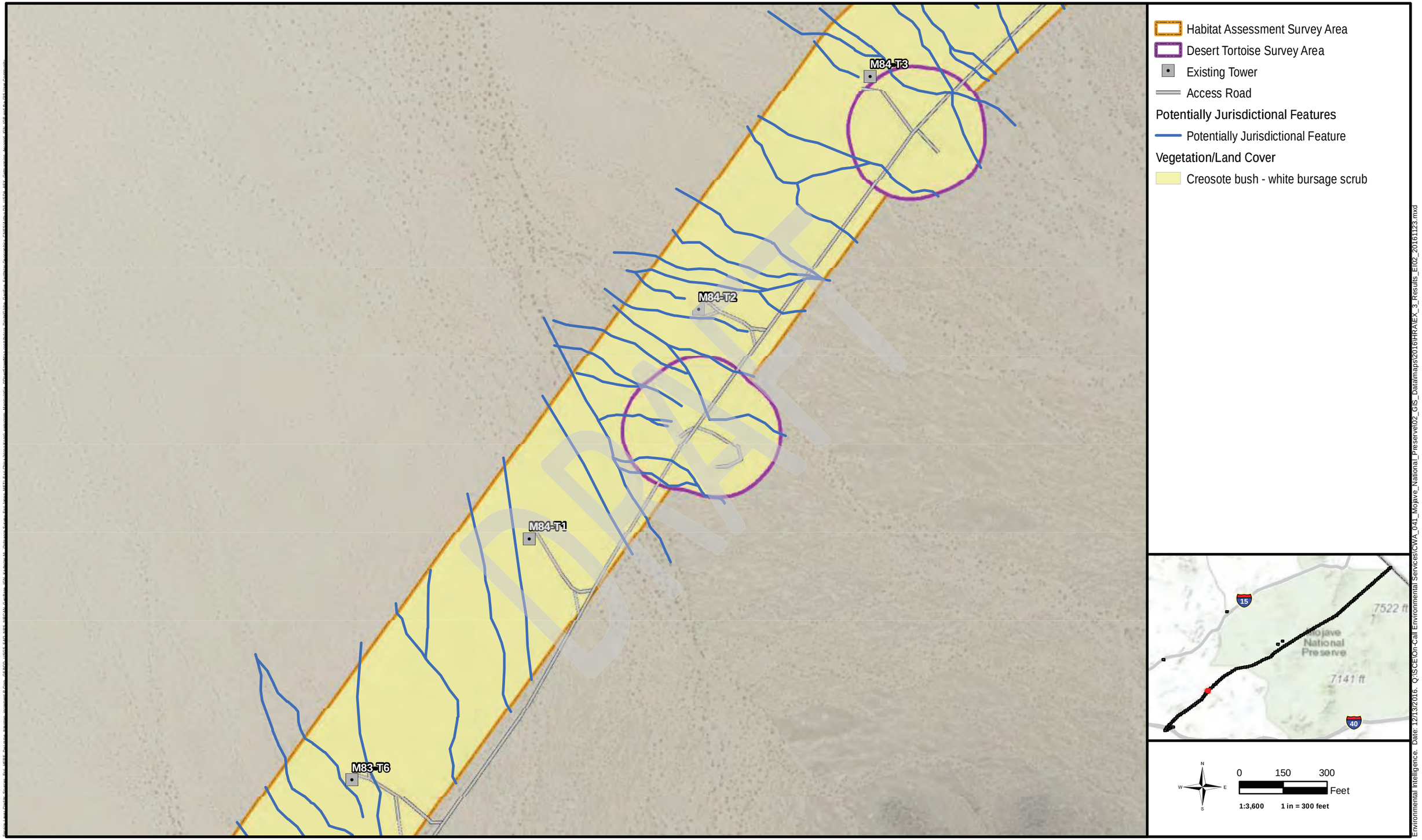


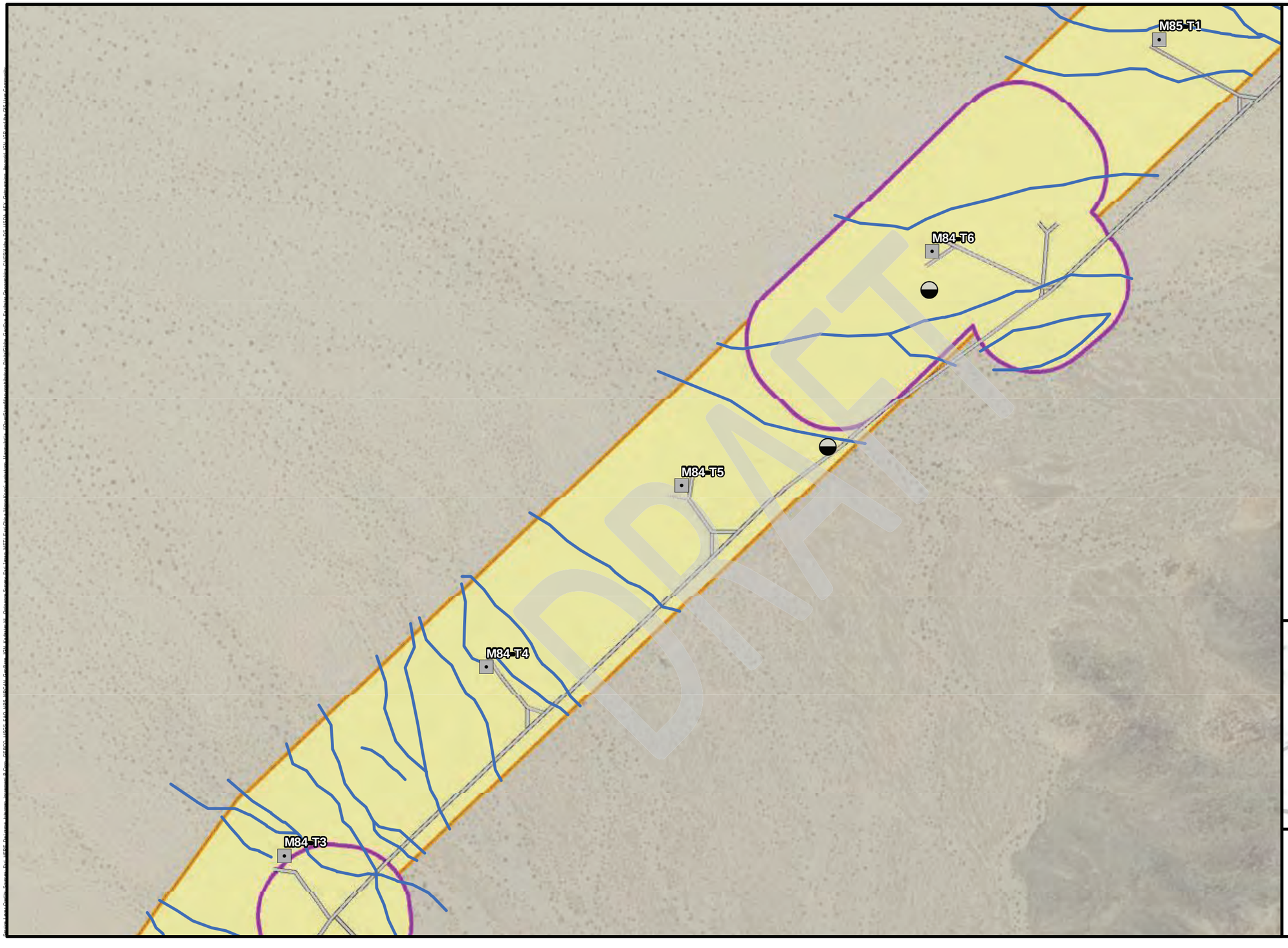
Exhibit 3. Survey Areas and Results (Page 32 of 140)

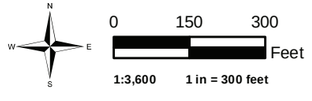
LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 33 of 140)

LVRAS Project | San Bernardino County, CA


M84-T3
M84-T2
M84-T1
M83-T6
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd





Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 35 of 140)

LVRAS Project | San Bernardino County, CA

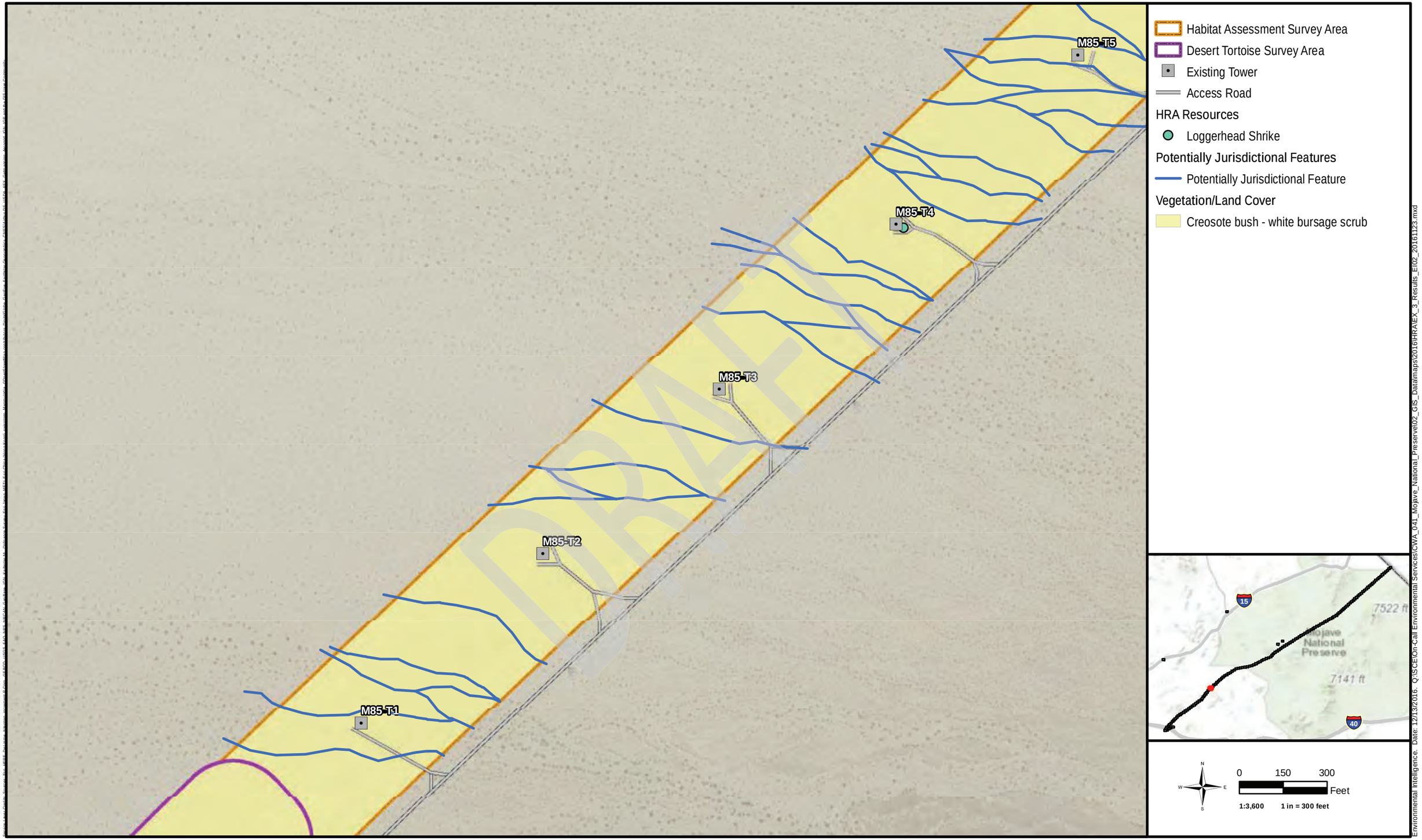


Exhibit 3. Survey Areas and Results (Page 36 of 140)

LVRAS Project | San Bernardino County, CA

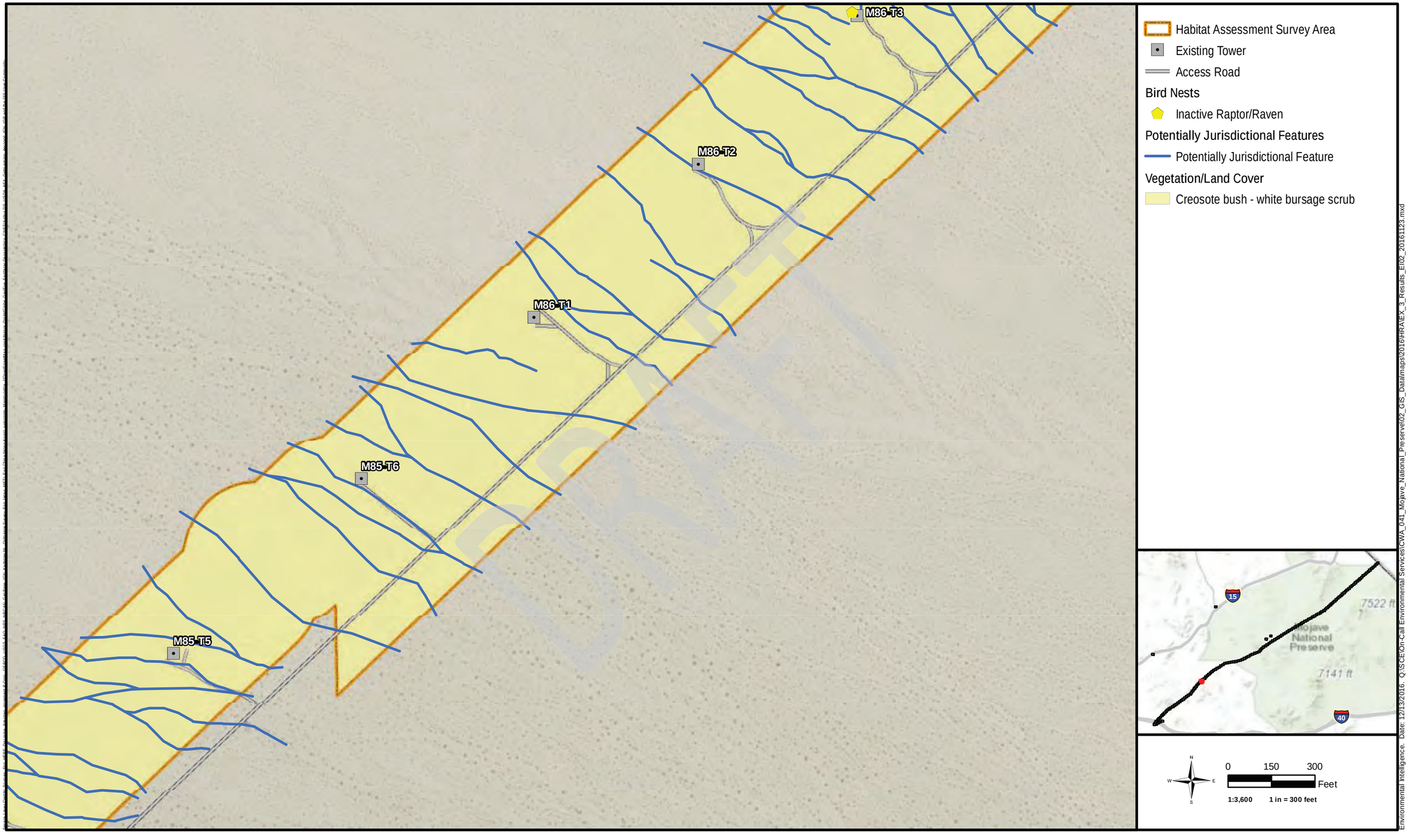


Exhibit 3. Survey Areas and Results (Page 37 of 140)

LVRAS Project | San Bernardino County, CA

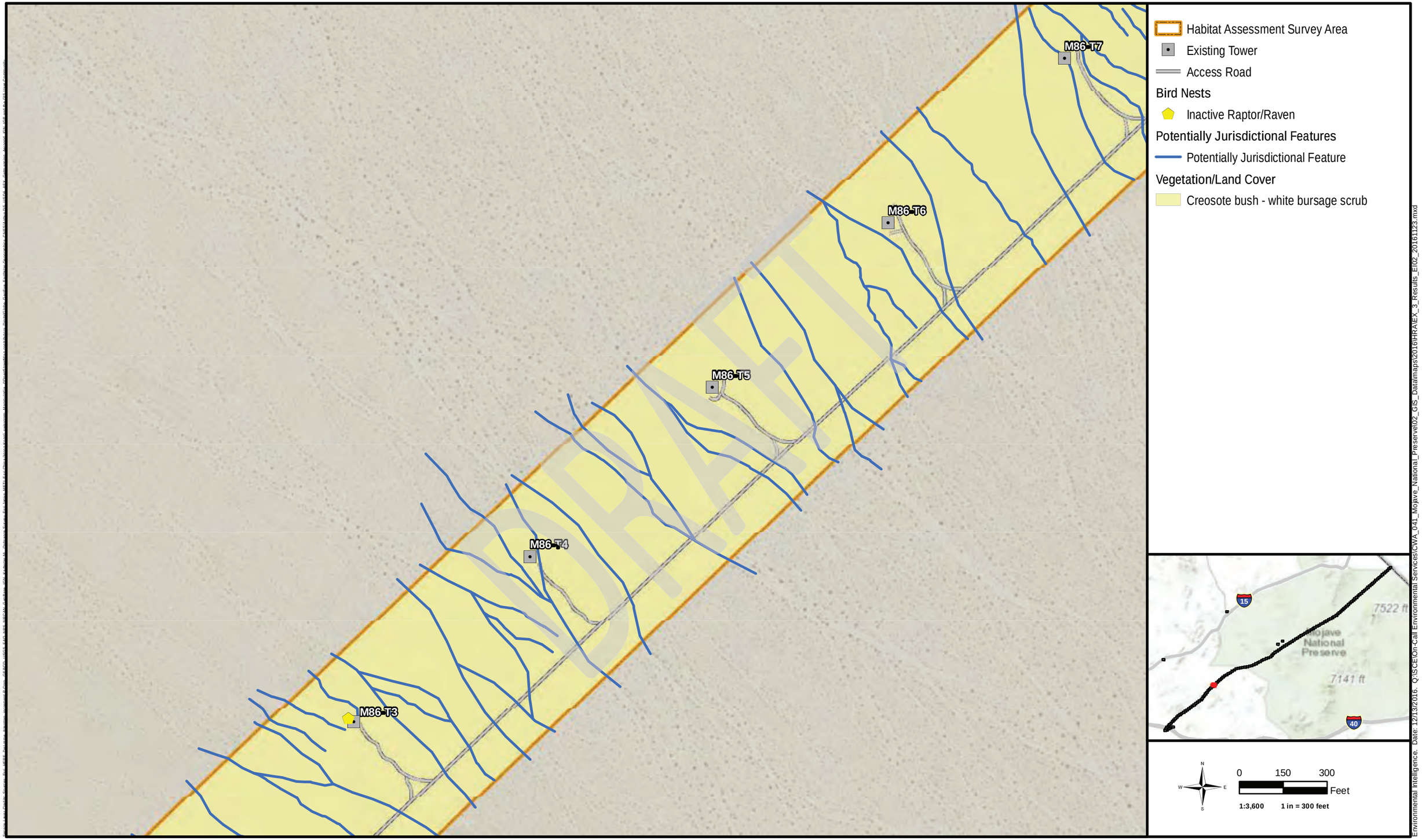


Exhibit 3. Survey Areas and Results (Page 38 of 140)

LVRAS Project | San Bernardino County, CA

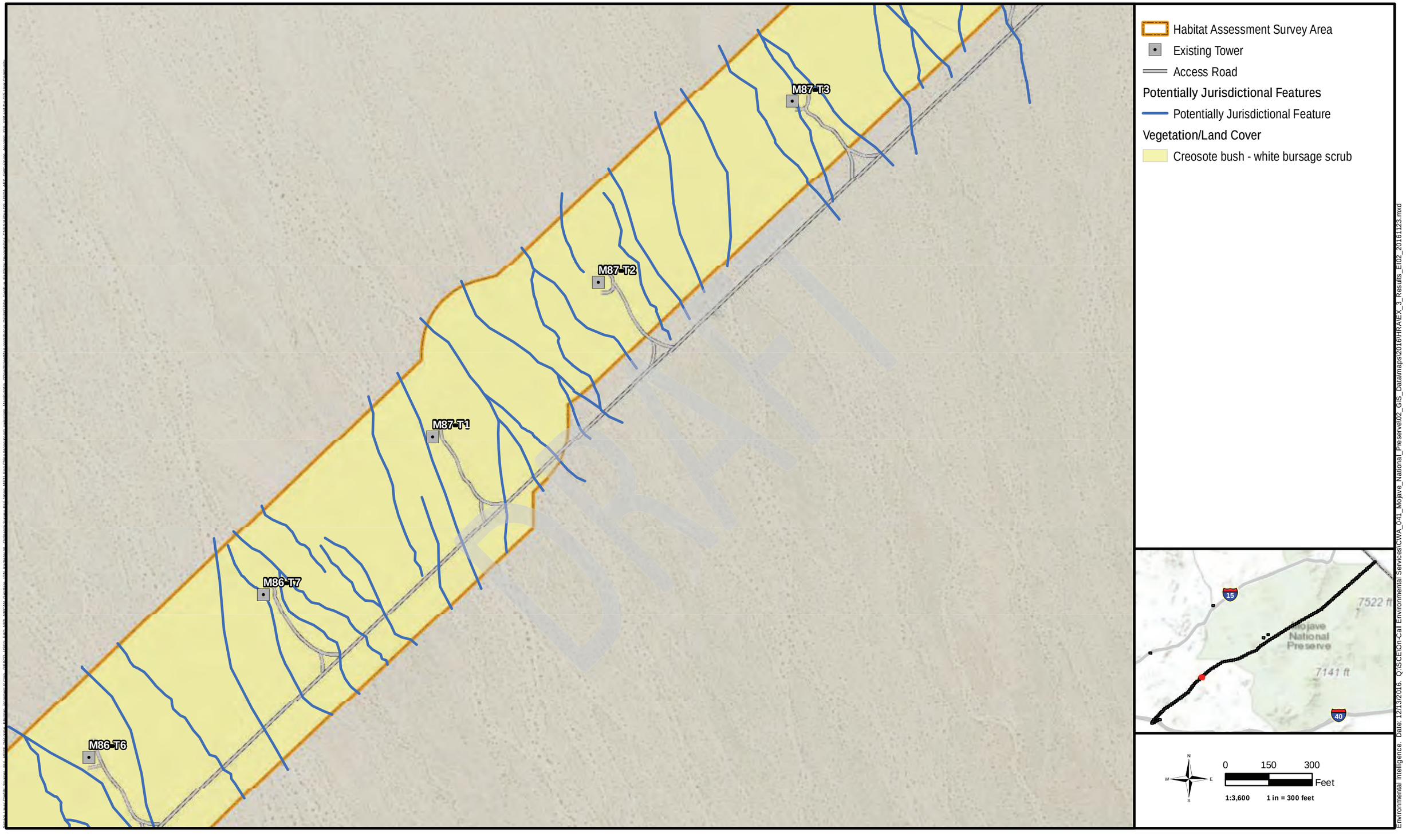


Exhibit 3. Survey Areas and Results (Page 39 of 140)

LVRAS Project | San Bernardino County, CA


M88-T1
M87-T6
M87-T5
M87-T4
M87-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Smoke tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

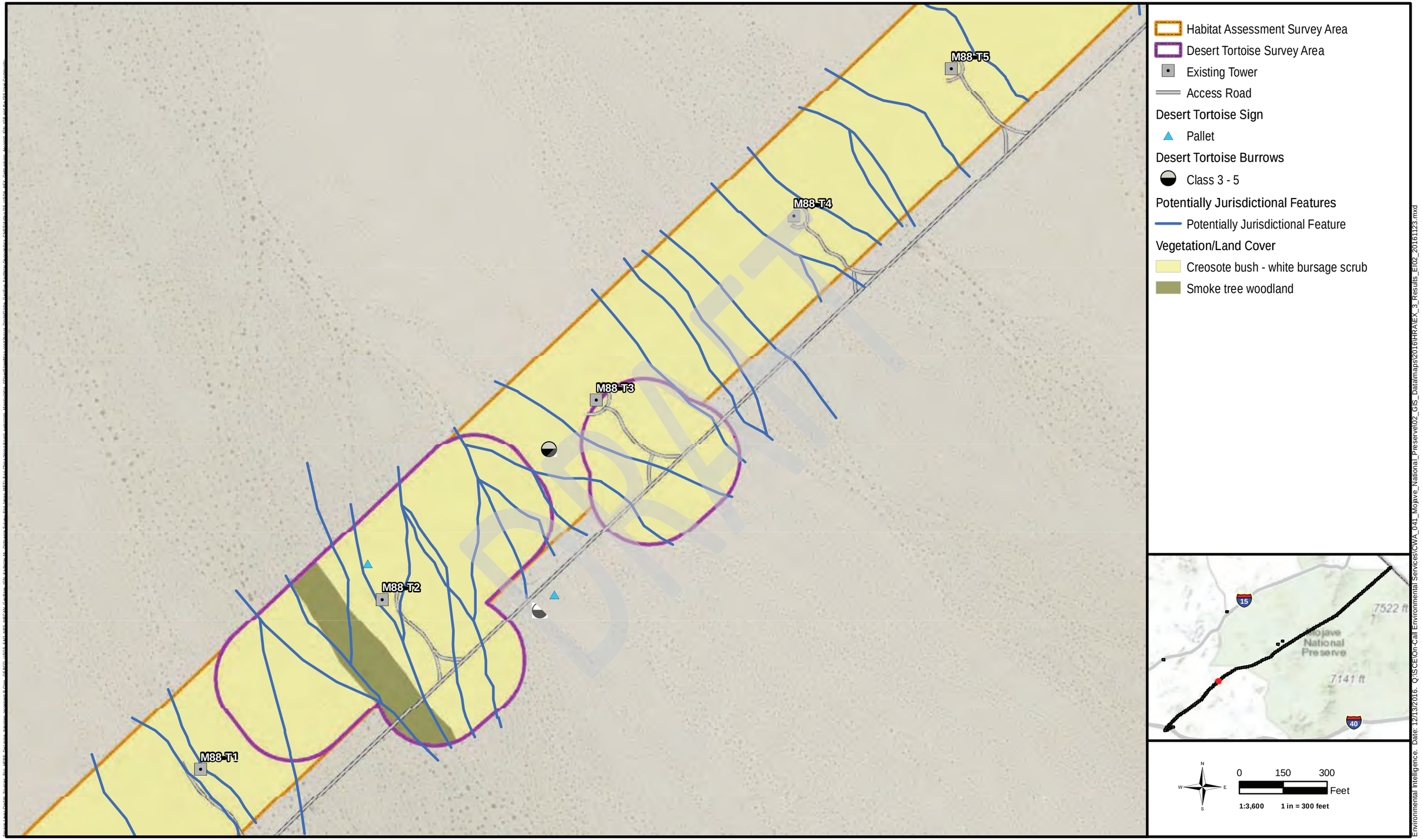


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 41 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

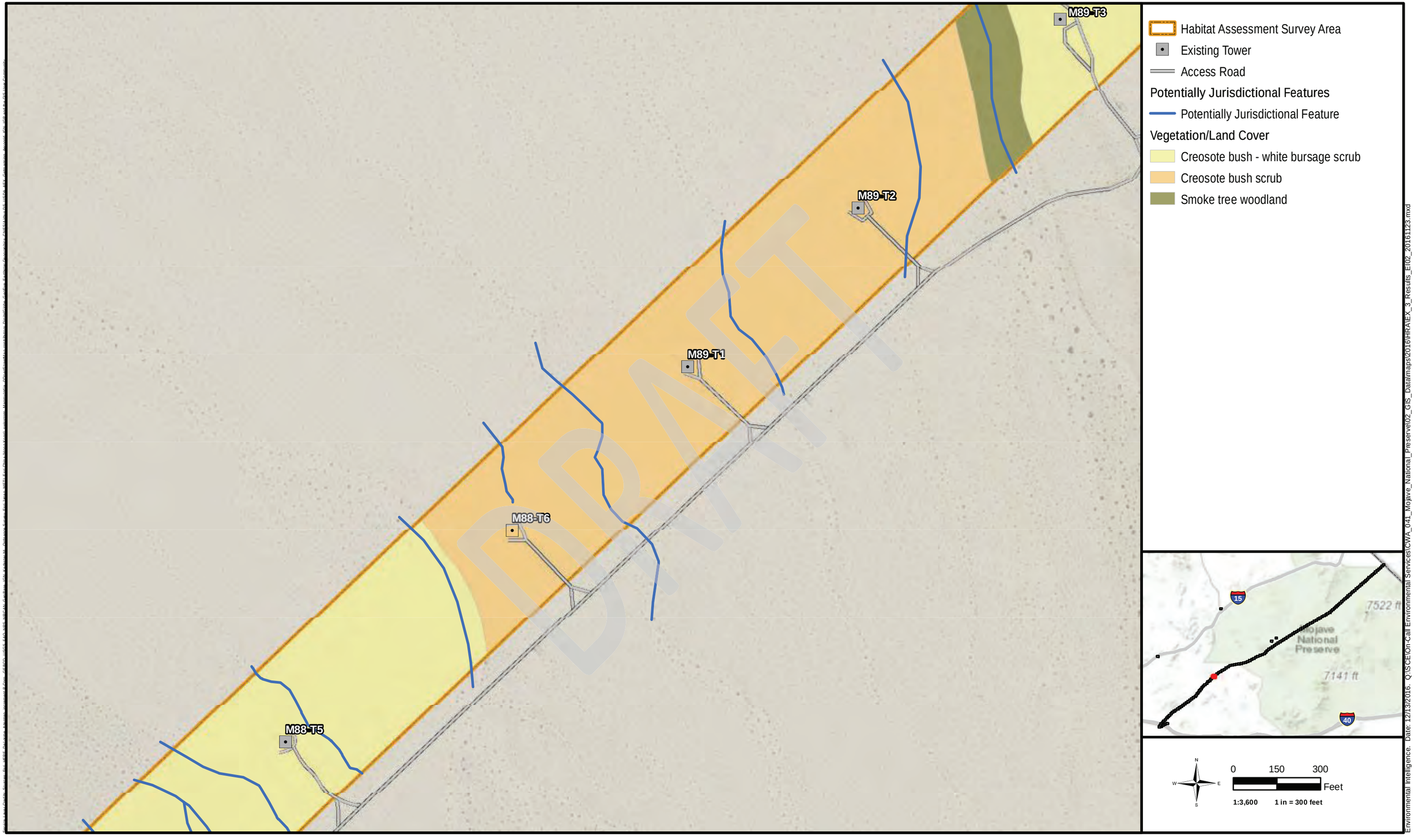
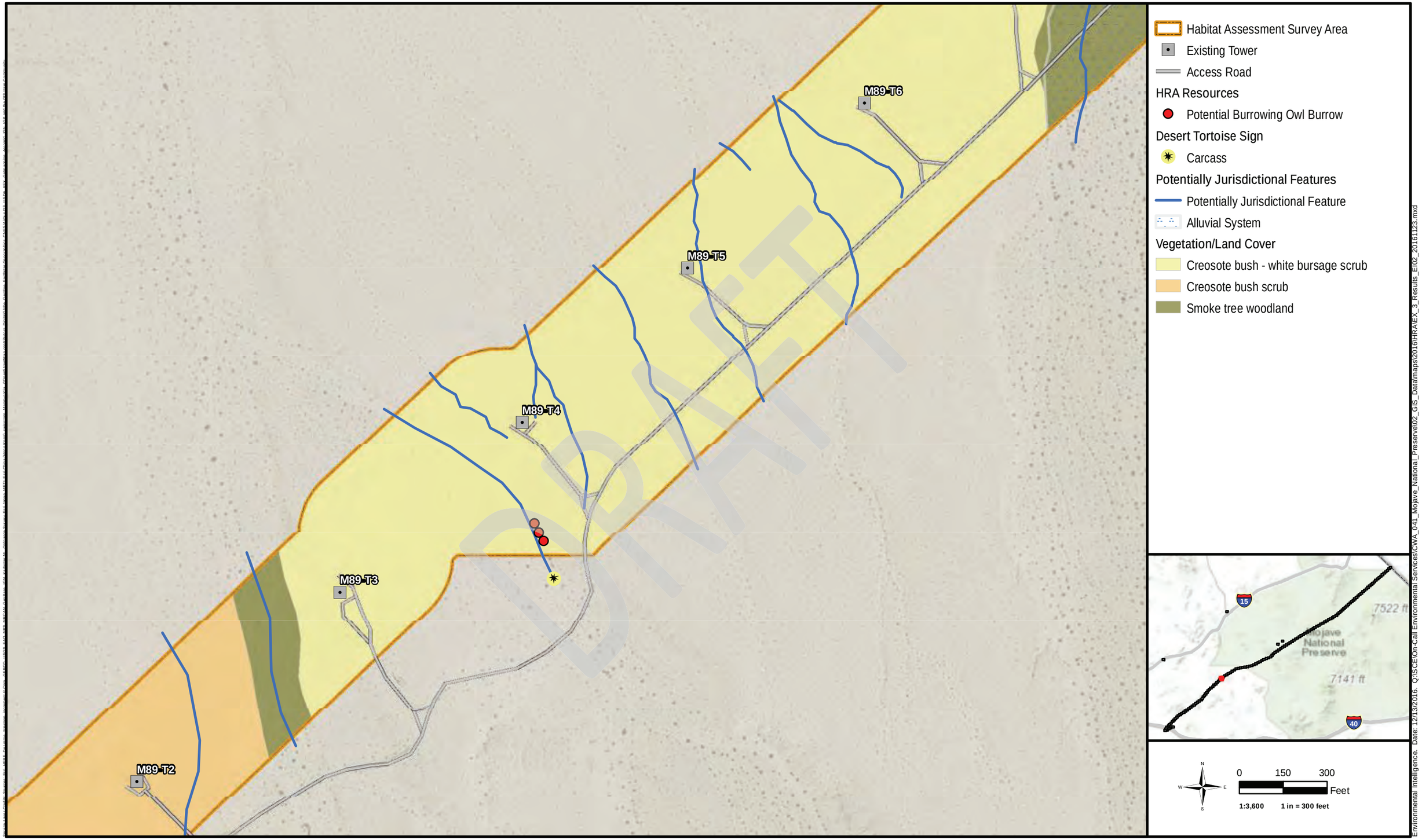


Exhibit 3. Survey Areas and Results (Page 42 of 140)

LVRAS Project | San Bernardino County, CA


M89-T6
M89-T5
M89-T4
M89-T3
M89-T2
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Tortoise Sign
Carcass
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
Smoke tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

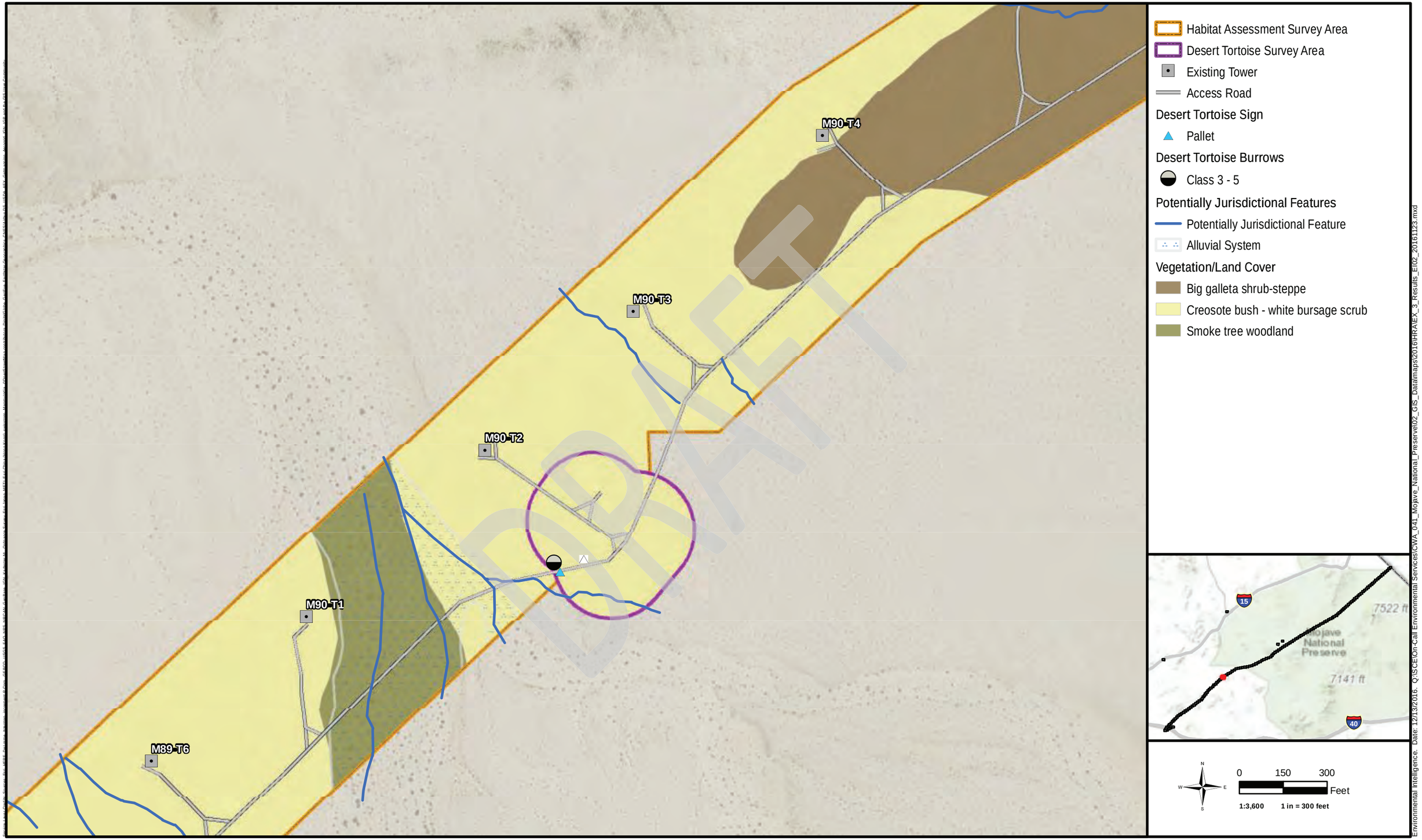


Exhibit 3. Survey Areas and Results (Page 44 of 140)

LVRAS Project | San Bernardino County, CA

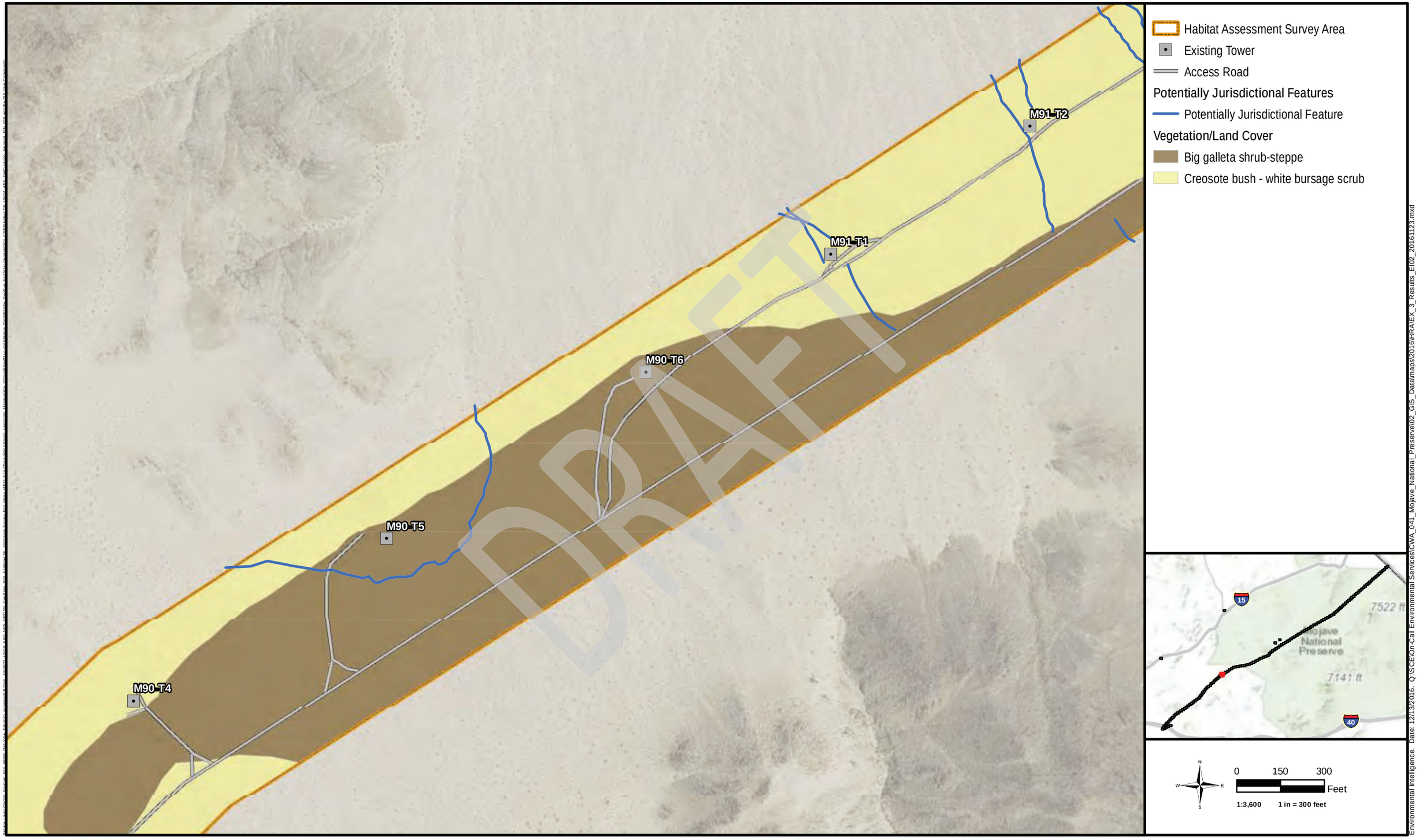

M91_T2
M91_T1
M90_T6
M90_T5
M90_T4
DRAFT
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 46 of 140)

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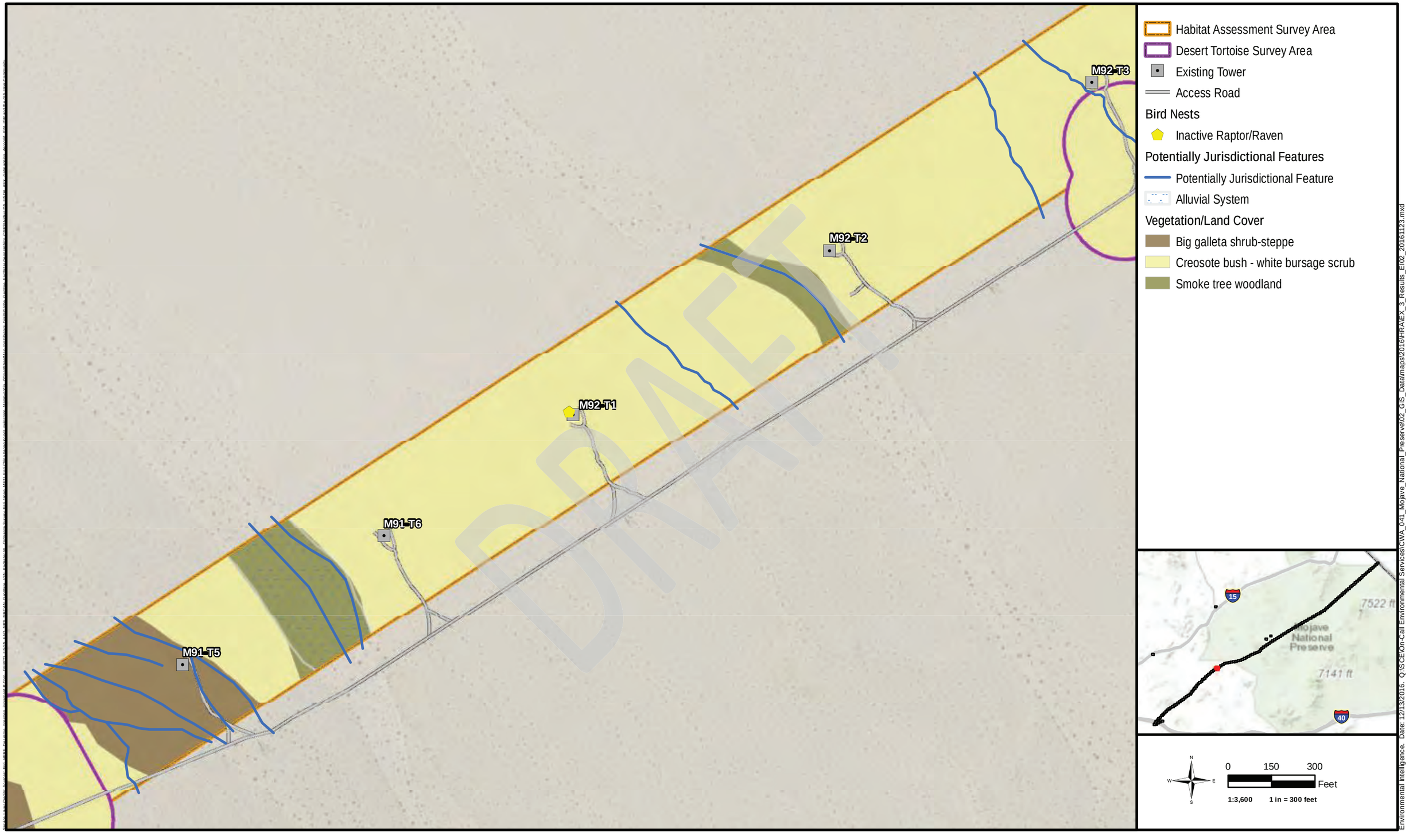

M92-T3
M92-T2
M92-T1
M91-T6
M91-T5
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Bird Nests
Inactive Raptor/Raven
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
Smoke tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

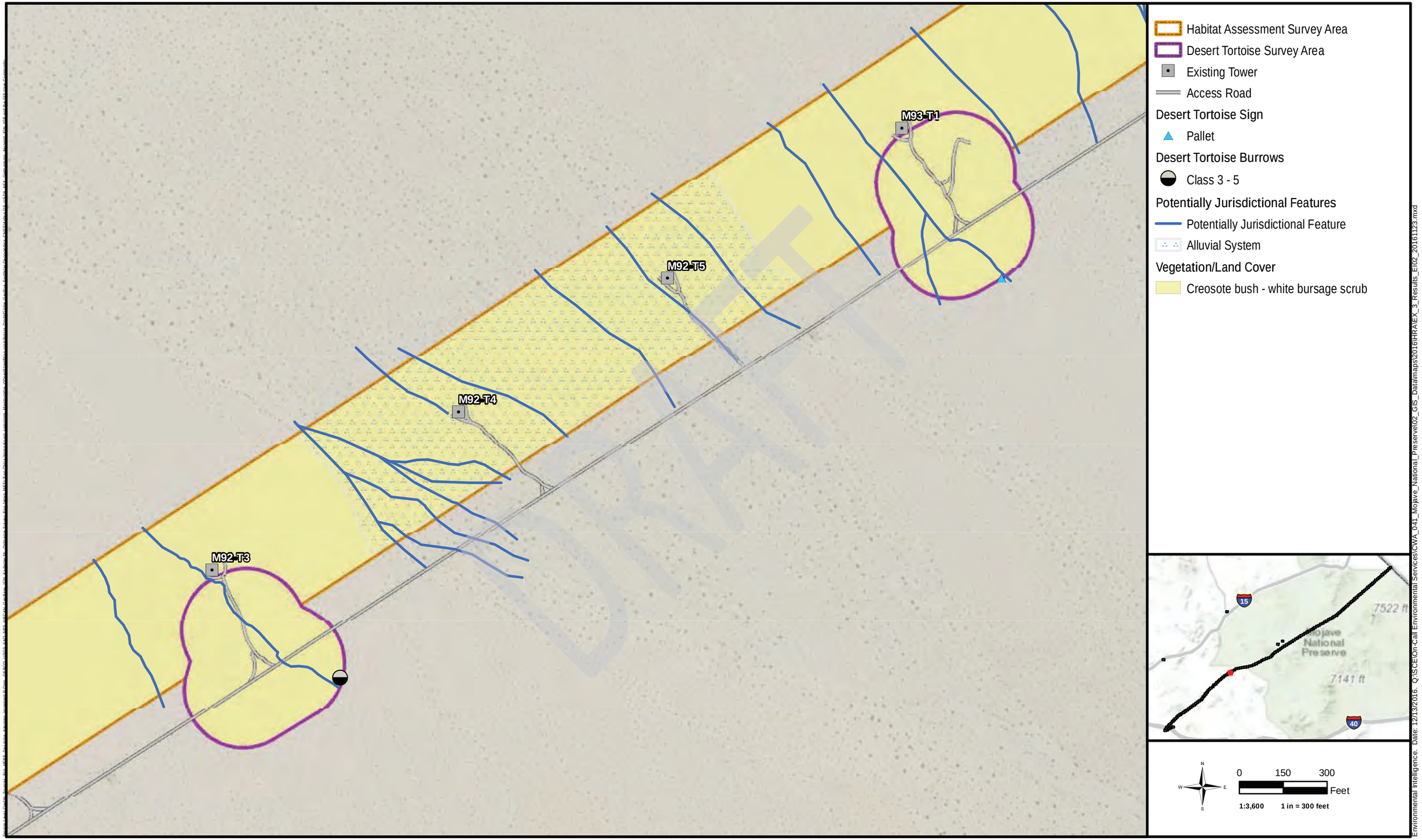


Exhibit 3. Survey Areas and Results (Page 48 of 140)

LVRAS Project | San Bernardino County, CA

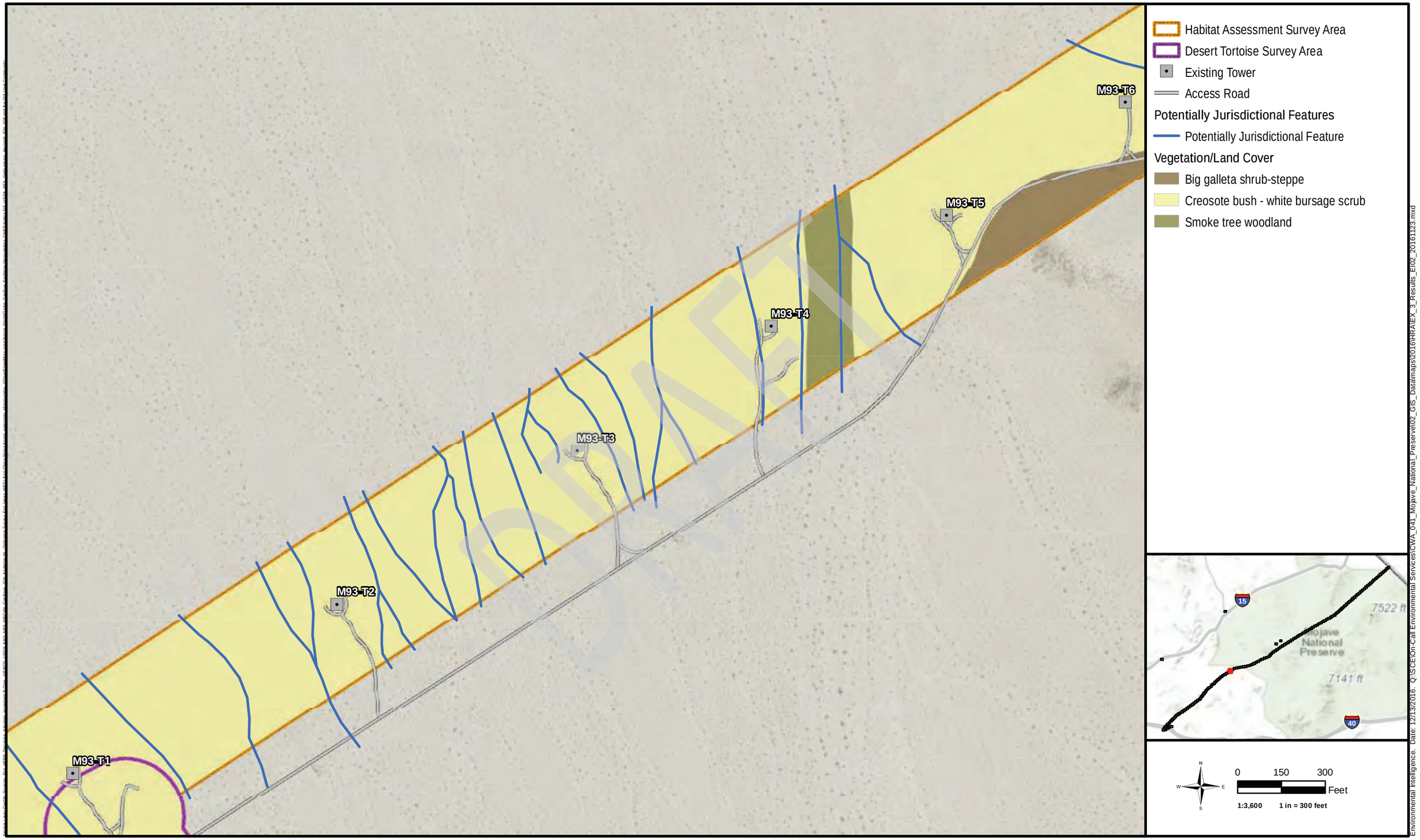


Exhibit 3. Survey Areas and Results (Page 49 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 50 of 140)

LVRAS Project | San Bernardino County, CA

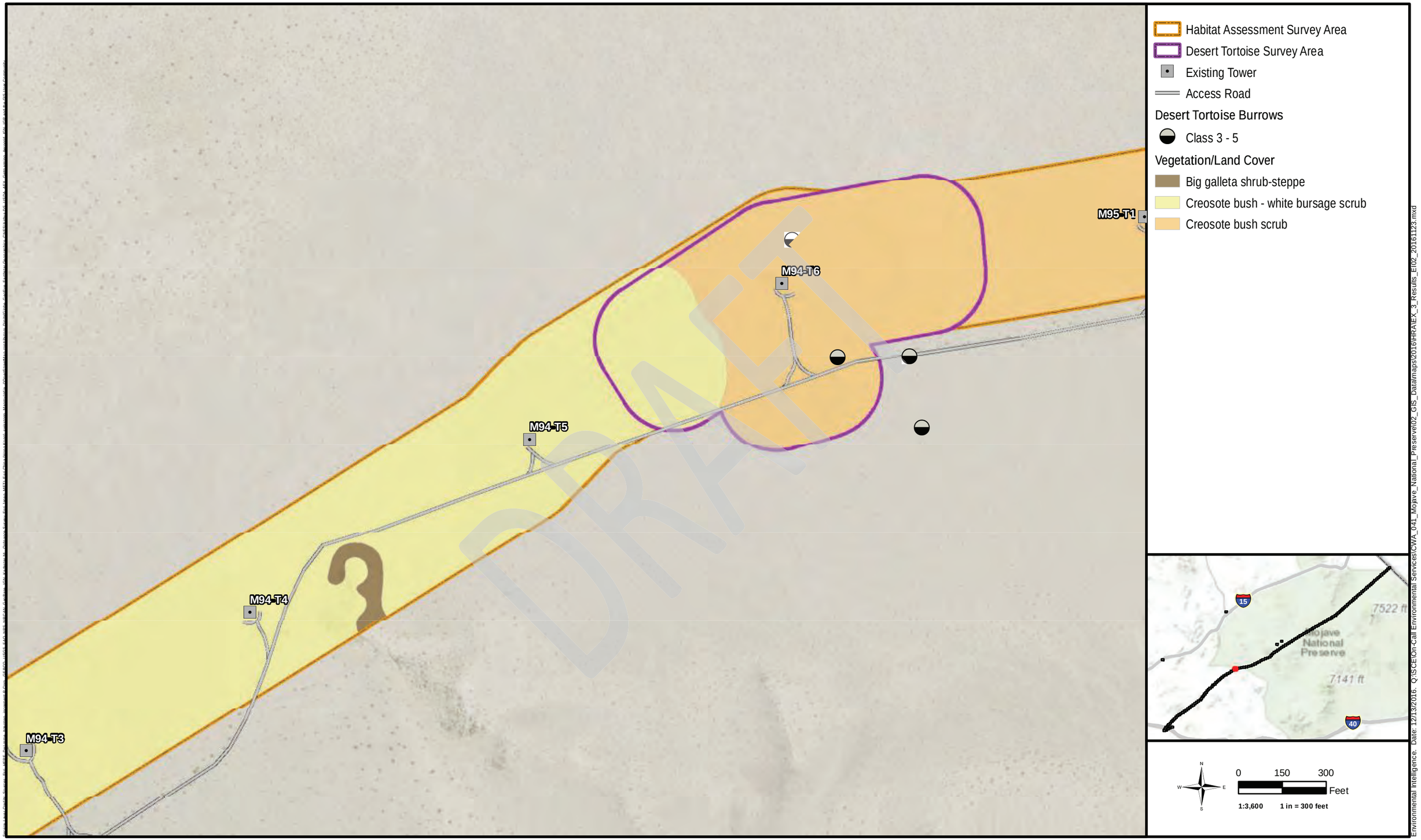
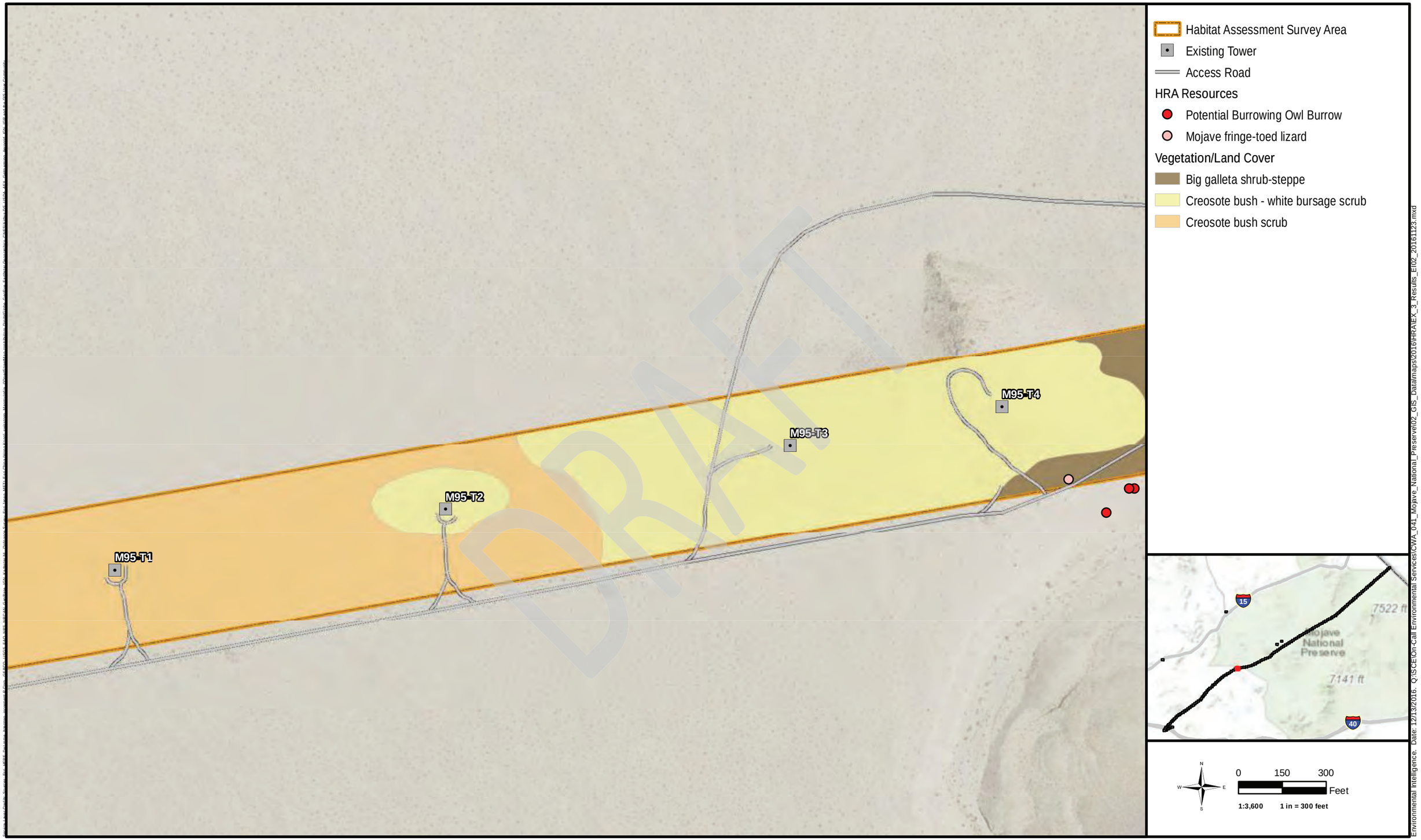


Exhibit 3. Survey Areas and Results (Page 51 of 140)

LVRAS Project | San Bernardino County, CA


Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Mojave fringe-toed lizard
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
Creosote bush scrub
M95-T1
M95-T2
M95-T3
M95-T4
DRAFT
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

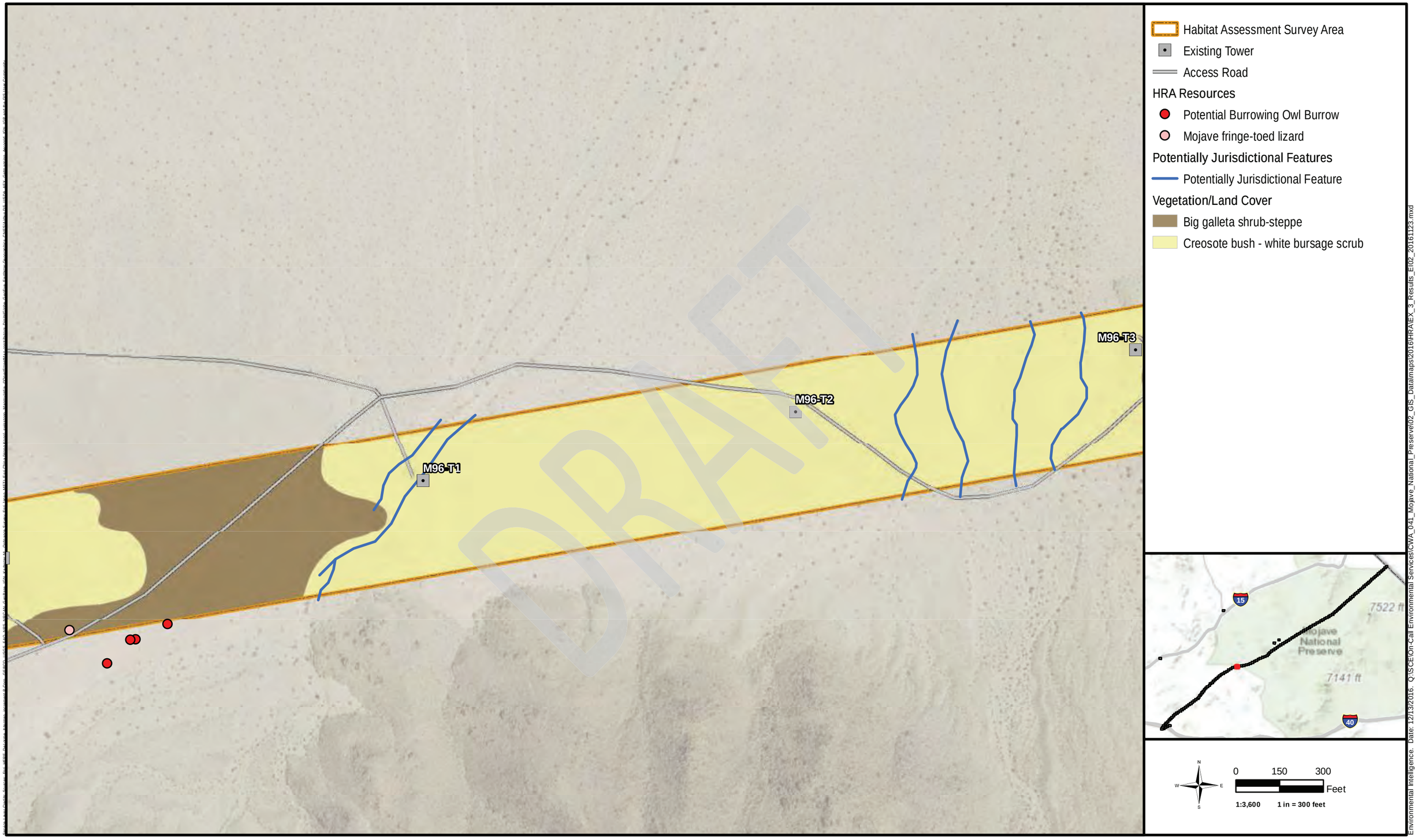

M96-T3
M96-T2
M96-T1
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Mojave fringe-toed lizard
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 54 of 140)
LVRAS Project | San Bernardino County, CA

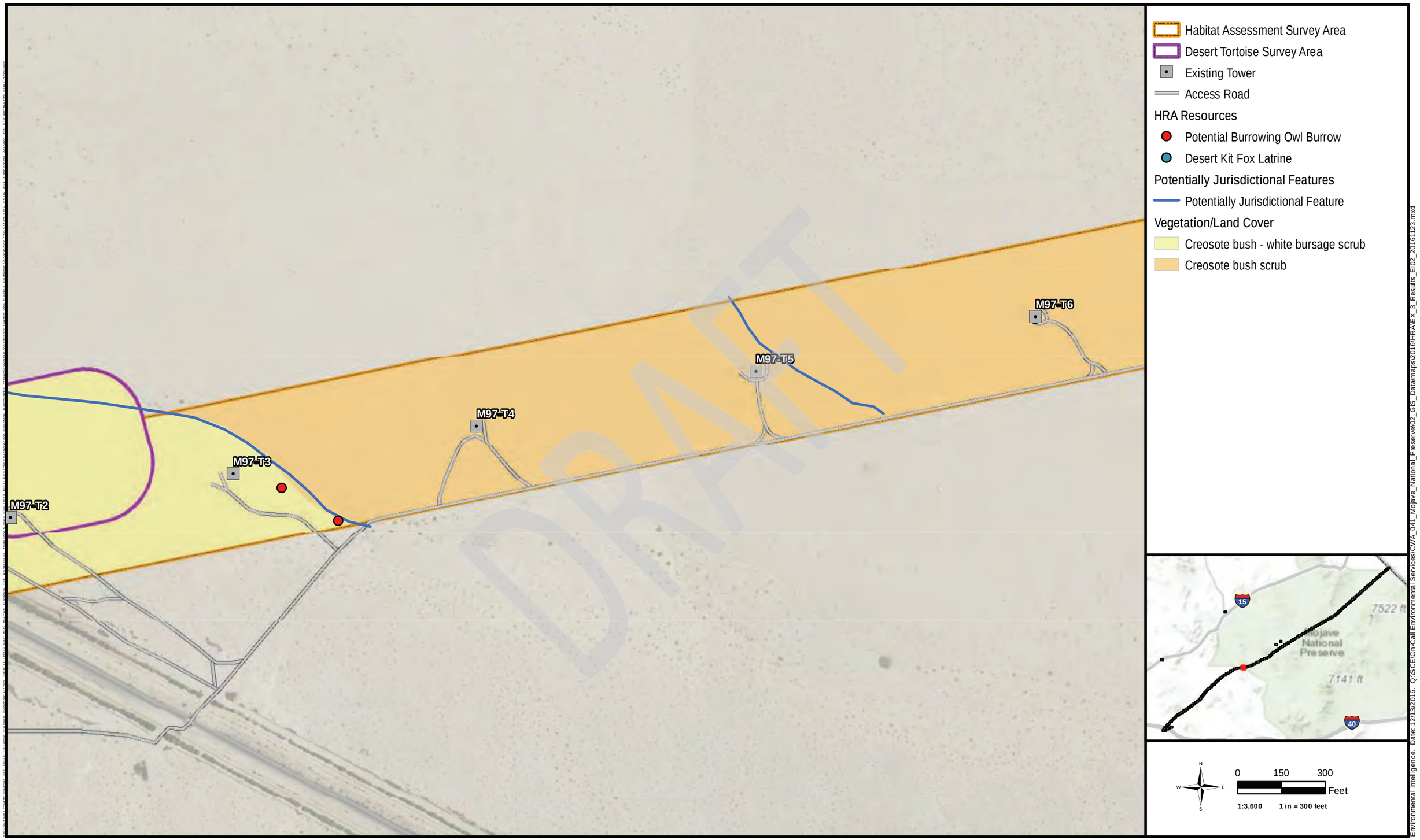


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 55 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

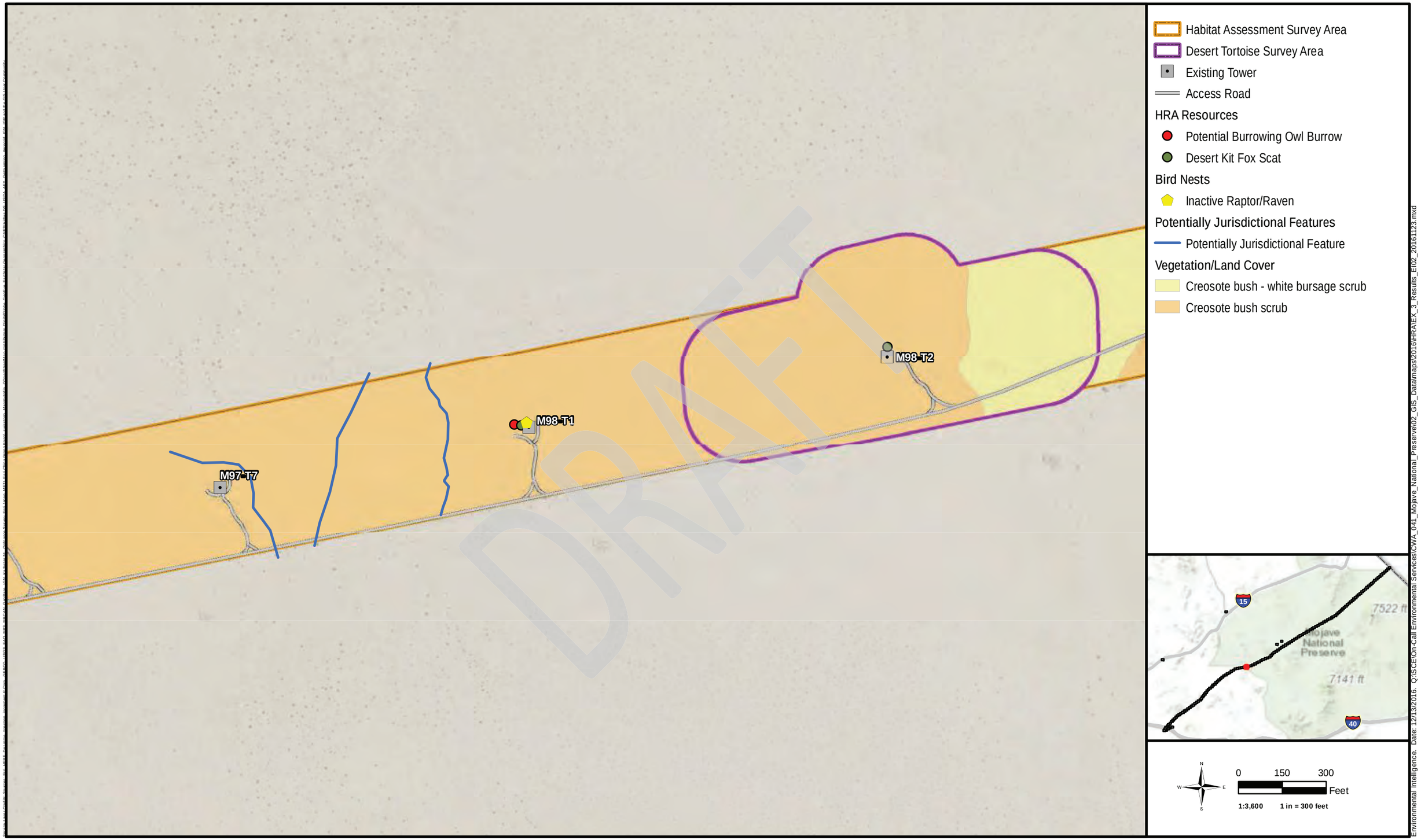
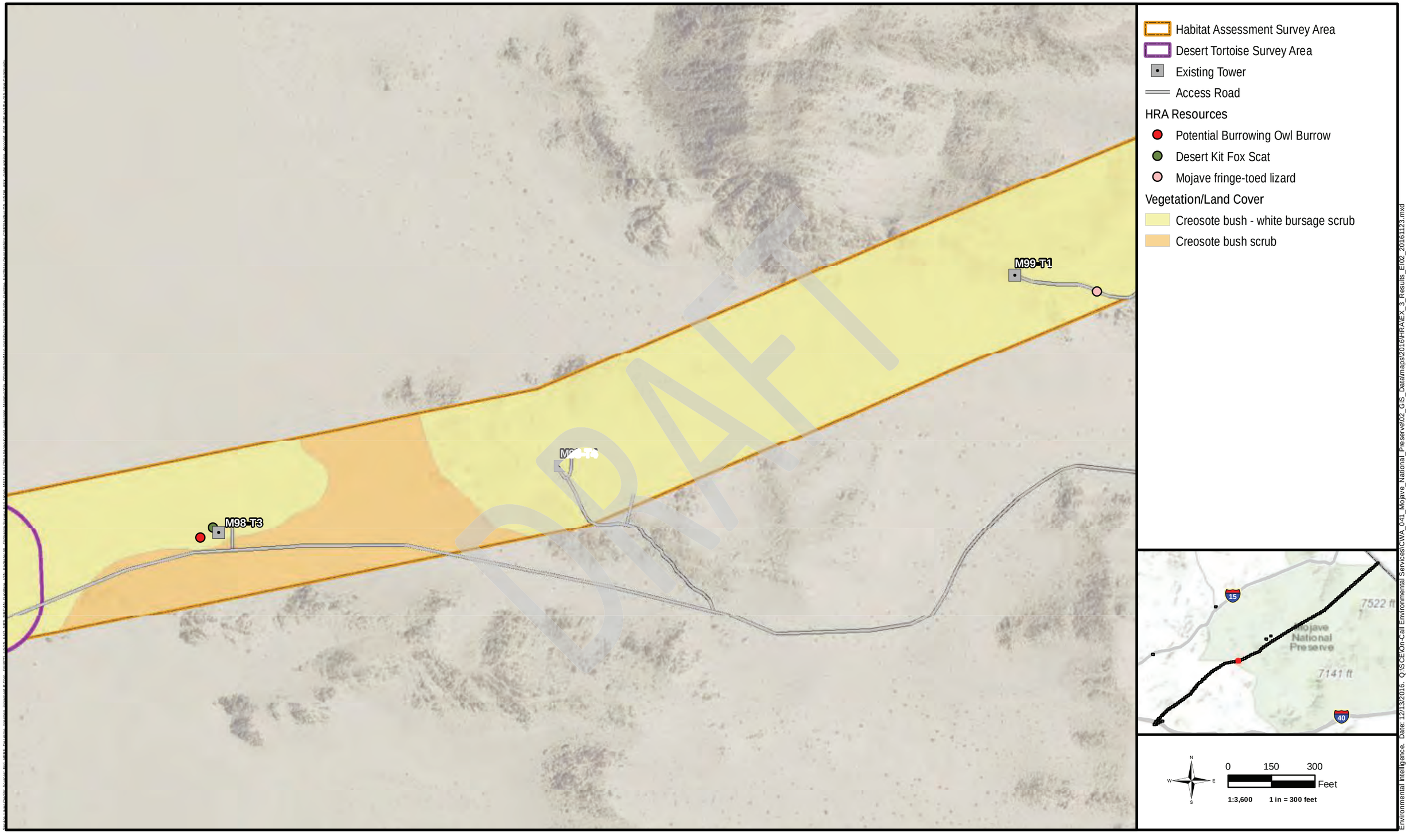
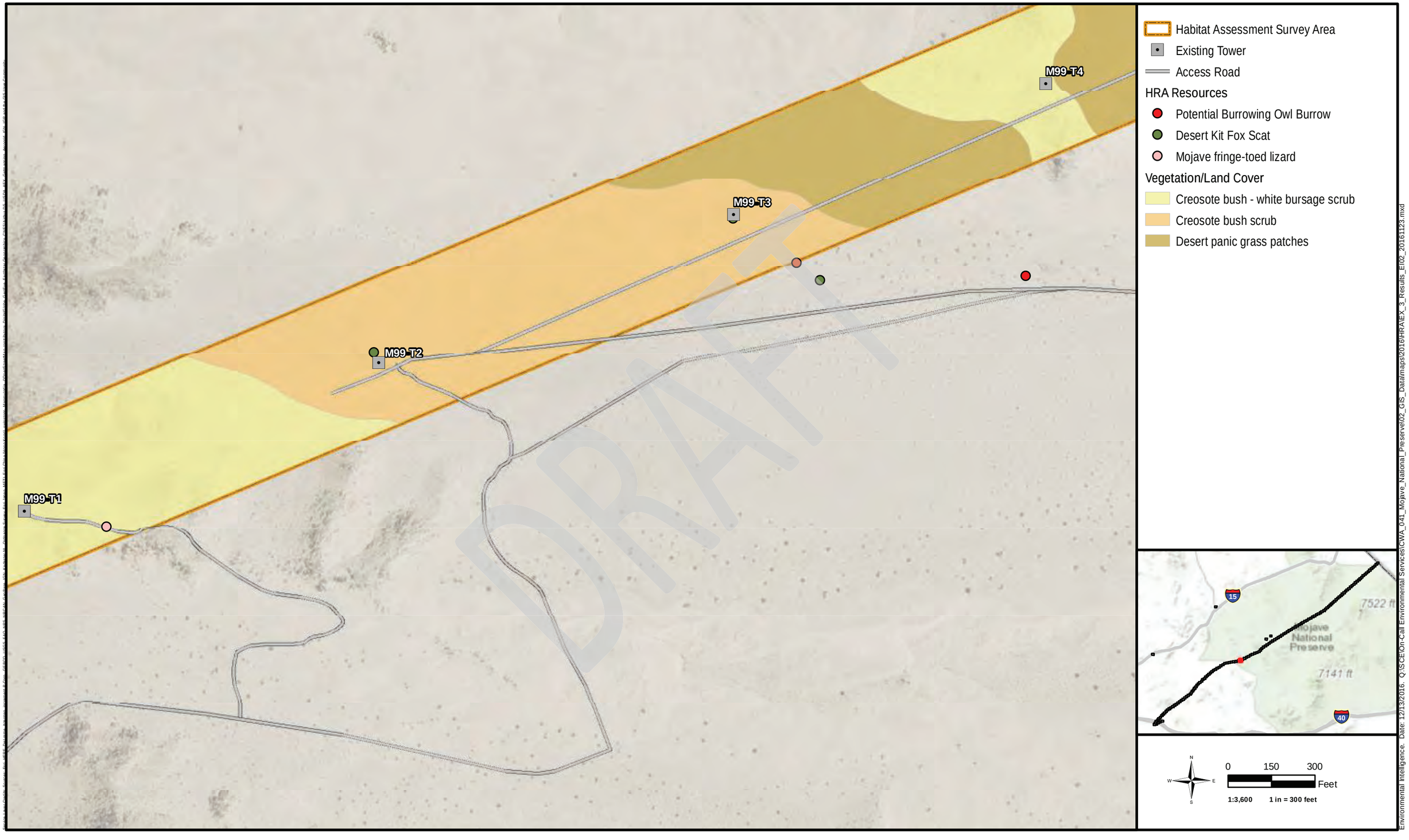


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 56 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat
Mojave fringe-toed lizard
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
M99-T1
M98-T3
DRAFT
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI\02_20161123.mxd


M99-T4
M99-T3
M99-T2
M99-T1
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat
Mojave fringe-toed lizard
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
Desert panic grass patches
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd

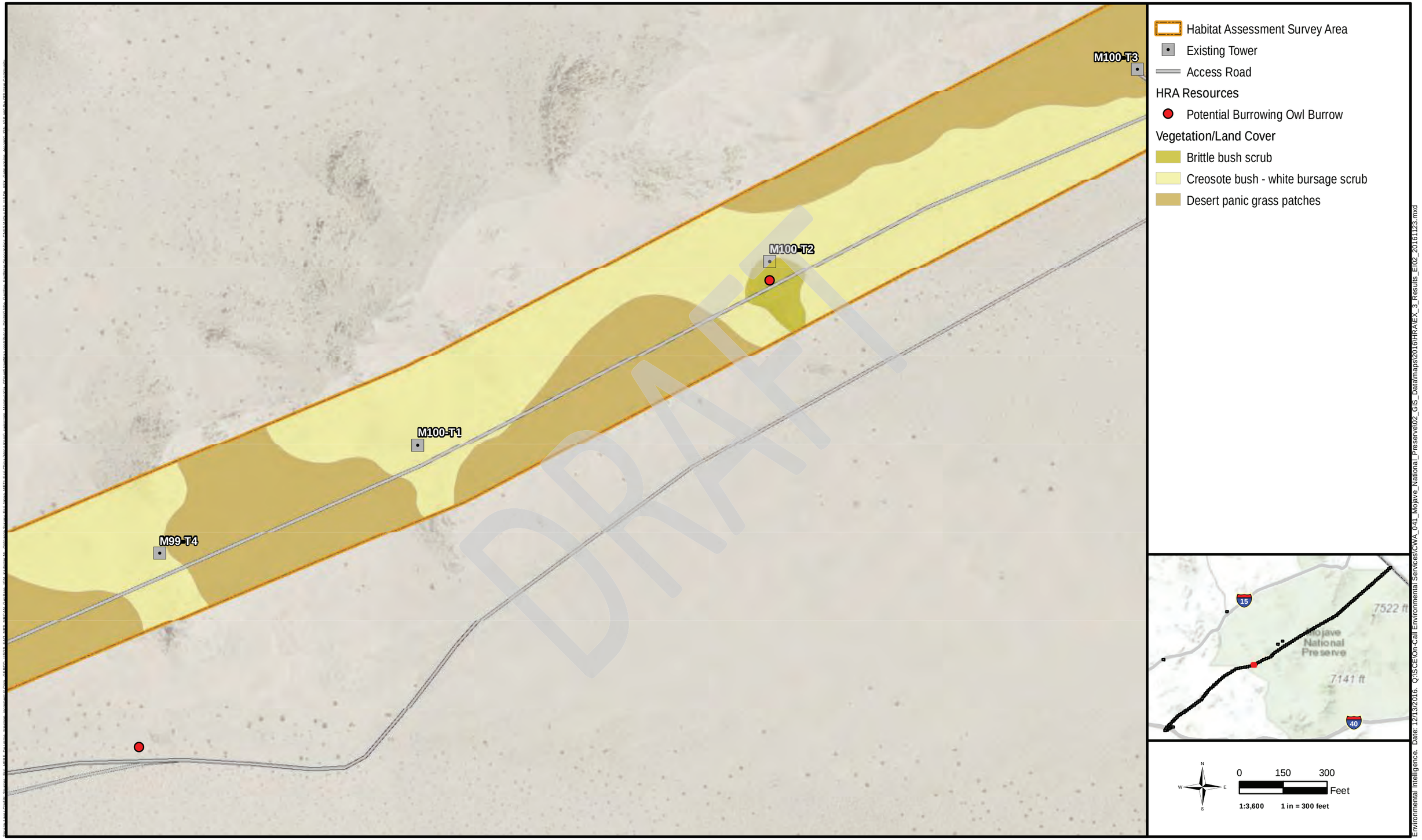


Exhibit 3. Survey Areas and Results (Page 59 of 140)
LVRAS Project | San Bernardino County, CA

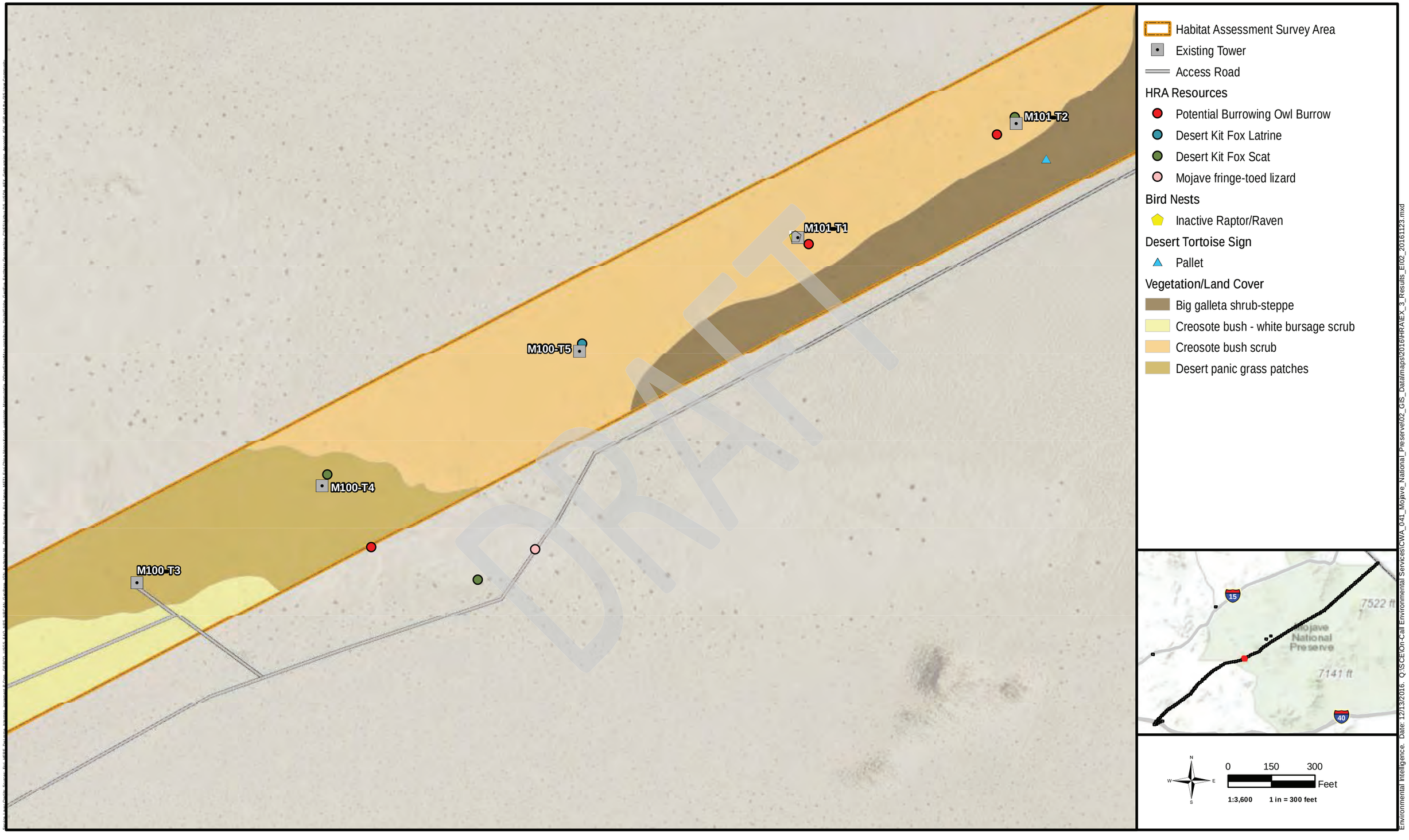
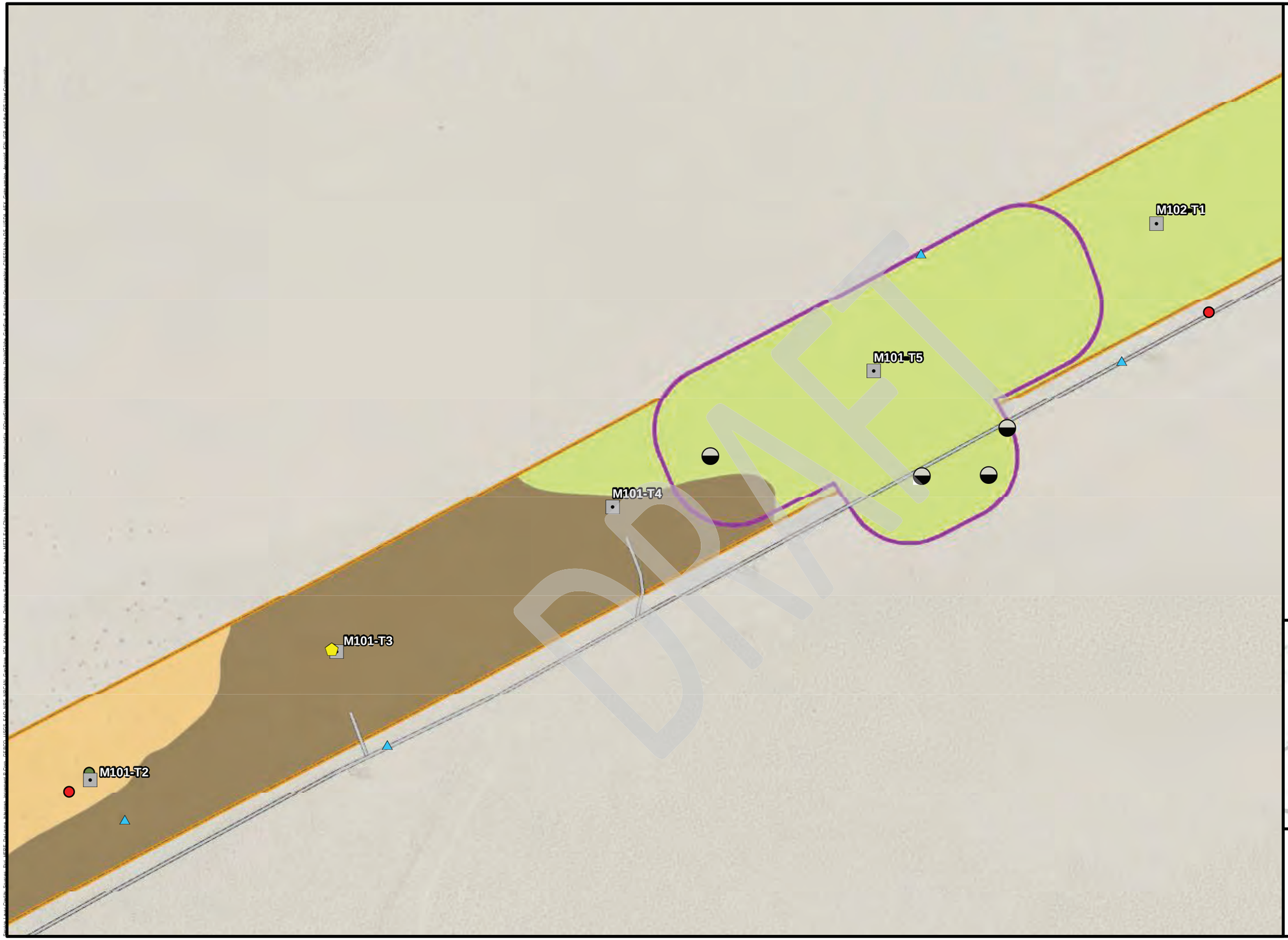


Exhibit 3. Survey Areas and Results (Page 60 of 140)

LVRAS Project | San Bernardino County, CA



Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road

HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat

Bird Nests
Inactive Raptor/Raven

Desert Tortoise Sign
Pallet

Desert Tortoise Burrows
Class 3 - 5

Vegetation/Land Cover
Annual brome grasslands
Big galleta shrub-steppe
Creosote bush scrub

N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 61 of 140)
LVRAS Project | San Bernardino County, CA

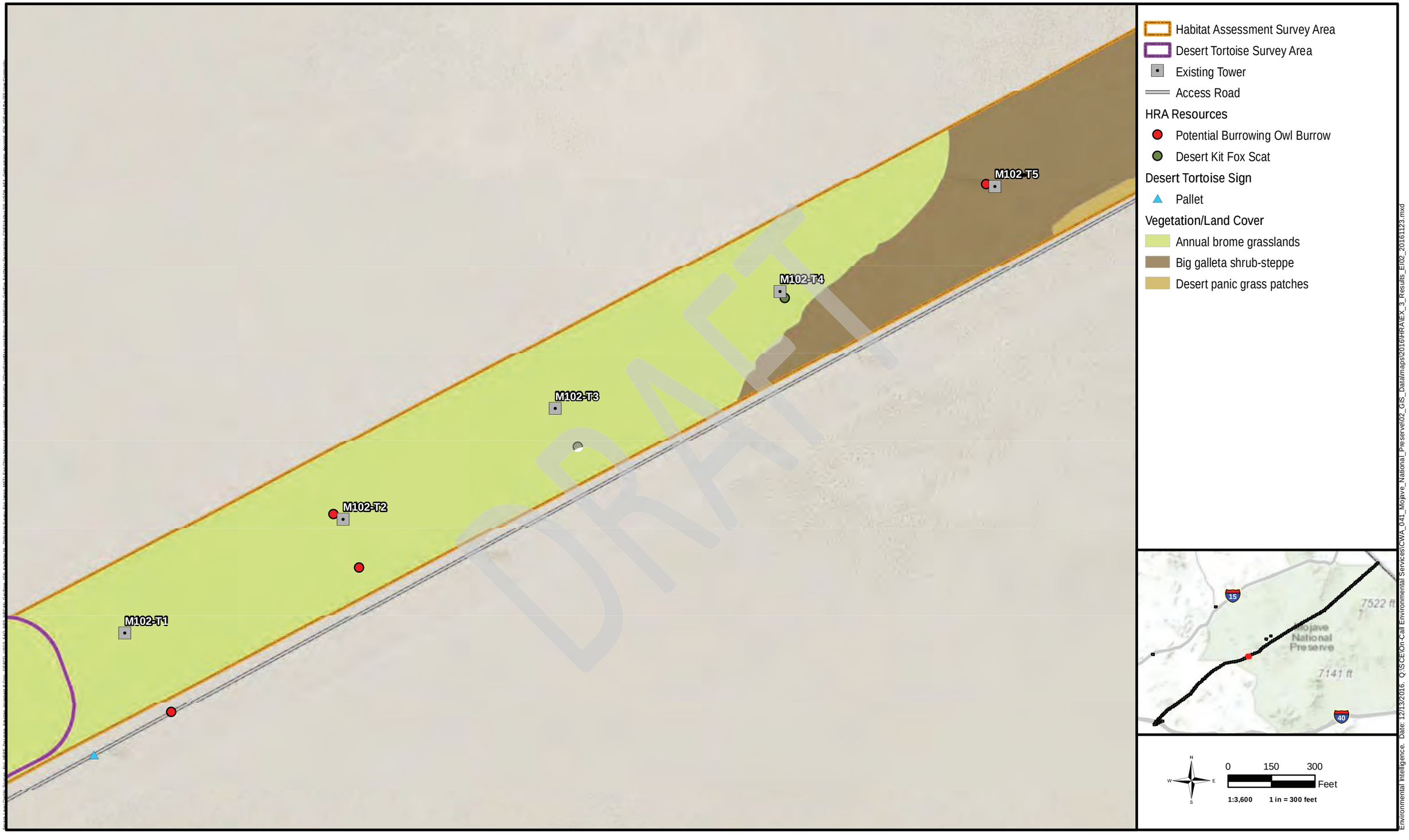


Exhibit 3. Survey Areas and Results (Page 62 of 140)
LVRAS Project | San Bernardino County, CA

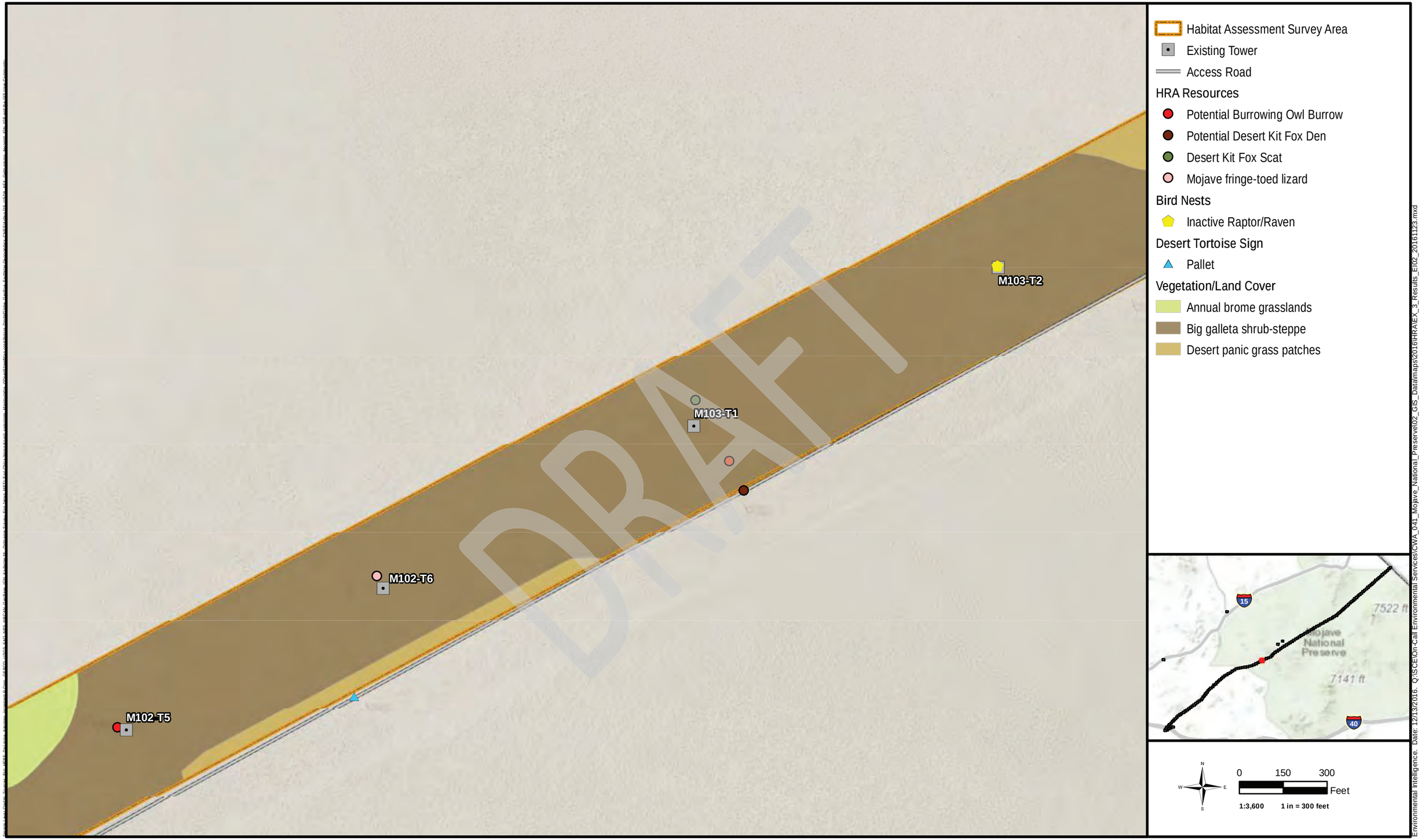


Exhibit 3. Survey Areas and Results (Page 63 of 140)

LVRAS Project | San Bernardino County, CA

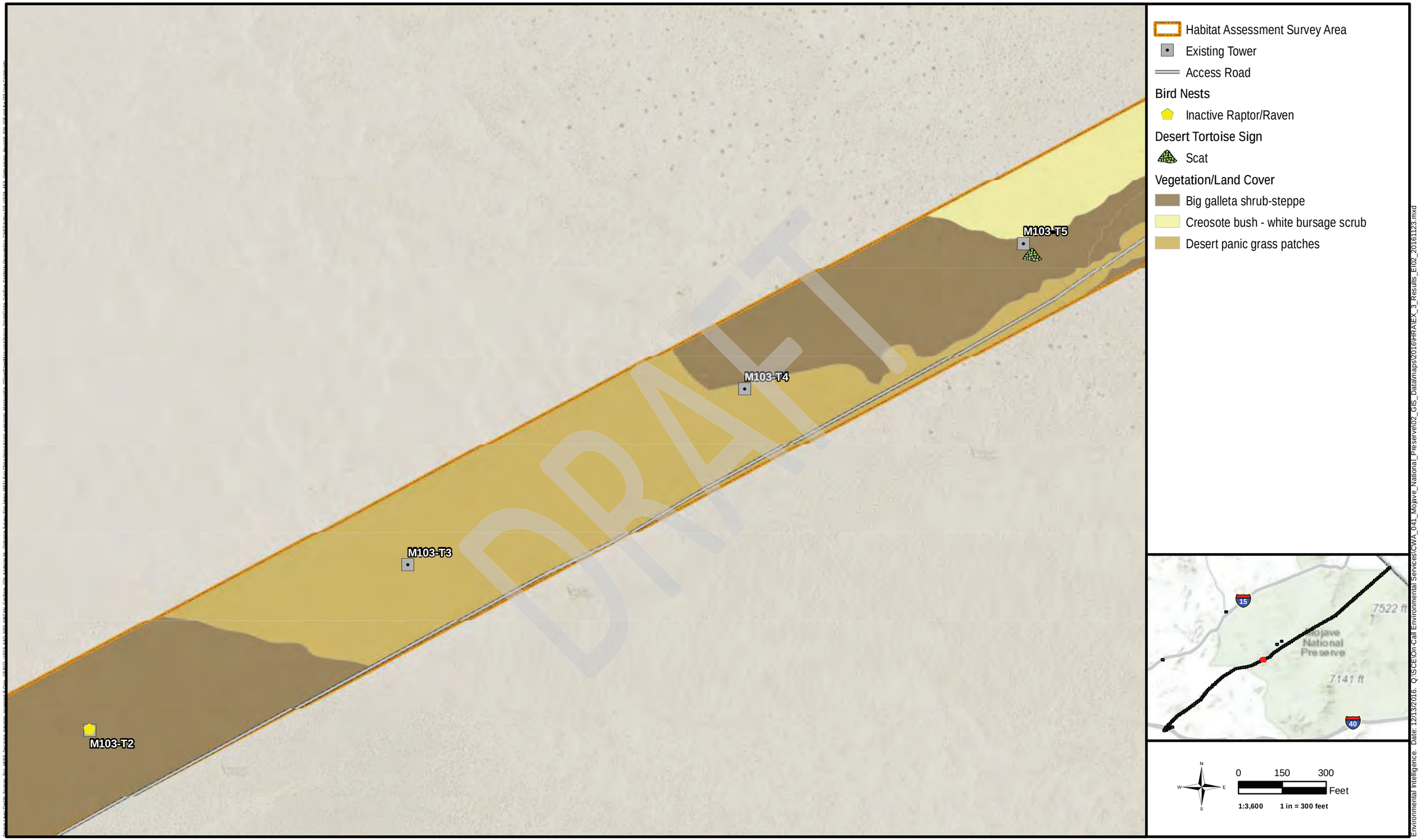


Exhibit 3. Survey Areas and Results (Page 64 of 140)

LVRAS Project | San Bernardino County, CA

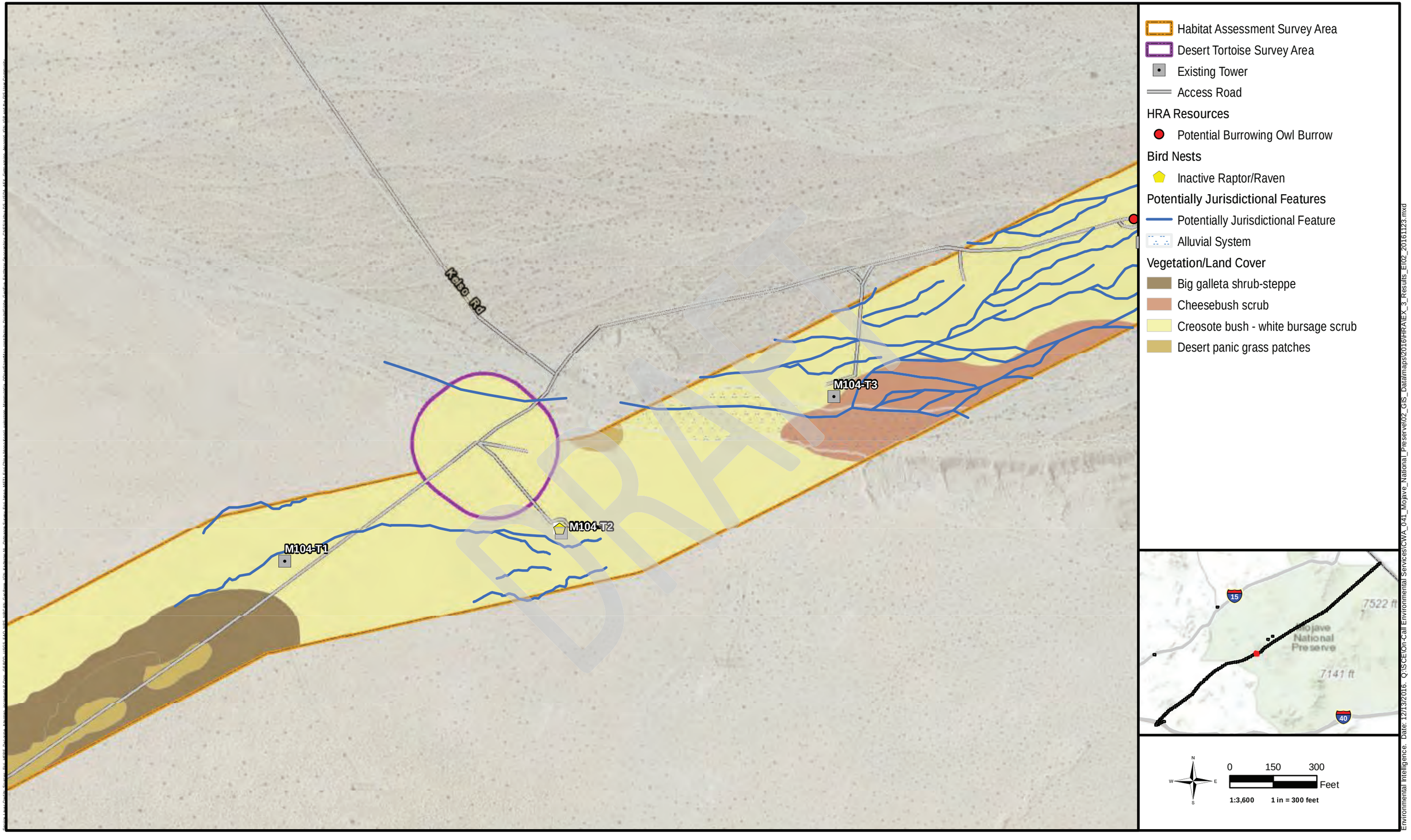


Exhibit 3. Survey Areas and Results (Page 65 of 140)

LVRAS Project | San Bernardino County, CA

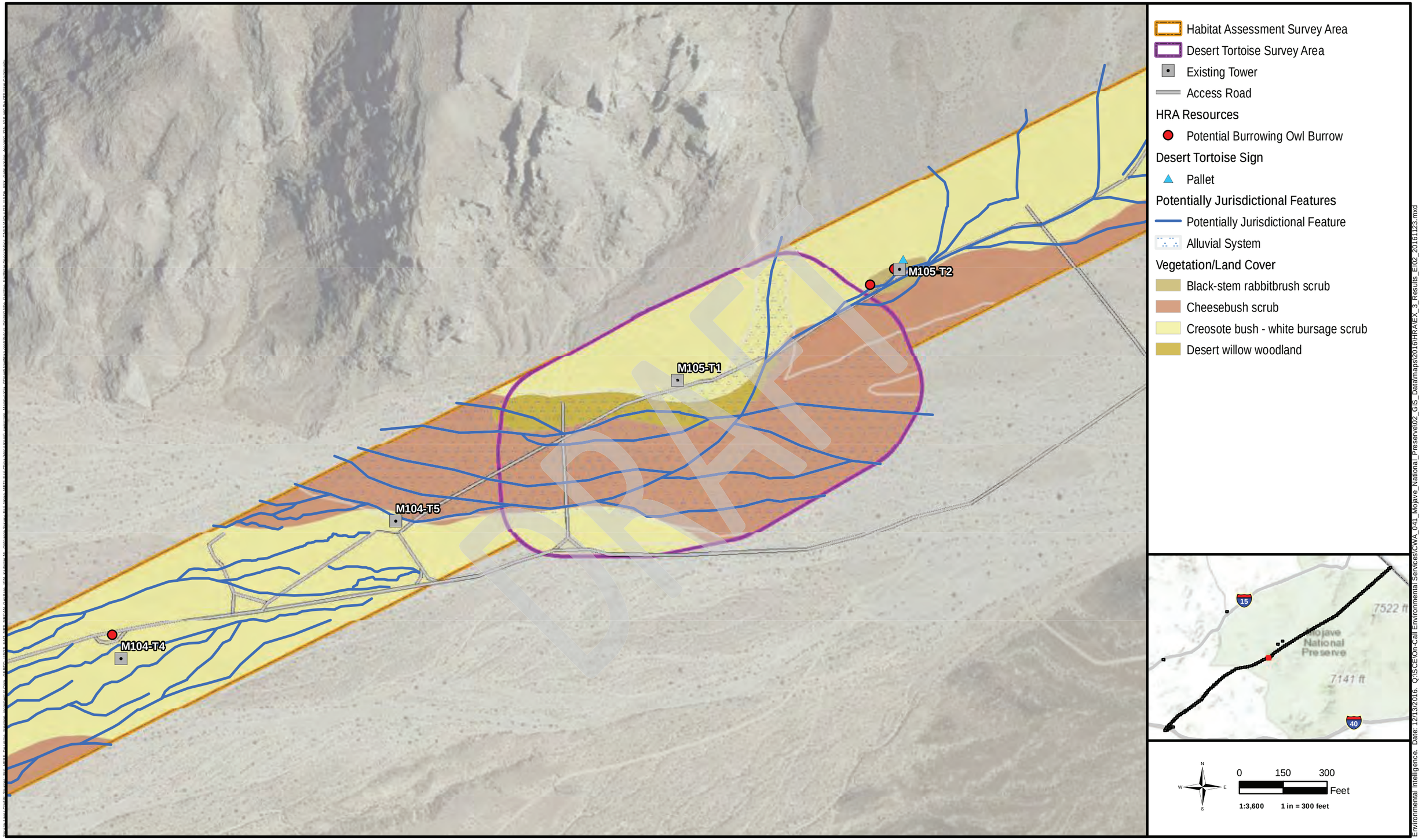


Exhibit 3. Survey Areas and Results (Page 66 of 140)

LVRAS Project | San Bernardino County, CA

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Exhibit 3. Survey Areas and Results (Page 67 of 140)

LVRAS Project | San Bernardino County, CA

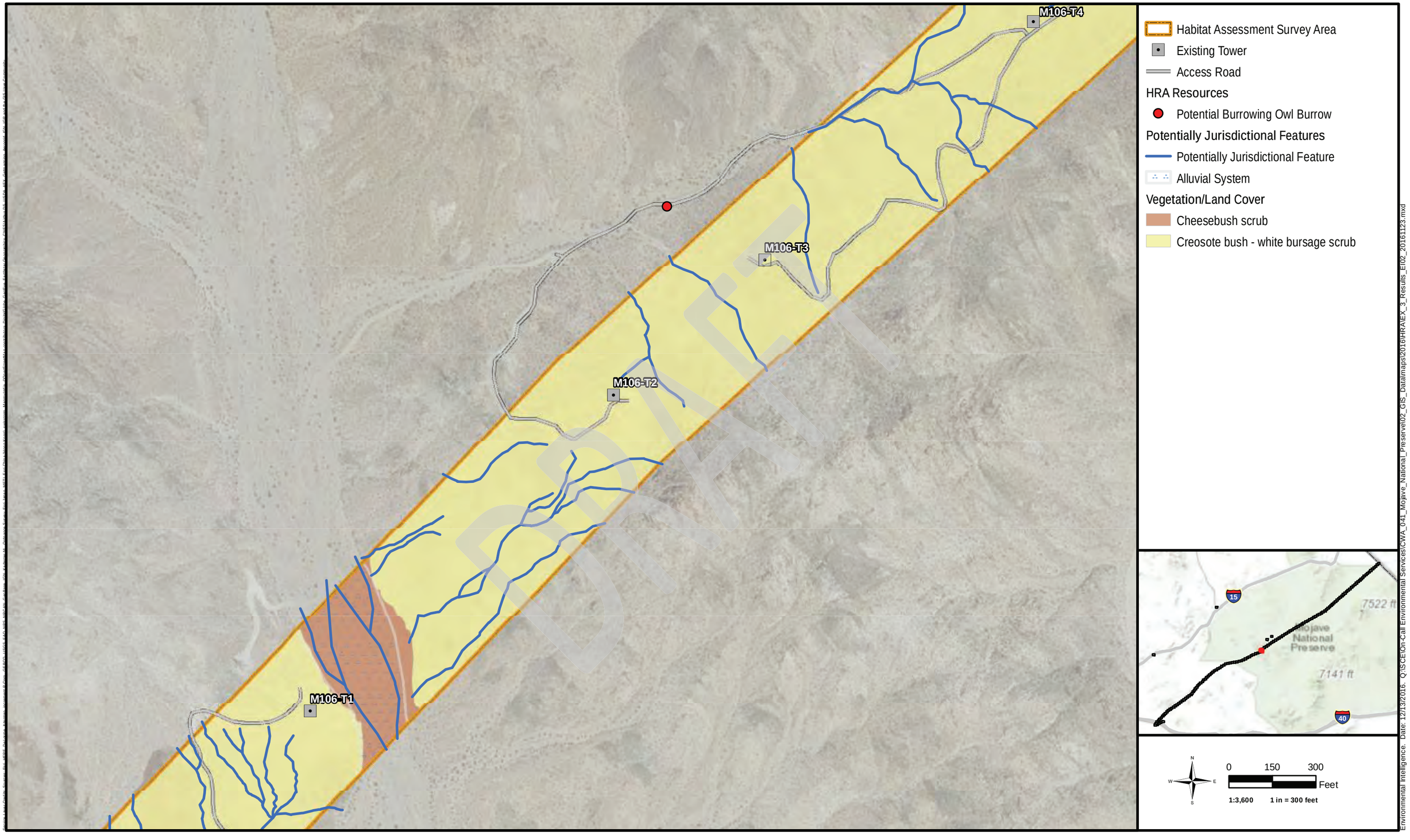
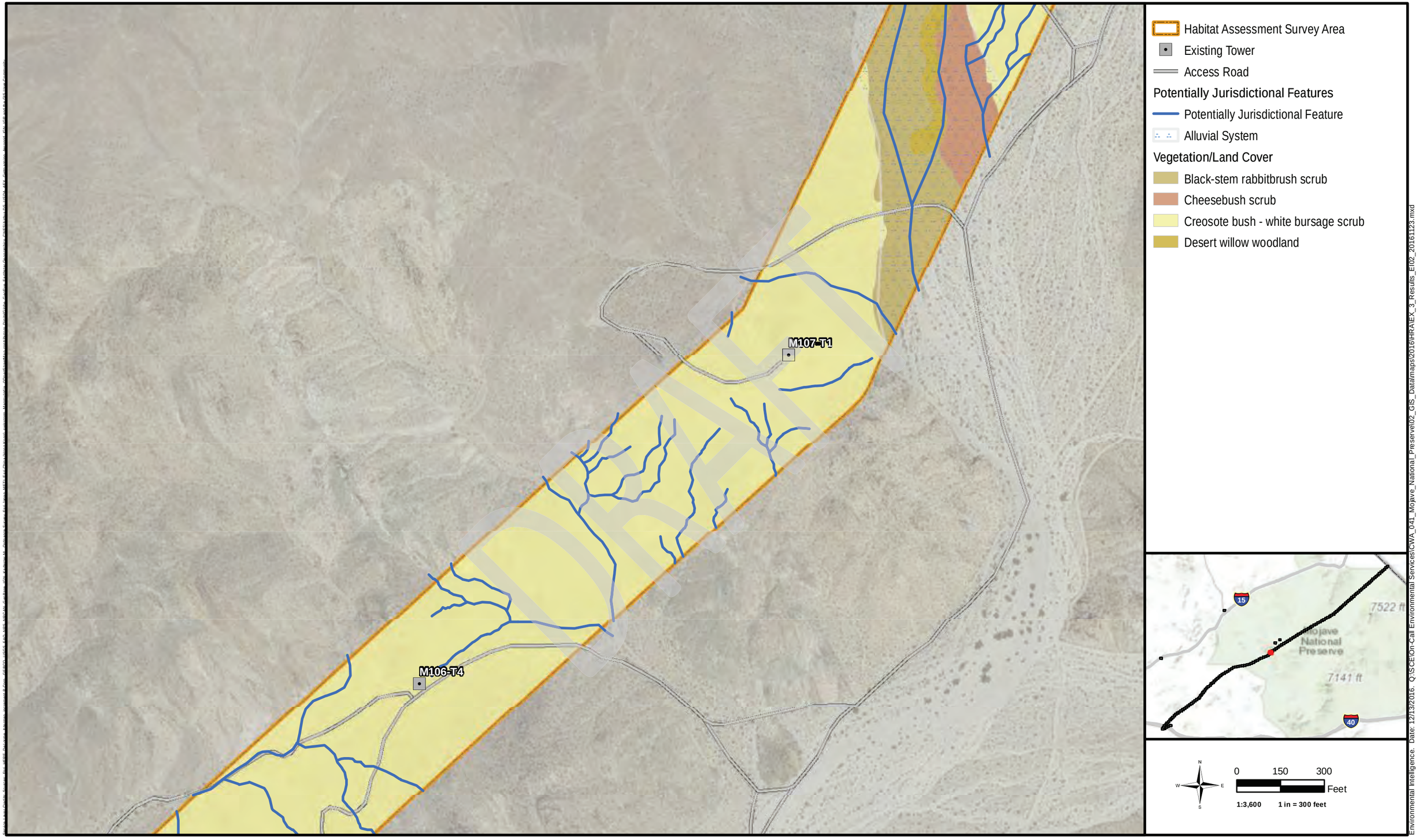


Exhibit 3. Survey Areas and Results (Page 68 of 140)

LVRAS Project | San Bernardino County, CA


M107-T1
M106-T4
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Black-stem rabbitbrush scrub
Cheesebush scrub
Creosote bush - white bursage scrub
Desert willow woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsd\2016\HRA\EX_3_Results_EI02_20161123.mxd

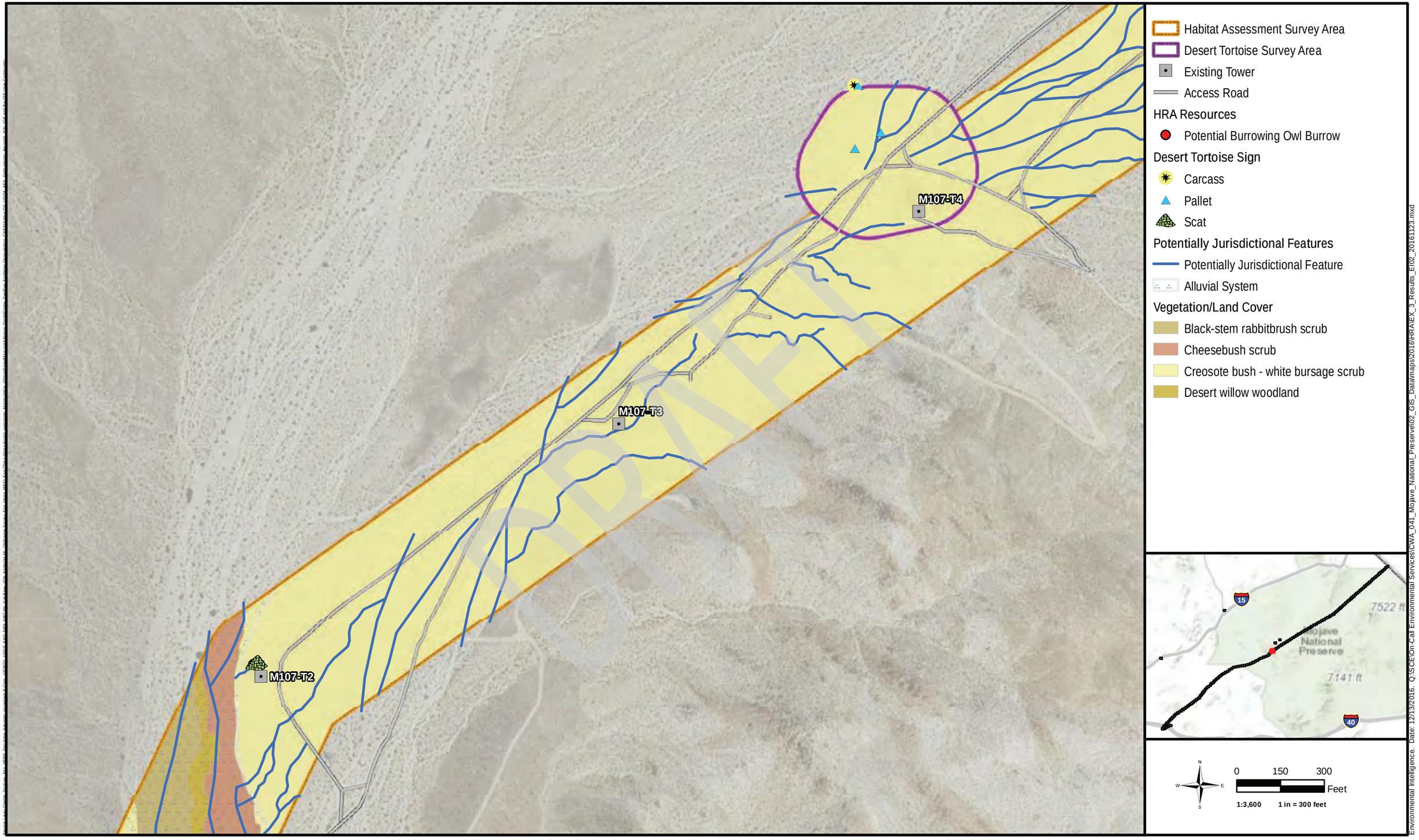
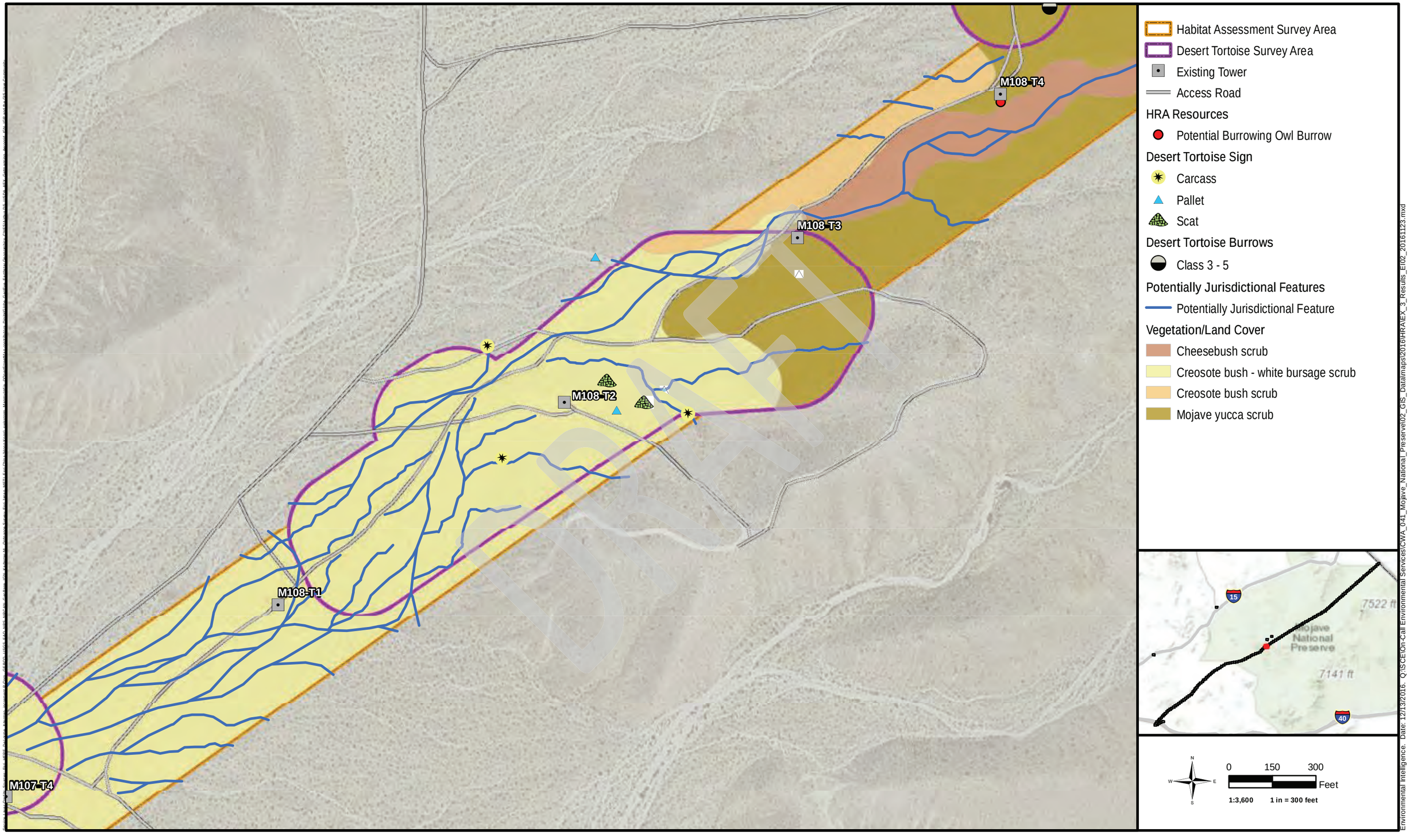


Exhibit 3. Survey Areas and Results (Page 70 of 140)

LVRAS Project | San Bernardino County, CA


M108-T4
M108-T3
M108-T2
M108-T1
M107-T4
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Tortoise Sign
Carcass
Pallet
Scat
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Cheesebush scrub
Creosote bush - white bursage scrub
Creosote bush scrub
Mojave yucca scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

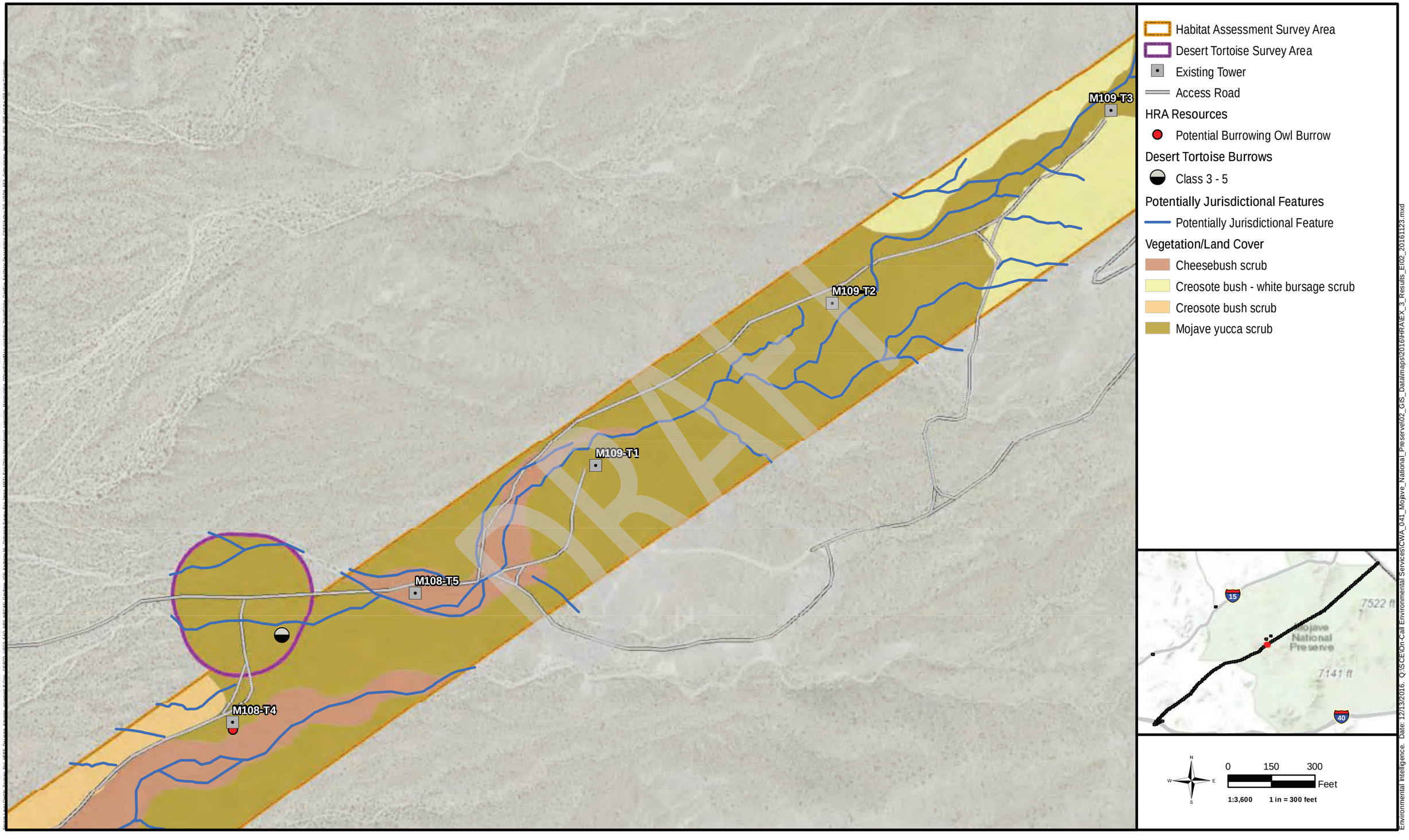


Exhibit 3. Survey Areas and Results (Page 72 of 140)

LVRAS Project | San Bernardino County, CA

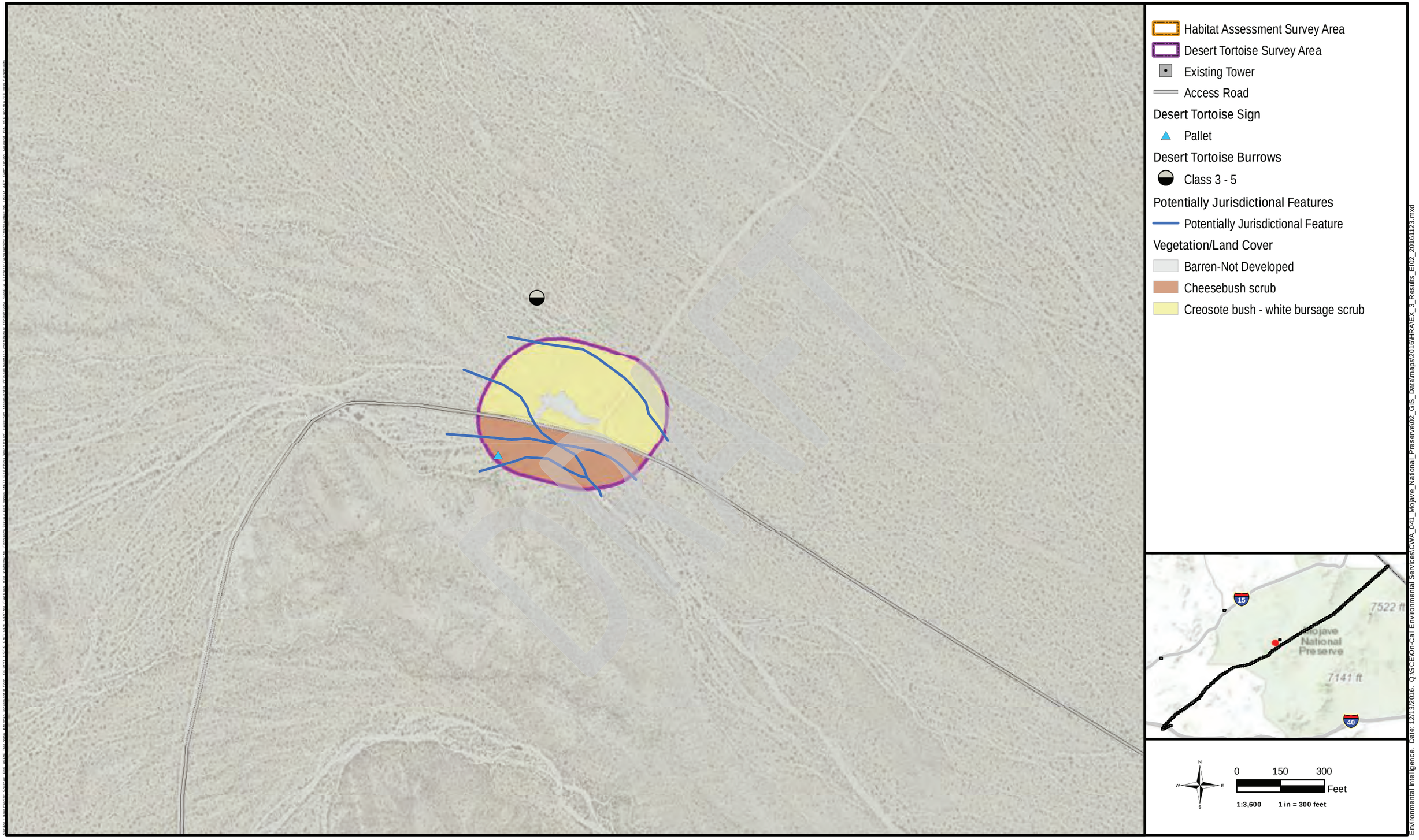


Exhibit 3. Survey Areas and Results (Page 73 of 140)

LVRAS Project | San Bernardino County, CA

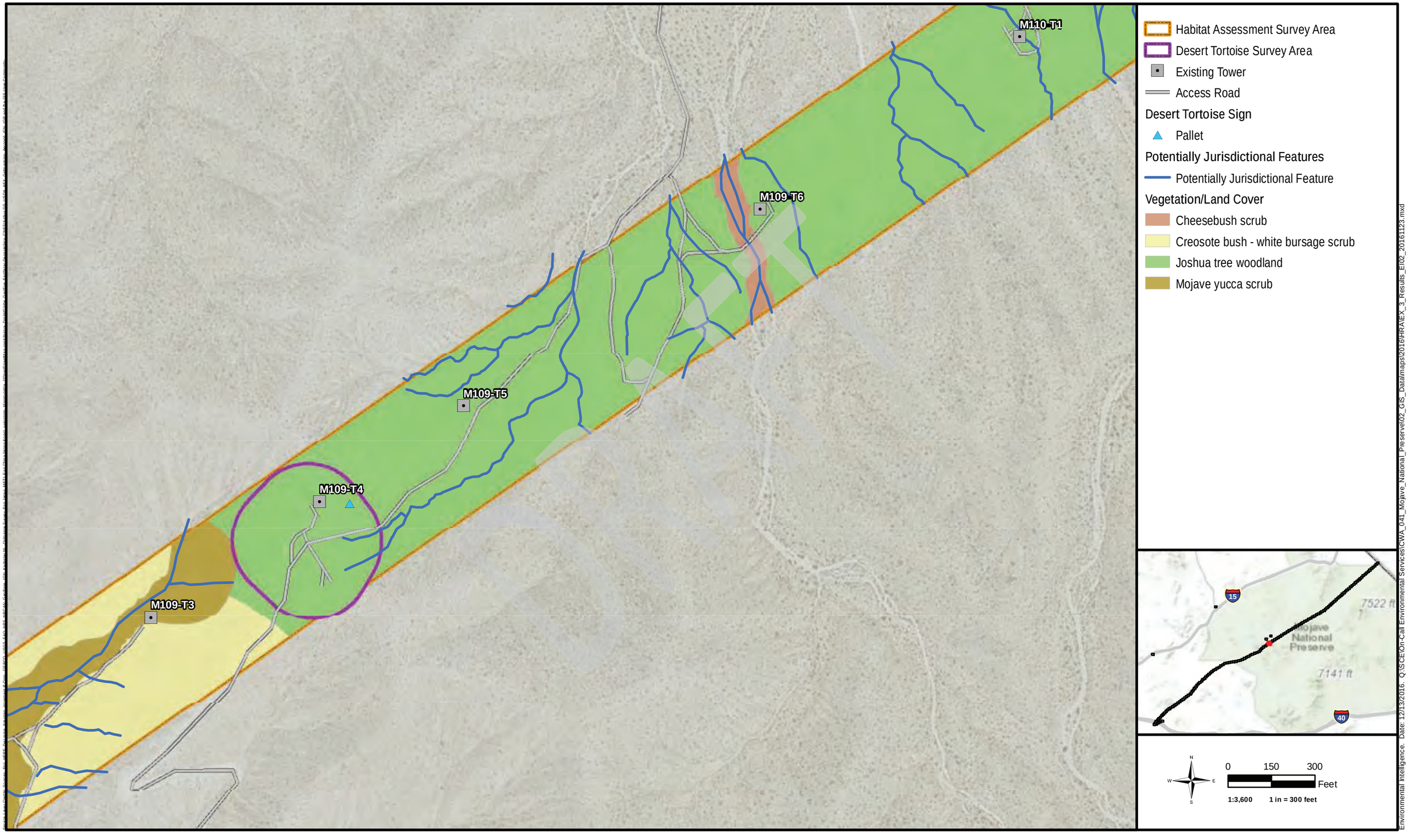


Exhibit 3. Survey Areas and Results (Page 74 of 140)

LVRAS Project | San Bernardino County, CA

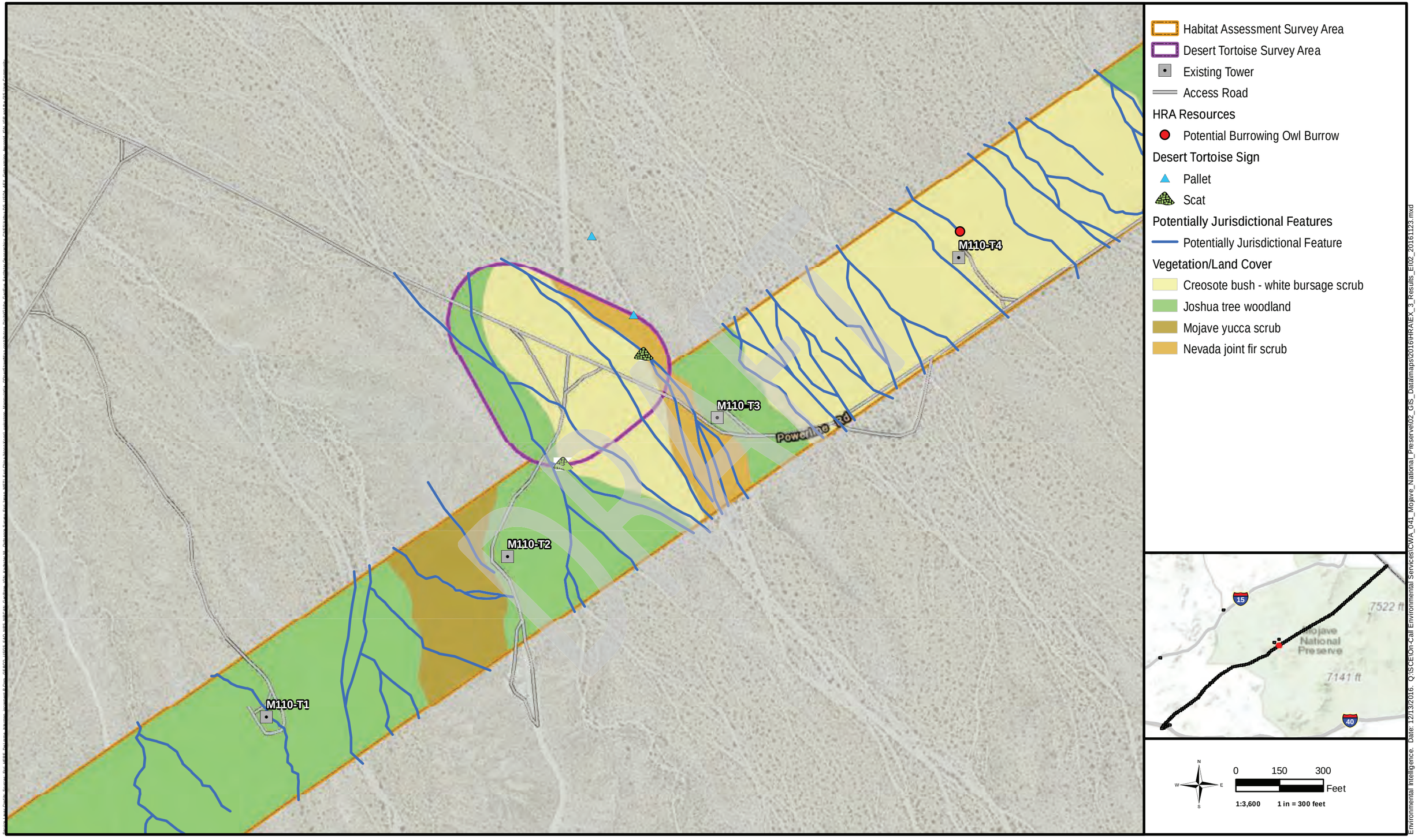


Exhibit 3. Survey Areas and Results (Page 75 of 140)

LVRAS Project | San Bernardino County, CA

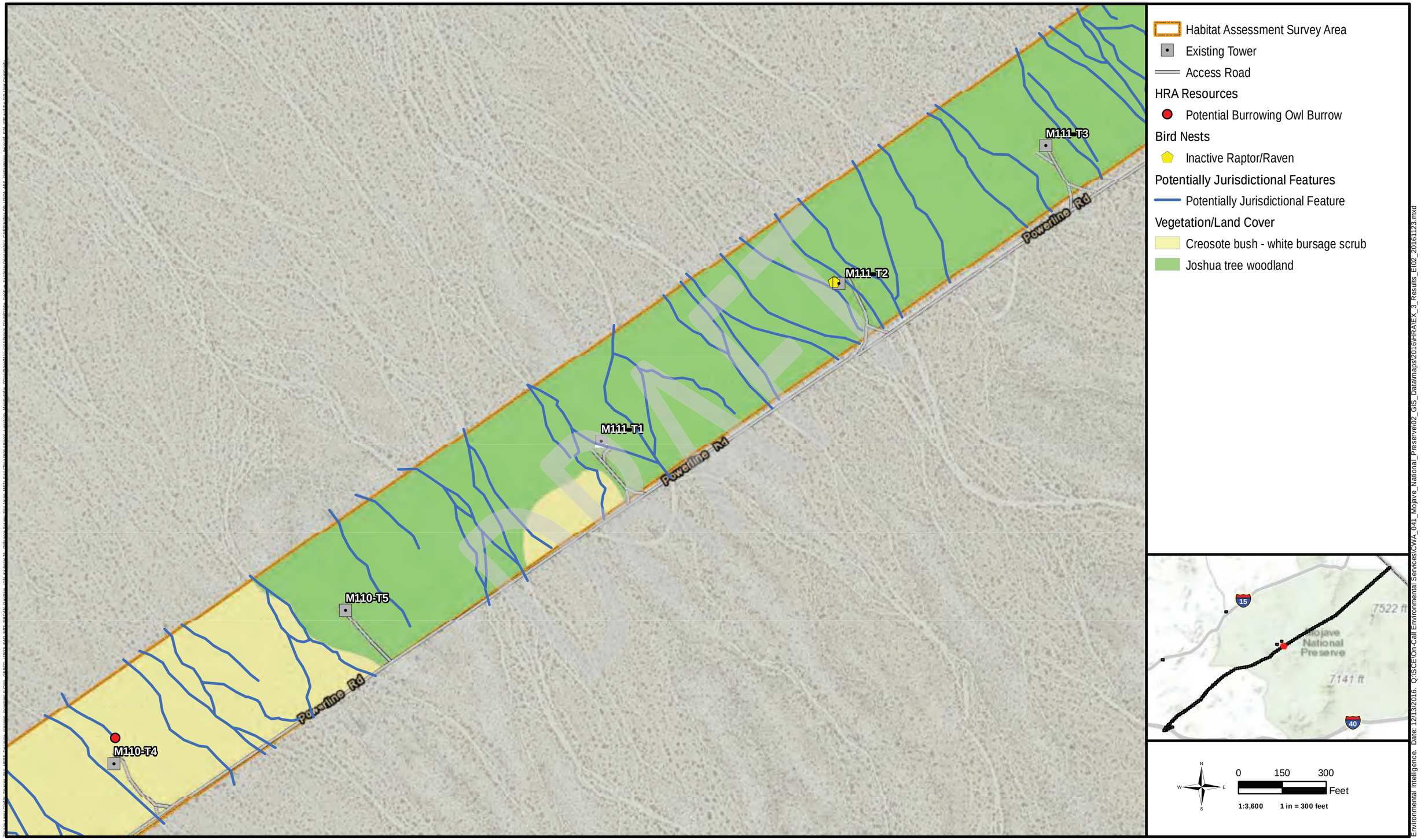


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Exhibit 3. Survey Areas and Results (Page 76 of 140)

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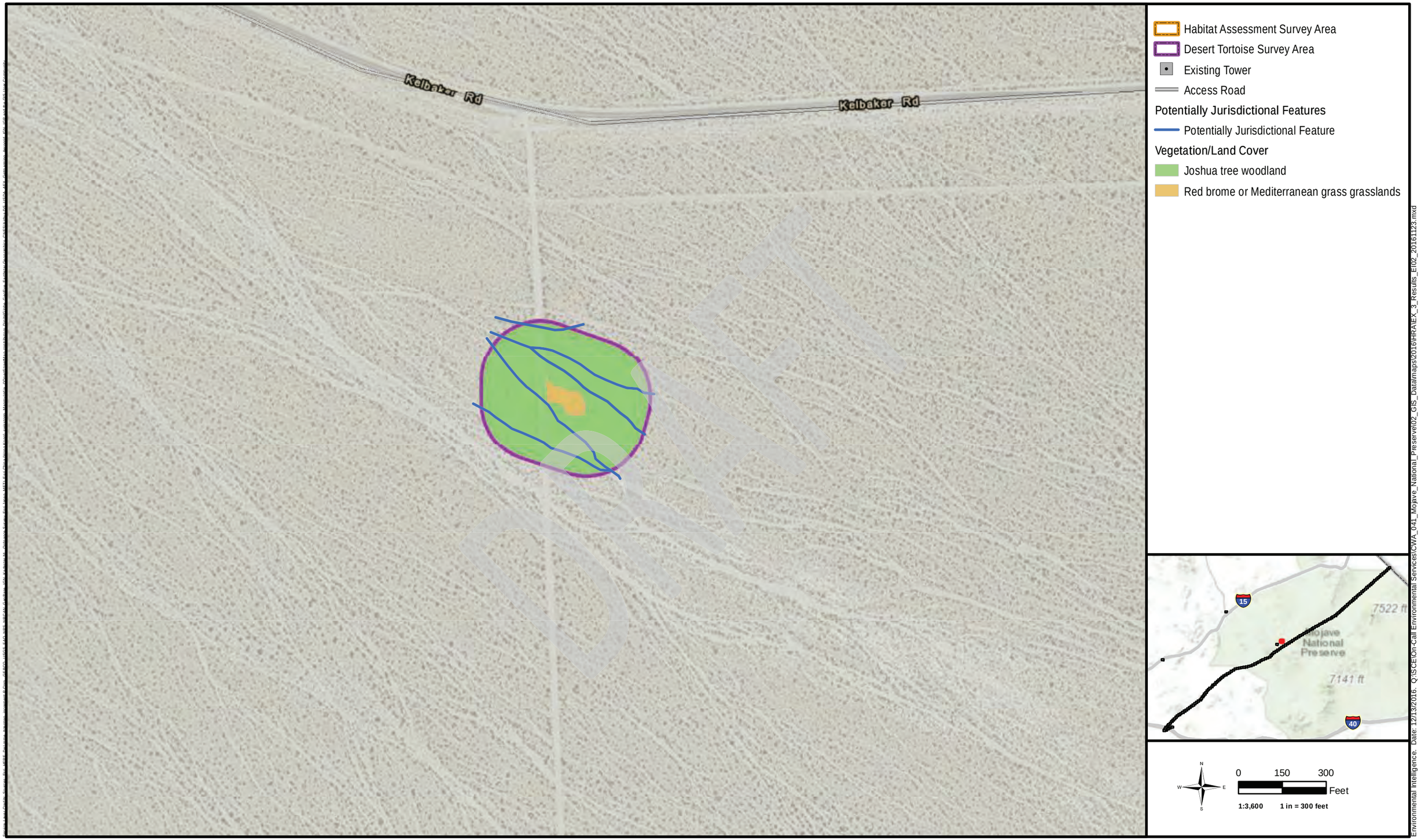
Kelbaker Rd
Kelbaker Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
Red brome or Mediterranean grass grasslands
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 78 of 140)

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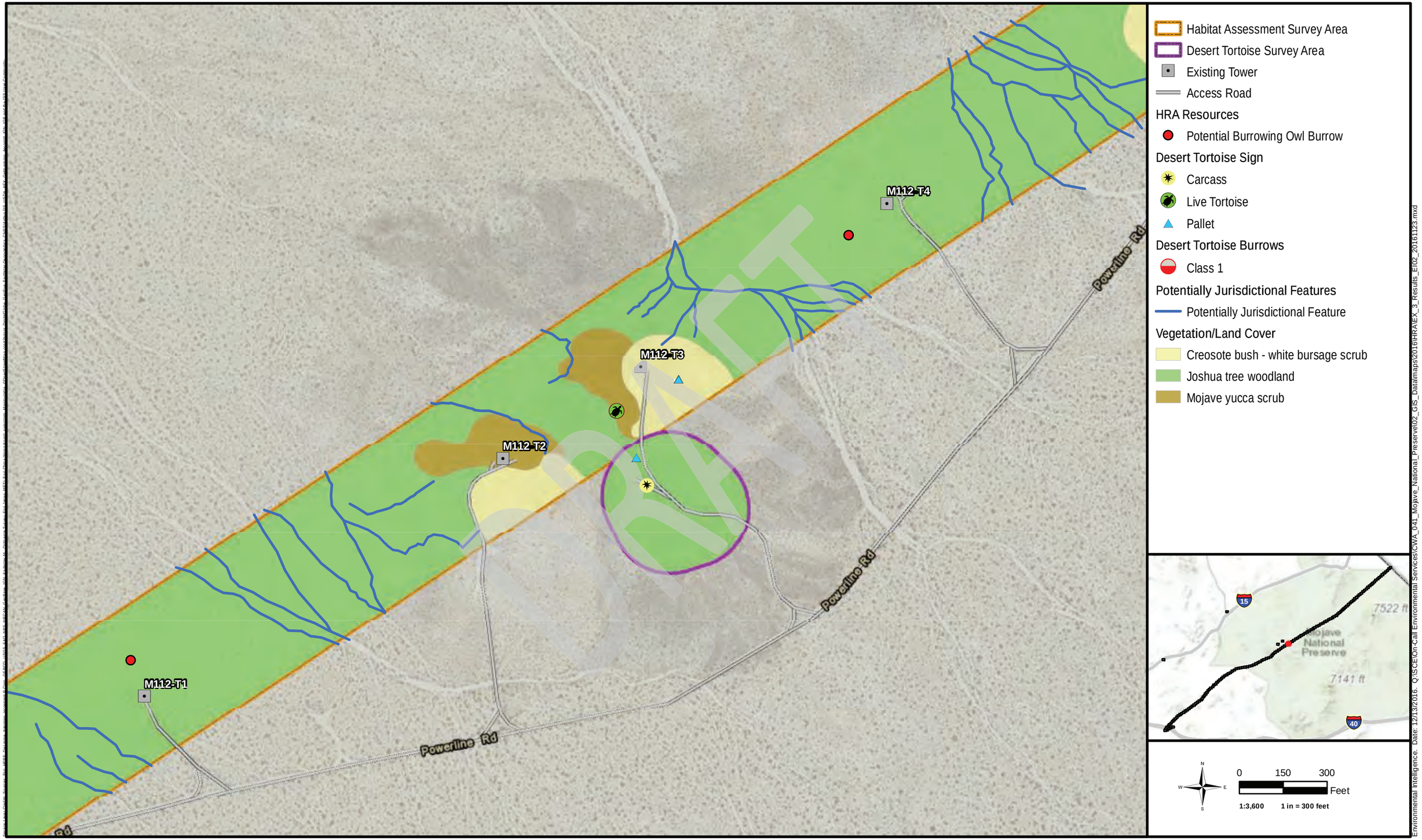

Exhibit 3. Survey Areas and Results (Page 79 of 140)
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Exhibit 3. Survey Areas and Results (Page 80 of 140)
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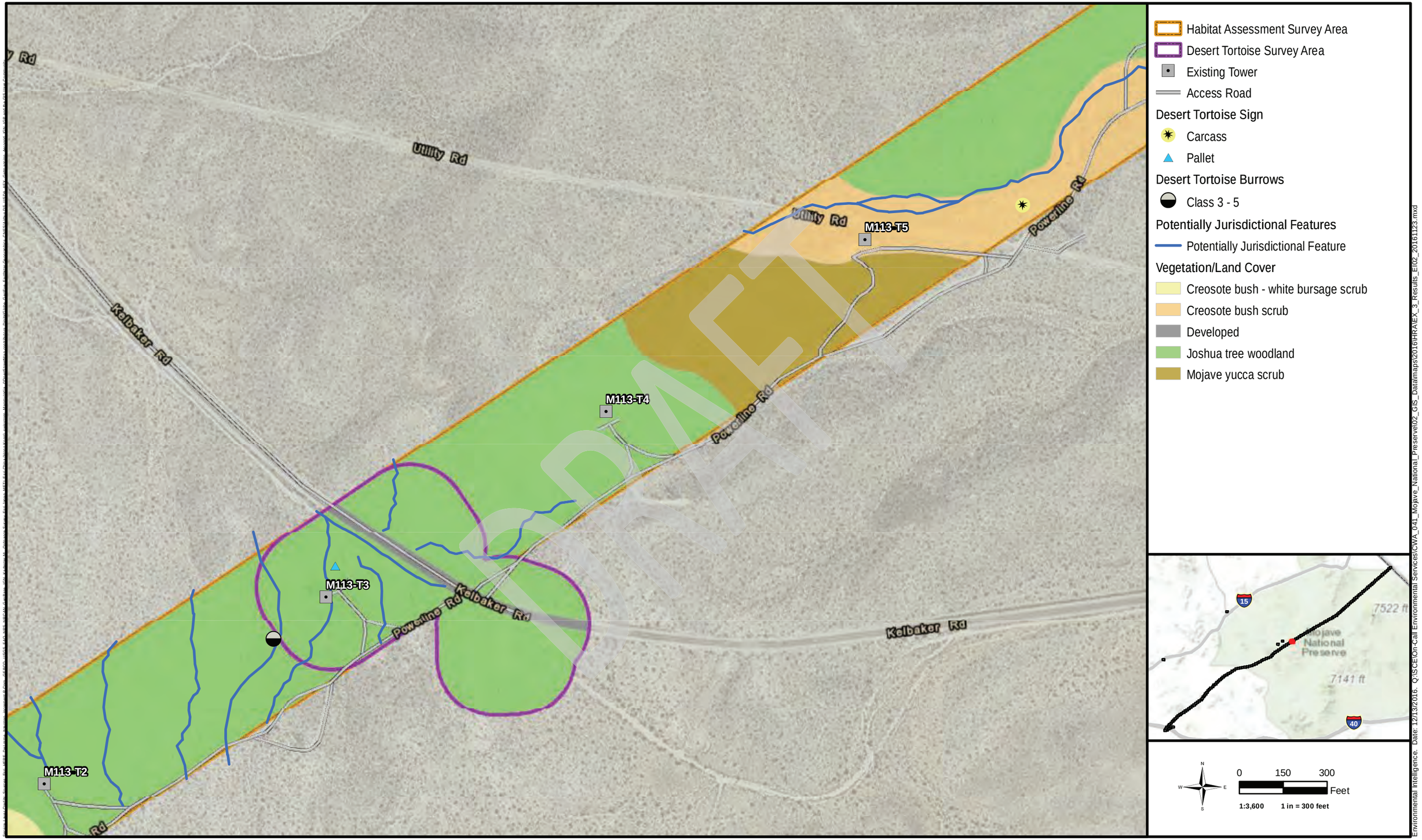

Exhibit 3. Survey Areas and Results (Page 81 of 140)
LVRAS Project | San Bernardino County, CA

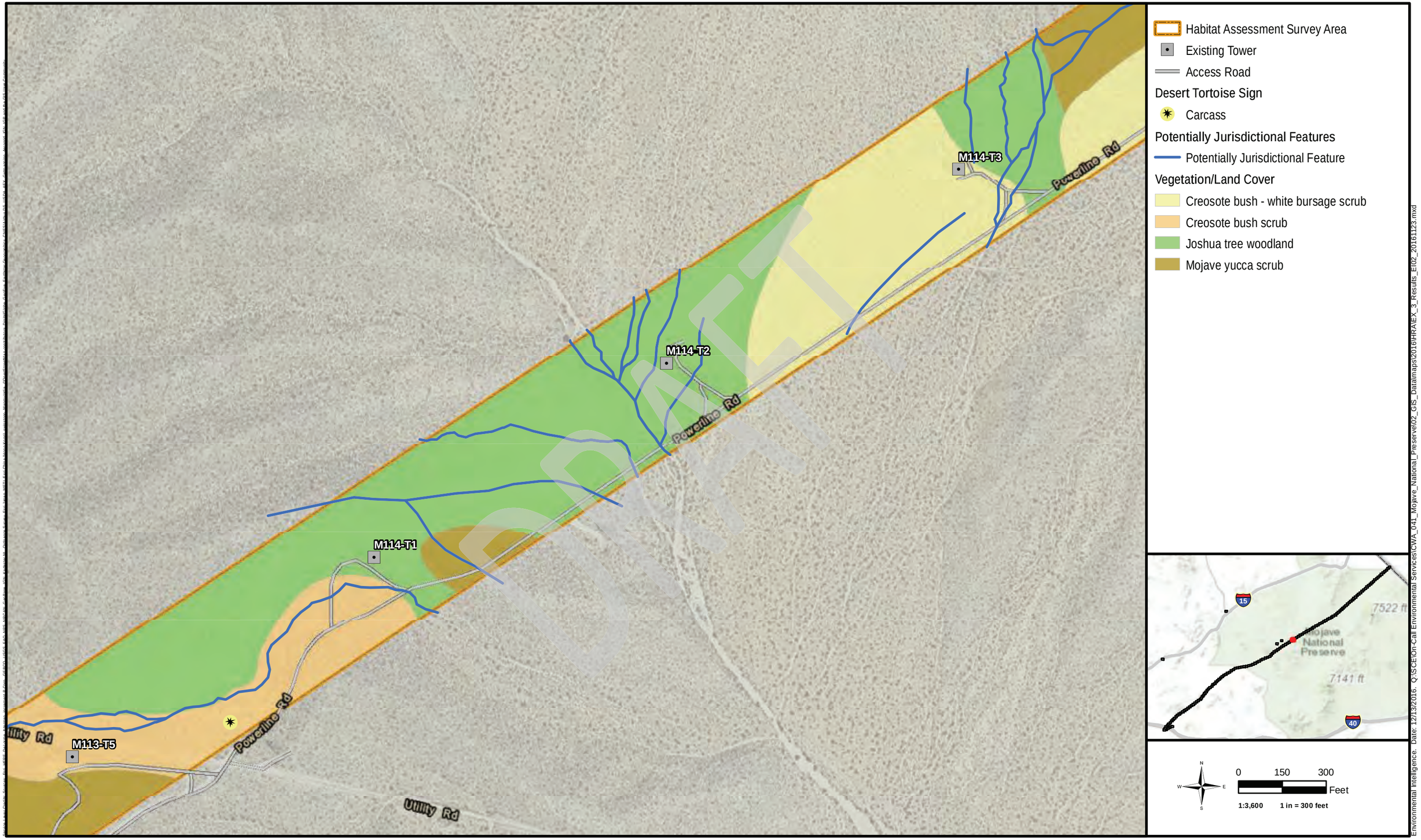

Exhibit 3. Survey Areas and Results (Page 82 of 140)

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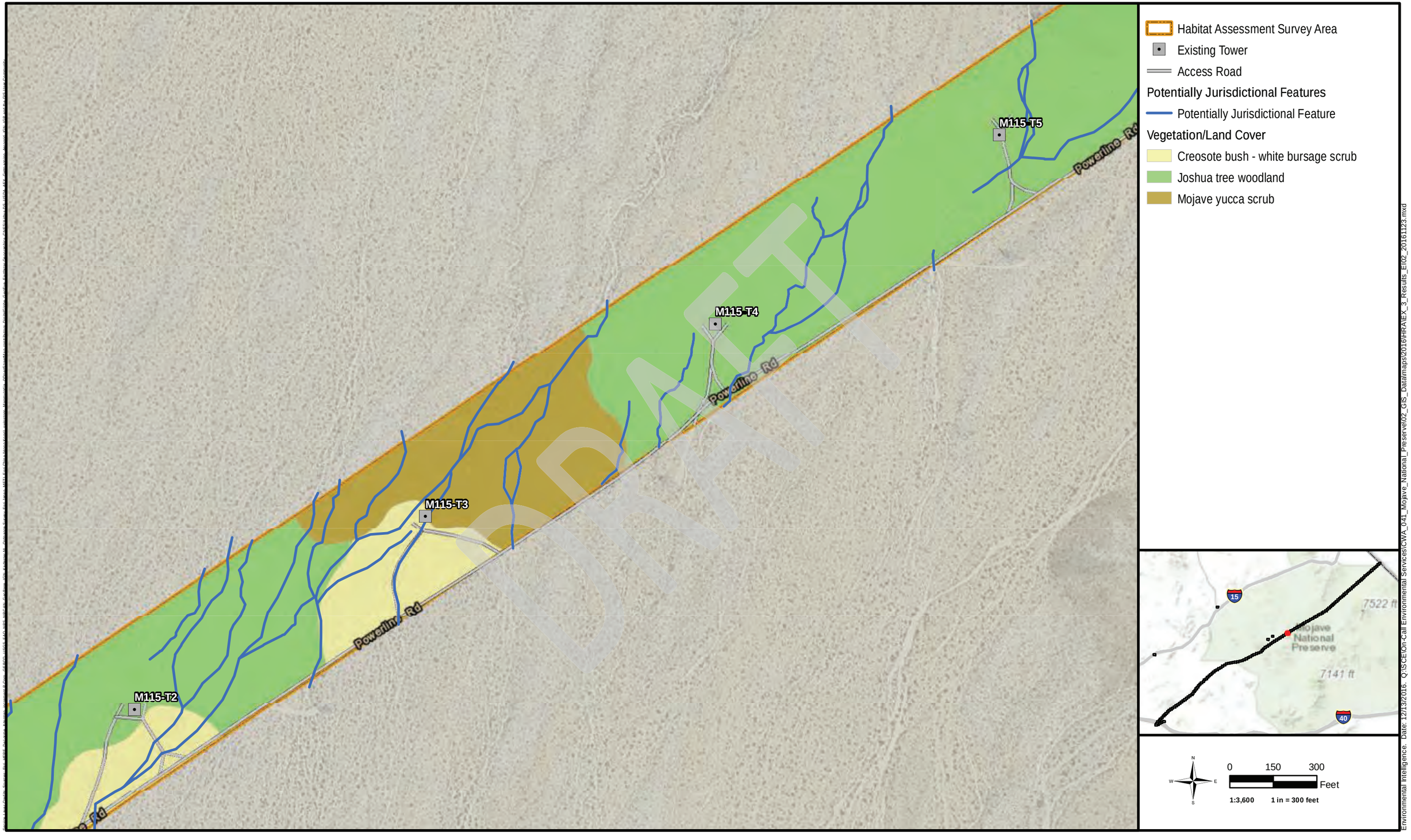

Exhibit 3. Survey Areas and Results (Page 84 of 140)

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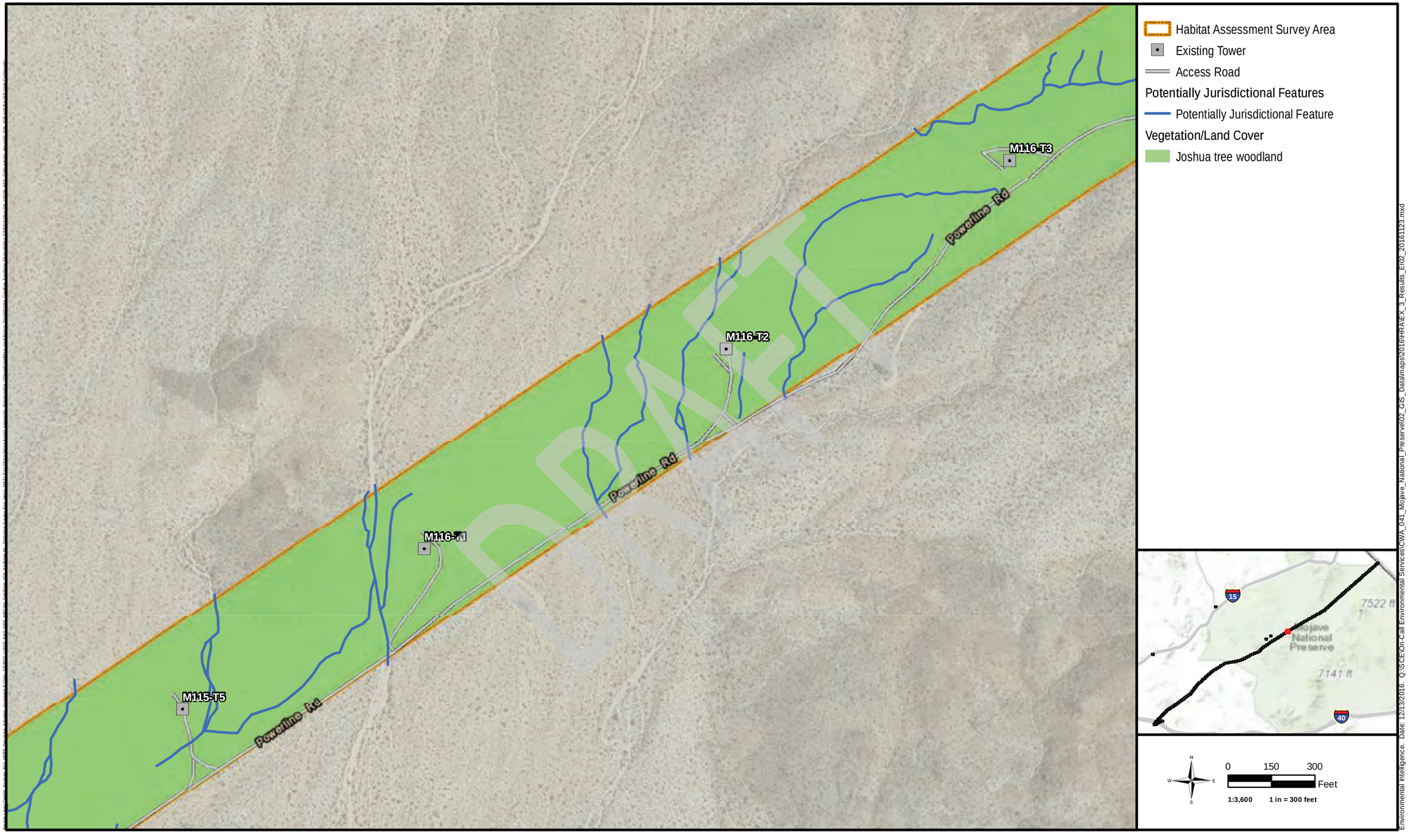
M116-T3
M116-T2
M116-T1
M115-T5
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ei\02_20161123.mxd

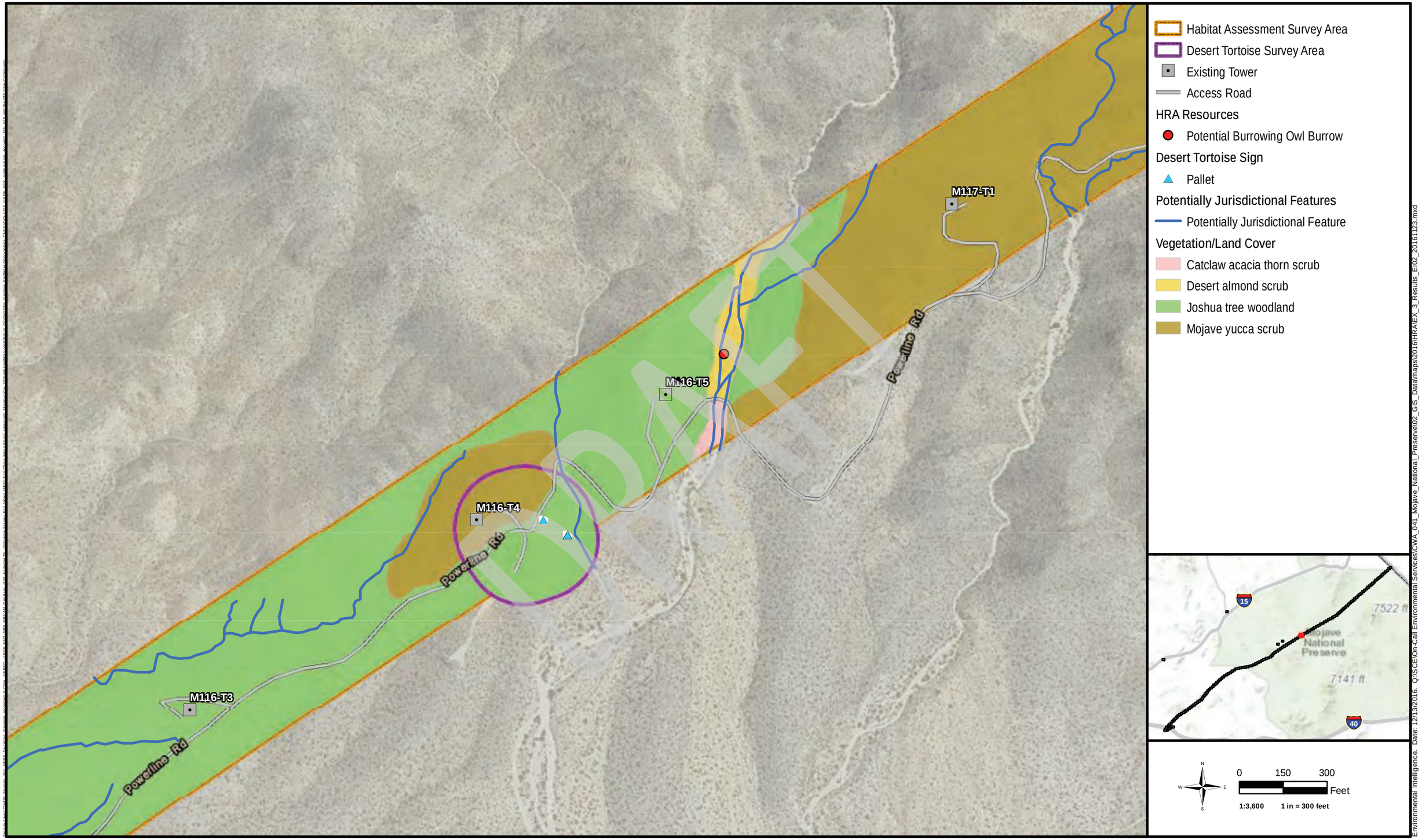

Exhibit 3. Survey Areas and Results (Page 86 of 140)
LVRAS Project | San Bernardino County, CA

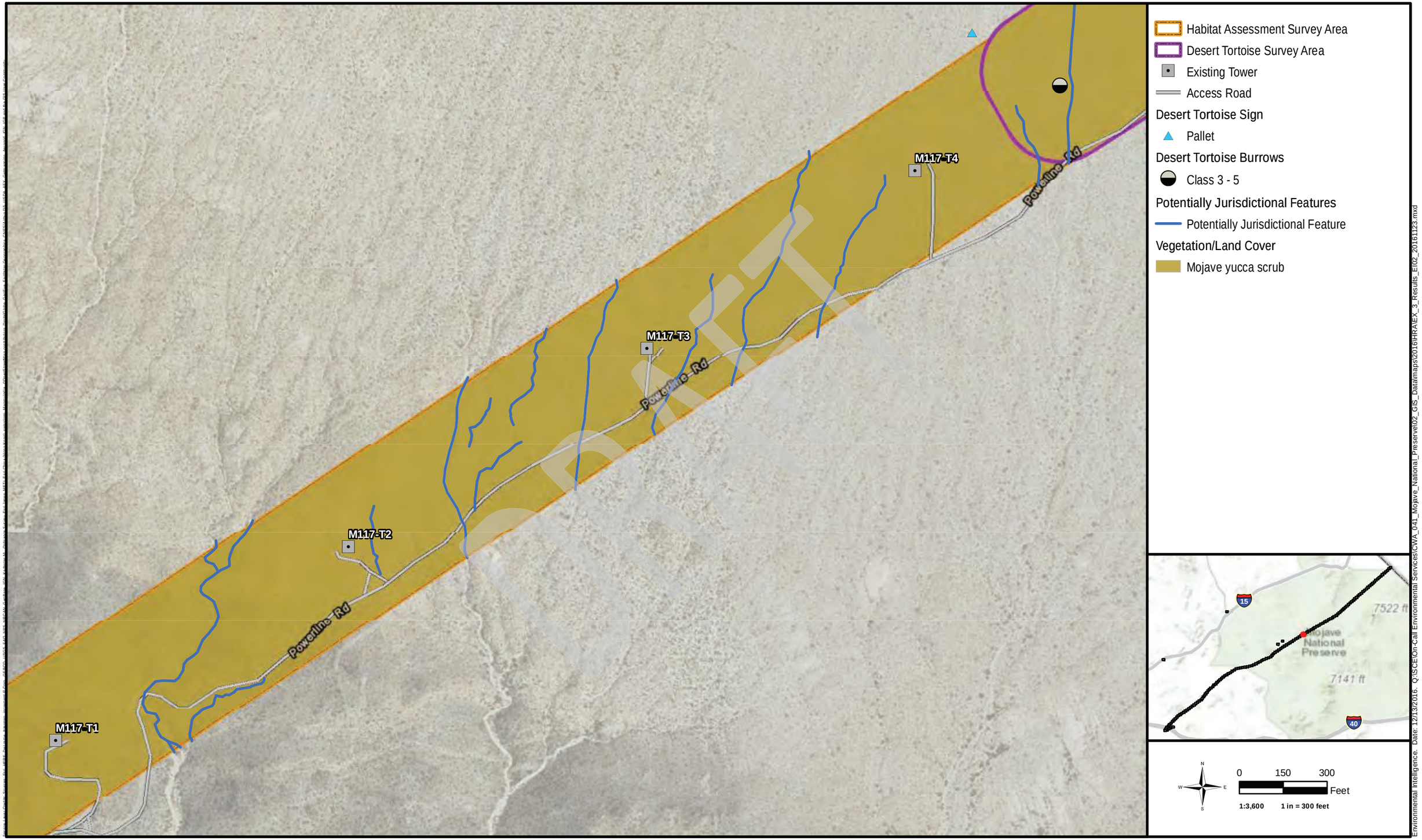

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 87 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

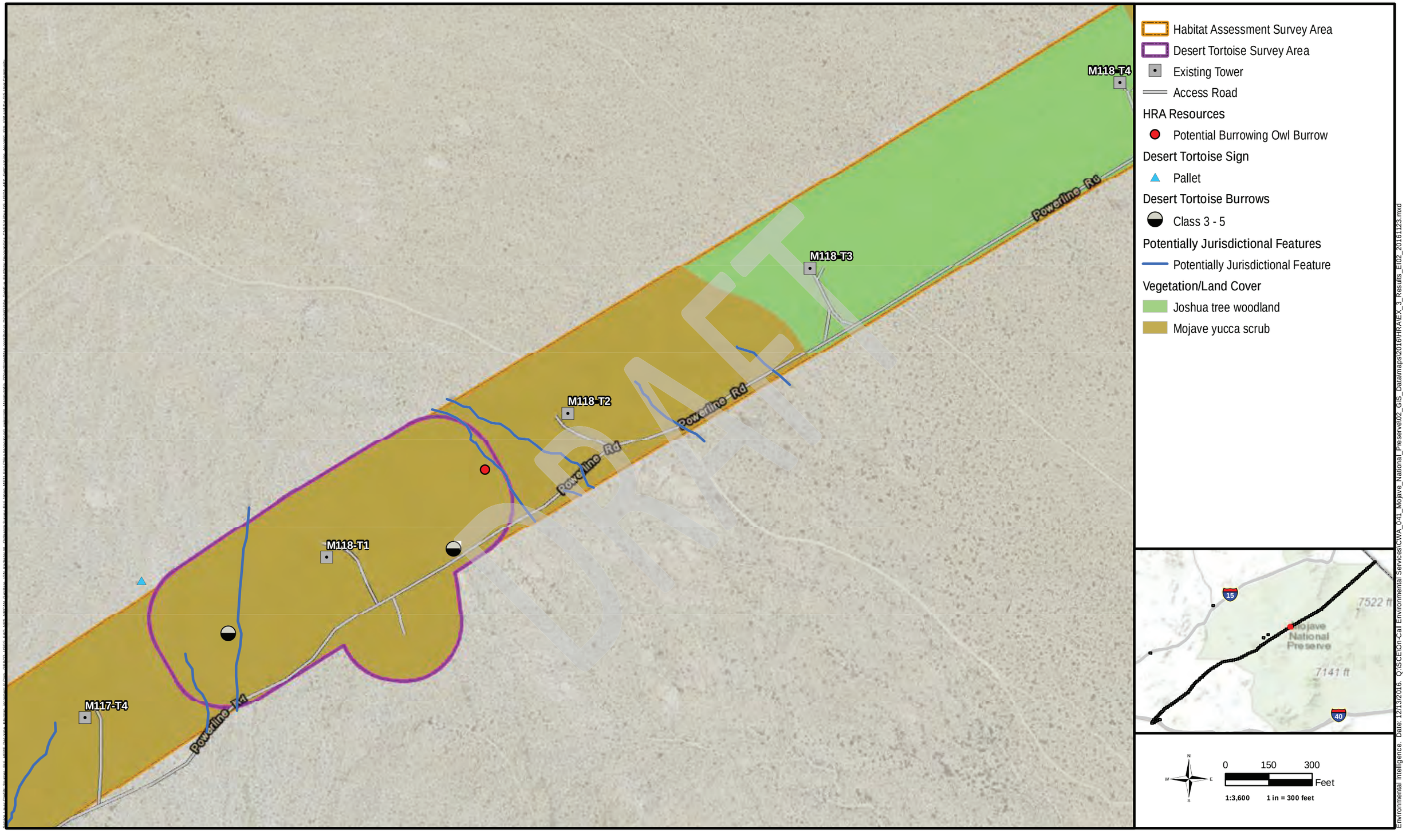

Exhibit 3. Survey Areas and Results (Page 88 of 140)
LVRAS Project | San Bernardino County, CA

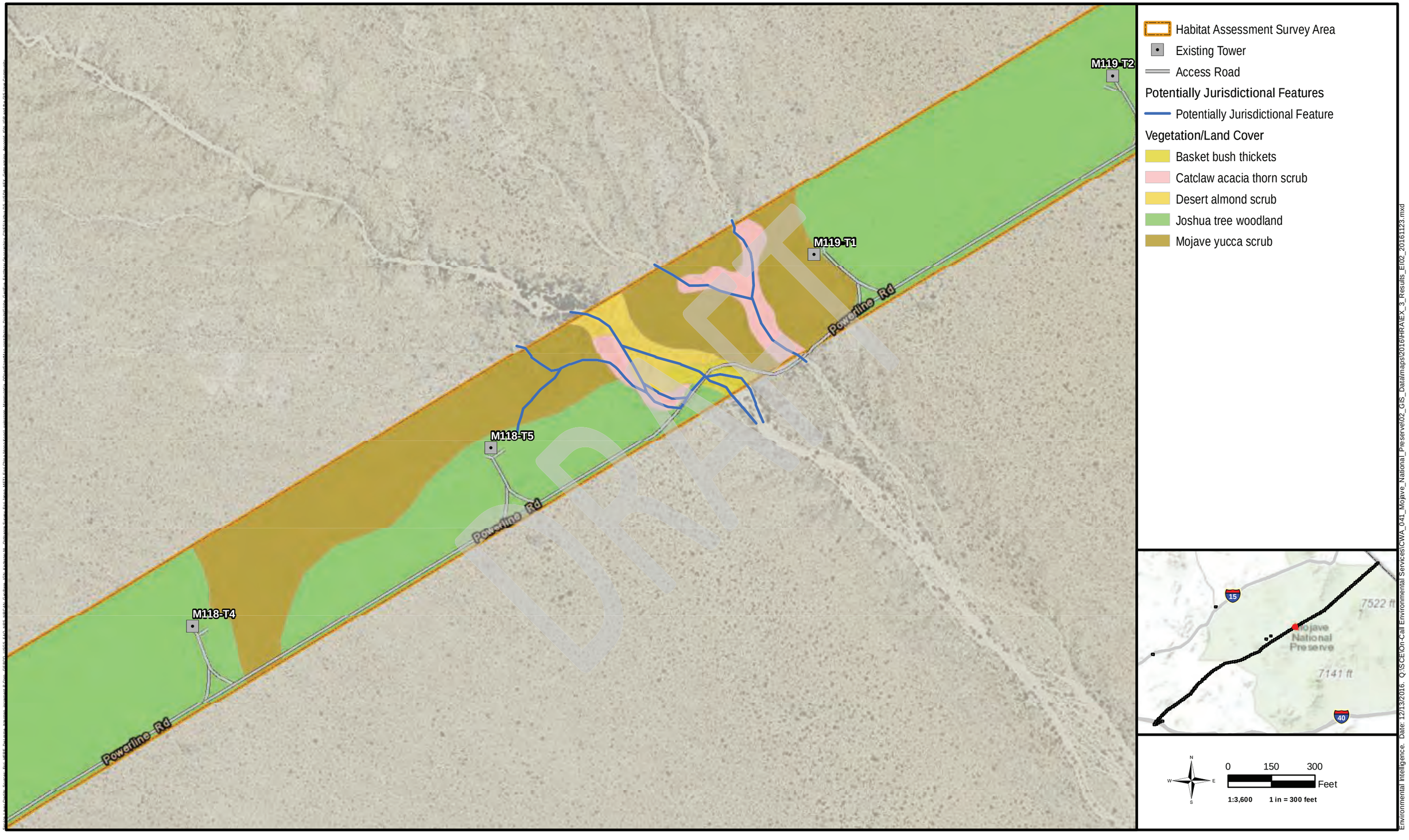

Exhibit 3. Survey Areas and Results (Page 89 of 140)

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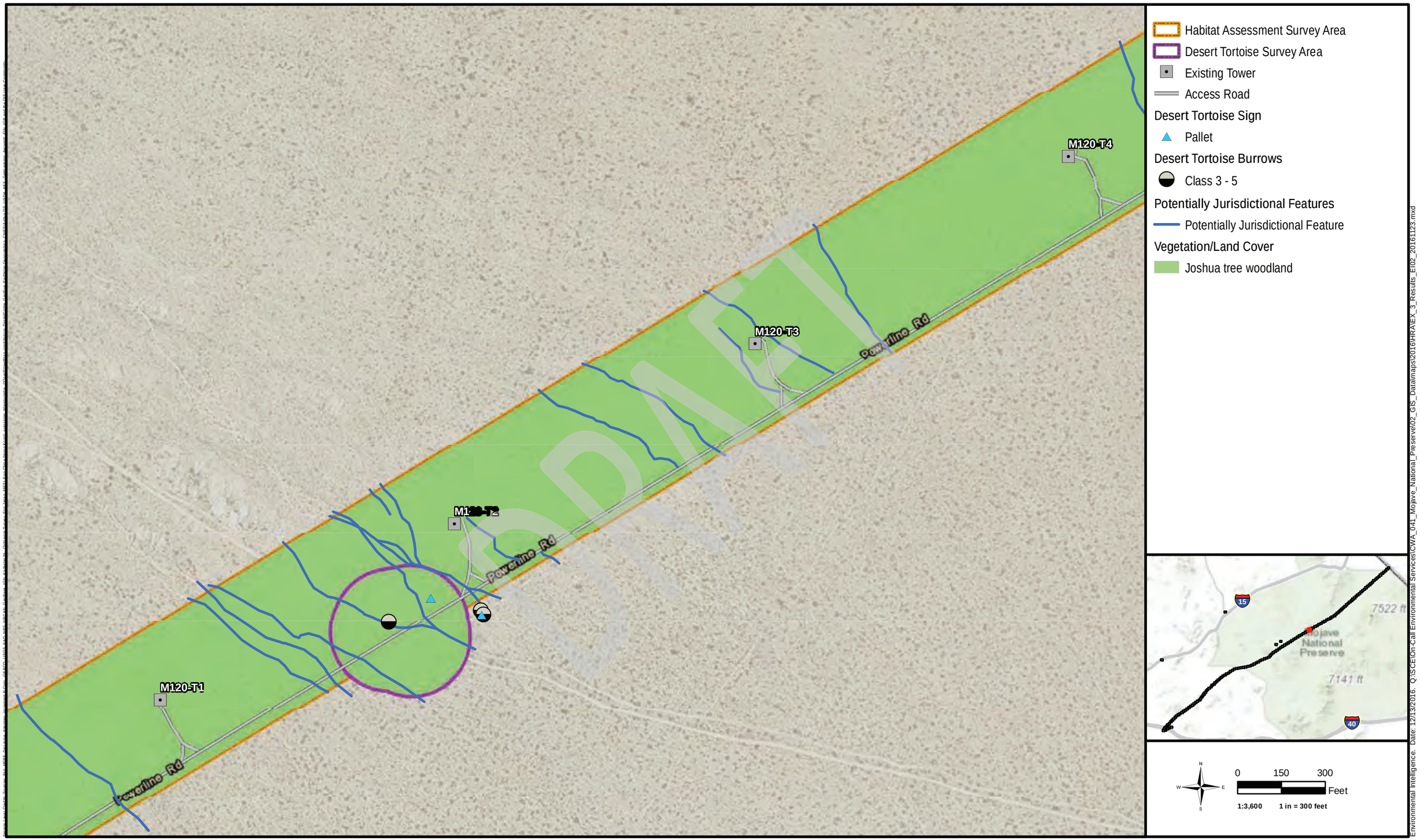

Exhibit 3. Survey Areas and Results (Page 91 of 140)

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Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road

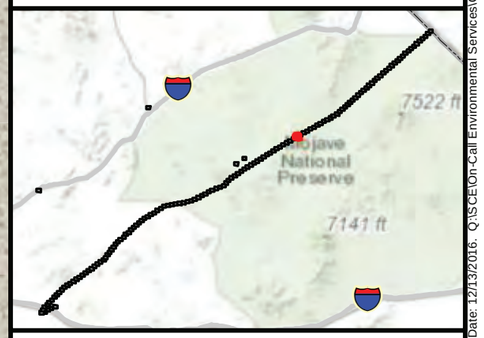
Bird Nests
Inactive Raptor/Raven

Desert Tortoise Sign
Pallet
Scat

Desert Tortoise Burrows
Class 3 - 5

Potentially Jurisdictional Features
Potentially Jurisdictional Feature

Vegetation/Land Cover
Desert almond scrub
Joshua tree woodland



N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

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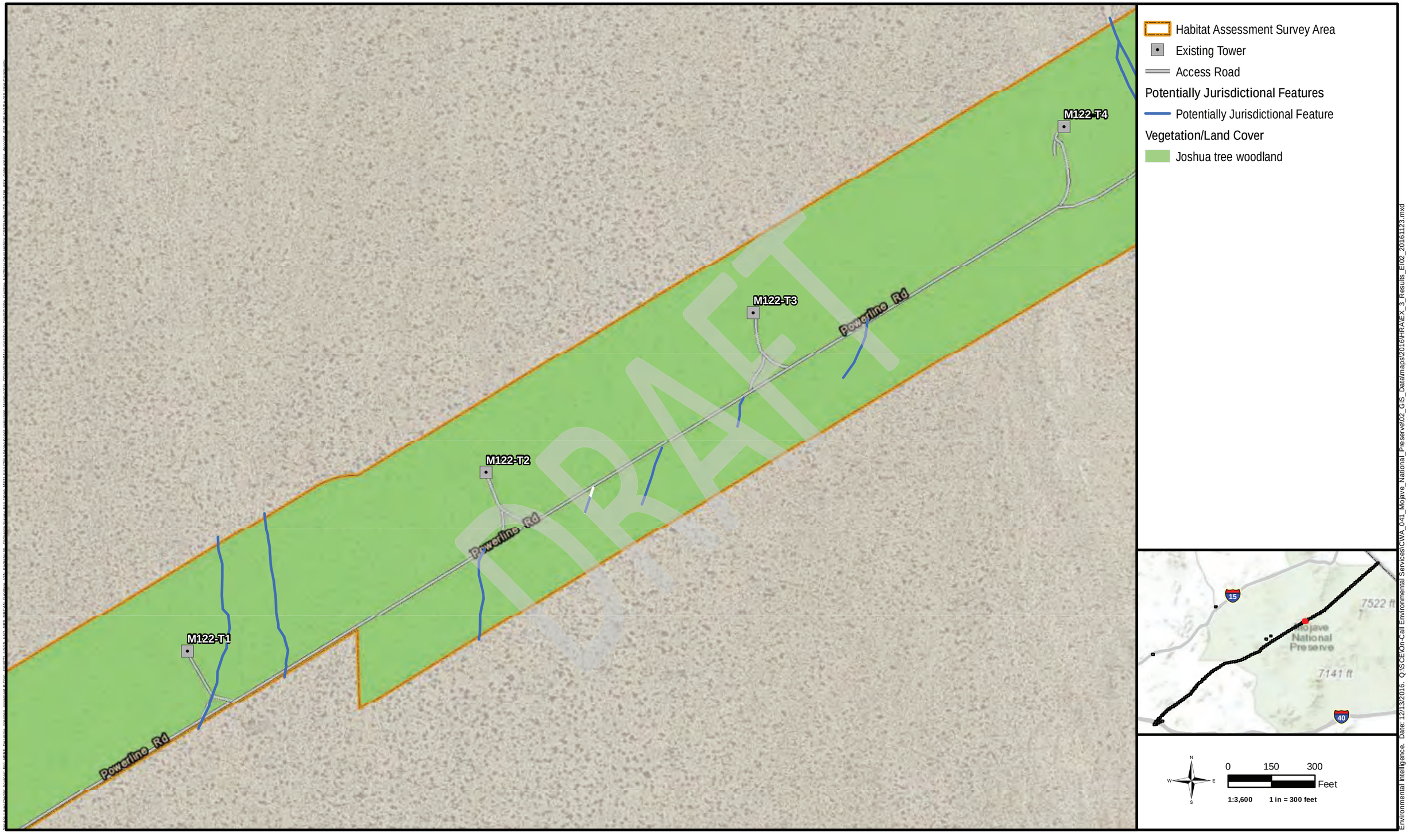
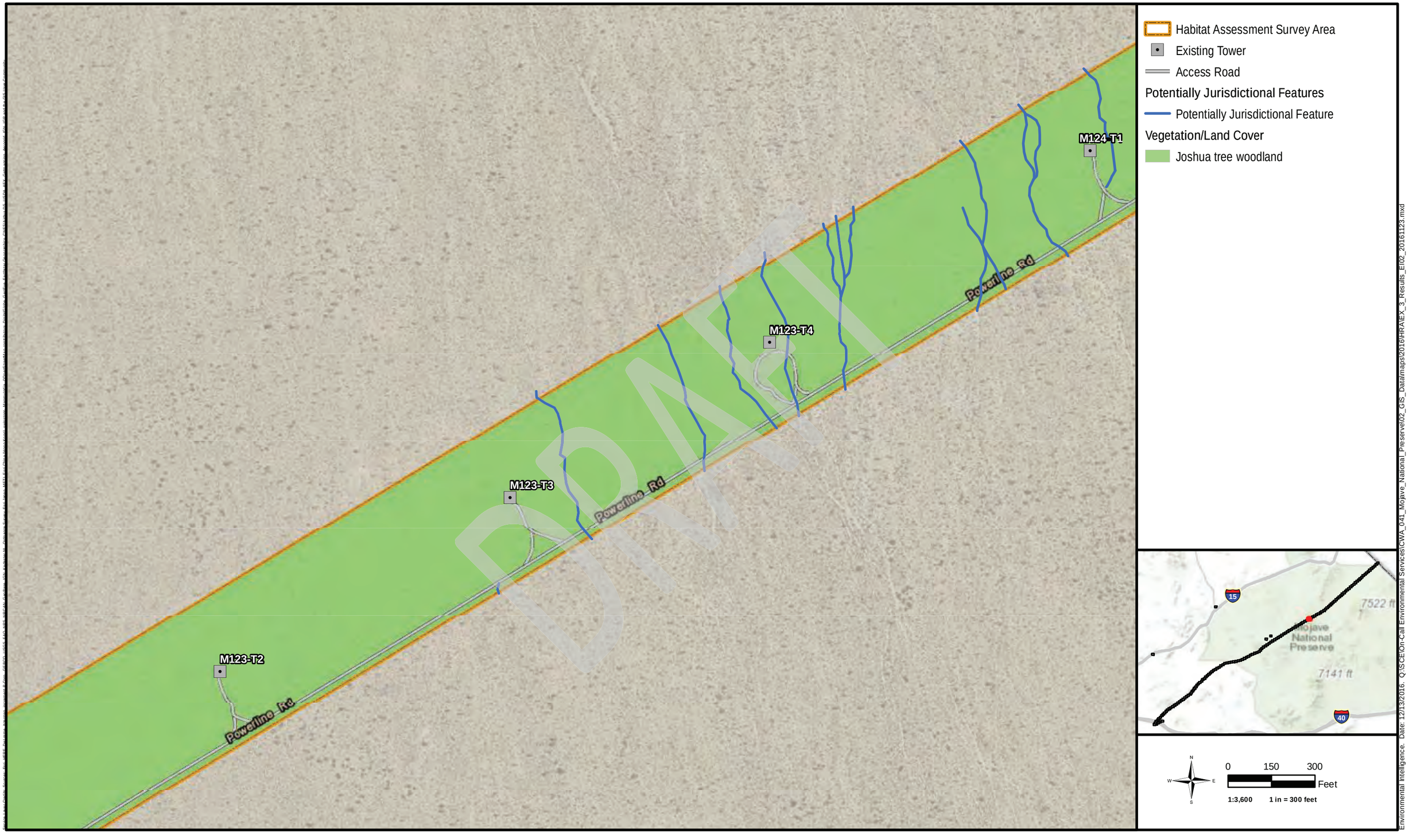
M122-T1
M121-T4
M121-T3
M121-T2
Powerline Rd
Powerline Rd
Powerline Rd
Powerline Rd
DRAFT
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


M122-T4
M122-T3
M122-T2
M122-T1
Powerline Rd
Powerline Rd
Powerline Rd
DRAFT
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ei\02_20161123.mxd


M123-T2
M123-T1
M122-T5
M122-T4
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsl\2016\HRA\EX_3_Results_EI\02_20161123.mxd


M124-T1
M123-T4
M123-T3
M123-T2
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

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M125-T4
M125-T3
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Scat
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Datamaps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 100 of 140)

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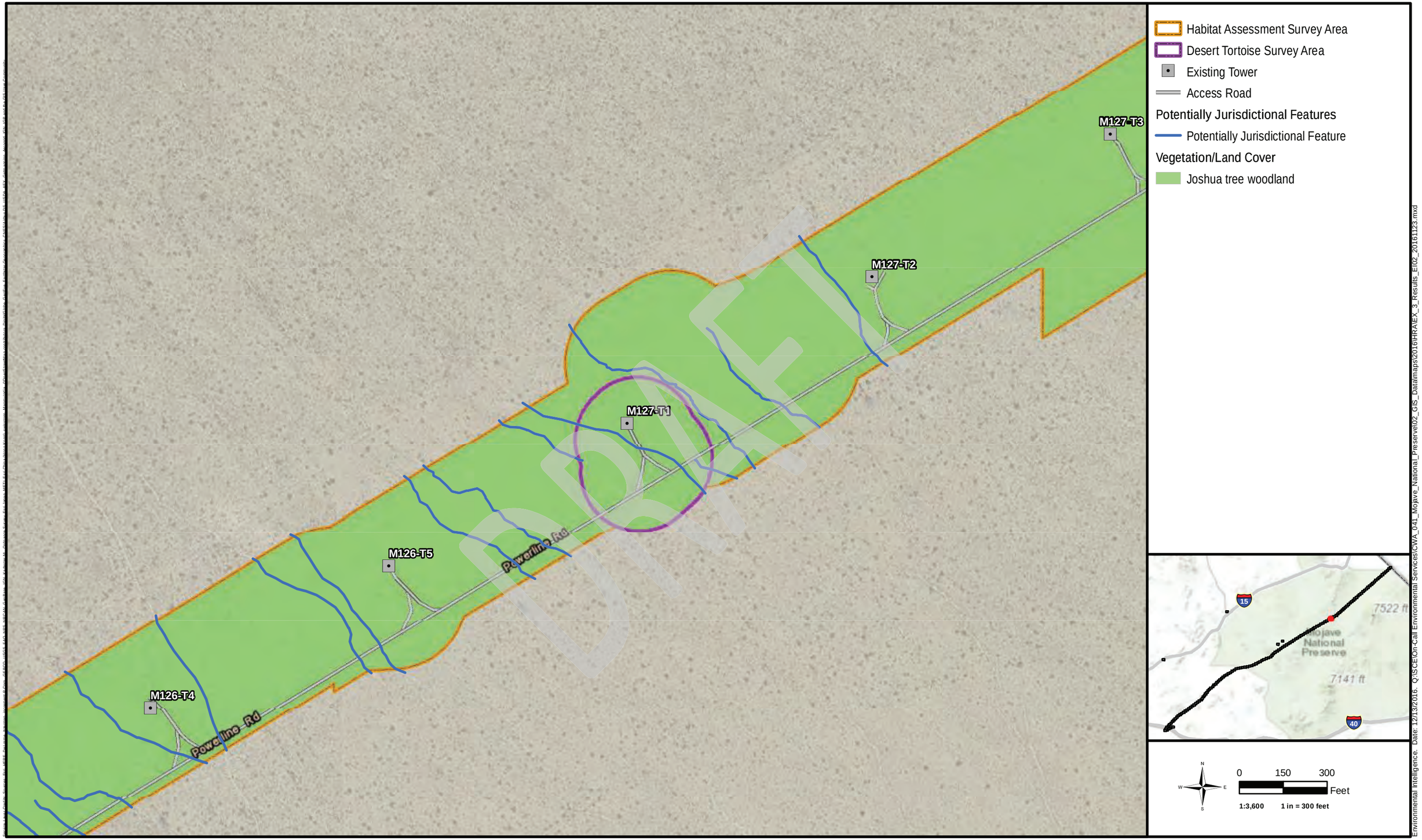
M127-T3
M127-T2
M127-T1
M126-T5
M126-T4
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsl2016\HRA\EX_3_Results_Ef\02_20161123.mxd

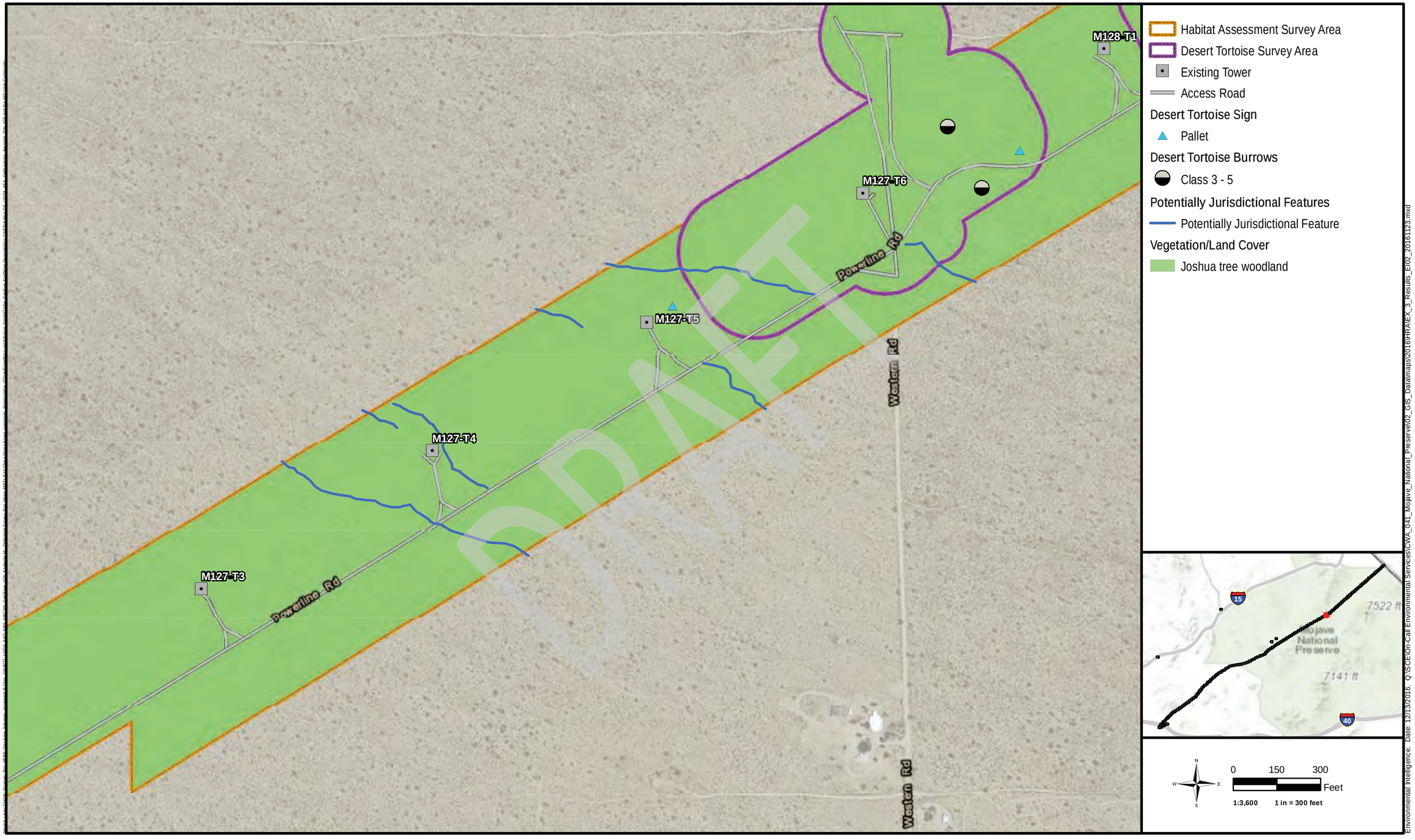

Exhibit 3. Survey Areas and Results (Page 102 of 140)

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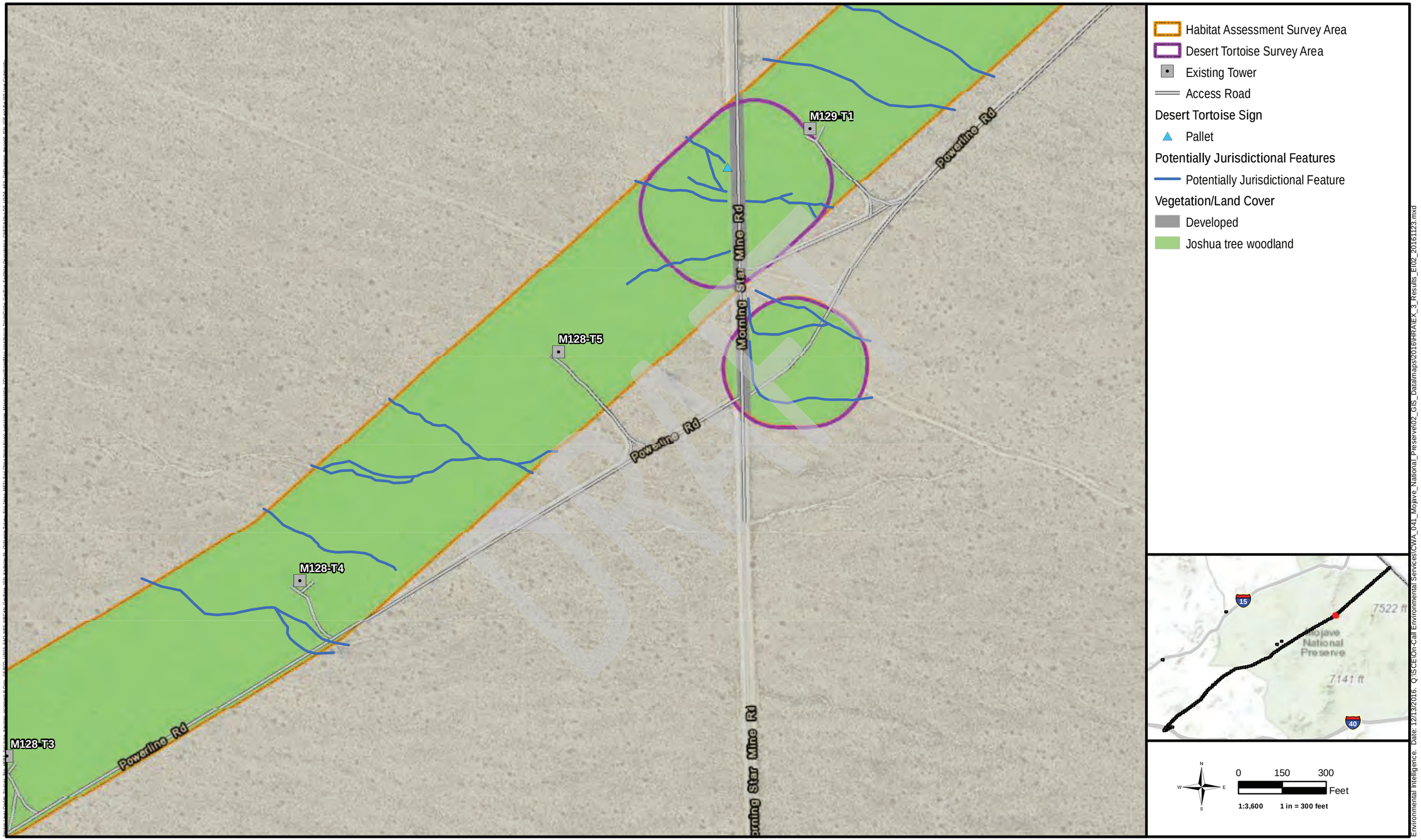

Exhibit 3. Survey Areas and Results (Page 104 of 140)

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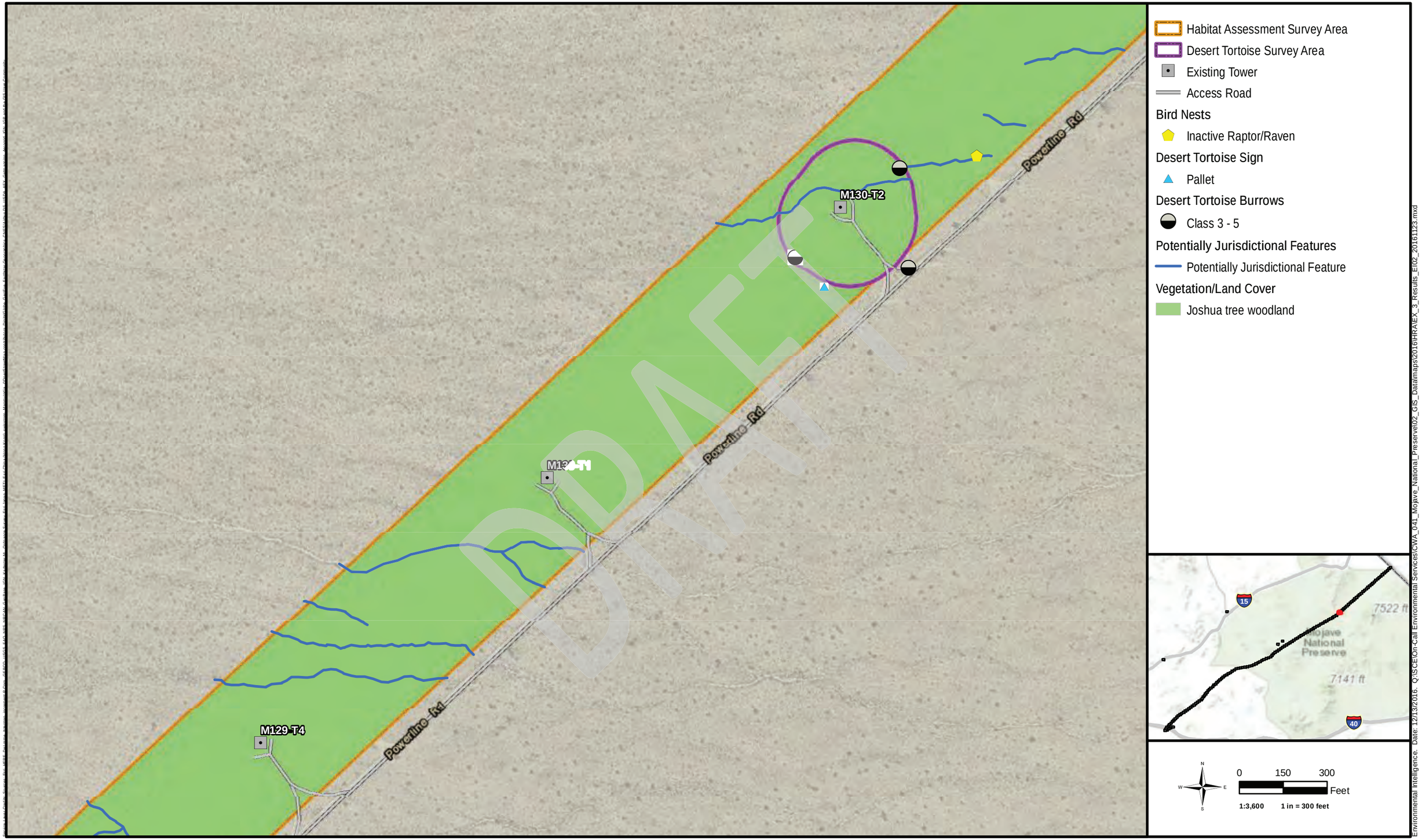

Exhibit 3. Survey Areas and Results (Page 106 of 140)

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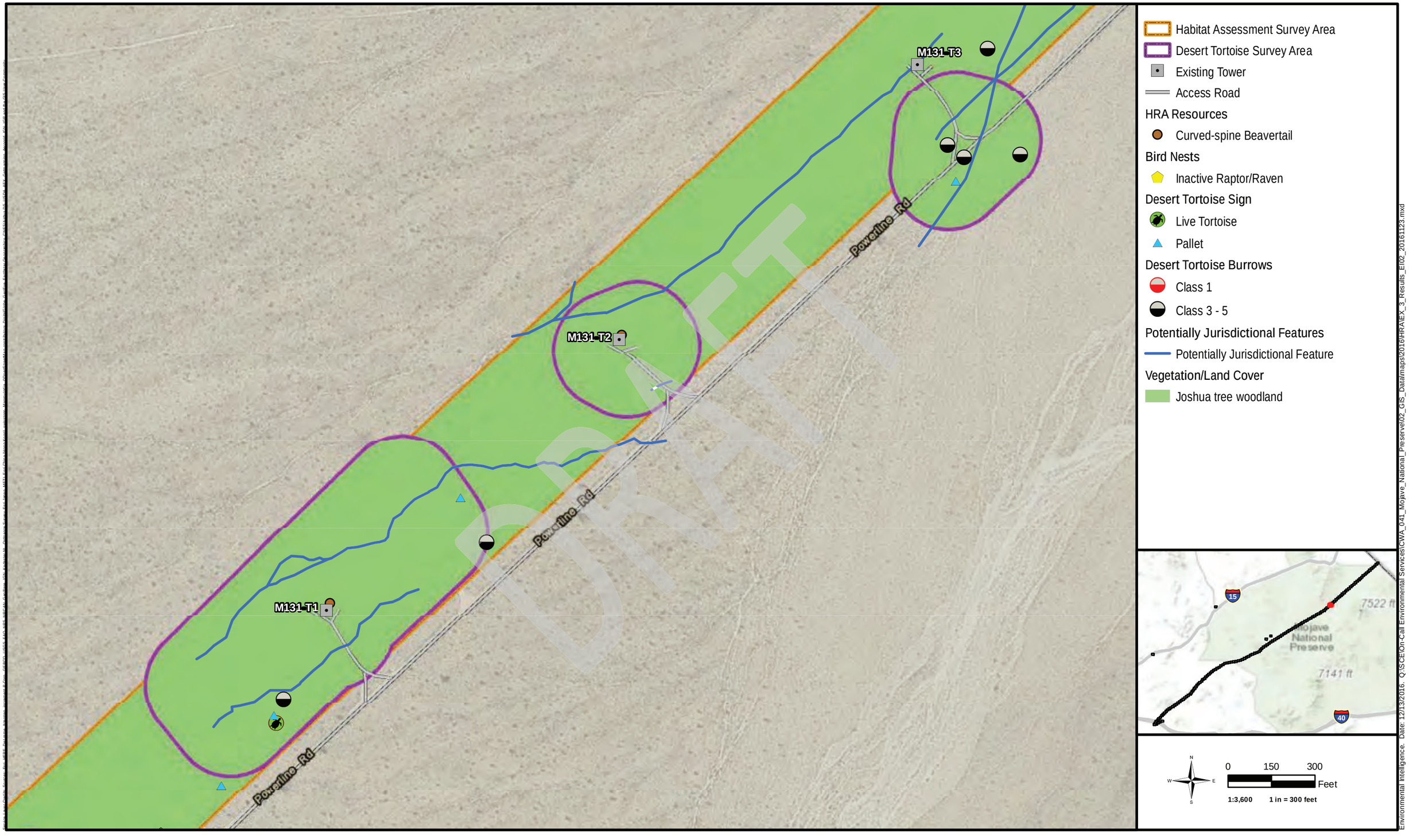
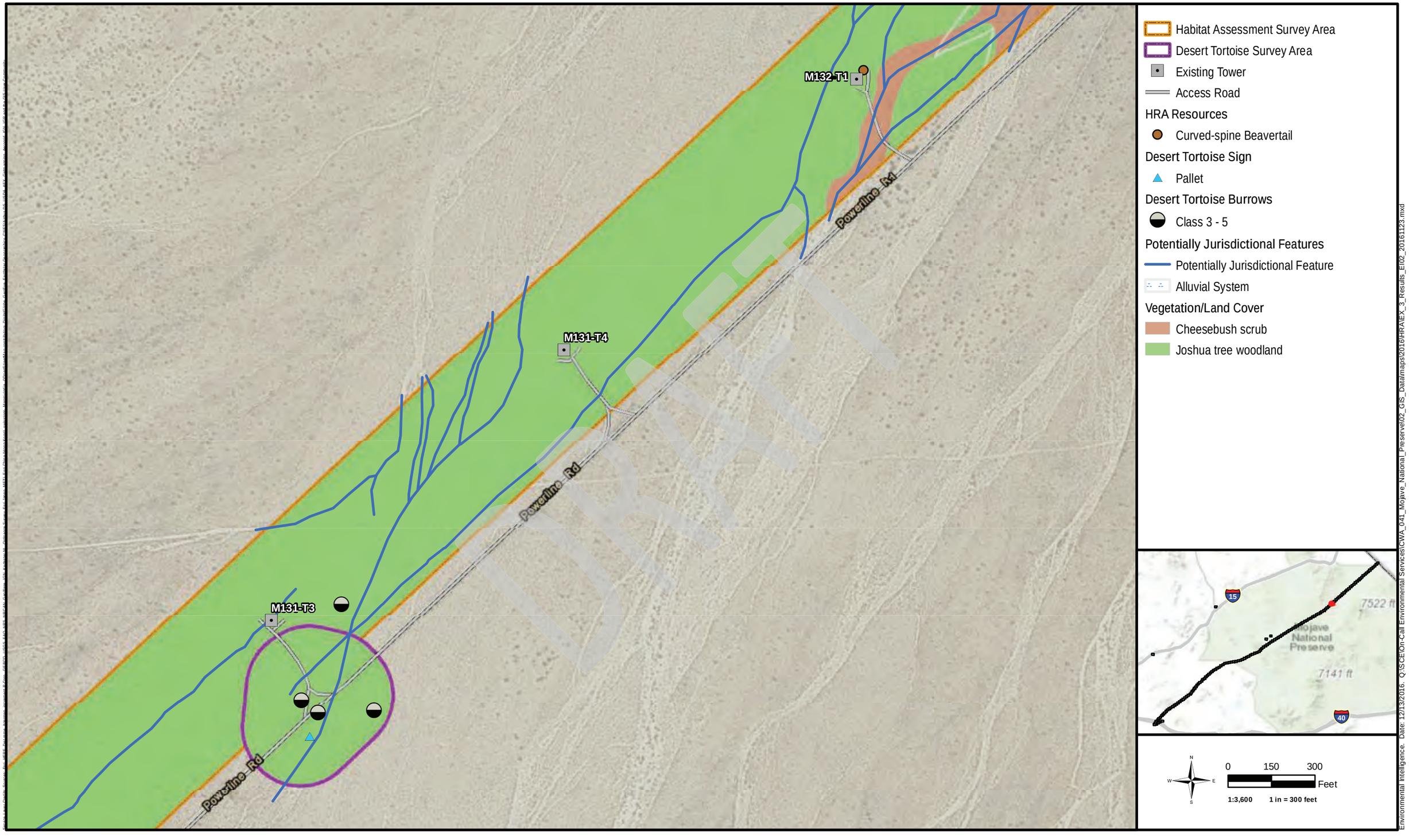


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 108 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M132-T1
M131-T4
M131-T3
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Curved-spine Beavertail
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Cheesebush scrub
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

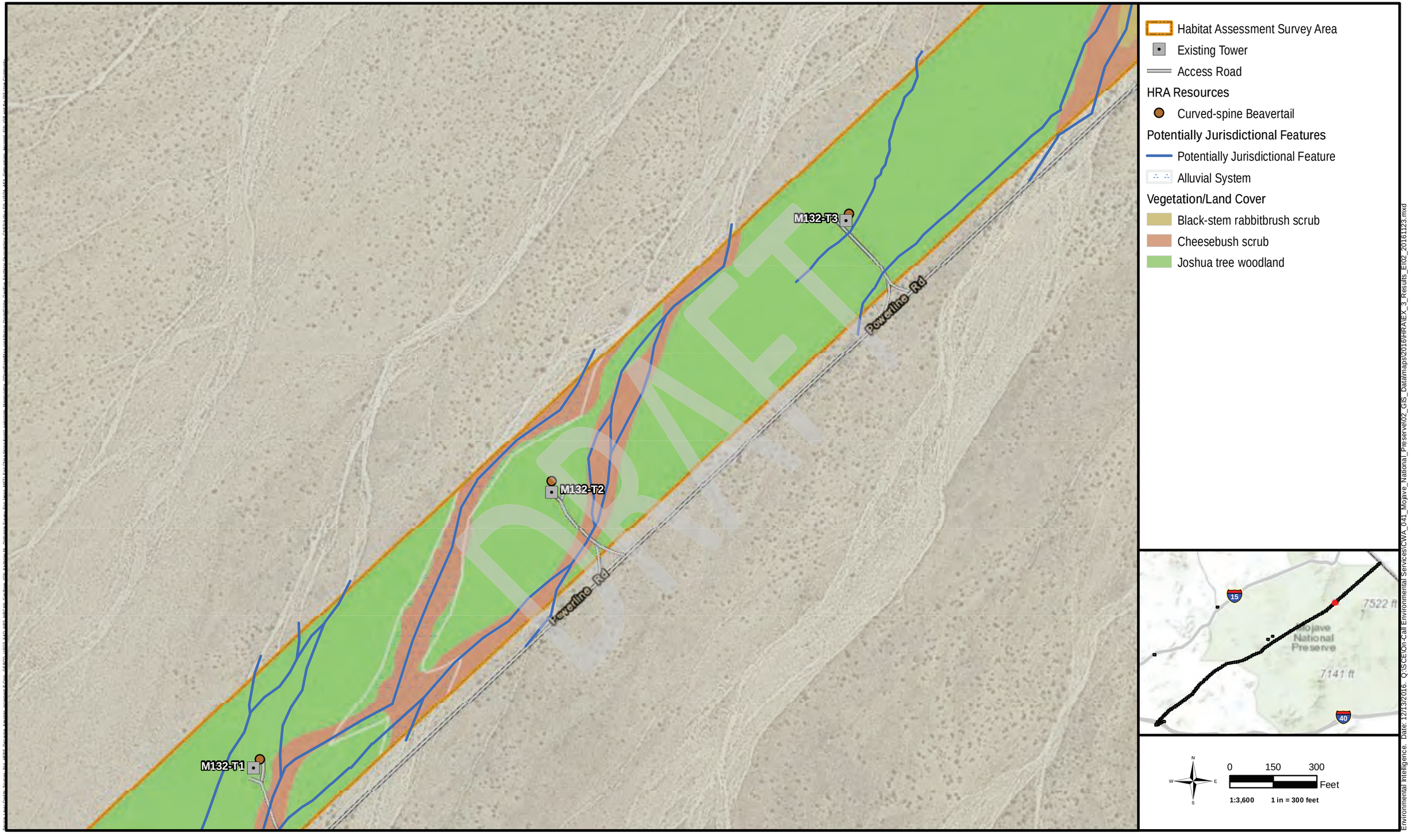


Exhibit 3. Survey Areas and Results (Page 110 of 140)

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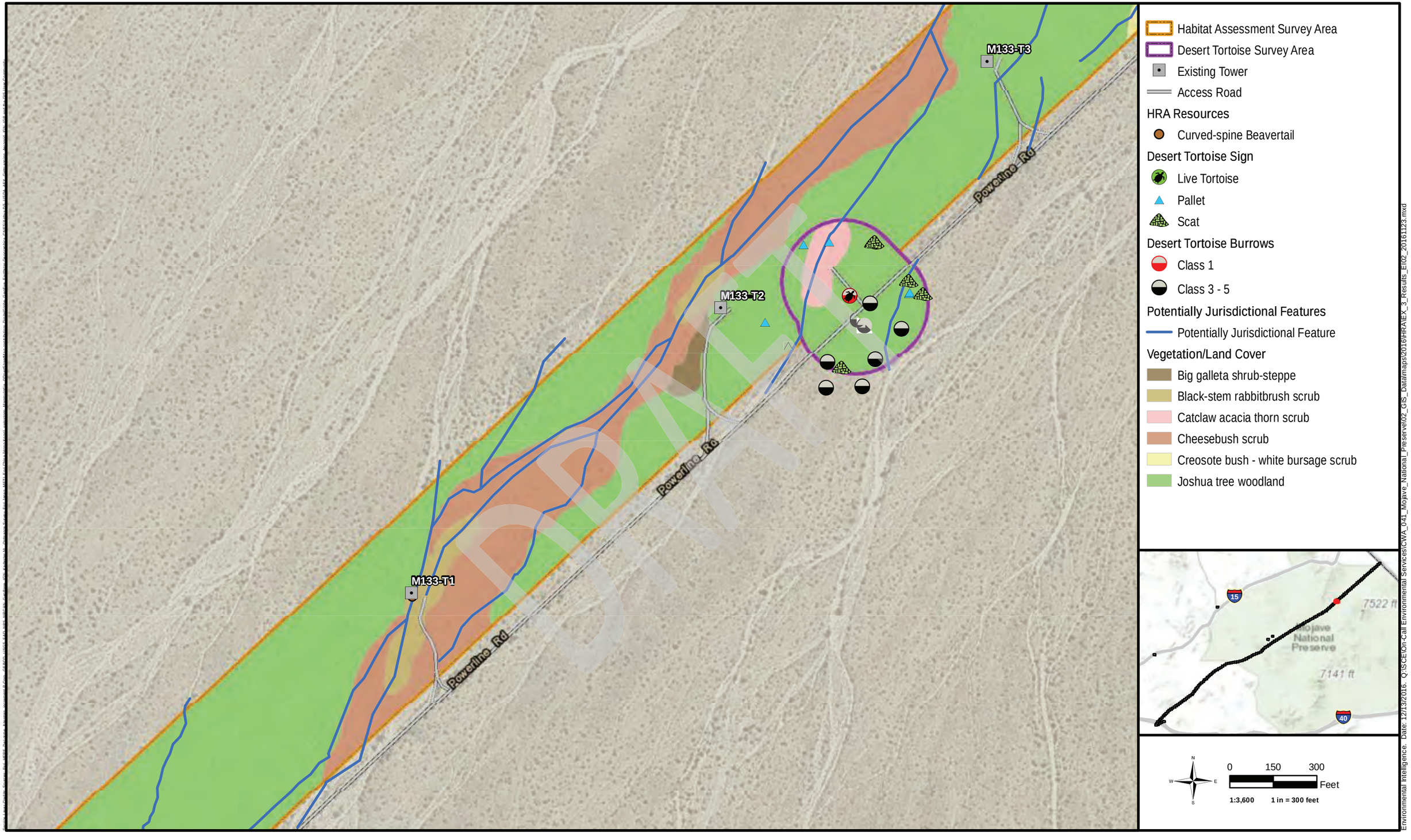

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M134-T3
M134-T2
M134-T1
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Curved-spine Beavertail
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Scat
Desert Tortoise Burrows
Class 1
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Catclaw acacia thorn scrub
Creosote bush scrub
Joshua tree woodland
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

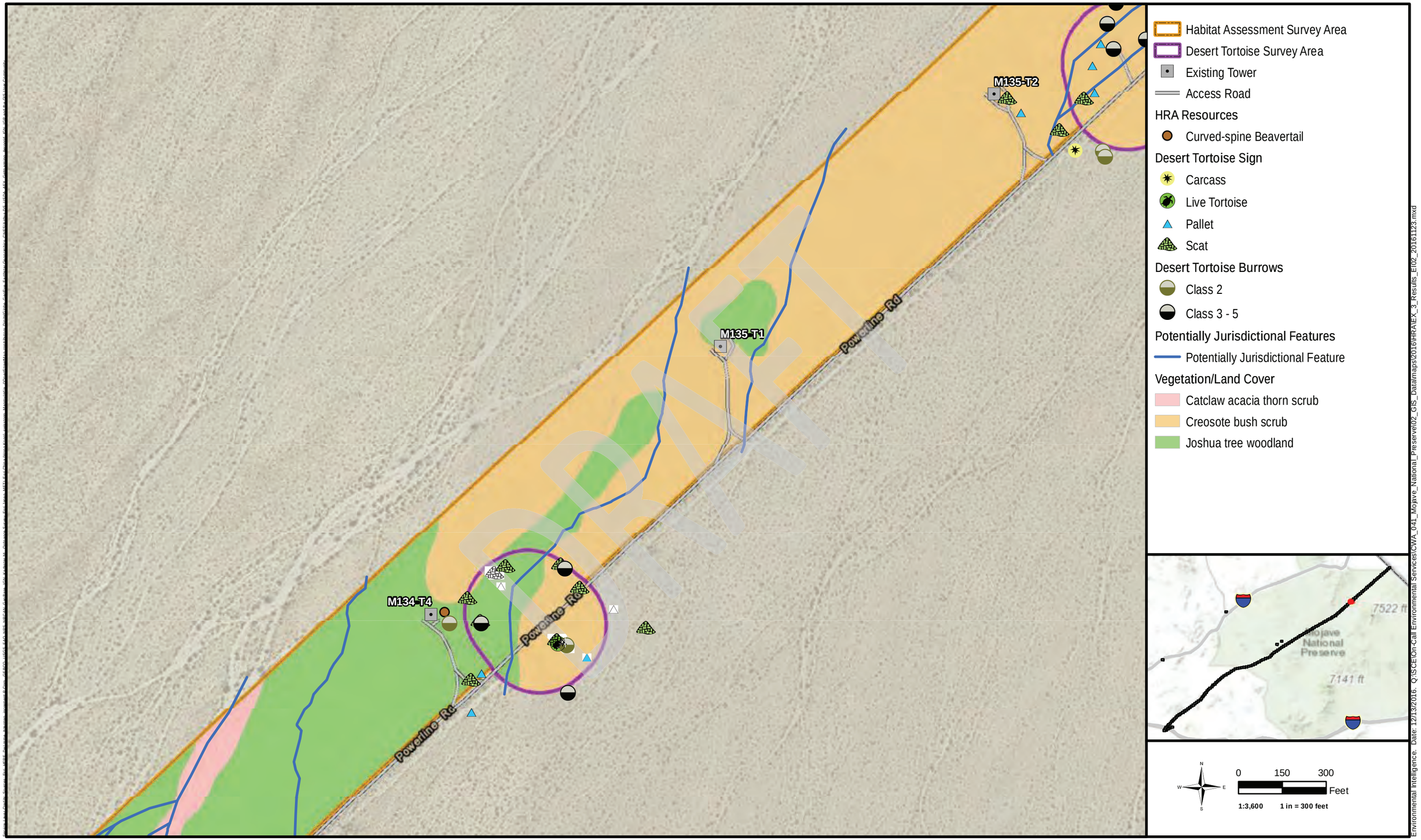
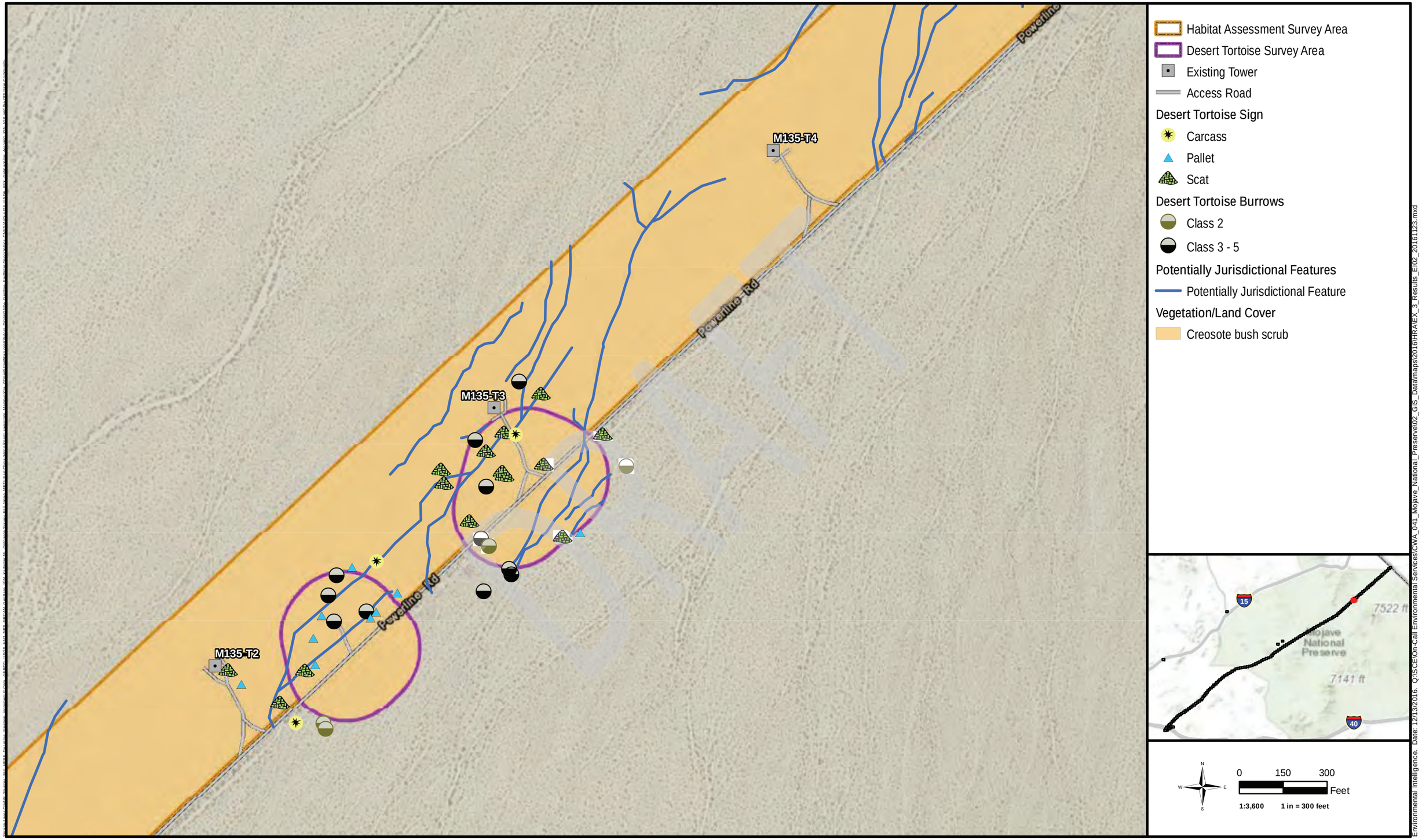


Exhibit 3. Survey Areas and Results (Page 114 of 140)

LVRAS Project | San Bernardino County, CA



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LVRAS Project | San Bernardino County, CA


M136-T3
M136-T2
M136-T1
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ef\02_20161123.mxd


M137-T1
M136-T4
M136-T3
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 118 of 140)

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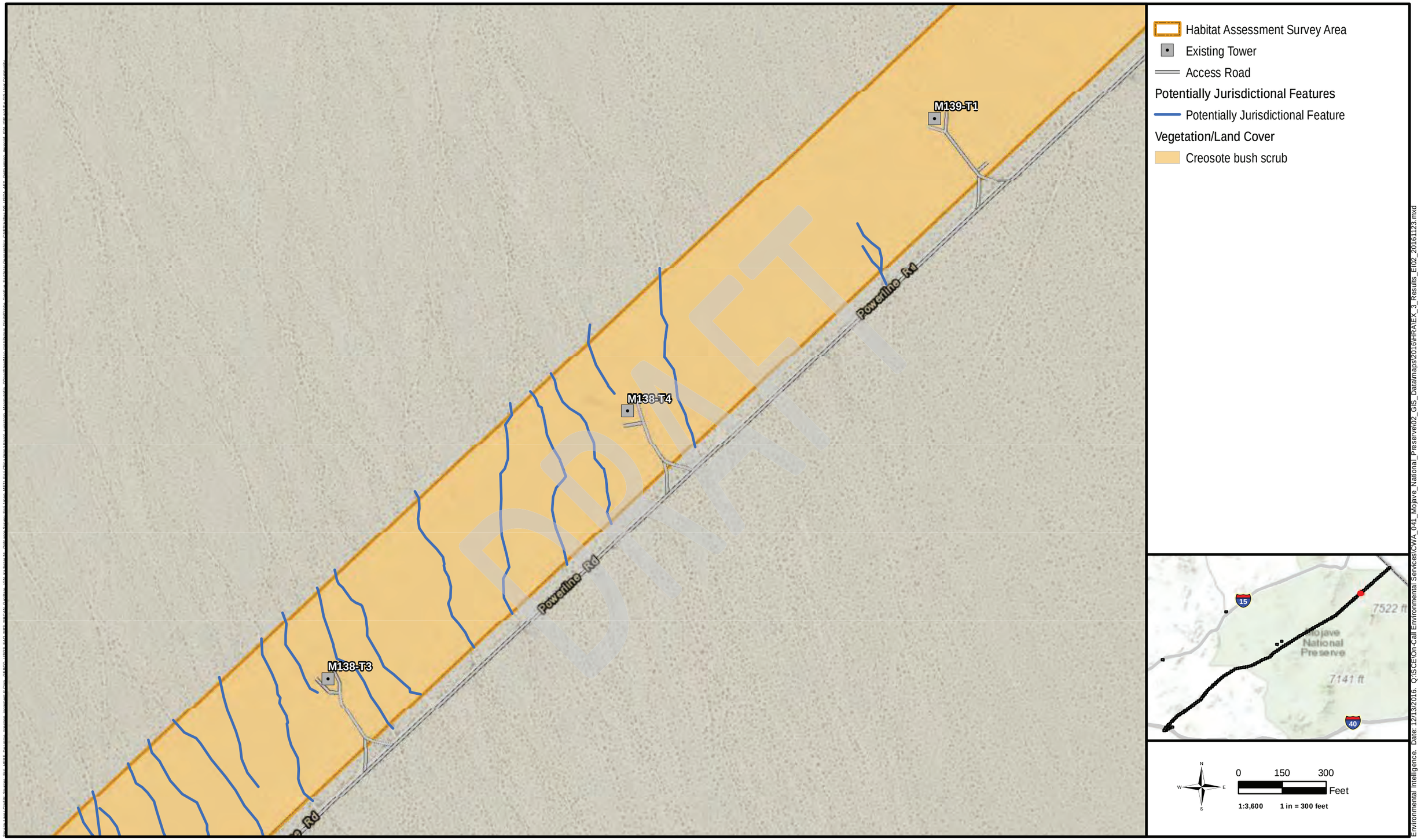
EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 119 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA



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