

APPENDIX M
BAT HABITAT ASSESSMENT REPORT
(Report for 2012 and 2013)

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September 27, 2013

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Subject: Bat Habitat Suitability Assessment for the Southern California Edison West of Devers Upgrade Project, Riverside and San Bernardino Counties, California

Dear Mr. Holbrook and Mr. Goldfarb:

This letter report presents the methods and results of the bat habitat suitability assessment performed along the length of the West of Devers (WOD) Upgrade Project (Proposed Project), which would upgrade the existing WOD transmission line by replacing existing 220-kilovolt (kV) transmission lines and associated structures with new, higher-capacity 220 kV transmission lines and structures; modifying existing substation facilities; removing and replacing existing subtransmission (66 kV) lines; removing and replacing existing distribution (12 kV) lines; utilizing new and existing staging yards; and making various telecommunication system and access road improvements.

This reconnaissance-level bat habitat suitability assessment was conducted to locate any potential day or night bat roosting sites and to evaluate the potential for bat foraging and roosting activity within the Project Study Area. Areas of interest included tree roosts, anthropogenic structures, and cliff and rock habitat.

In December 2012, the assessment was conducted within the Project Study Area, which included the WOD corridor with a 500-foot buffer. Prior to this assessment, potential bat roosting sites were identified by examining aerial imagery for the presence of any mature trees, rock cliffs, boulders, and anthropogenic structures such as bridges, culverts, and buildings. In 2013, previously unsurveyed areas were added to the Project Study Area, and an assessment of these additional areas was conducted in April 2013. These areas included access roads, subtransmission and telecommunication lines, and staging areas.

Potential bat roosting sites were observed throughout the Project Study Area, and included anthropogenic structures and large trees. Although no bats were observed during the habitat assessment, bat guano indicating some degree of bat roosting activity was observed at three of the visited potential roosting locations. In addition, foraging western mastiff bat (*Eumops perotis*) individuals were incidentally and audibly detected during biological surveys conducted within the Project Study Area.

INTRODUCTION

The purpose of this report is to discuss the results of the bat habitat suitability assessment performed along the length of the WOD Proposed Project, which would upgrade the existing WOD transmission

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line by replacing existing 220-kilovolt (kV) transmission lines and associated structures with new, higher-capacity 220 kV transmission lines and structures; modifying existing substation facilities; removing and replacing existing subtransmission (66 kV) lines; removing and replacing existing distribution (12 kV) lines; utilizing new and existing staging yards; and making various telecommunication system and access road improvements.

Most of the Proposed Project occurs within a Southern California Edison (SCE) right-of-way (ROW) corridor and extends along an existing transmission line corridor from the Vista Substation in the City of Grand Terrace, in San Bernardino County, to the Devers Substation near North Palm Springs, in Riverside County (Figure 1; all figures attached in Appendix A). The Proposed Project would also include transmission facility upgrades extending up to the San Bernardino Substation between the Cities of San Bernardino and Redlands, in San Bernardino County. The Project Study Area is predominantly vegetated with nonnative grassland, coastal sage and desert scrub communities, chaparral, coast live oak woodland, riparian forest/woodland, and ruderal and agricultural fields.

This reconnaissance-level bat habitat suitability assessment was conducted to locate any potential bat roosting sites, as well as to evaluate the potential for bat foraging and roosting activity within the Project Study Area. Day roosts are used by bats during the day for shelter from the elements and from predators, while a night roost refers to a structure (natural or humanmade) used by bats during the evening to rest during foraging bouts; these night roosts, which are usually cavities or crevices situated in or near a foraging area, also play an important role in the energetics and social interaction of bats. Day roosts may also double as night roosts, particularly if they are situated in or near a foraging area. Since bats have separate roosting and foraging habitat requirements, it is expected that some bats may utilize one area for foraging and another for roosting. While more significant and direct impacts to bats occur through roost removal, destruction, or disturbance, indirect impacts such as decline of prey base due to loss or modification of foraging habitat can also be substantial. Therefore, when assessing an area with regard to proposed alterations to habitat, a landscape-level approach is required to adequately determine potential impacts to bats.

PROJECT STUDY AREA

The Proposed Project would be located primarily within the existing WOD corridor in the incorporated and unincorporated areas of Riverside and San Bernardino Counties, including the Morongo Indian Reservation, and the Cities of Banning, Beaumont, Calimesa, Colton, Grand Terrace, Loma Linda, and Redlands. The existing WOD corridor traverses a combination of residential, commercial, agricultural, recreation, and open space land uses.

The Proposed Project passes through predominantly native or historically disturbed lands with scattered homes or small ranches in the Proposed Project vicinity. The dominant plant communities within the ROW corridor and adjacent lands include nonnative grassland, coastal sage and desert scrub communities, chaparral, coast live oak woodland, riparian forest/woodland, and ruderal and agricultural fields. Grassland and scrub communities occur mainly in the hills of the San Timoteo Badlands and mountain foothills, while chaparral occurs on north-facing slopes, and riparian forest/woodlands are found along larger drainages. Desert scrub is common in the eastern third (approximately 15 miles) of the Project Study Area.

The topography in the Project Study Area is mostly rolling and steep hills, most notably including the San Timoteo Badlands. This rugged terrain in the western portion of the Project Study Area (approximately 20 miles) transitions to a mixture of flat desert and mountain foothills in the eastern portion (approximately 15 miles) of the WOD corridor. Ephemeral and perennial drainages occur throughout the ROW corridor. San Timoteo Creek flows into the Santa Ana River in the City of Colton and is the most notable drainage in the western half of the ROW corridor. The ephemeral San Gorgonio River, at the west edge of the Morongo Reservation, and the perennial Whitewater River, near the Devers Substation, are the two most prominent desert drainages in the eastern portion of the WOD corridor. These two desert rivers are tributary to the Salton Sea, east of Palm Springs.

METHODS

In 2012, a reconnaissance-level bat habitat suitability assessment was conducted in the Project Study Area, which included the WOD corridor with a 500-foot buffer. Prior to this assessment, potential bat roosting sites were identified by examining aerial imagery (e.g., Google and Bing online maps) for the presence of any mature trees, rock cliffs, boulders, and anthropogenic structures such as bridges, culverts, and buildings. In addition, LSA Associates, Inc. (LSA) biologists noted the locations of any potential roosting and foraging habitat observed while conducting various wildlife and botanical surveys within the Project Study Area. On December 10, 2012, a site visit was conducted by LSA Senior Biologist and bat specialist, Jill Carpenter, and LSA Senior Biologist, Ingri Quon, to confirm the suitability of the locations identified on aerial maps or by various biologists in the field as containing roosting habitat, to more closely examine these potential roosting areas, and to determine if any other suitable sites are present within the Project Study Area. Due to safety issues and/or access restrictions such as fencing, many of the observed structures could not be approached and examined for bats or sign (e.g., guano, urine staining, or vocalizations) of bats. In addition, potential roost sites in locations where the 500-foot buffer included commercial or residential areas were not visited due to restrictions associated with trespassing on private property.

Potential foraging habitat was assessed on the basis of vegetation composition, existence of adjacent foraging or roosting habitat, and/or the presence of a water source, while potential day- and night-roosting sites were identified through the examination of mature or dead trees and anthropogenic structures such as culverts for suitable crevices and cavities that may be suitable for roosting as well as any presence of bat sign (e.g., guano, urine staining, or vocalizations). Large trees within the Project Study Area that are suitable for foliage-roosting species were noted, but roosting activity at these locations could not be confirmed during the assessment due to the nature of this roosting behavior (these species tend to roost singly, beneath leaves, and may roost in a different location each night).

In 2013, a reconnaissance-level bat habitat suitability assessment was conducted for areas added to the Proposed Project subsequent to the 2012 assessment. These additional areas included access roads, subtransmission and telecommunication lines, and staging areas, and were assessed using the methods described above. Site visits were conducted on April 3 and 4, 2013, by LSA Senior Biologist and bat specialist, Jill Carpenter, concurrently with burrowing owl surveys, to more closely examine some of the potential roosting areas that had been previously identified by other biologists conducting wildlife surveys. Potential roosting areas identified during review of aerial imagery were also examined where feasible.

RESULTS AND DISCUSSION

Suitable bat roosts were observed at various locations throughout the Project Study Area. In addition, the varied topography and relative diversity of plant communities within the Project Study Area, and their associated insect fauna, may provide foraging habitat for a variety of bat species. Several ponds and drainages containing riparian or wetland vegetation are distributed throughout the western portion of the WOD corridor and vicinity, including San Timoteo Creek and the area surrounding El Casco Lakes and the nearby lakes at Fisherman's Retreat; these areas provide particularly high quality foraging habitat for bats.

Although no bats were observed during the bat habitat assessment, bat guano indicating some degree of bat roosting activity was observed at three of the visited potential roosting locations. Potential roosting areas that were identified during the 2012 and 2013 assessments are mapped on Figure 1 (Sheets 1 through 11) and include structures such as culverts, bridges, and abandoned houses. Clusters of trees suitable for day-roosting bats are included on these maps; however, due to space and map scale considerations, individual large trees suitable for use by roosting bats are not marked. Representative photographs of these roosting sites and foraging areas are included in Figures 2 through 4. The bat species with potential to occur are listed below in Table A, Bat Species Expected to Occur within the Project Study Area, along with descriptions of their corresponding roosting habitat characteristics, as well as the probability of each species roosting within the Project Study Area or immediate vicinity.

Tree Roosts

In addition to providing foraging habitat, many of the trees throughout the Project Study Area may also be utilized for roosts by foliage-roosting bat species; however, roosting activity at these locations could not be confirmed during the assessment due to the nature of this roosting behavior (these species tend to roost singly, beneath leaves, and may roost in a different location each night). Mature western cottonwoods (*Populus fremontii*) suitable for the foliage-roosting western red bat (*Lasiurus blossevillii*) are present in several riparian areas located along the Project Study Area. Western red bats are strongly associated with established riparian habitats containing a variety of riparian tree and shrub species, as well as with orchards such as the citrus groves found throughout the western portions of the Project Study Area. The hoary bat (*Lasiurus cinereus*) is another species that roosts in mature trees; these foliage-roosting bats roost in a variety of coniferous and deciduous trees, and are commonly associated with oak trees (*Quercus* spp.), which are distributed throughout the western portions of the Project Study Area. Mature palm trees (*Washingtonia* spp.), with untrimmed fronds suitable for the foliage-roosting western yellow bat (*Lasiurus xanthinus*) occur in several areas situated along and/or adjacent to the ROW; this species has also been documented to occasionally roost in broad-leafed trees.

Mature western sycamores (*Platanus racemosa*) suitable for roosting were primarily observed in landscaped areas adjacent to developments, but they also occur sporadically in drainages throughout the Project Study Area and often in conjunction with oaks. Many of these potential tree roosts occur in high-quality riparian habitat consisting of willow (*Salix* spp.) species, western cottonwoods, and native herbaceous and shrub species, increasing the value of the surrounding area as foraging habitat and the likelihood that roosting would occur.

Table A: Bat Species Expected to Occur within the Project Study Area

Species Name (Scientific/Common)	Status	Description of Roosting Habitat	Probability of Occurrence within Project Study Area
<i>Antrozous pallidus</i> Pallid bat	US: FSS CA: SSC	Roosts in crevices in rocky outcrops and cliffs, caves, mines, hollows or cavities of large trees, and anthropogenic structures such as bridges and buildings; may also roost near the ground in rock piles (Rambaldini 2005).	High. Suitable trees and structures for day roosting present. Likely forages in Project Study Area.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	US: FSS CA: CE	Predominantly uses mines, caves, and cave-like areas for roosting. There are some reports of this species utilizing buildings, bridges, rock crevices, and hollow trees as roost sites (Piaggio 2005).	Low. No suitable day roosting habitat in or immediately adjacent to Project Study Area. May forage in Project Study Area.
<i>Eptesicus fuscus</i> Big brown bat	US: – CA: –	Roosts in trees, caves, and crevices in cliff faces and in anthropogenic structures such as bridges, buildings, and mines (Perkins 2005).	High. Suitable trees and structures present for day roosting. Likely forages in Project Study Area.
<i>Euderma maculatum</i> Spotted bat	US: – CA: SSC	Roosts in crevices and caves, often high in fractured rock cliffs (Chambers & Herder 2005).	Low. No suitable day roosting habitat in or immediately adjacent to Project Study Area. May forage in Project Study Area.
<i>Eumops perotis</i> Western mastiff bat	US: – CA: SSC	Primarily a cliff-dwelling species, roosting under exfoliating rock slabs and in crevices in boulders and buildings. Travels widely when foraging (Siders 2005).	Observed. No suitable cliffs or rock outcrops for day roosting present; likely forages in Project Study Area. A foraging individual was audibly detected during biological surveys (LSA 2012).
<i>Lasionycteris noctivagans</i> Silver-haired bat	US: – CA: SA	Found primarily in north temperate zone conifer and mixed conifer/hardwood forests. Roosts inside cavities or under loose bark of large-diameter snags. In winter and during seasonal migrations found in low elevation, xeric habitats (Perkins 2005).	Moderate. Probable winter migrant. Marginally suitable trees present for day roosting; may forage in wooded riparian areas within Project Study Area.
<i>Lasiurus blossevillii</i> Western red bat	US: FSS CA: SSC	Roosts in the foliage of broad-leaved trees or shrubs within streams or fields, in orchards, and occasionally urban areas; commonly roosts in mature cottonwoods and sycamores. Also documented roosting in mature eucalyptus trees (Bolster 2005).	High. Suitable large trees present for day roosting in riparian areas and citrus groves. Likely forages in Project Study Area.
<i>Lasiurus cinereus</i> Hoary bat	US: – CA: SA	Roosts in the foliage of coniferous, deciduous, and evergreen trees and shrubs (Bolster 2005).	High. Suitable large oak trees present for day roosting. Likely forages in Project Study Area.
<i>Lasiurus xanthinus</i> Western yellow bat	US: – CA: SSC	Found in desert regions of the southwest U.S. Individuals roost in the dead fronds of palm trees and have also been documented roosting in cottonwood trees (Williams 2005).	High. Suitable palm trees for day roosting present in Project vicinity; may also roost in large-leaved deciduous trees within the Project Study Area. Likely forages in Project Study Area.
<i>Myotis californicus</i> California myotis	US: – CA: –	Roosts in crevices within caves, mines, rocky hillsides, as well as under tree bark and in buildings (Bogan et al. 2005).	High. Suitable trees present for day roosting. May forage in Project Study Area.

Table A: Bat Species Expected to Occur within the Project Study Area

Species Name (Scientific/Common)	Status	Description of Roosting Habitat	Probability of Occurrence within Project Study Area
<i>Myotis ciliolabrum</i> Western small-footed myotis	US: – CA: SA	Roosts in cliff and rock crevices, caves, mines, and buildings (Bogan et al. 2005).	Moderate. Marginally suitable habitat present for day roosting. May forage in Project Study Area.
<i>Myotis evotis</i> Long-eared myotis	US: – CA: SA	Roosts under exfoliating tree bark and in hollow trees, caves, mines, cliff crevices, and rocky outcrops; may also roost in buildings and bridges. Found in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests (Bogan et al. 2005).	Moderate. Marginally suitable trees present for day roosting; may forage in Project Study Area.
<i>Myotis thysanodes</i> Fringed myotis	US: – CA: SA	Range is patchy in western North America from sea-level to 9,350 feet; most common at middle elevations. Appears to be most common in drier woodlands but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe. Roosts primarily in large trees and snags, as well as in caves and mines. Also roosts in buildings, rock crevices, cliff faces, and bridges.	Low. Generally rare and local in the area. Suitable roosting habitat present for day roosting; however, foraging individuals may occur.
<i>Myotis volans</i> Long-legged myotis	US: – CA: SA	Roosts in abandoned buildings, cliff crevices, exfoliating tree bark, and hollows within snags; usually overwinters in caves and mine tunnels. Primarily found in coniferous forests, but also occurs seasonally (winter visitor) in riparian and desert habitats (Bogan et al. 2005).	Low. Possible seasonal visitor only. Marginally suitable trees present for day roosting; may forage in wooded riparian areas within Project Study Area.
<i>Myotis yumanensis</i> Yuma myotis	US: – CA: SA	Roosts in crevices within bridges, buildings, culverts, cliff crevices, caves, mines, and trees, typically near a perennial water source (Bogan et al. 2005).	High. Suitable day-roosting habitat present in trees and structures. Likely forages in Project Study Area.
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	US: – CA: SSC	Primarily in crevices in cliffs, high rocky outcrops, and slopes (Navo 2005).	Low. Suitable cliffs and rock outcrops not present for day roosting. May forage in Project Study Area.
<i>Nyctinomops macrotis</i> Big free-tailed bat	US: – CA: SSC	Roosts mainly in crevices in cliffs, although there is some documentation of roosting in buildings, caves, and tree cavities. Found in desert shrub, woodlands, and evergreen forests (Navo 2005).	Low. Suitable cliffs and rock outcrops not present for day roosting. May forage in Project Study Area.
<i>Parastrellus hesperus</i> Western canyon bat	US: – CA: –	Roosts in small crevices in rocky canyons, caves, mines, bridges, and outcrops; may roost under rocks or in small burrows (Brown 2005).	High. Suitable habitat present for day roosting. Likely forages in Project Study Area.
<i>Tadarida brasiliensis</i> Mexican free-tailed bat	US: – CA: –	Roosts in caves, rock crevices on cliff faces, and anthropogenic structures such as mines, culverts, tunnels, and bridges (BCI 2005).	High. Suitable day-roosting habitat present. Likely forages in Project Study Area.

CE = Candidate Endangered.

FSS = Forest Service Sensitive species. Taxa identified by the Forest Service in Region 5 (Pacific Southwest Region) that are not listed or proposed for listing under the federal Endangered Species Act, but receive special management consideration within the National Forest.

SA = Special Animal. Taxon of concern to the California Natural Diversity Database (CNDDB) regardless of its legal or protection status.

SSC = California Species of Special Concern. Refers to taxa identified by California Department of Fish and Wildlife (CDFW) as having vulnerable or seriously declining populations.

Bats may also roost beneath exfoliating bark, or in crevices and hollows of the mature trees and snags observed throughout the Project Study Area. Bat species that are known to utilize crevices and hollows in trees as roosts include pallid bat (*Antrozous pallidus*), big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumanensis*), western long-eared myotis (*Myotis evotis*), and long-legged myotis (*Myotis volans*).

Anthropogenic Structures

Suitable day-roosting habitat was observed at two structures within the Project Study Area, including the Interstate 10 (I-10) Bridge over the Mission Channel in San Bernardino County and a concrete drainage culvert beneath Brentwood Avenue in the City of Beaumont. These structures may also be used by night-roosting bats. Although no bats were observed day roosting at either of these two locations, scattered guano indicating bat roosting was found beneath several crevices in the Brentwood Avenue culvert, and a very large quantity of guano was observed beneath several crevices in the I-10 bridge, indicating that a large number of bats likely roost in this structure. This bridge may be used by a maternity colony, which comprises a grouping of female bats rearing their young. Further investigation through nighttime acoustic surveys would be necessary to determine what species and approximately how many bats are roosting at this location.

Suitable night-roosting habitat was observed at five structures within the Project Study Area, including a culvert comprising five corrugated metal pipes at Westwood Road near Reche Canyon Road, a culvert beneath I-10 near the southern edge of the City of Calimesa, a golf cart crossing beneath Brentwood Avenue, a concrete double culvert under Beaumont Avenue, and a concrete culvert beneath Iowa Street at Citrus Avenue in the City of Redlands. Guano confirming bat roosting was observed at the culvert beneath Beaumont Avenue.

Day- and/or night-roosting habitat may also be present in an abandoned house on San Timoteo Canyon Road; however, this house was not entered and examined due to safety and access concerns, so the quality and presence of suitable roosting habitat could not be confirmed. Other abandoned houses in the cities of Beaumont and Redlands may also contain bat roosting habitat, but these were also not entered or examined.

Species that commonly utilize anthropogenic structures such as bridges, culverts, and buildings for roosting and that may occur within the Project Study Area include the Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), pallid bat (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), western small-footed myotis (*Myotis ciliolabrum*), California myotis (*Myotis californicus*), and western canyon bat (*Parastrellus hesperus*).

Cliff and Rock Habitat

Scattered boulders are present throughout the western and eastern portions of the Project Study Area. Crevices in these boulders may be used for roosting by a variety of bat species including western canyon bat, western small-footed myotis, California myotis, big brown bat, pallid bat, Yuma myotis, western long-eared myotis, and Mexican free-tailed bat.

Cliffs and rocky outcrops are not present within the Project Study Area; therefore, bats closely associated with these roost types such as western mastiff bat, pocketed free-tailed bat (*Nyctinomops*

femorosaccus), big free-tailed bat (*Nyctinomops macrotis*), and spotted bat (*Euderma maculatum*) are not expected to roost within the Project Study Area. However, in the western portion of the Project Study Area, large boulders and rock outcrops are present on nearby hillsides within 0.25 mile of the corridor, and because these species tend to forage across a large area, there is a possibility that any of these species may disperse from roost sites outside the Project Study Area and forage within the SCE ROW. For example, foraging western mastiff bat individuals were audibly detected by LSA biologists conducting surveys within the Project Study Area in early June 2012 (City of Grand Terrace) and on September 8 and 12, 2012 (southwest of El Casco Lakes).

CONCLUSIONS AND RECOMMENDATIONS

Foraging Habitat

Temporary and/or permanent impacts to bat foraging habitat, which include areas of vegetation, are anticipated due to grading and removal of vegetation communities as a result of the Proposed Project. However, foraging habitat is abundant in the area, and impacts are limited within an extensive area of similar habitat types; therefore, foraging habitat impacts are not expected to be substantial.

Anthropogenic Structures

Eight bridge and culvert structures including one abandoned house within the Project Study Area may contain bat roosting habitat as noted during examination of these structures. Bat sign confirming roosting activity was observed at two locations containing suitable habitat for day and/or night roosting, and at one location containing only night-roosting habitat. Several other bridge and culvert structures, as well as abandoned houses within the Project Study Area, may also contain roosting habitat.

The proximity of construction activities to the I-10 bridge over Mission Channel, which may be used by a maternity colony, is not expected to result in impacts due to the fact that the bridge is situated well away from the transmission towers and is near the outer edge of the 500-foot buffer. The confirmed and potential bat roosting habitats in the remaining structures are in culverts, which are relatively subterranean.

Close examination of anthropogenic structures is not critical since no impacts to structures are anticipated during Proposed Project construction activities, which consist of replacement and upgrades to the overhead transmission line and upgrades of the transmission facilities. However, if any direct impacts to any bridges, culverts, or other existing structures are anticipated, focused surveys of those locations should be conducted by a qualified bat biologist prior to the start of construction. If bats are found roosting at said locations during such surveys, or are expected to roost at said locations, then mitigation and minimization measures may be necessary to reduce potential impacts.

Tree Roosts

Bats are highly mobile species; therefore, there is a potential for the bats to occupy any tree containing suitable roosting habitat within the WOD corridor at any time. Disruption and disturbance of maternity colonies and winter hibernacula sites would be particularly significant, as disturbance of

these roosting areas can lead to roost abandonment and/or mortality of the bats within that roost. Although several specific areas containing bat roosting habitat are present within the 500-foot buffer of the Proposed Project, the locations in which ground disturbance and construction activities would take place are generally confined to within several feet of the proposed transmission towers and away from most mature trees that could be used for roosting.

In addition, although the majority of mature trees containing roosting habitat are generally situated away from the proposed tower locations and construction activities, if transmission lines are dropped or pulled across areas containing large tree roosts during the transmission line upgrade, those tree roosts may be affected.

Due to the nature of the Proposed Project, which will include construction of an overhead transmission line and transmission facility upgrades, no substantial direct or indirect impacts to tree roosts are anticipated. If any direct impacts to any tree roosts are required, focused surveys of those locations should be conducted by a qualified bat biologist. If bats are found roosting at said locations during such surveys, or are expected to roost at said locations, then impacts to roosting bats could be minimized by scheduling disruptive activities, such as tree or palm frond trimming or impacts at or near potential roosting sites, outside of the winter and spring maternity seasons to avoid impacts to hibernating bats and nonvolant (flightless) young.

Furthermore, if dropping or pulling of lines across areas containing large trees suitable for roosting is avoided, then no impacts to tree roost habitat would be anticipated.

Cliff and Rock Habitat

Cliffs and rocky outcrops are not present within or immediately adjacent to the Project Study Area; therefore, impacts are not expected. However, to prevent impacts to potential roosting habitat present in scattered boulders throughout the far western and eastern portions of the Project Study Area, disturbance or removal of large boulders should be avoided. If such actions cannot be avoided, then mitigation measures may be required to minimize impacts.

If you have any questions concerning this report, please do not hesitate to contact me at (949) 553-0666.

Sincerely,

LSA ASSOCIATES, INC.



Jill Carpenter
LSA Senior Biologist
Bat Specialist

Attachments: Appendix A: Figures

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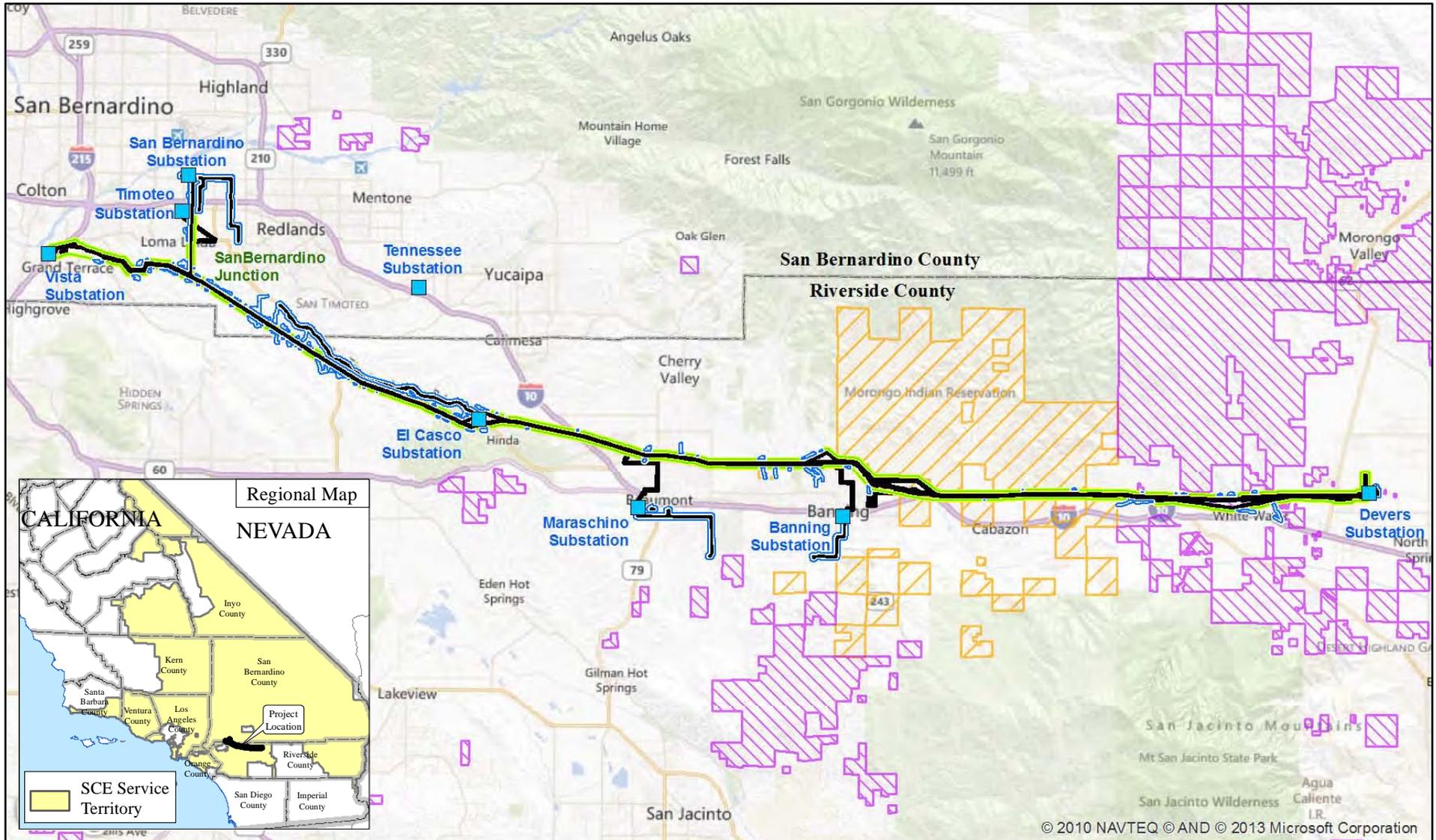
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APPENDIX A

FIGURES

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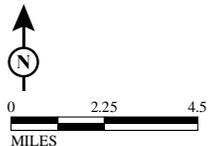
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FIGURE 1



LEGEND

- West of Devers Study Area
- 2012 Survey Area: 500' from Right-of-Way
- 2013 Survey Area: 500' from Additional Project Areas
- Substations
- U.S. Bureau of Land Management
- Morongo Reservation



Source: Bing Maps (c. 2012), SCE (2012)

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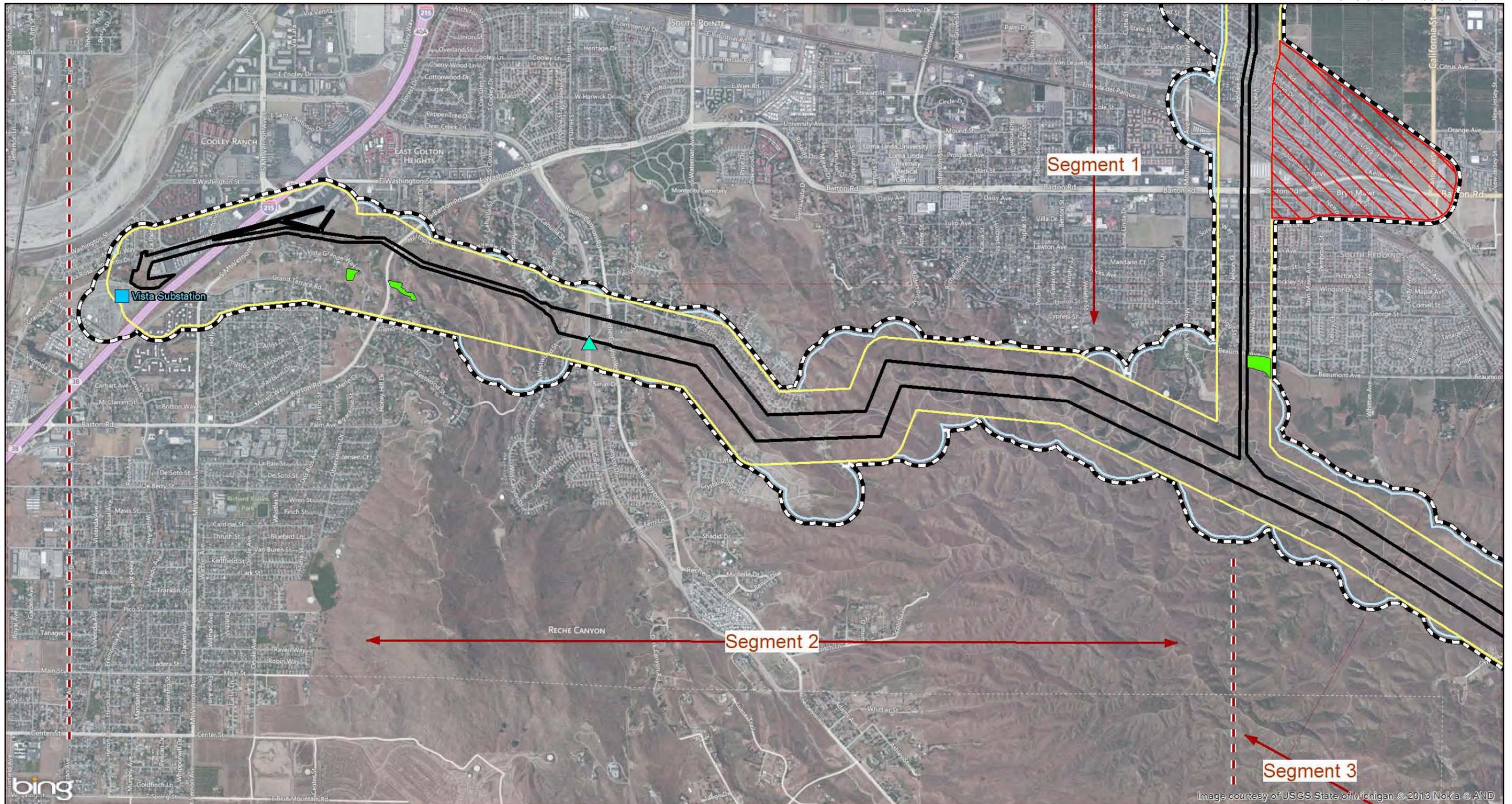
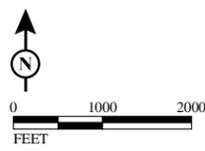


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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
- Substations
- Not Surveyed for Biological Resources
- 500' from Right-of-Way
- 500' from Disturbance Areas
- Segment Breaks
- Morongo Reservation Lands
- U.S. Bureau of Land Management
- Tree Clusters Containing Potential Day Roosts
- Potential Day Roost-Structure
- Potential Day Roost-Structure **
- Potential Night Roost-Structure
- Potential Night Roost-Structure **
- Potential Roost
- **Location where bat sign (guano and/or staining) observed



SOURCE: SCE (9/2011, 11/2011)
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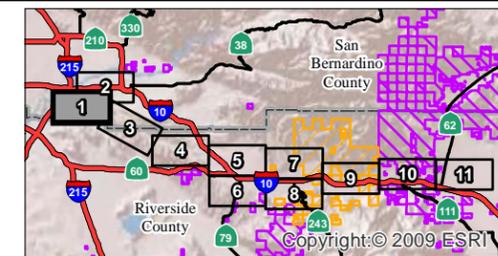
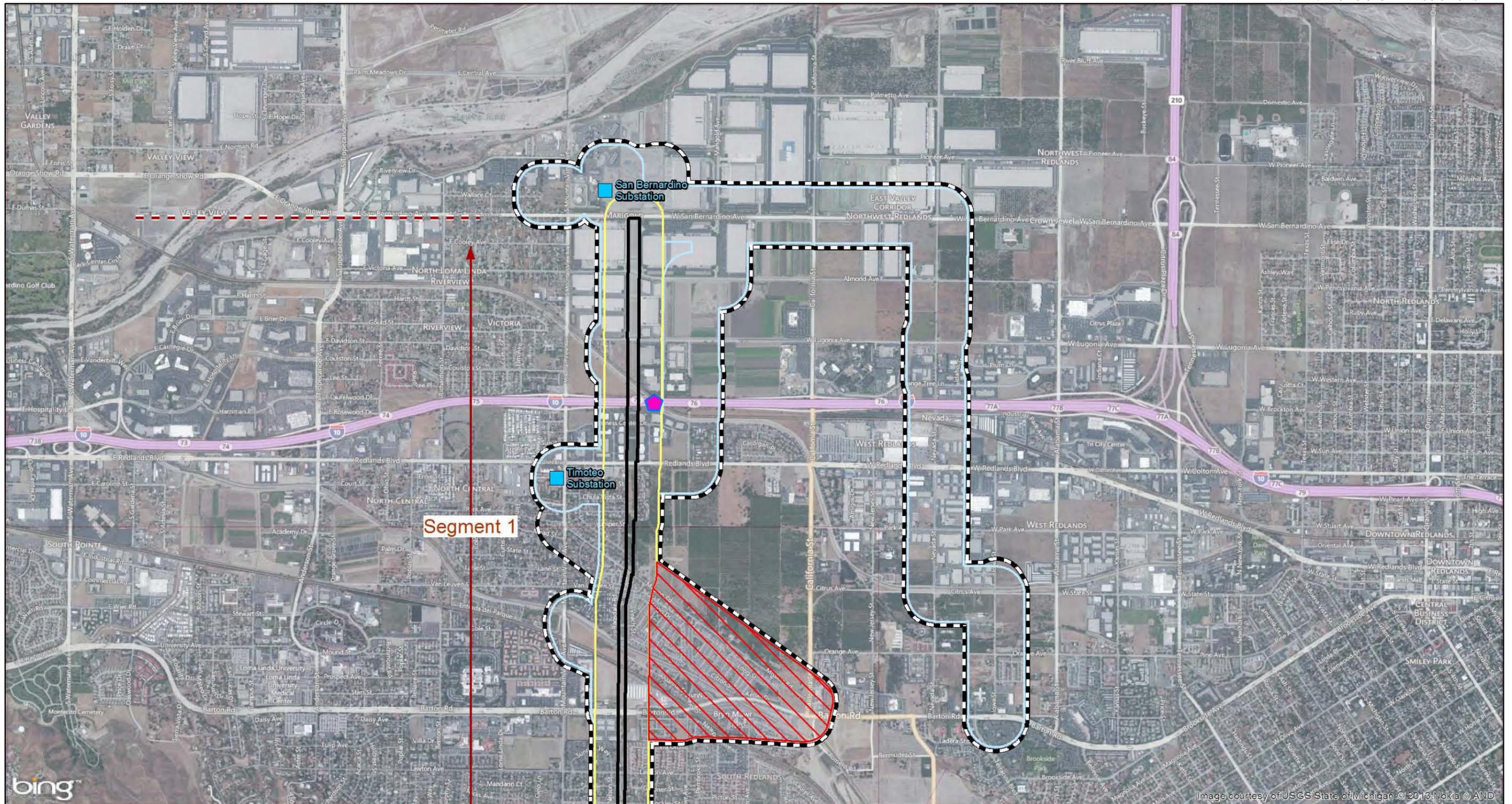


FIGURE 2
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 West of Devers Upgrade Project
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- LEGEND**
- West of Devers Study Area
 - Transmission Right-of-Way
 - Substations
 - Not Surveyed for Biological Resources
 - 500' from Right-of-Way
 - 500' from Disturbance Areas
 - Segment Breaks
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 - Potential Night Roost-Structure **
 - Potential Roost
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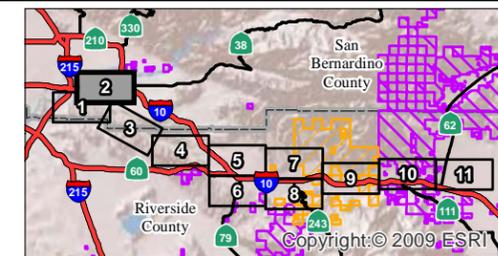


FIGURE 2
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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
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- Potential Night Roost-Structure **
- Potential Roost
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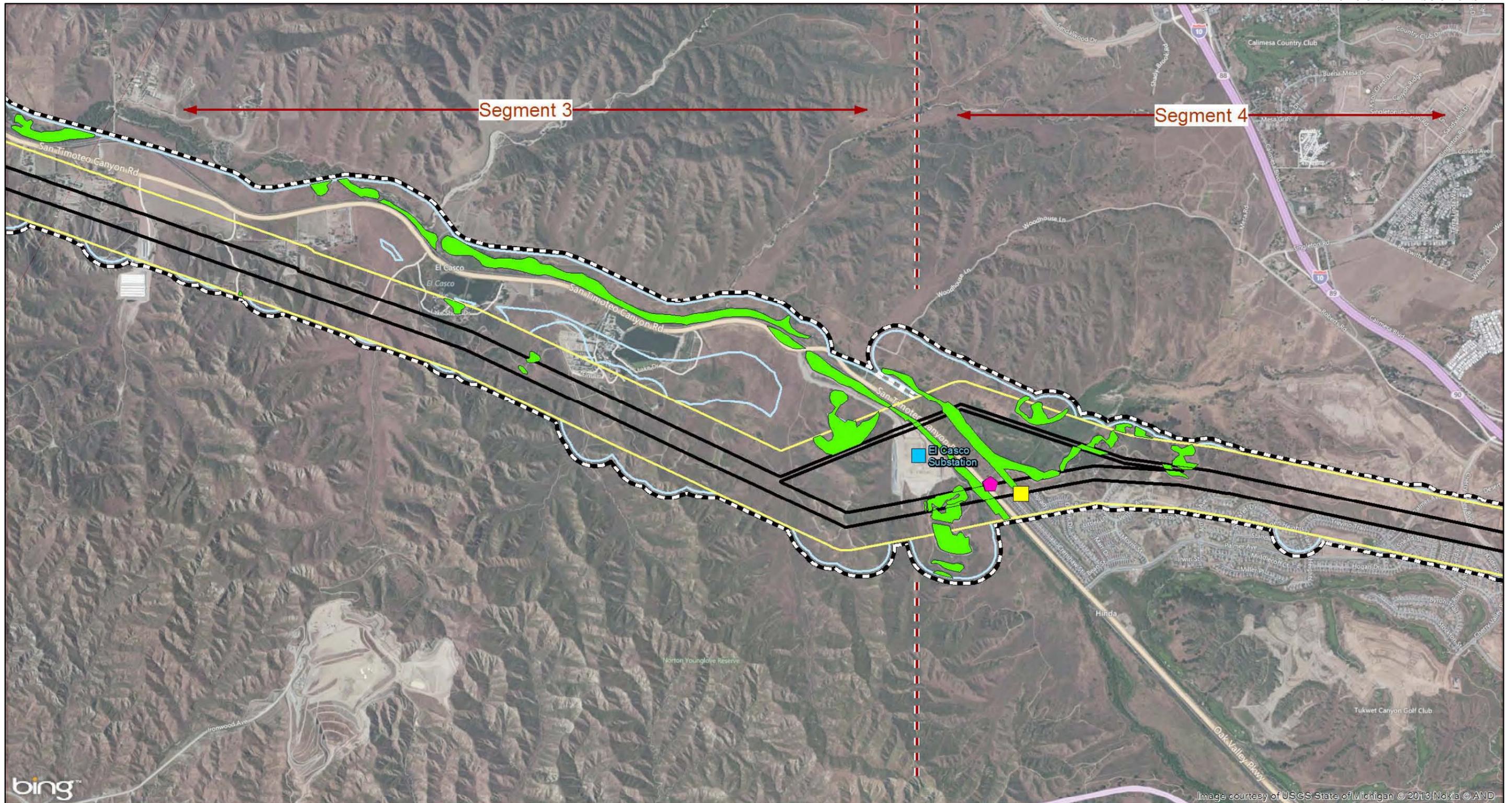
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FIGURE 2
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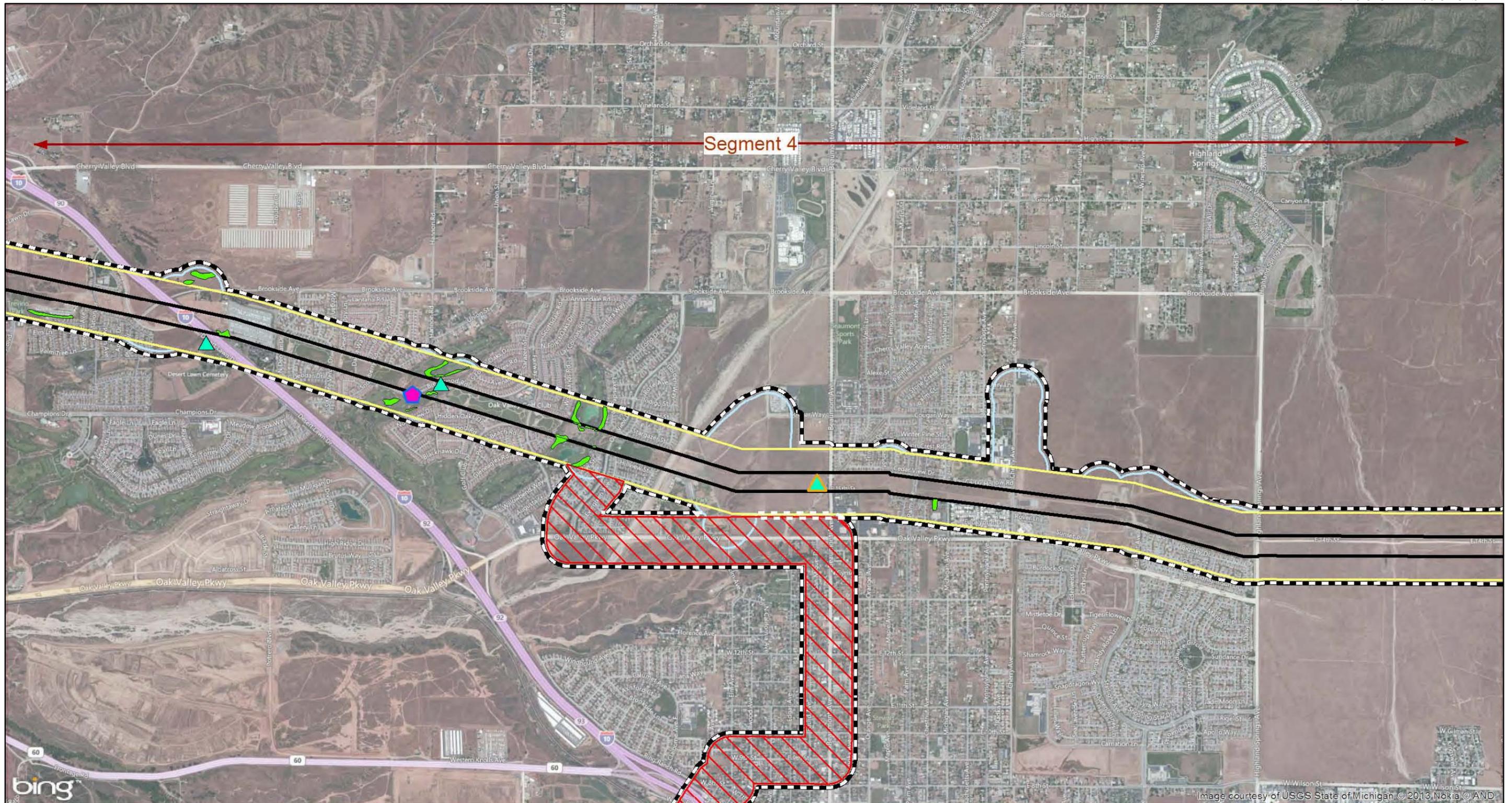
West of Devers Study Area	Segment Breaks	Tree Clusters Containing Potential Day Roosts	Potential Roost
Transmission Right-of-Way	Morongo Reservation Lands	Potential Day Roost-Structure	**Location where bat sign (guano and/or staining) observed
Substations	U.S. Bureau of Land Management	Potential Day Roost-Structure **	
Not Surveyed for Biological Resources		Potential Night Roost-Structure	
500' from Right-of-Way		Potential Night Roost-Structure **	
500' from Disturbance Areas			

San Bernardino County
Riverside County
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FIGURE 2
Sheet 04 of 11

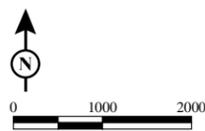
Southern California Edison
West of Devers Upgrade Project
2012 and 2013 Bat Habitat Assessment

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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
- Substations
- Not Surveyed for Biological Resources
- 500' from Right-of-Way
- 500' from Disturbance Areas
- Segment Breaks
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- Potential Day Roost-Structure
- Potential Day Roost-Structure **
- Potential Night Roost-Structure
- Potential Night Roost-Structure **
- Potential Roost
- **Location where bat sign (guano and/or staining) observed**



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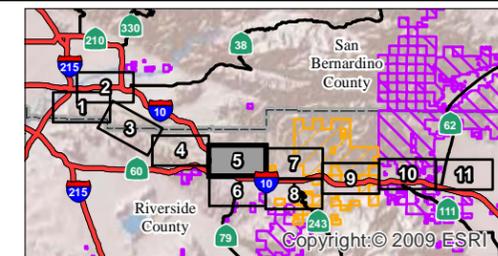


FIGURE 2
Sheet 05 of 11

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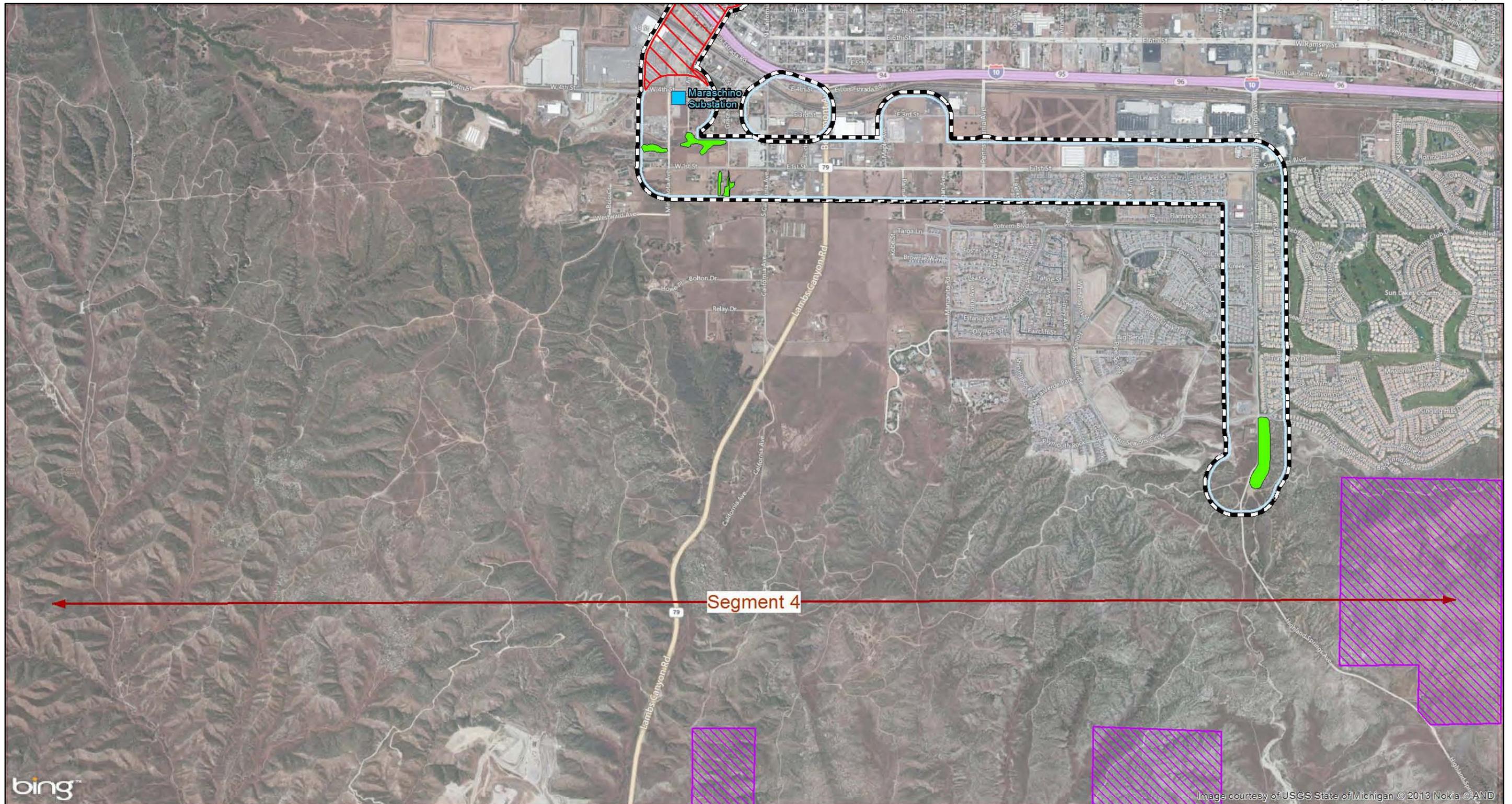
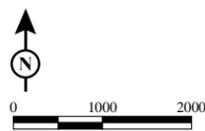


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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
- Substations
- Not Surveyed for Biological Resources
- 500' from Right-of-Way
- 500' from Disturbance Areas
- Segment Breaks
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- U.S. Bureau of Land Management
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- Potential Day Roost-Structure
- Potential Day Roost-Structure **
- Potential Night Roost-Structure
- Potential Night Roost-Structure **
- Potential Roost
- **Location where bat sign (guano and/or staining) observed**



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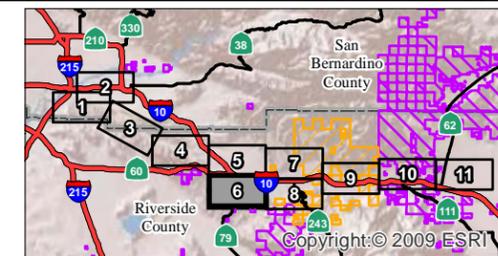
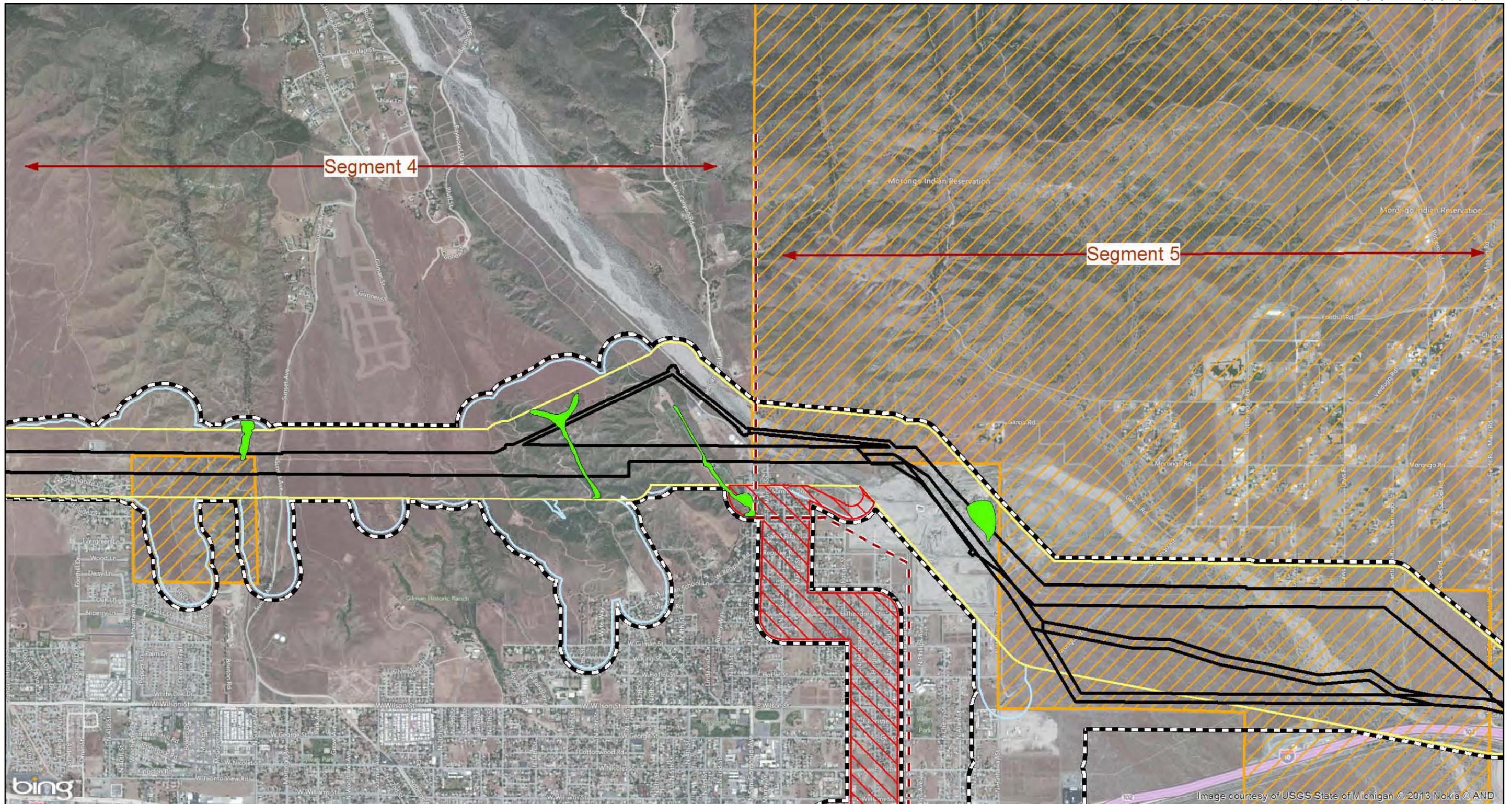


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Sheet 06 of 11

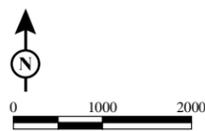
Southern California Edison
West of Devers Upgrade Project
2012 and 2013 Bat Habitat Assessment

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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
- Substations
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- Potential Day Roost-Structure **
- Potential Night Roost-Structure
- Potential Night Roost-Structure **
- Potential Roost
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SOURCE: SCE (9/2011, 11/2011)

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Proponent's Environmental Assessment
West of Devers Upgrade Project

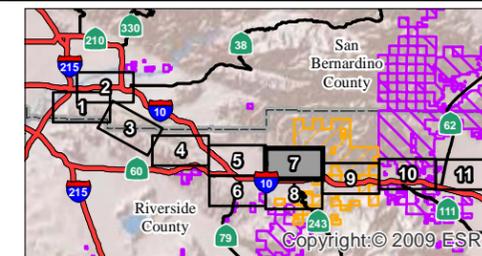
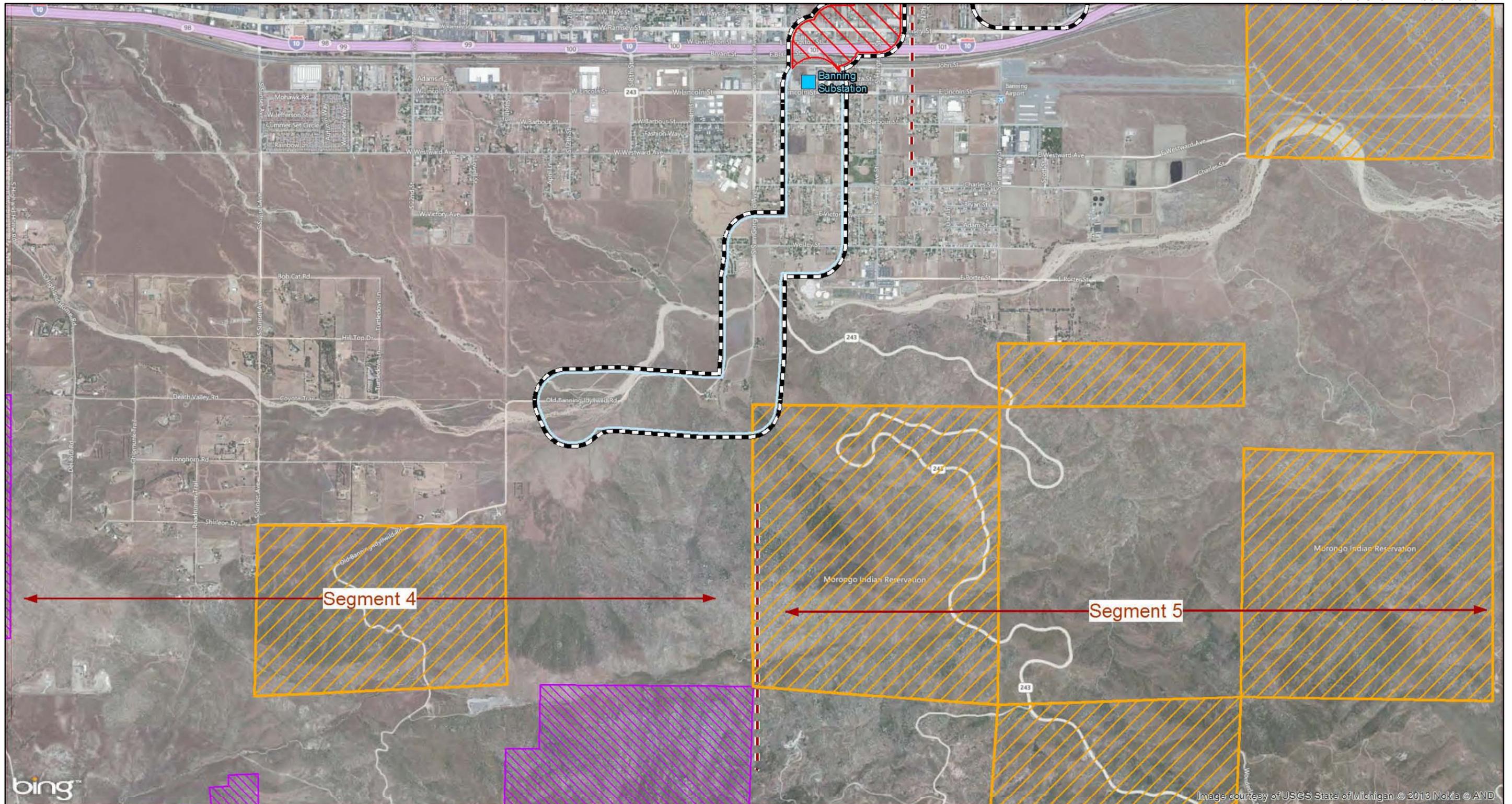


FIGURE 2
Sheet 07 of 11

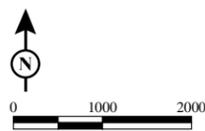
Southern California Edison
West of Devers Upgrade Project
2012 and 2013 Bat Habitat Assessment

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- Transmission Right-of-Way
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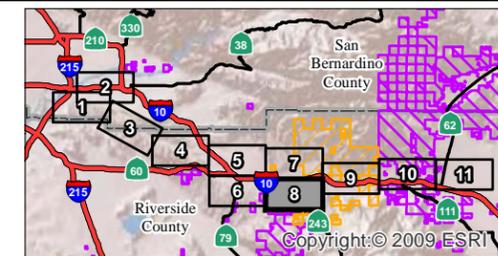
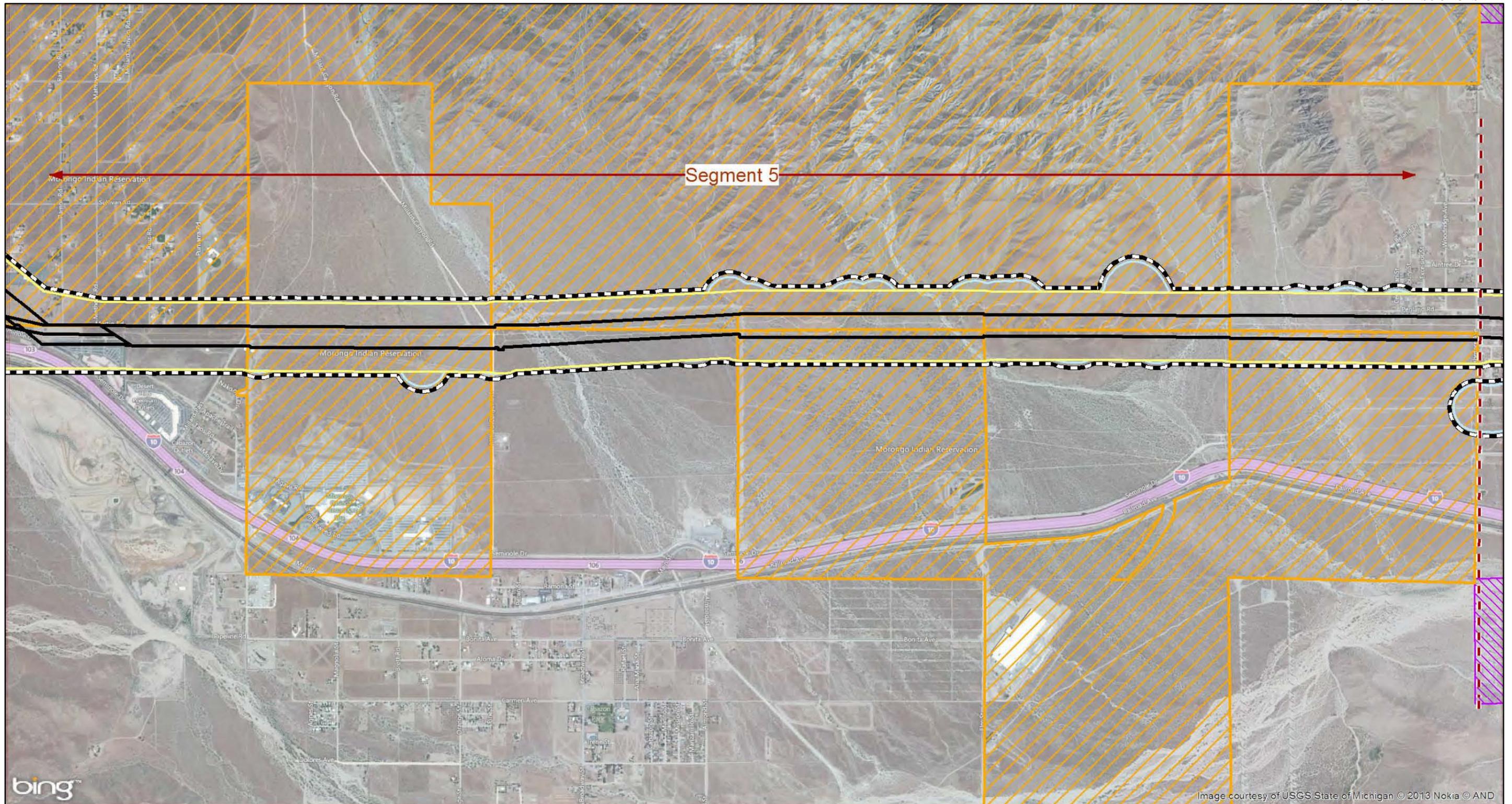


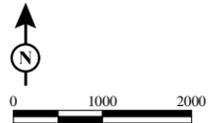
FIGURE 2
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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
- Substations
- Not Surveyed for Biological Resources
- 500' from Right-of-Way
- 500' from Disturbance Areas
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- Potential Night Roost-Structure **
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SOURCE: SCE (9/2011, 11/2011)

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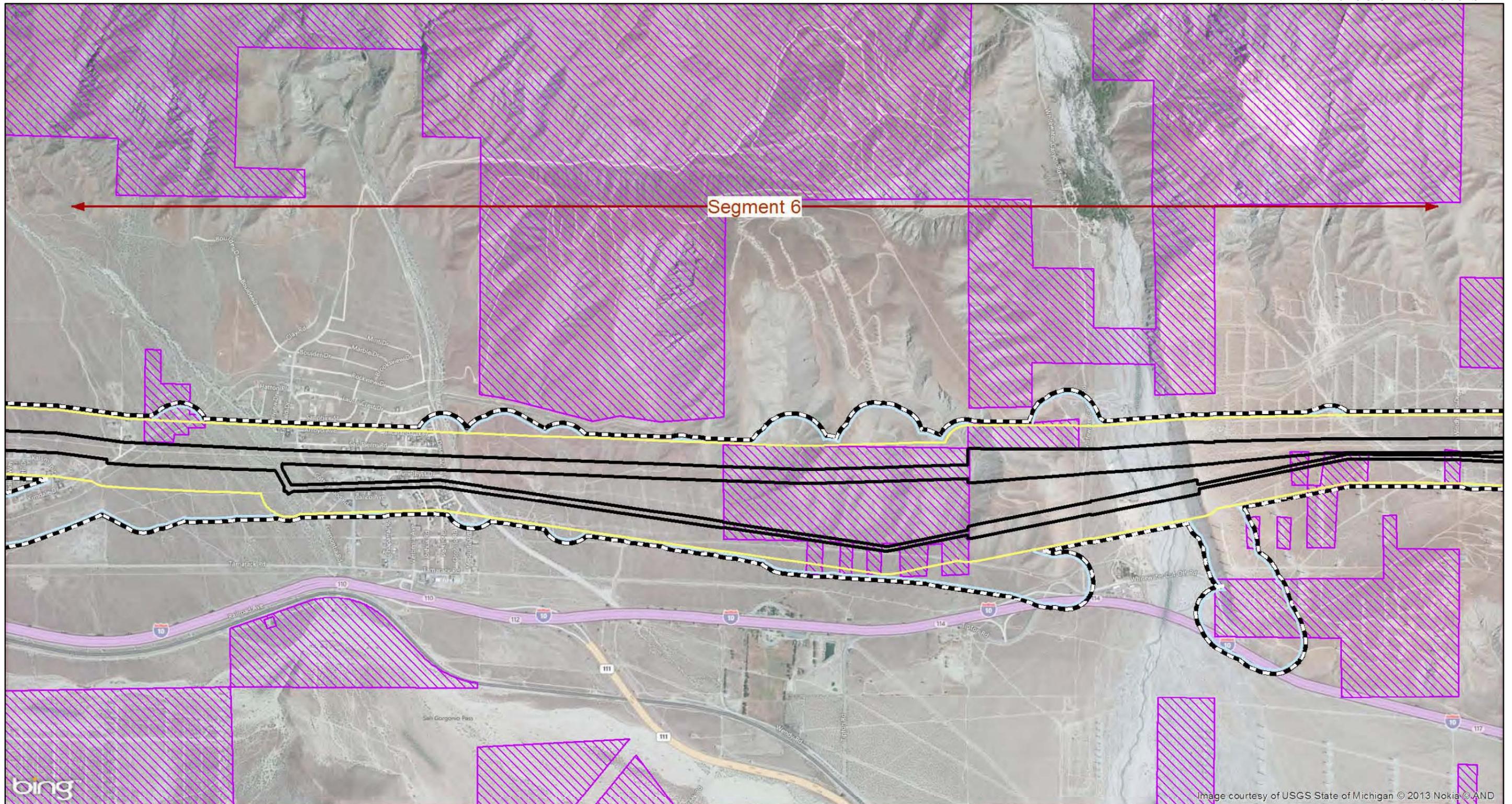
Proponent's Environmental Assessment
West of Devers Upgrade Project



FIGURE 2
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Southern California Edison
West of Devers Upgrade Project
2012 and 2013 Bat Habitat Assessment

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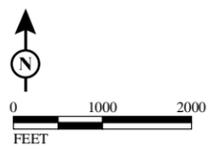
- West of Devers Study Area
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- Potential Night Roost-Structure
- Potential Night Roost-Structure **

- Potential Roost

**Location where bat sign (guano and/or staining) observed



SOURCE: SCE (9/2011, 11/2011)

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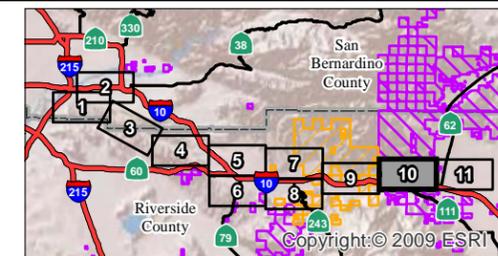


FIGURE 2
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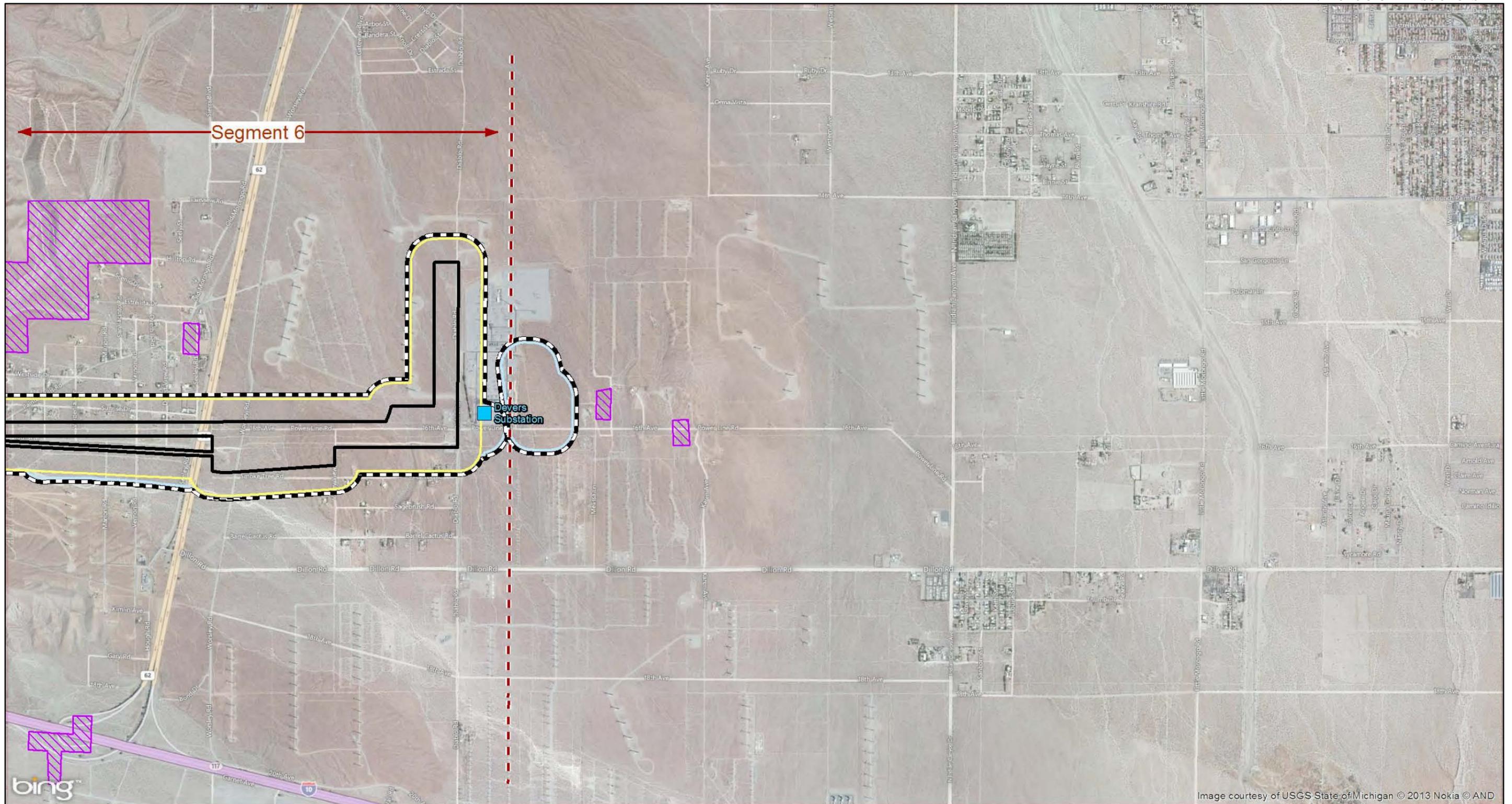
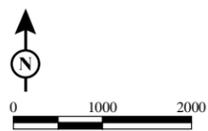


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LEGEND

- West of Devers Study Area
- Transmission Right-of-Way
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- Potential Night Roost-Structure **
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SOURCE: SCE (9/2011, 11/2011)

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Proponent's Environmental Assessment
West of Devers Upgrade Project

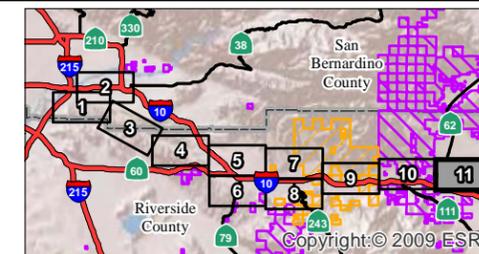


FIGURE 2
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2012 and 2013 Bat Habitat Assessment

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Groupings of untrimmed palms trees and cottonwoods such as this one located at the western end of the study area can provide roosting habitat for western yellow bats and western red bats.



A view of the rolling hills comprised mainly of scrub and grassland communities that are typical of the middle section of the study area. This habitat may provide foraging habitat for a variety of bat species, particularly pallid bats.



In urban portions of the study area, the transmissions lines occasionally run through areas of orange groves; these and the adjacent untrimmed palm trees may be used for roosting by western red bats and western yellow bats, respectively.



This isolated basin of ponded water east of the San Timoteo Sanitary Landfill contains large willow trees and wetland vegetation, and likely attracts foraging bats from a wide area.



Western red bats may use orange groves such as these for roosting and foraging.



The large cottonwood and sycamore trees and riparian vegetation found along San Timoteo Creek likely provide both roosting and foraging habitat for a variety of bat species.

FIGURE 3





Areas such as this one near San Timoteo Creek that contain clusters of oak trees and other large, mature trees surrounded by open grassland, may be used for roosting and foraging by hoary bats and pallid bats. The abandoned house that may contain roosting habitat is situated just out of frame on the left.



This natural basin serves to trap water during the wet season, and the vegetation surrounding it such as mature oaks, sycamores, and willows may provide both roosting and foraging habitat for a variety of bat species.



View looking south across the hills north of Banning, where riparian corridors such as this one containing mature cottonwoods, sycamores, and willows provide roosting and foraging habitat.



View of the San Gorgonio River looking southeast and downstream. The eucalyptus trees may provide roosting habitat for western red bats, while the vegetation along the river provides foraging habitat for a variety of species.



A view of the rocky hillsides comprised primarily of scattered desert scrub that are typical of the eastern portion of the study area. These areas may be used for foraging by the pallid bat and other species.

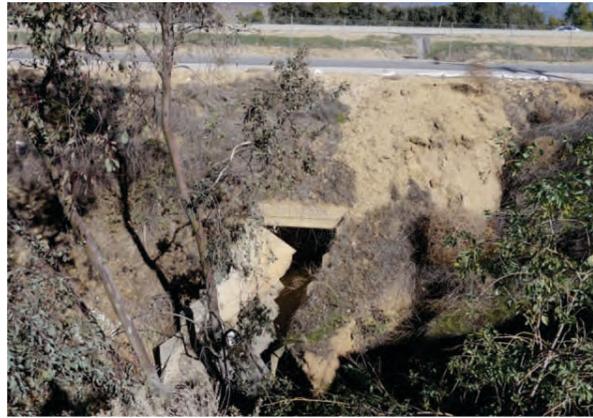


View of the relatively flat, open desert characteristic of the extreme eastern portion of the study area, where pallid bats and other species such as western canyon bats may forage.

FIGURE 4



Corrugated metal pipe culverts such as these located in Reche Canyon may be used for night roosting by a variety of bat species.



This culvert beneath I-10 in the City of Calimesa contains night roosting habitat that may be used by a variety of bat species.



Riparian corridors containing mature cottonwoods, sycamores, and willows provide roosting and foraging habitat for a variety of bat species. This one in the Oak Valley Golf Club is situated next to a culvert containing crevices suitable for day-roosting bats and guano indicating use of these crevices by bats.



View looking south at the western side of the Beaumont Avenue culvert, where guano indicating use of the structure by night-roosting bats was observed. Foraging habitat is visible next to the structure and along the drainage.



View looking northwest at the western portion of the I-10 bridge over Mission Channel and its adjacent foraging corridor. Large guano deposits indicating extensive bat roosting activity were observed beneath the crevices of the bridge structure.



View of the potential foraging corridor west of and adjacent to the I-10 bridge over the Mission Channel. Bats may also roost in the orange groves and untrimmed palm trees in the vicinity of the transmission towers.



FIGURE 5

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