Consolidation of Desert Tortoise Studies

High Desert Corridor/Los Angeles and San Bernardino Counties

63-mile (101-kilometer) Connection Between SR-14 and SR-18

District 7 & 8 LA & SB-New Highway

Project ID 0712000035

November 2015

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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Consolidation of Desert Tortoise Studies

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EA 2600U0/EFIS 0712000035

November 2015

US Department of Transportation
Federal Highway Administration and
California Department of Transportation
Los Angeles County Metropolitan Transportation Authority

Prepared By:_____ **Date**:_____

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District/Region 7

High Desert Corridor: Consolidation of Desert Tortoise Studies

The proposed project known as the High Desert Corridor has been in the development and design phase for many years. During this time, design changes have occurred. As a result, numerous biological surveys were conducted to ensure all areas within the proposed project limits were investigated. In response to comments on the 2015 DEIR/EIS regarding difficulty in referring to the numerous technical studies, Caltrans' consultant ECORP Consulting, Inc. (ECORP) consolidated the desert tortoise surveys into this one brief report and map set for easier referencing in the CEQA/NEPA document. To minimize redundancy and reduce the size of this document, only this one consolidated report is included in the appendices.

Methods

Focused United States Fish and Wildlife Service (USFWS) protocol presence/absence surveys for desert tortoise were conducted by AMEC, ECORP, and Caltrans between 2008 and 2013. All surveys were performed in accordance to the guidelines in the Field Survey Protocol for Any Federal Action that May Occur within the Range of the Desert Tortoise (USFWS 1992) and Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise (USFWS 2010). Surveys were conducted in all areas that contained desert tortoise habitat (desert scrub, creosote scrub, Joshua tree woodland habitats etc.). The following reports document surveys conducted for desert tortoise for the High Desert Corridor:

- Focused Desert Tortoise Survey and Burrowing Owl Habitat Assessment Results Report for the High Desert Corridor Project (ECORP 2008), Los Angeles County
- Focused Desert Tortoise Survey and Burrowing Owl Habitat Assessment Results Report for the High Desert Corridor Project (ECORP 2011), East Los Angeles County
- High Desert Corridor: SR-18 West to LA County Line Focused Desert Tortoise Survey Report (AMEC 2011) San Bernardino County
- High Desert Corridor: SR-18 West to LA County Line Focused Desert Tortoise Survey Report (AMEC 2012), San Bernardino County
- Focused Desert Tortoise Survey, High Desert Corridor Alternative Alignment Areas, City of Palmdale to the Town of Apple Valley(Caltrans 2013), Los Angeles and San Bernardino Counties

Results

A total of two live desert tortoises were observed during the surveys conducted throughout the alignment between 2008 and 2013. In addition, a total of 41 burrows, 72 pieces of scat, and 16 desert tortoise carcasses were identified and mapped during the surveys (Table 1). No desert tortoises or desert tortoise sign was observed between SR-14 and 240th Street East, which is nearly the entire portion of the Project within Los Angeles County. Although the vegetation communities that are known to support this species occur west of 240th Street East, neither desert tortoise nor their sign were found during focused surveys. Attachment 1 contains one map set presenting all of the study areas and survey

results recorded during each survey summarized in this report. The individual data set from each report are identified on the map. In addition, incidental desert tortoise observations made during other surveys are also presented. If the reader wishes to review any of the individual technical studies, those reports are available at the following website: http://www.dot.ca.gov/dist07/HDC/HDC_Final_EIR-EIS/ (case sensitive).

Table 1. Summary of Desert Tortoise Survey Results

Survey Company and Year	Number of Sign Observed											
	Live Tortoise		Carcass (Class)	Scat (Class)				Burrow (Class)				
	#	Notes	5	2	3	4	5	1	2	3	4	5
ECORP 2008	0	N/A	0	0	0	0	0	0	0	0	0	0
ECORP 2011	0	N/A	0	0	0	0	0	0	0	0	0	0
AMEC 2011b	1	Adult Male	5	2	4	0	1	1	1	1	5	4
AMEC 2012b	0	N/A	2	3	4	5	10	2	4	1	1	1
Caltrans 2013	1	Adult in Burrow	9	16	15	8	4	2	1	9	4	4
Subtotal	2	N/A	16	21	23	13	15	5	6	11	10	9
TOTAL	**2**		**16**	**72**				**41**				

*Desert Tortoise Sign Classification

BURROWS
1- Currently active, w/ tortoise or active sign
2 - Good condition, definitely tortoise, no evidence of recent use
3 - Deteriorated condition, definitely tortoise
4 - Good condition, possibly tortoise
5 - Deteriorated condition, possibly tortoise

SCAT
1 - Wet or freshly dried, obvious odor
2 - Dry w/ glaze and some odor, no bleaching, dark brown
3 - Dry w/o glaze or odor, light brown, tightly packed, signs of bleaching
4 - Dry, very light brown to yellow, loose material; scaly appearance
5 - Bleached or consisting only of plant fiber

CARCASS
1 - Fresh or putrid
2 - Normal color, scutes adhered to bone
3 - Scutes peeled off bone
4 - Shell bones falling apart; growth rings on scutes are peeling
5 - Disarticulated and scattered

LIVE TORTOISE
1 - Healthy
2 - URTD
3 - Shell cracked
4 - Peeling scutes
5 - Ticks

A - Foraging
B - Basking
C - In burrow
D - Digging
E - Traveling

Literature Cited

[AMEC 2011] AMEC Earth & Environmental, Inc. 2011. High Desert Corridor: SR-18 West to LA County Line Focused Desert Tortoise (*Gopherus Agassizii*) Survey Report. San Bernardino County, California. September. Riverside, California.

[AMEC 2012] AMEC Earth & Environmental, Inc.2012. High Desert Corridor: SR-18 West to LA County Line Focused Desert Tortoise (*Gopherus Agassizii*) Survey Report. San Bernardino County, California. August. Riverside, California.

[Caltrans 2013] California Department of Transportation. 2013. Focused Desert Tortoise (*Gopherus Agassizii*) Survey, High Desert Corridor Alternative Alignment Areas, City of Palmdale to the Town of Apple Valley. Los Angeles and San Bernardino Counties, California. August.

[ECORP 2008] ECORP Consulting, Inc. 2008. Focused Desert Tortoise Survey and Burrowing Owl Habitat Assessment Results Report for the High Desert Corridor Project. Los Angeles County, California. December. Santa Ana, California.

[ECORP 2011] ECORP Consulting, Inc. 2011. Focused Desert Tortoise Survey and Burrowing Owl Habitat Assessment Results Report for the High Desert Corridor Project. Los Angeles County, California. December 2011.

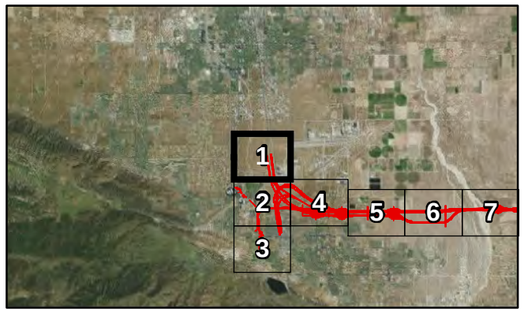
[USFWS 1992] United States Fish and Wildlife Service. 1992. Field Survey Protocol for Any Federal Action that May Occur Within the Range of the Desert Tortoise.

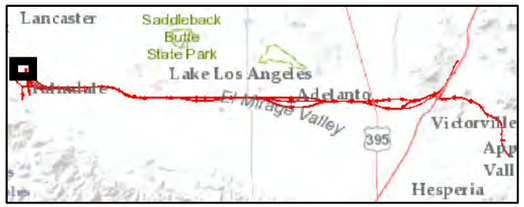
[USFWS 2010] United States Fish and Wildlife Service. 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (Gopherus agassizii). USFWS, Ventura Field Office, Ventura, California.
http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/DT%20Preproject%20Survey%20Protocol_2010%20Field%20Season.pdf.

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 1 of 40

Impact Area of All Project Alternatives [1]

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

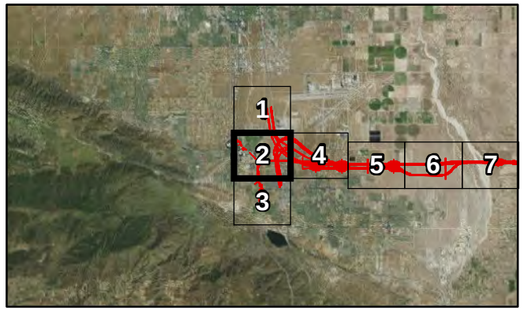
Photo Source: USGS (2010, 2011)

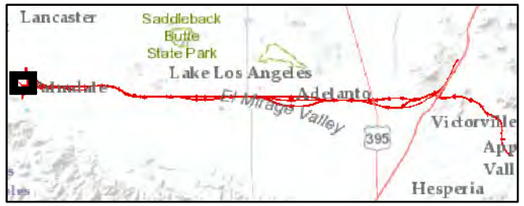
Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 2 of 40

Impact Area of All Project Alternatives [1]

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

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Consolidation of
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Sheet: 3 of 40

Impact Area of All Project Alternatives [1]

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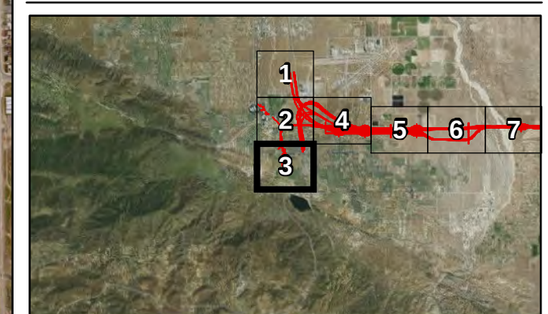

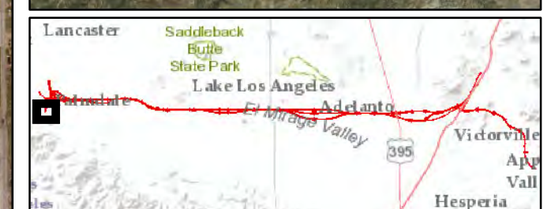

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

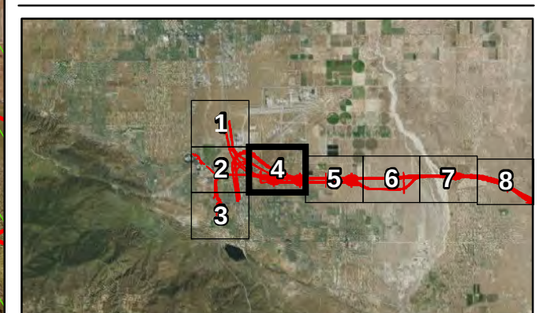
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 4 of 40

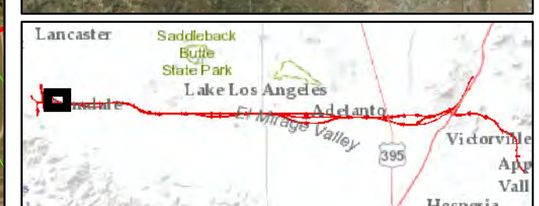
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2012

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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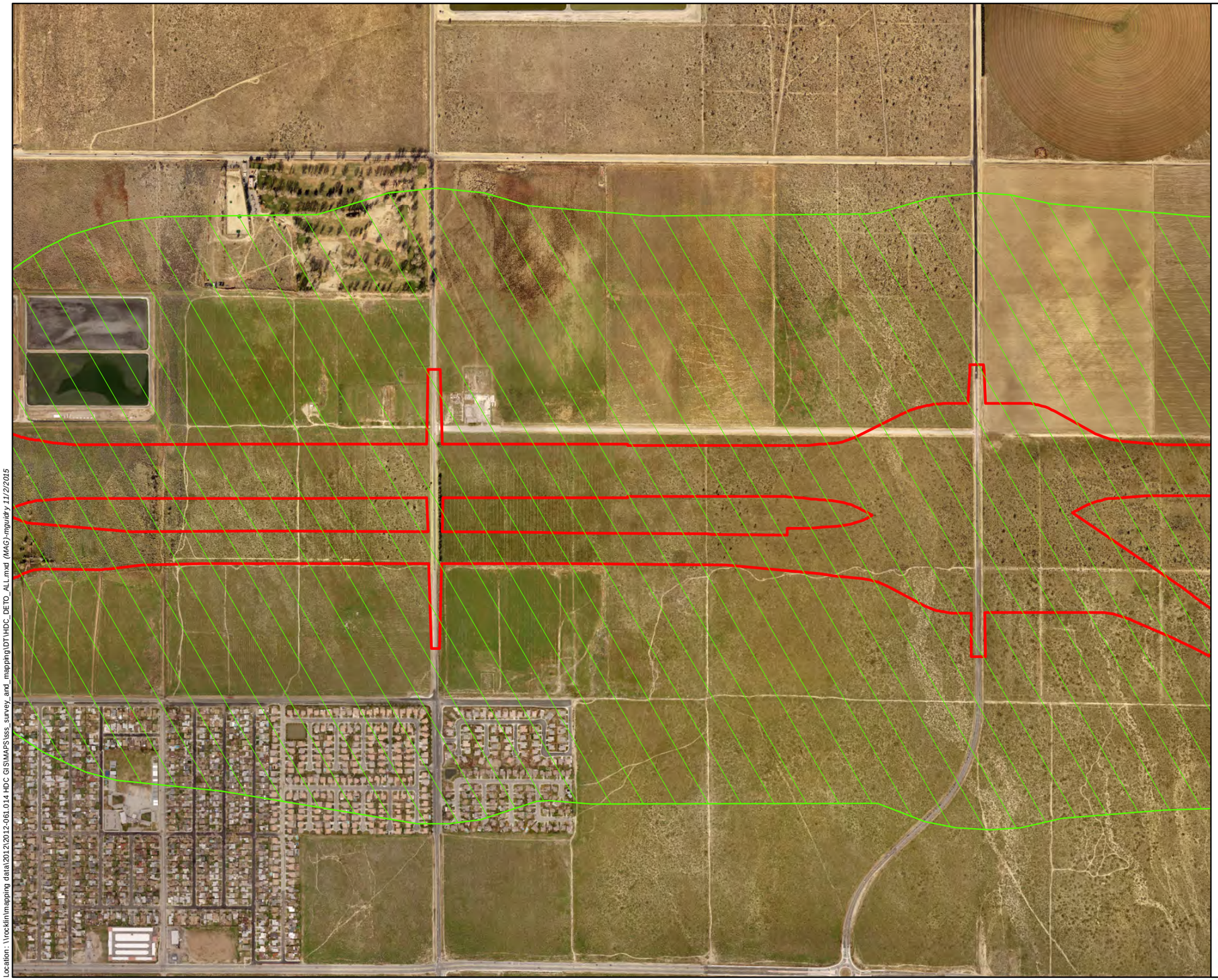
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 5 of 40

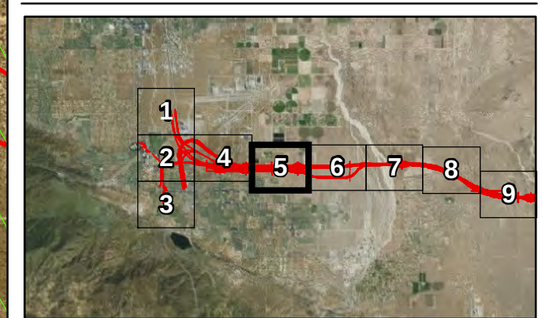


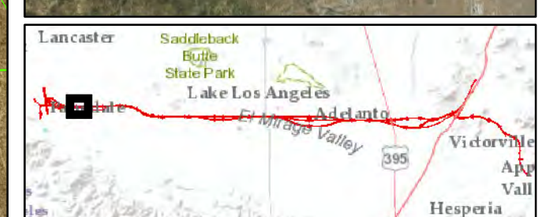
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2012

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

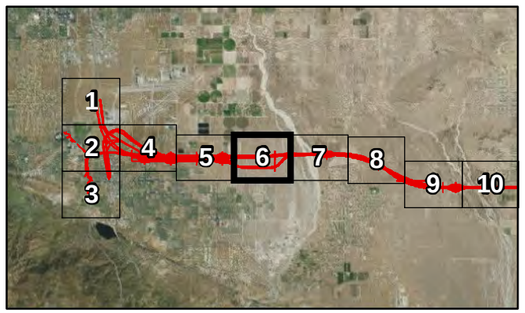
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 6 of 40

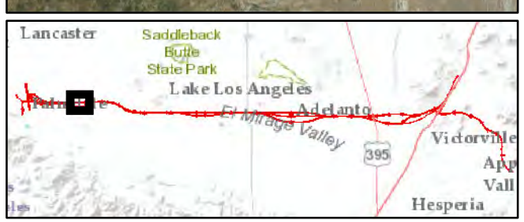
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2012

[1] Caltrans





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ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 7 of 40

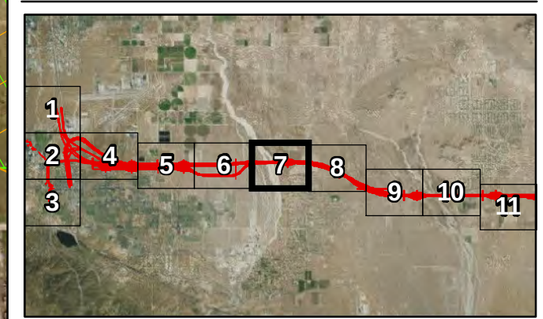
Impact Area of All Project Alternatives [1]

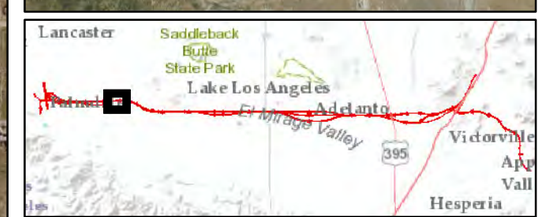
Survey Area: Company - Survey Year

ECORP - 2011

ECORP - 2012

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 8 of 40

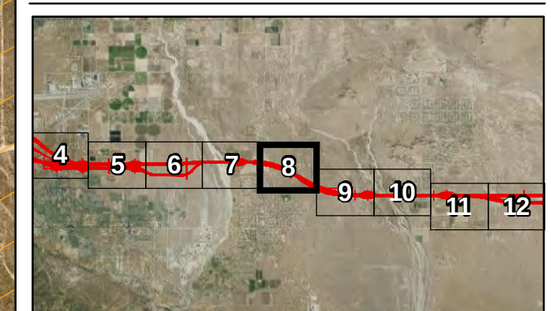
Impact Area of All Project Alternatives [1]

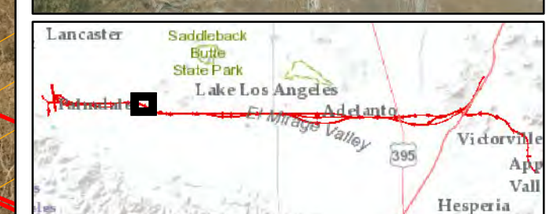
Survey Area: Company - Survey Year

ECORP - 2011

ECORP - 2012

[1] Caltrans





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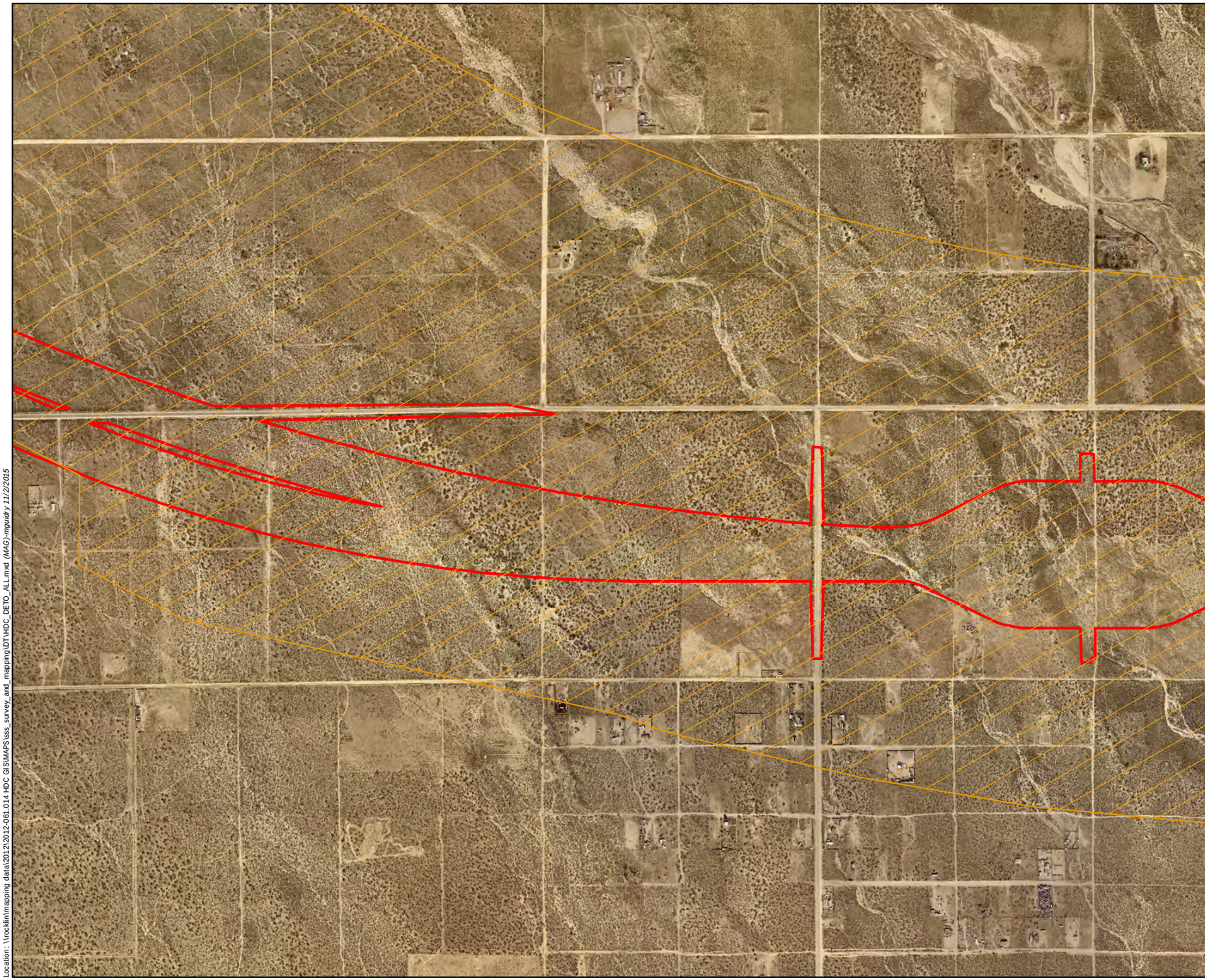
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 9 of 40

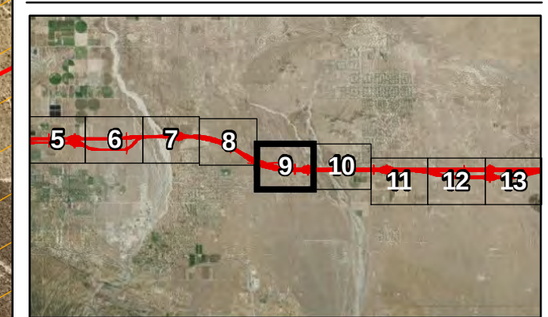


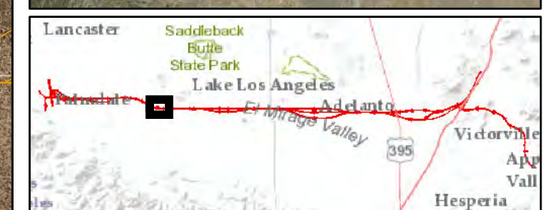
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2011

[1] Caltrans





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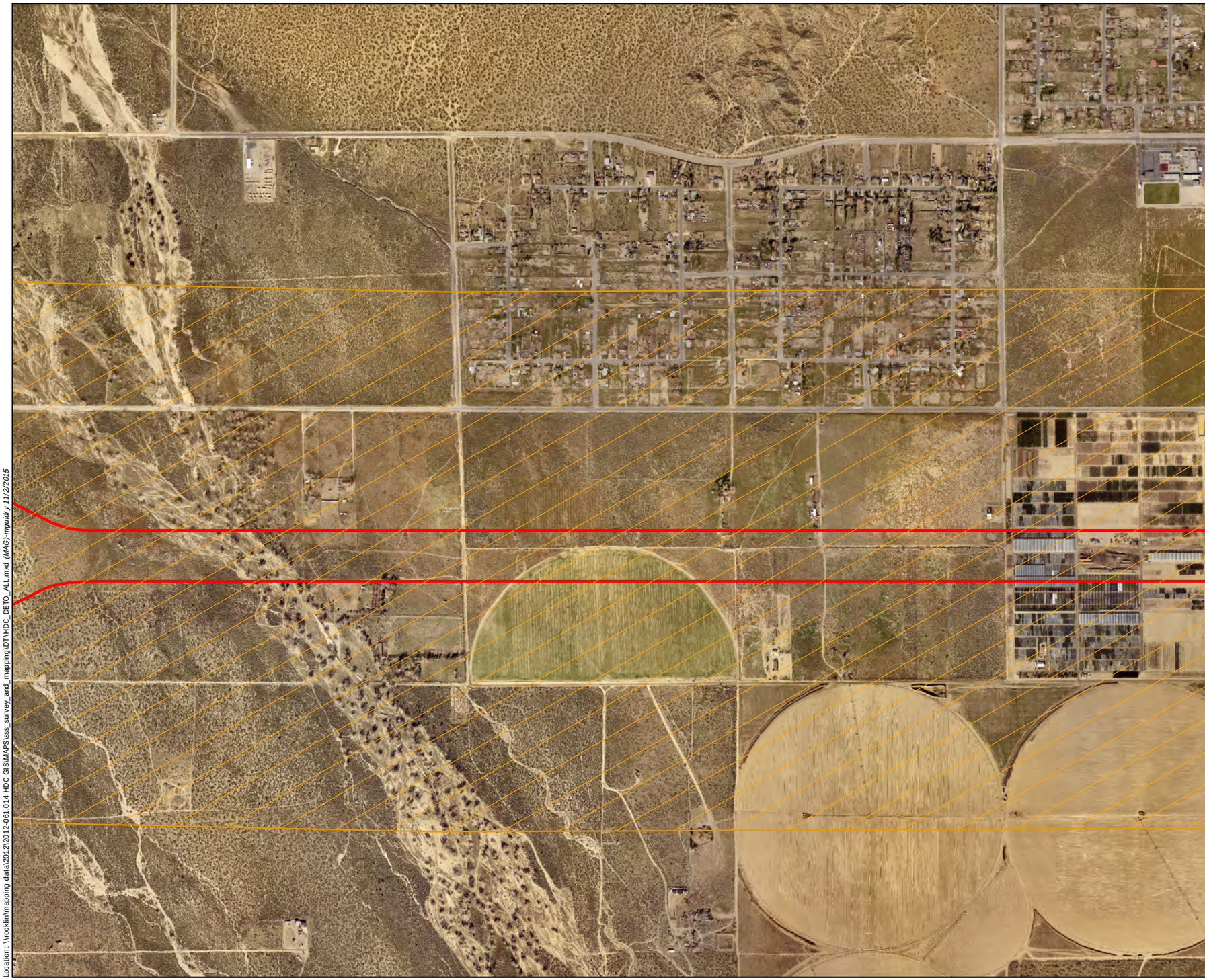
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 10 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2011

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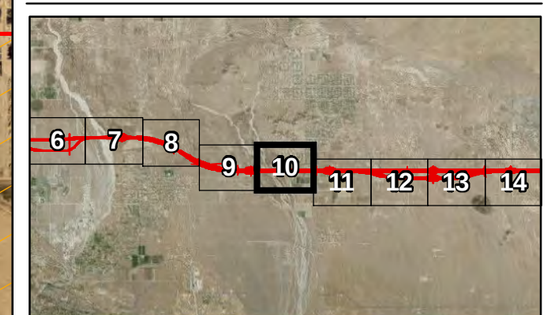

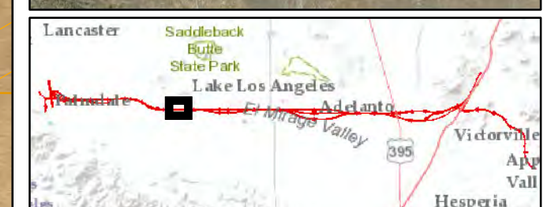

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
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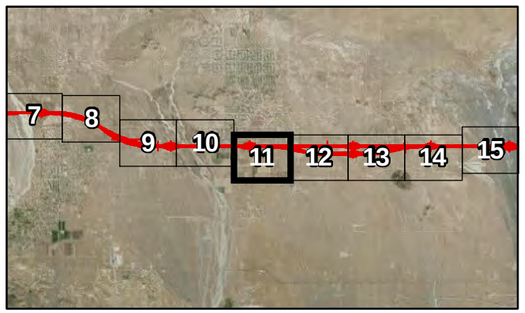
Desert Tortoise Studies
Sheet: 11 of 40

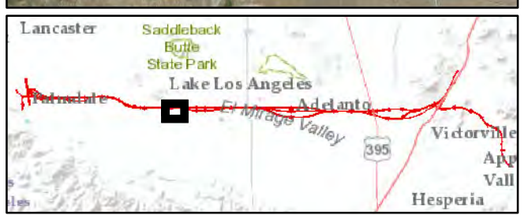
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2011

[1] Caltrans





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ENVIRONMENTAL CONSULTANTS

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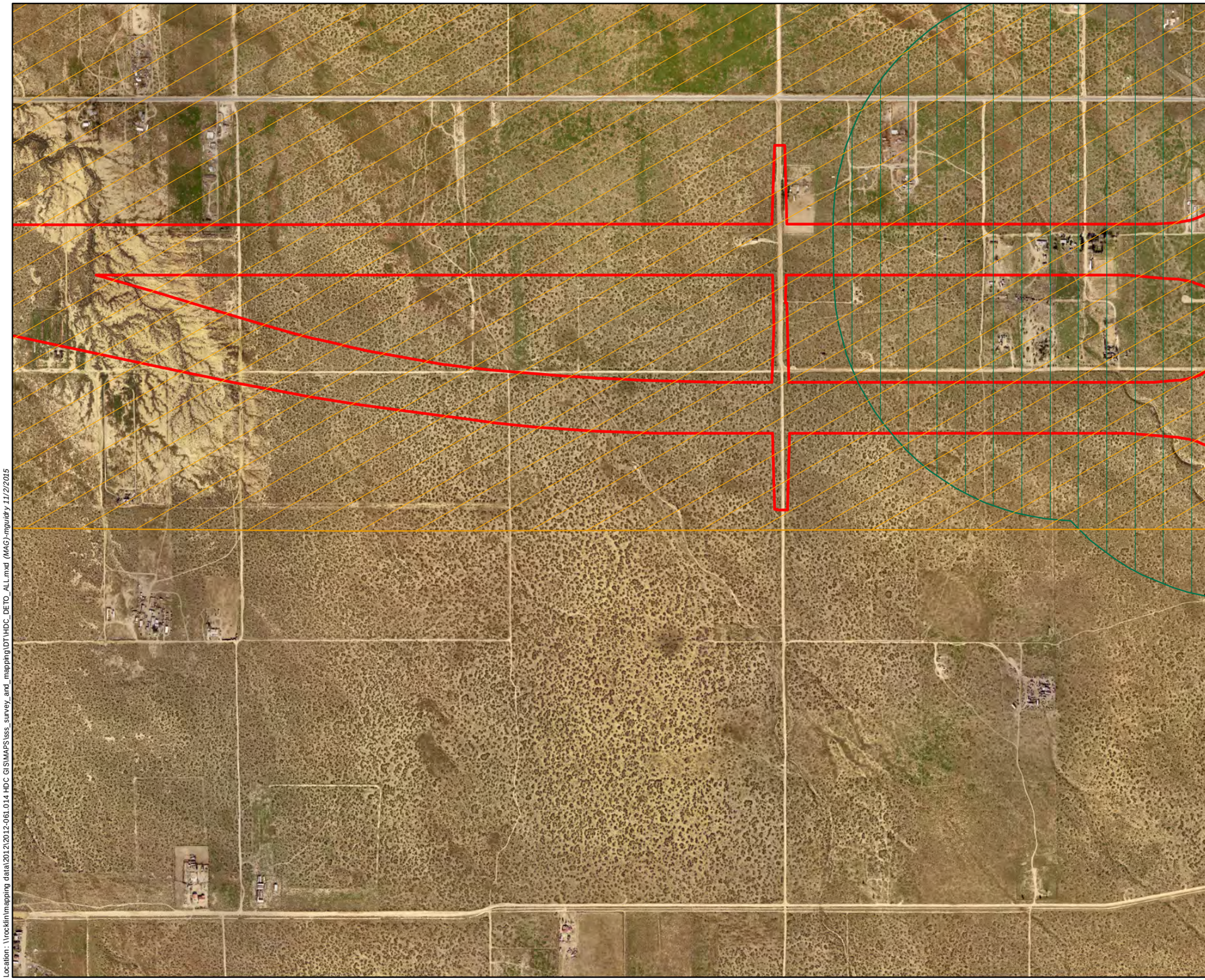
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 12 of 40



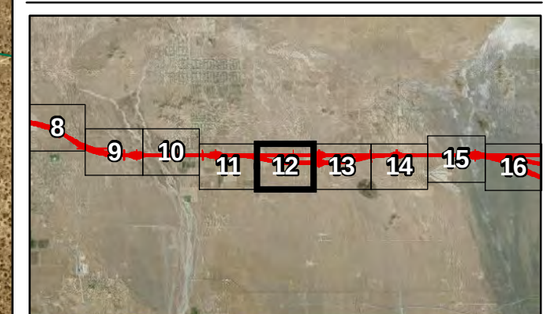
Impact Area of All Project Alternatives [1]

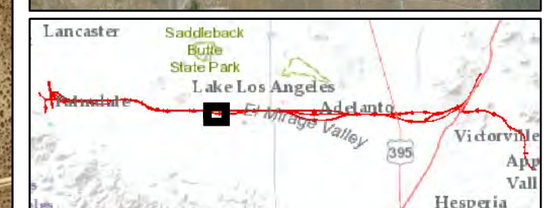
Survey Area: Company - Survey Year

ECORP - 2011

ECORP - 2013

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

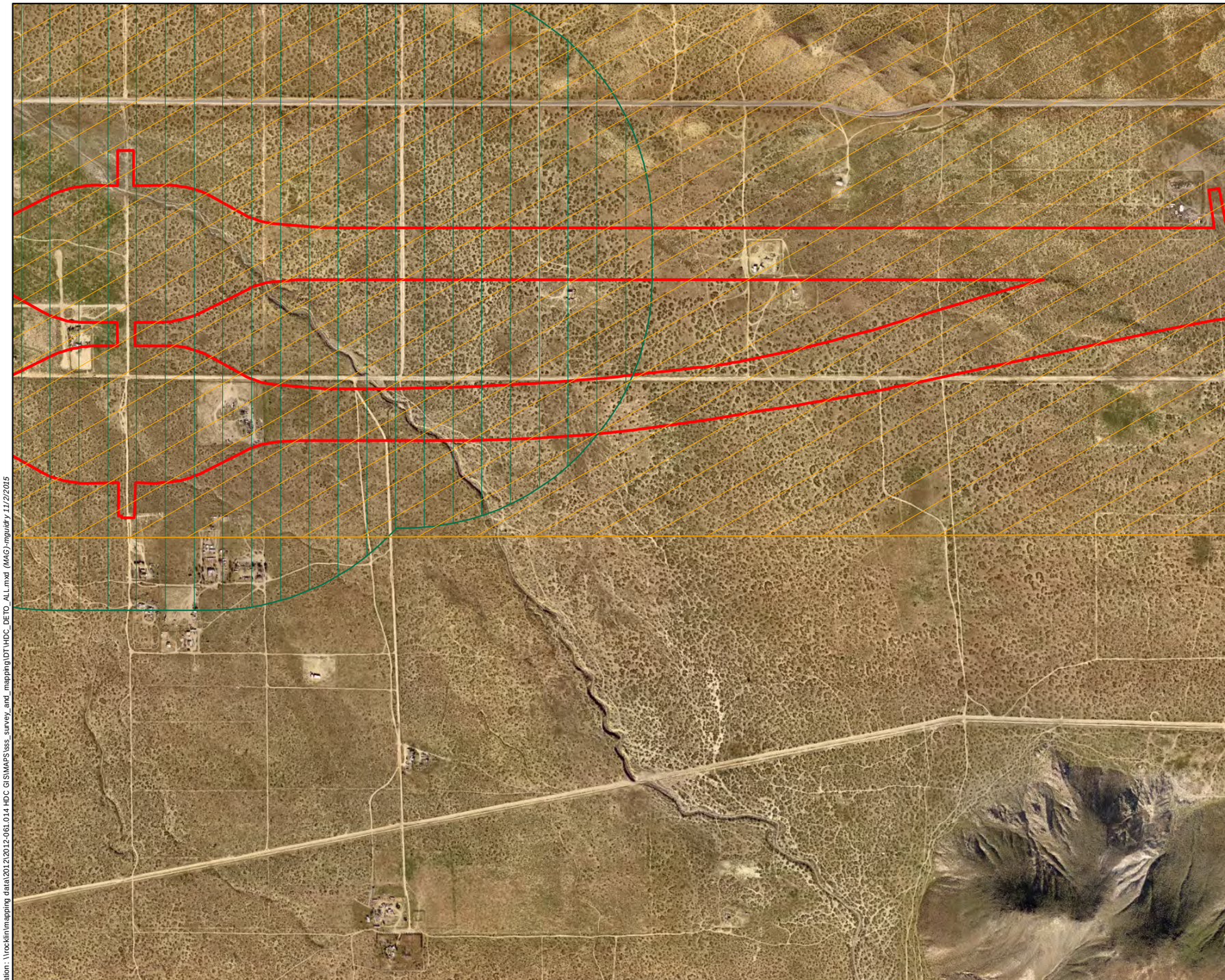
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 13 of 40



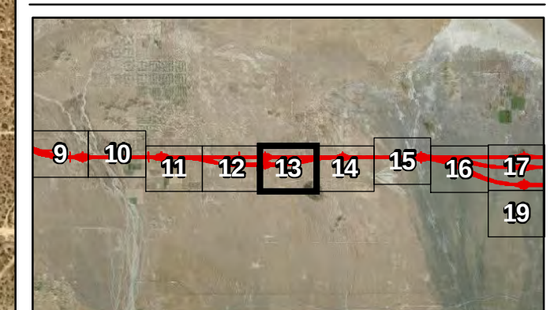
Impact Area of All Project Alternatives [1]

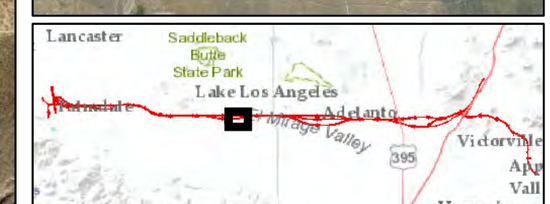
Survey Area: Company - Survey Year

ECORP - 2011

ECORP - 2013

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

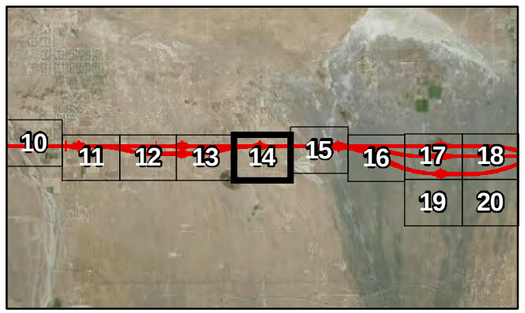
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 14 of 40

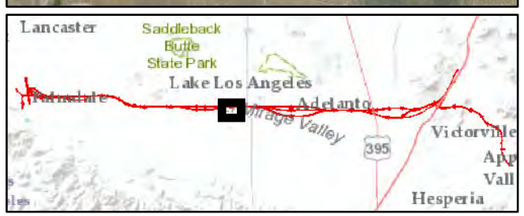
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

ECORP - 2011

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of Desert Tortoise Studies
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Impact Area of All Project Alternatives [1]

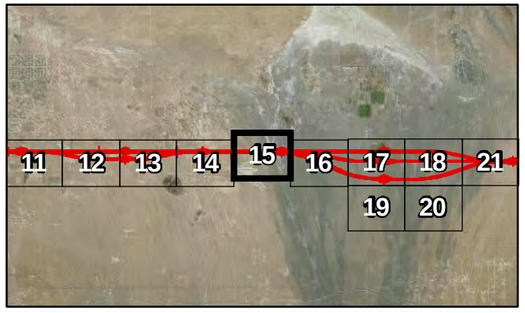
Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2011

DETO AMEC 2011 - Sign, Class

- Tortoise Burrow, Class 2
- Possible Burrow, Class 4

[1] Caltrans



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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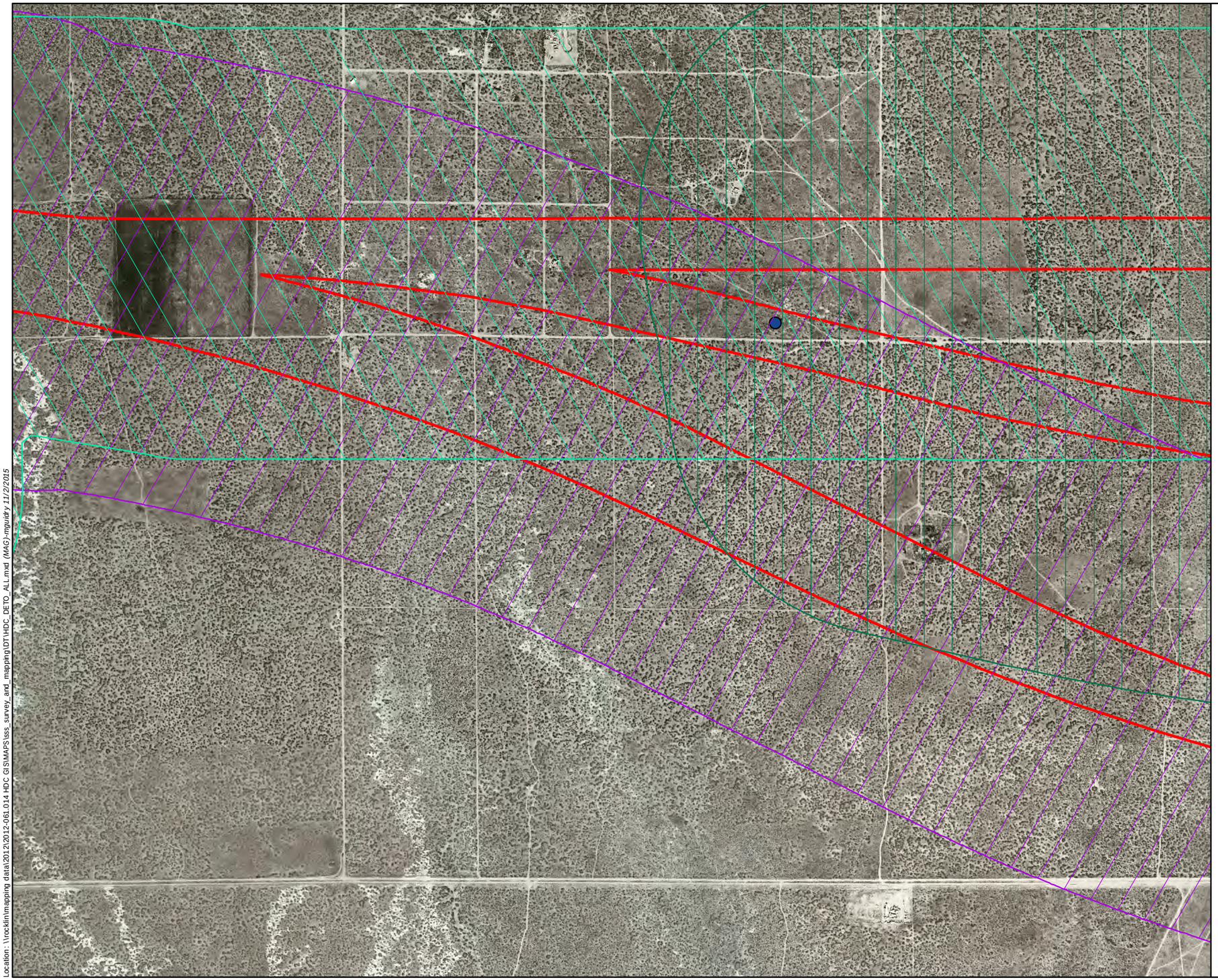
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 16 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

AMEC - 2011

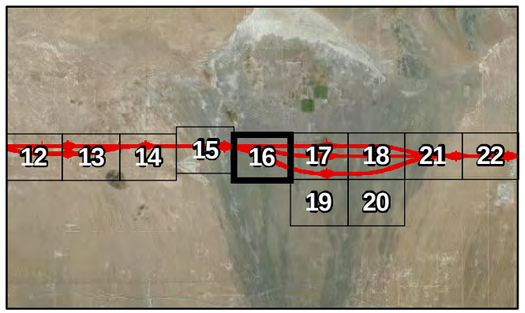
AMEC - 2012

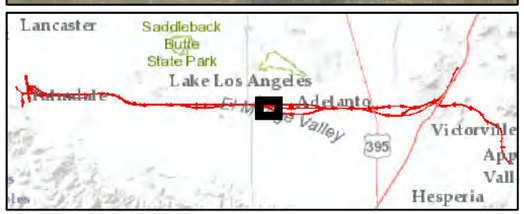
ECORP - 2013

DETO AMEC 2011 - Sign, Class

Possible Burrow, Class 4

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

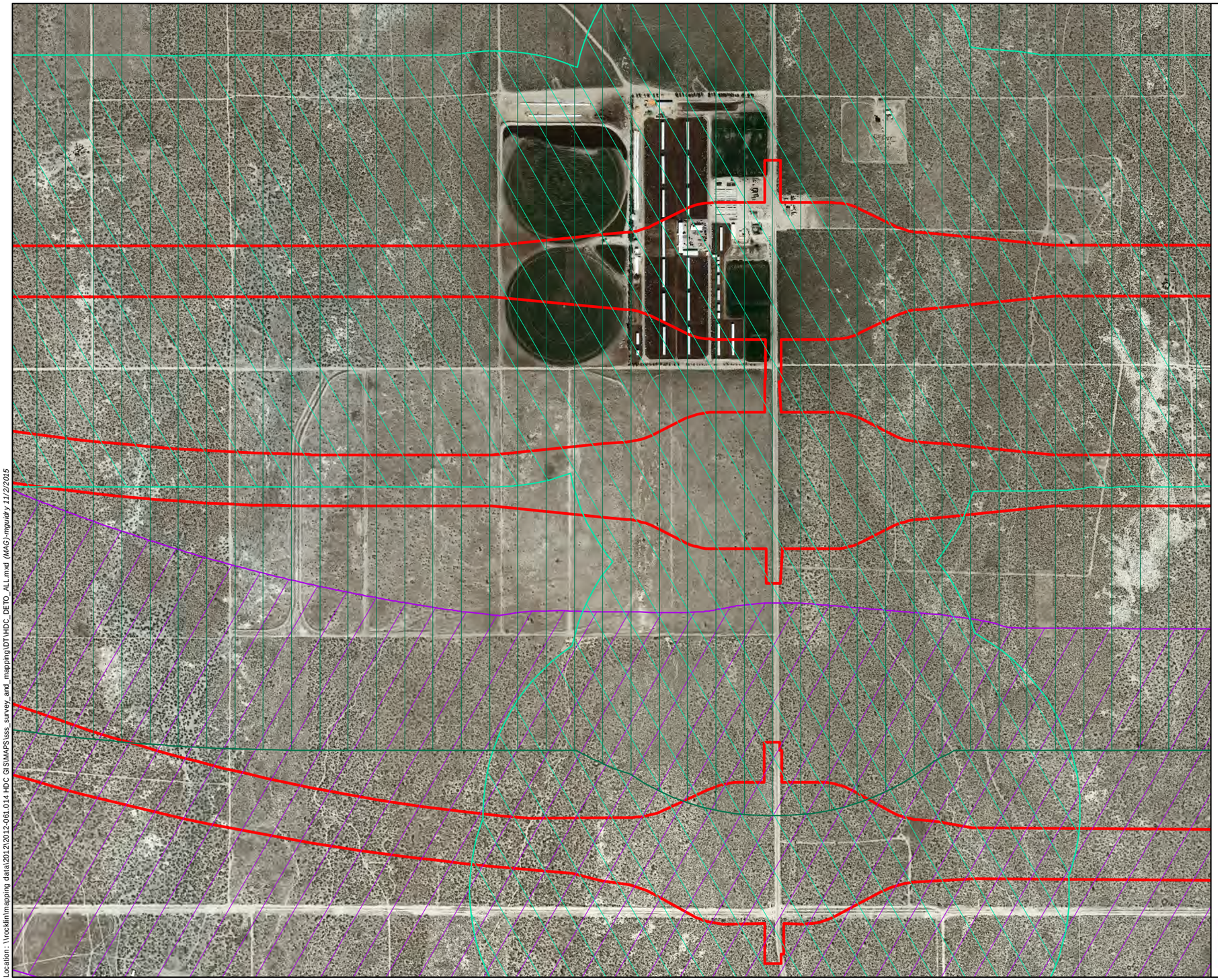
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 17 of 40



Impact Area of All Project Alternatives [1]

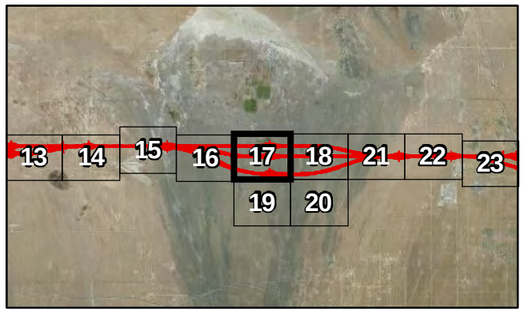
Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

ECORP - 2013

[1] Caltrans



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguldry 11/2/2015

2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of Desert Tortoise Studies
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Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

DETO ECORP 2013- Sign, Class

- Live Tortoise, Class 1-C
- Burrow, Class 1
- Burrow, Class 3
- Burrow, Class 5
- Carcass, Class 5
- Pallet, Class 2
- Scat, Class 2
- Scat, Class 3
- Scat, Class 4
- Scat, Class 5

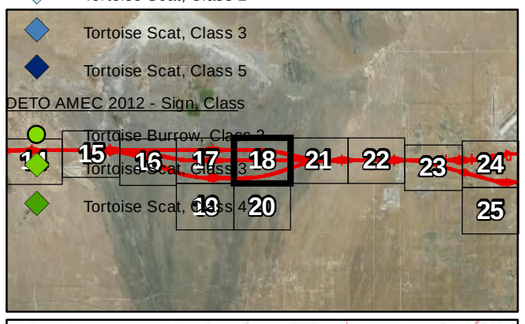
DETO AMEC 2011 - Sign, Class

- Tortoise Burrow, Class 1
- Tortoise Burrow, Class 3
- Possible Burrow, Class 4
- Possible Burrow, Class 5
- Tortoise Carcass, Class 5
- Tortoise Scat, Class 2
- Tortoise Scat, Class 3
- Tortoise Scat, Class 5

DETO AMEC 2012 - Sign, Class

- Tortoise Burrow, Class 3
- Tortoise Scat, Class 3
- Tortoise Scat, Class 4

[1] Caltrans



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: \\rockfin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

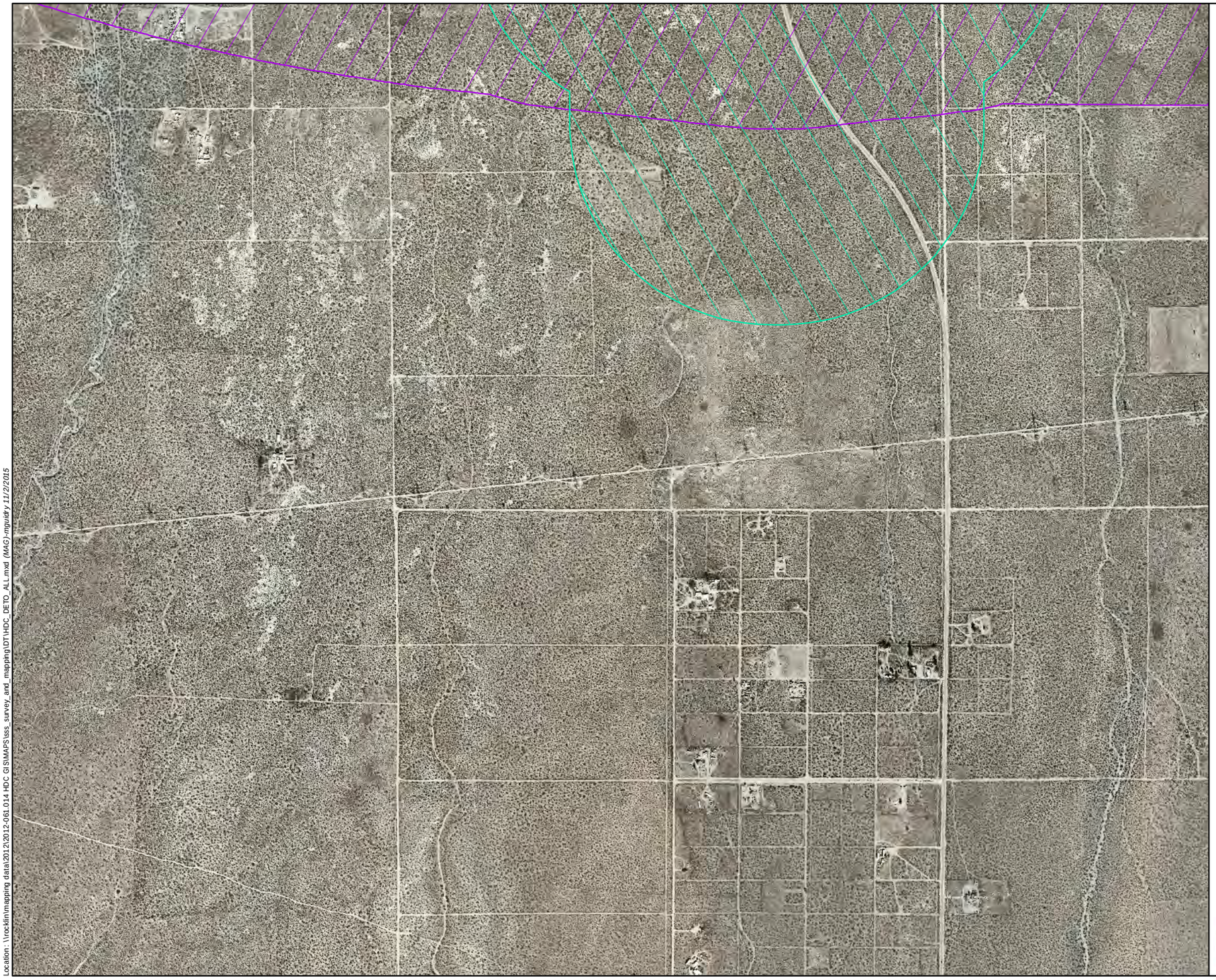
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

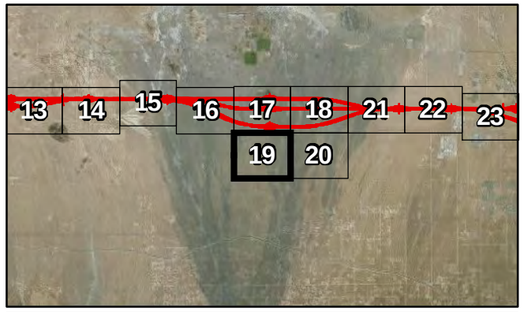


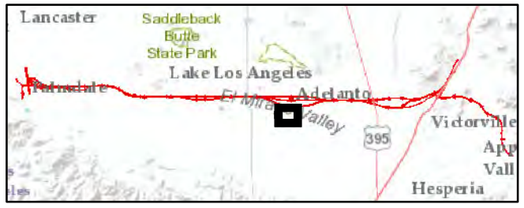
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 19 of 40

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012

[1] Caltrans





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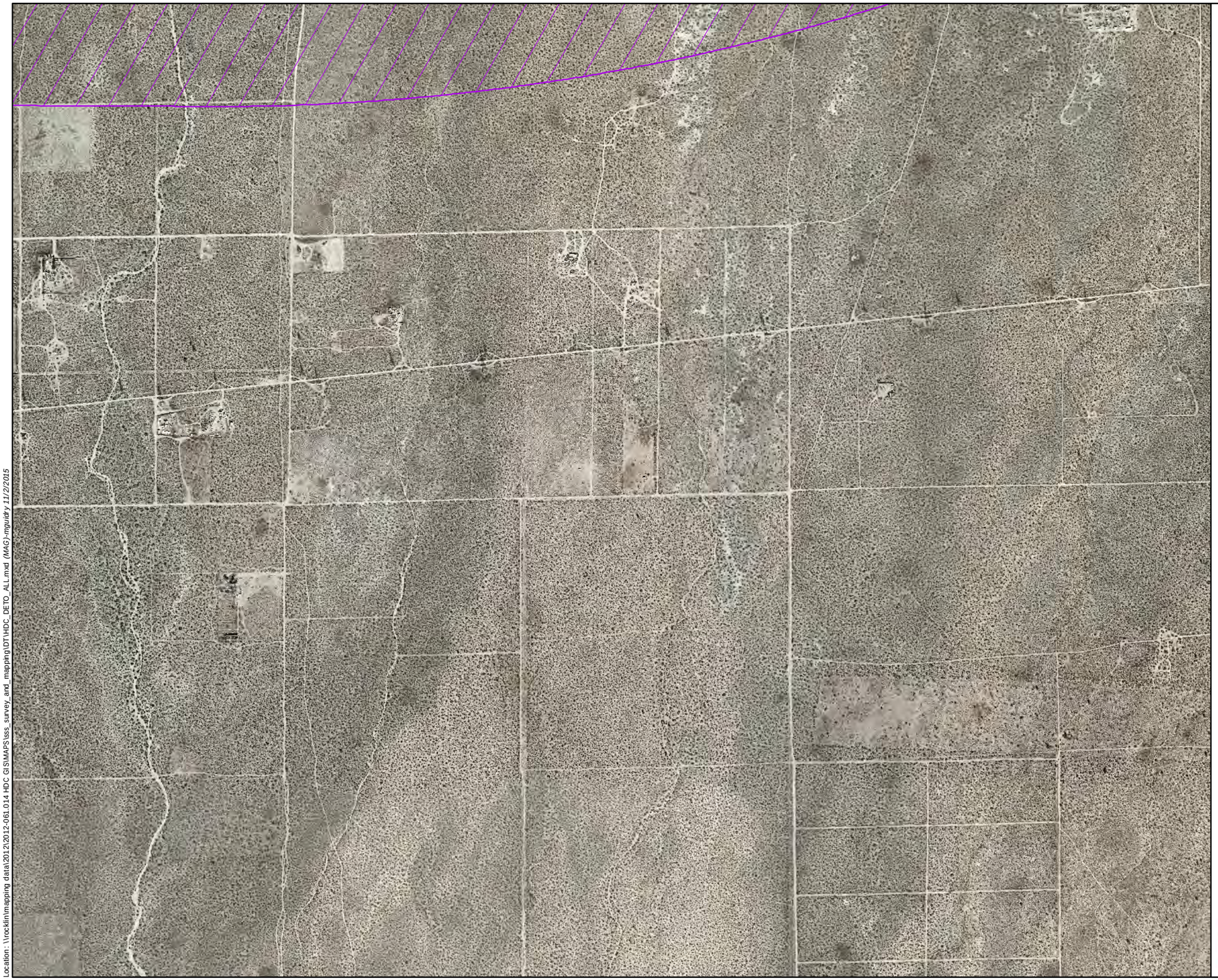
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

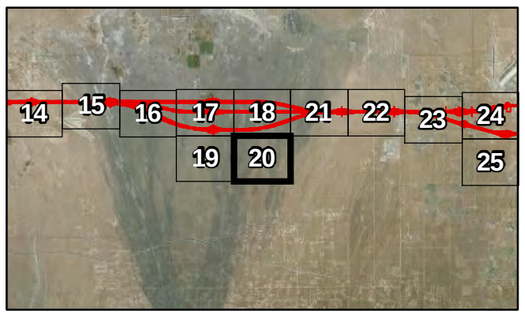
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 20 of 40



Survey Area: Company - Survey Year

AMEC - 2011

[1] Caltrans



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2012-061-014 High Desert Corridor Vegetation Summary

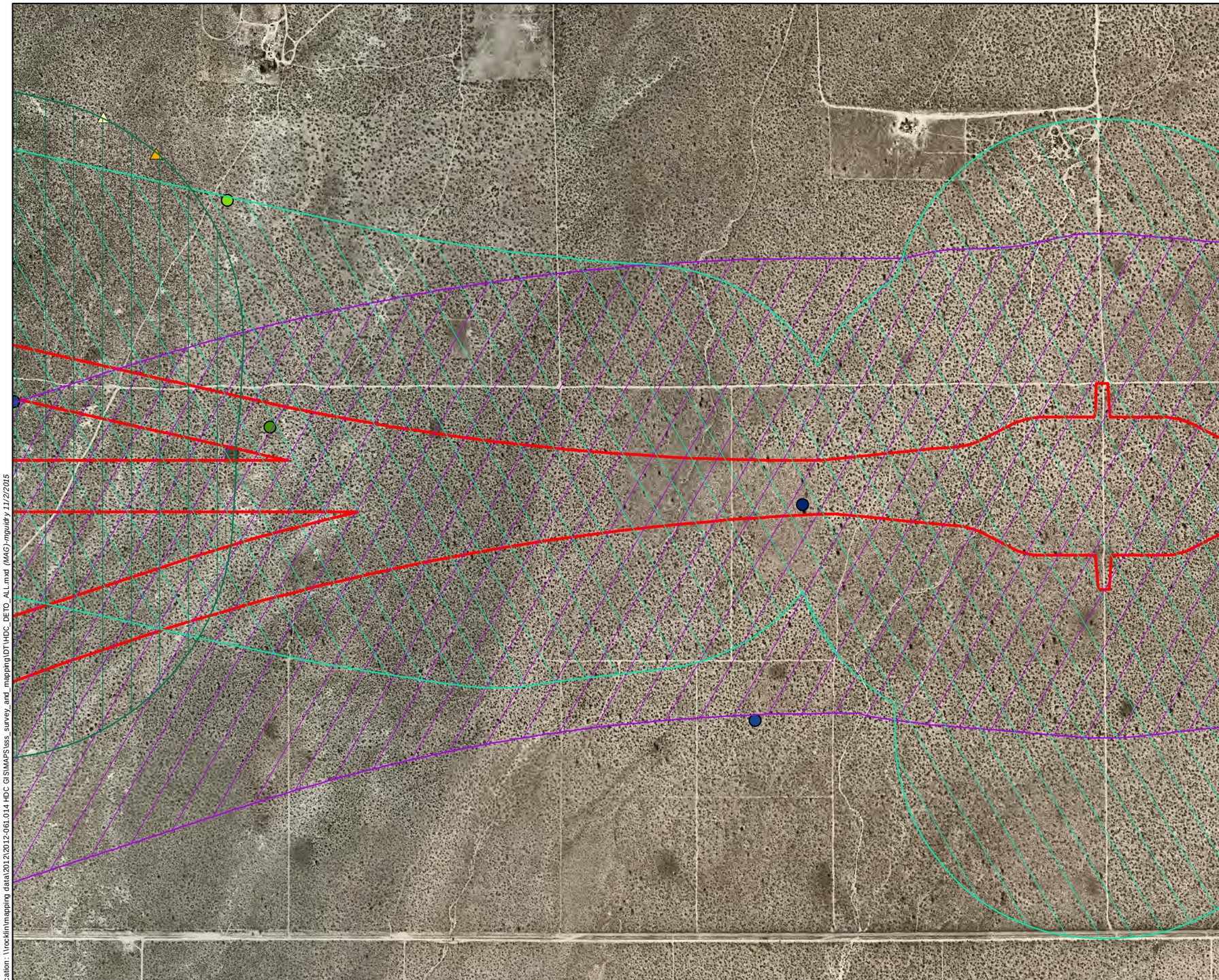
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 21 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

DETO ECORP 2013- Sign, Class

- Scat, Class 2
- Scat, Class 3

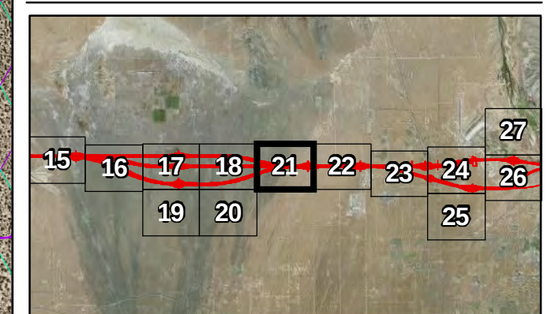
DETO AMEC 2011 - Sign, Class

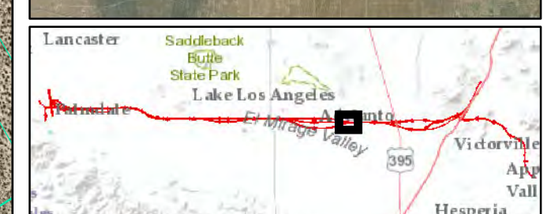
- Possible Burrow, Class 4
- Possible Burrow, Class 5

DETO AMEC 2012 - Sign, Class

- Tortoise Burrow, Class 2
- Possible Burrow, Class 4

[1] Caltrans





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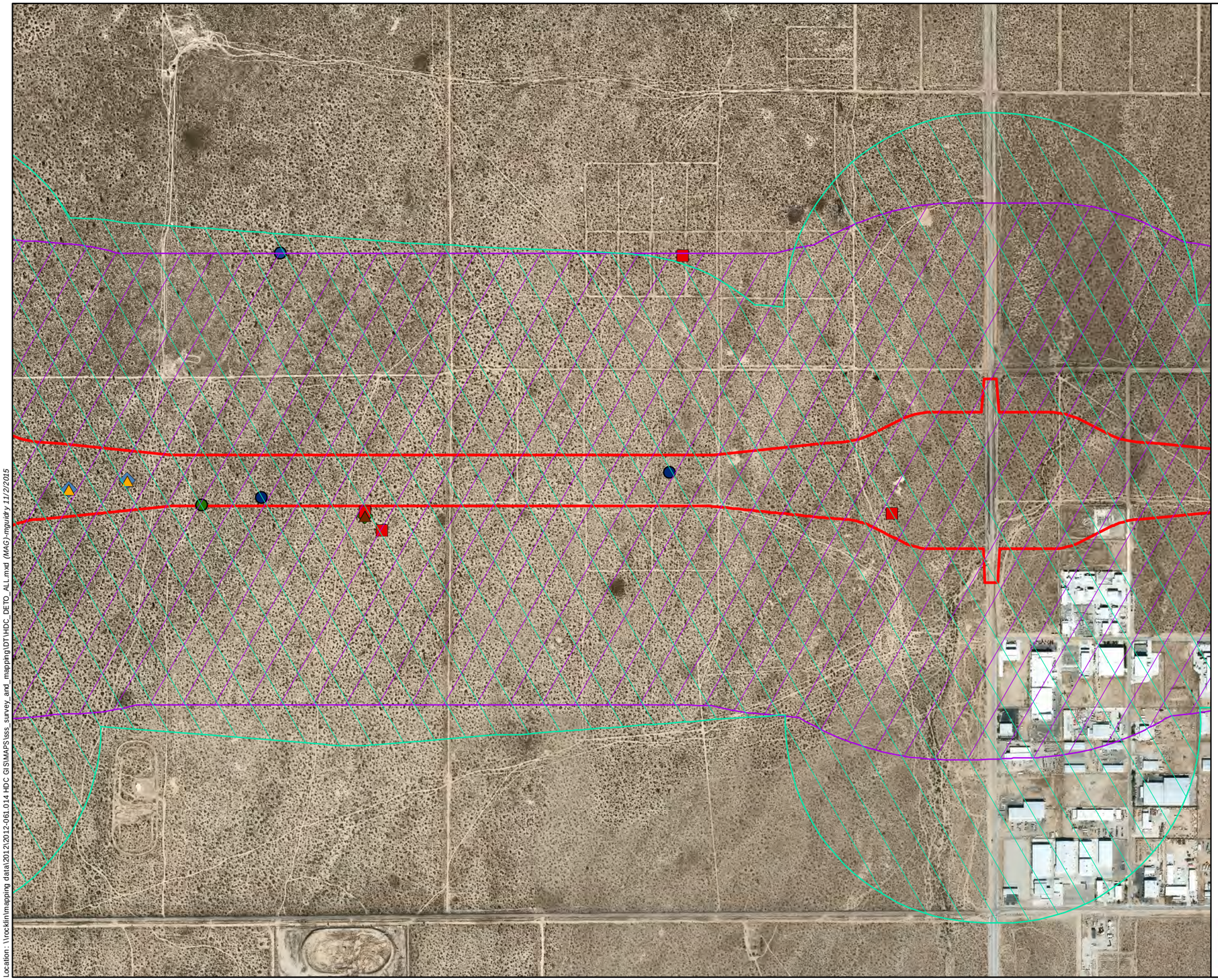
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of Desert Tortoise Studies
Sheet: 22 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012

DETO ECORP 2013- Sign, Class

- Carcass, Class 5
- Scat, Class 3
- Scat, Class 5

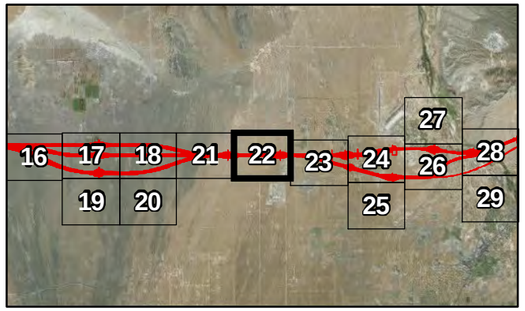
DETO AMEC 2011 - Sign, Class

- Possible Burrow, Class 4
- Possible Burrow, Class 5
- Carcass Fragment, Class 5
- Tortoise Scat, Class 3

DETO AMEC 2012 - Sign, Class

- Possible Burrow, Class 5
- Tortoise Carcass, Class 5
- Carcass Fragment, Class 5
- Tortoise Scat, Class 5

[1] Caltrans



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

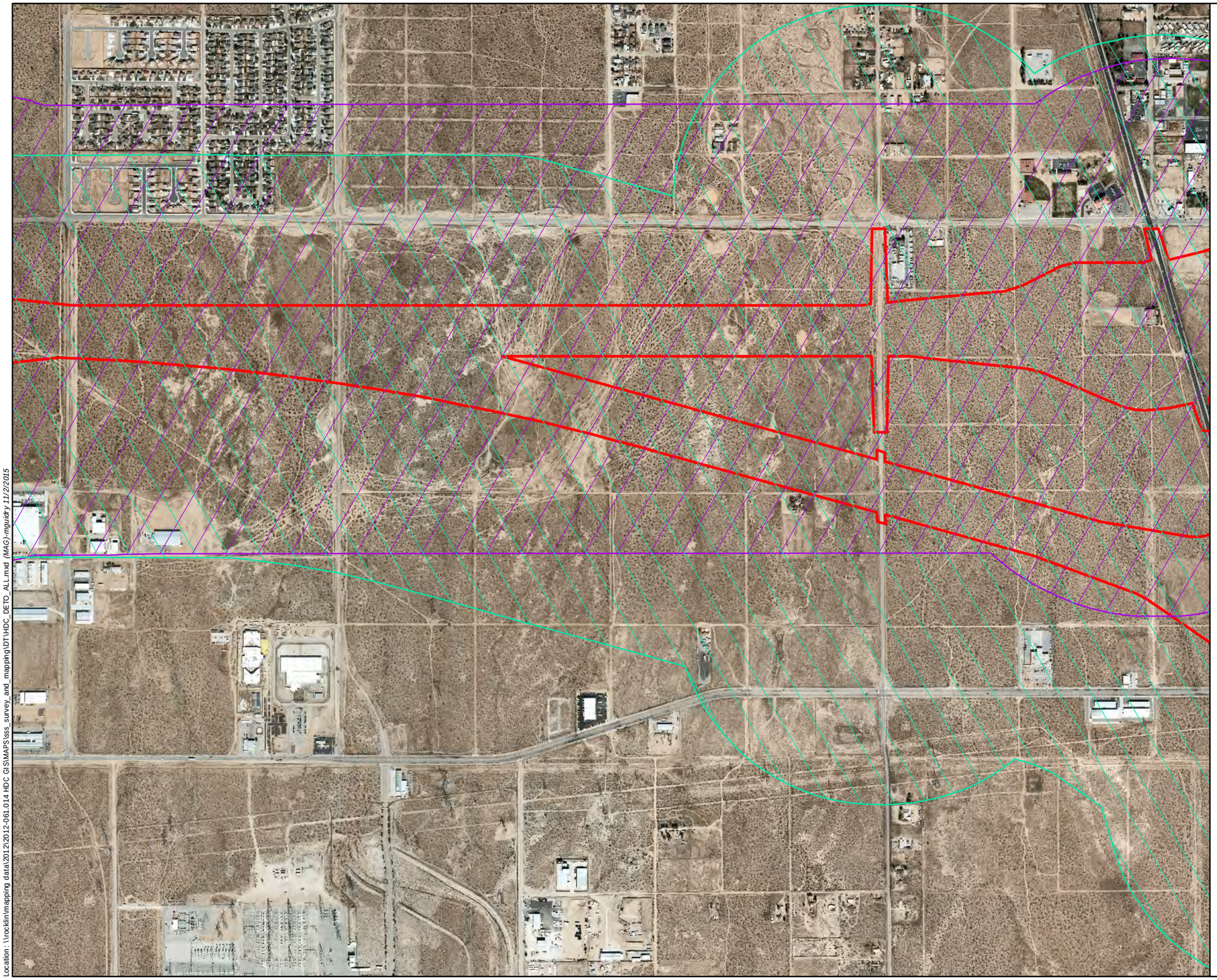
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 23 of 40



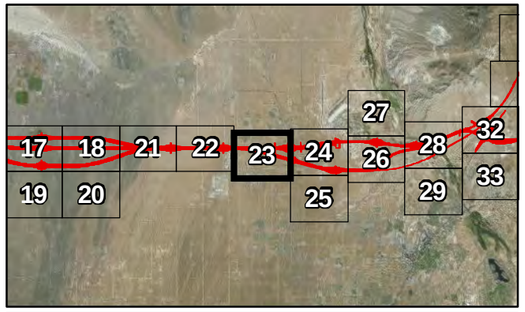
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

[1] Caltrans



ECORP Consulting, Inc.
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Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor Vegetation Summary

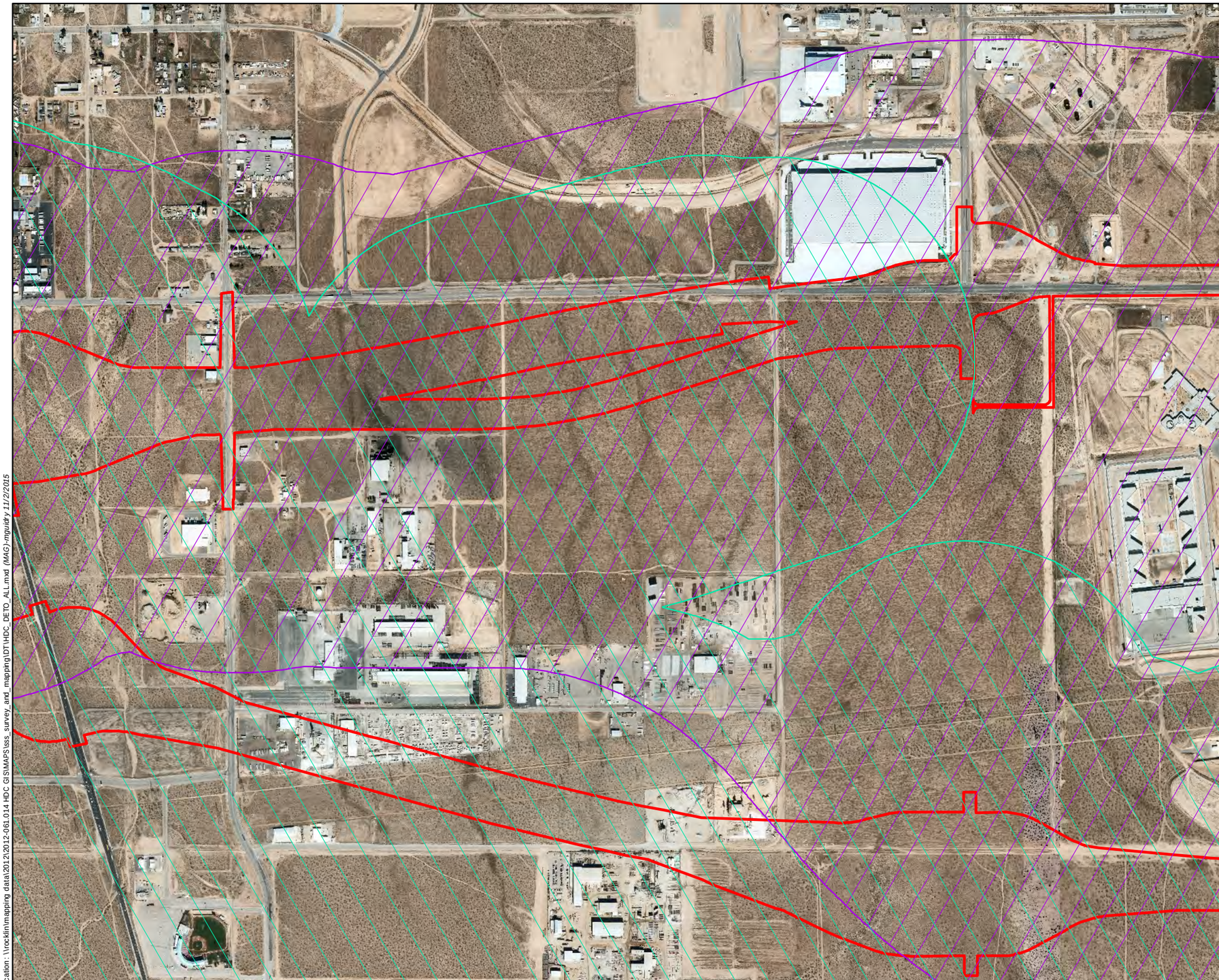
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 24 of 40



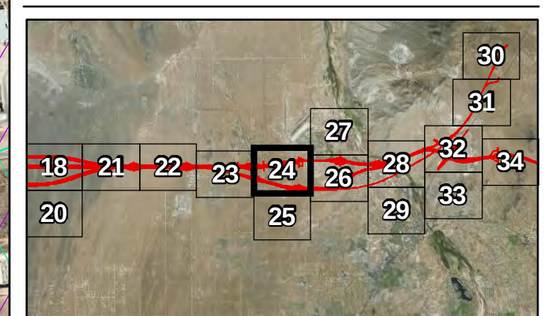
Impact Area of All Project Alternatives [1]

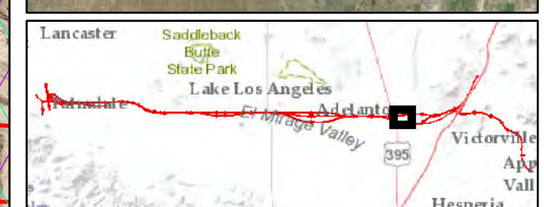
Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

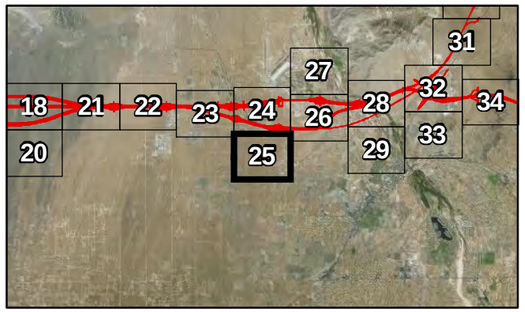
Map Date: 11/2/2015

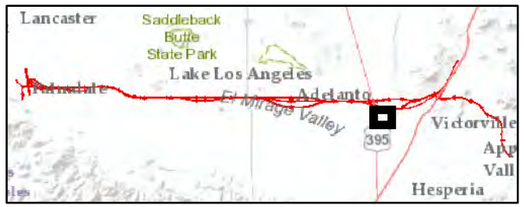
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 25 of 40

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012

[1] Caltrans





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ENVIRONMENTAL CONSULTANTS

Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

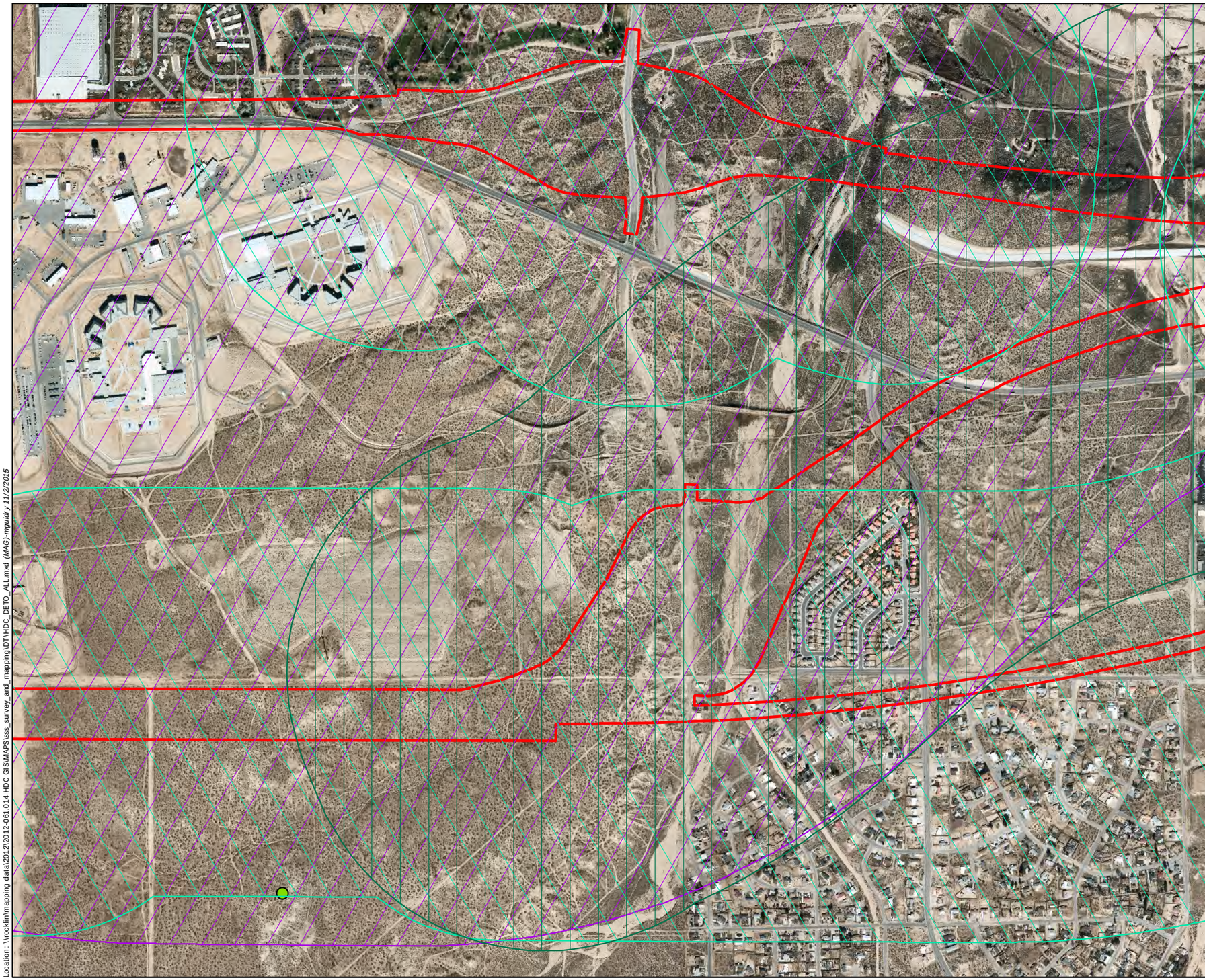
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 26 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

AMEC - 2011

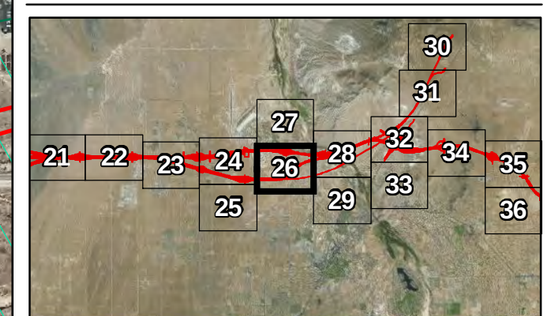
AMEC - 2012

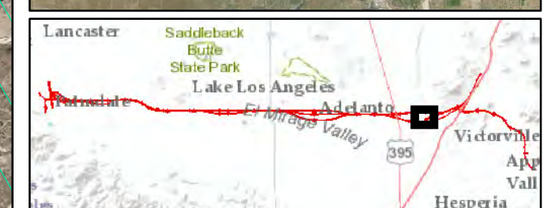
ECORP - 2013

DETO AMEC 2012 - Sign, Class

Tortoise Burrow, Class 2

[1] Caltrans





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Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

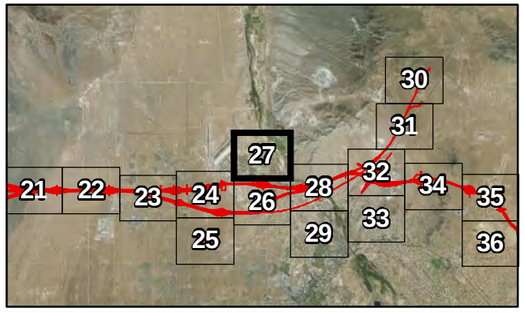
Map Date: 11/2/2015

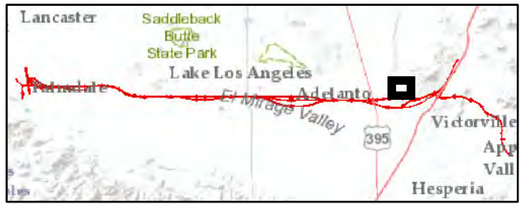
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 27 of 40

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

[1] Caltrans





ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 28 of 40

Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

DETO ECORP 2013- Sign, Class

- Burrow, Class 1
- Scat, Class 2
- Scat, Class 3
- Scat, Class 4
- Scat, Class 5

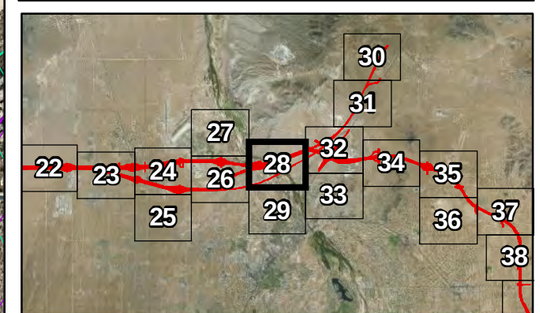
DETO AMEC 2011 - Sign, Class

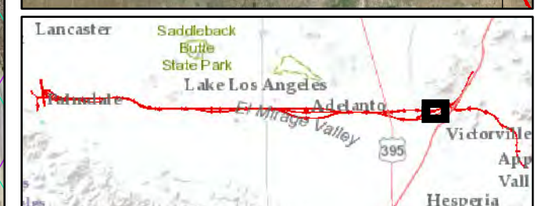
- Live Tortoise, Adult male

DETO AMEC 2012 - Sign, Class

- Tortoise Burrow, Class 1
- Tortoise Scat, Class 2
- Tortoise Scat, Class 3
- Tortoise Scat, Class 4
- Tortoise Scat, Class 5

[1] Caltrans





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Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

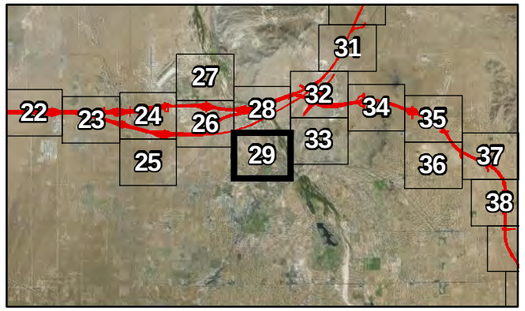
Map Date: 11/2/2015

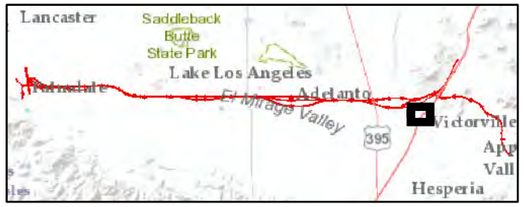
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 29 of 40

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012

[1] Caltrans





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Location: \\rocklin\mapping data\2012\2012-061.014 HDC GIS\MAPS\tss_survey_and_mapping\DT\HDC_DETO_ALL.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
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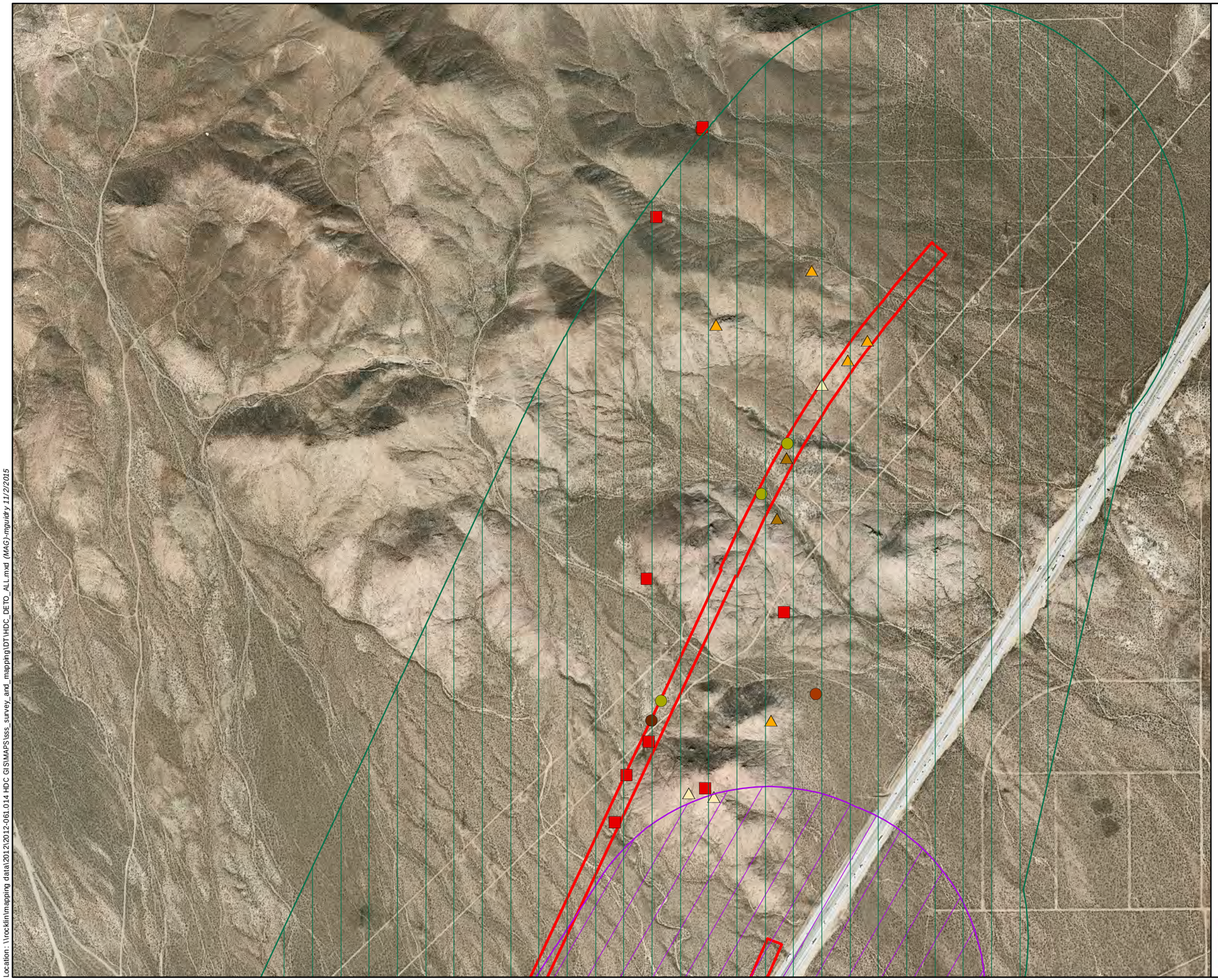


Impact Area of All Project Alternatives [1]

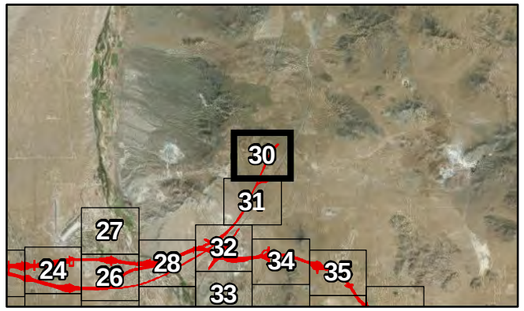
Survey Area: Company - Survey Year

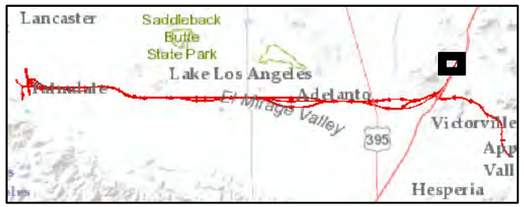
- AMEC - 2011
- ECORP - 2013

DETO ECORP 2013- Sign, Class

- Burrow, Class 3
- Burrow, Class 4
- Burrow, Class 5
- Carcass, Class 5
- Scat, Class 2
- Scat, Class 3
- Scat, Class 4

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

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Consolidation of
Desert Tortoise Studies
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Impact Area of All Project Alternatives [1]

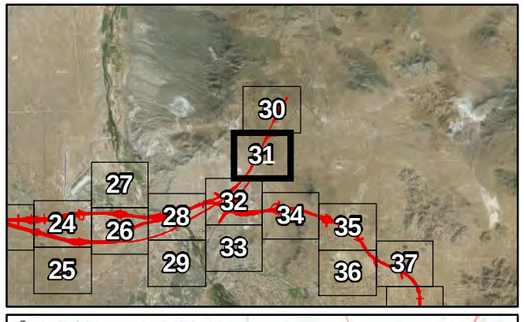
Survey Area: Company - Survey Year

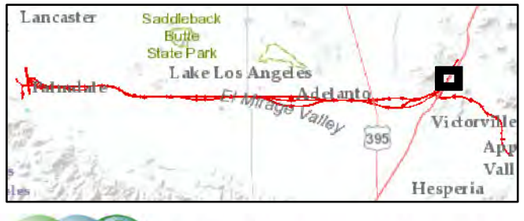
- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

DETO ECORP 2013- Sign, Class

- Burrow, Class 3
- Burrow, Class 4
- Burrow, Class 5
- Carcass, Class 5
- Pallet, Class 3
- Pallet, Class 5

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
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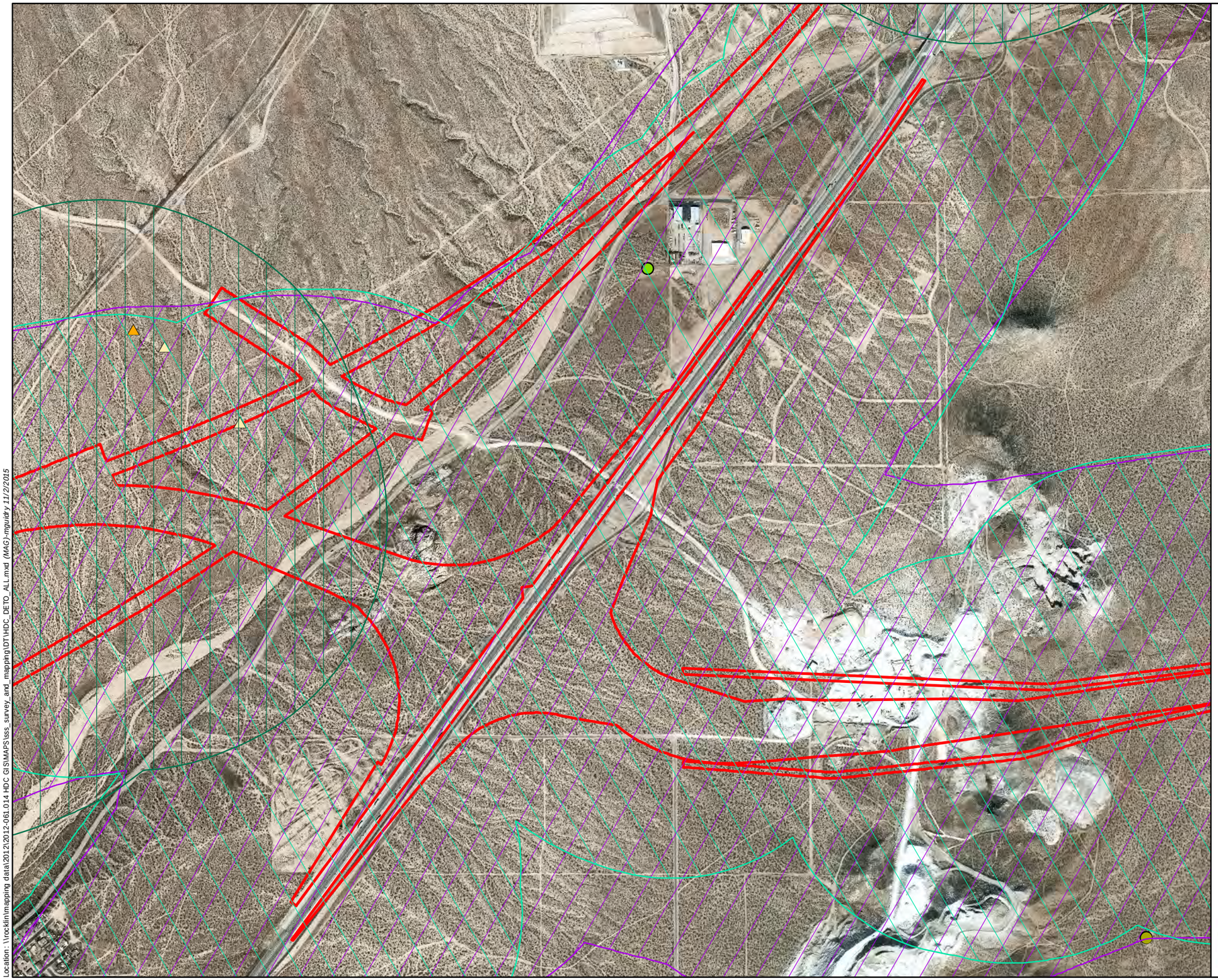


Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

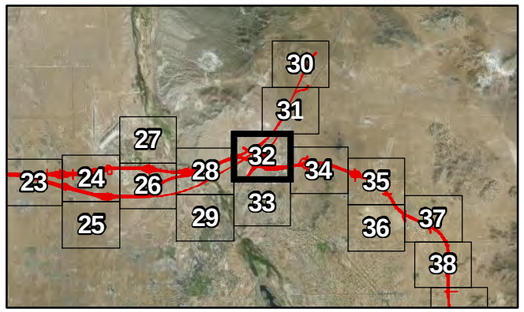
DETO ECORP 2013- Sign, Class

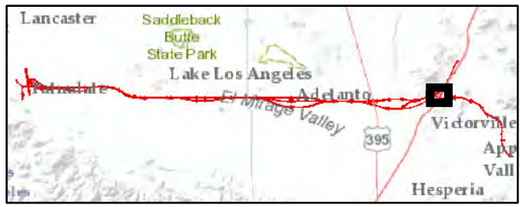
- Burrow, Class 3
- Scat, Class 2
- Scat, Class 3

DETO AMEC 2012 - Sign, Class

- Tortoise Burrow, Class 2
- Tortoise Burrow, Class 3

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

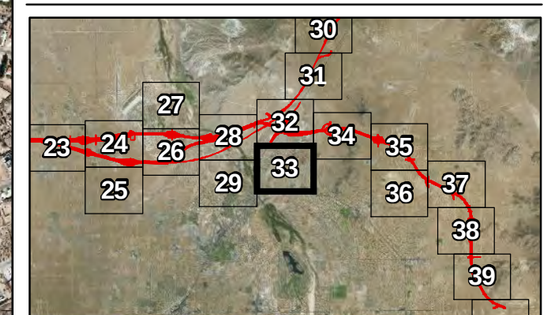
Map Date: 11/2/2015

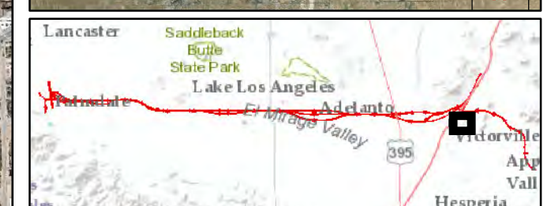
Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 33 of 40

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012

[1] Caltrans





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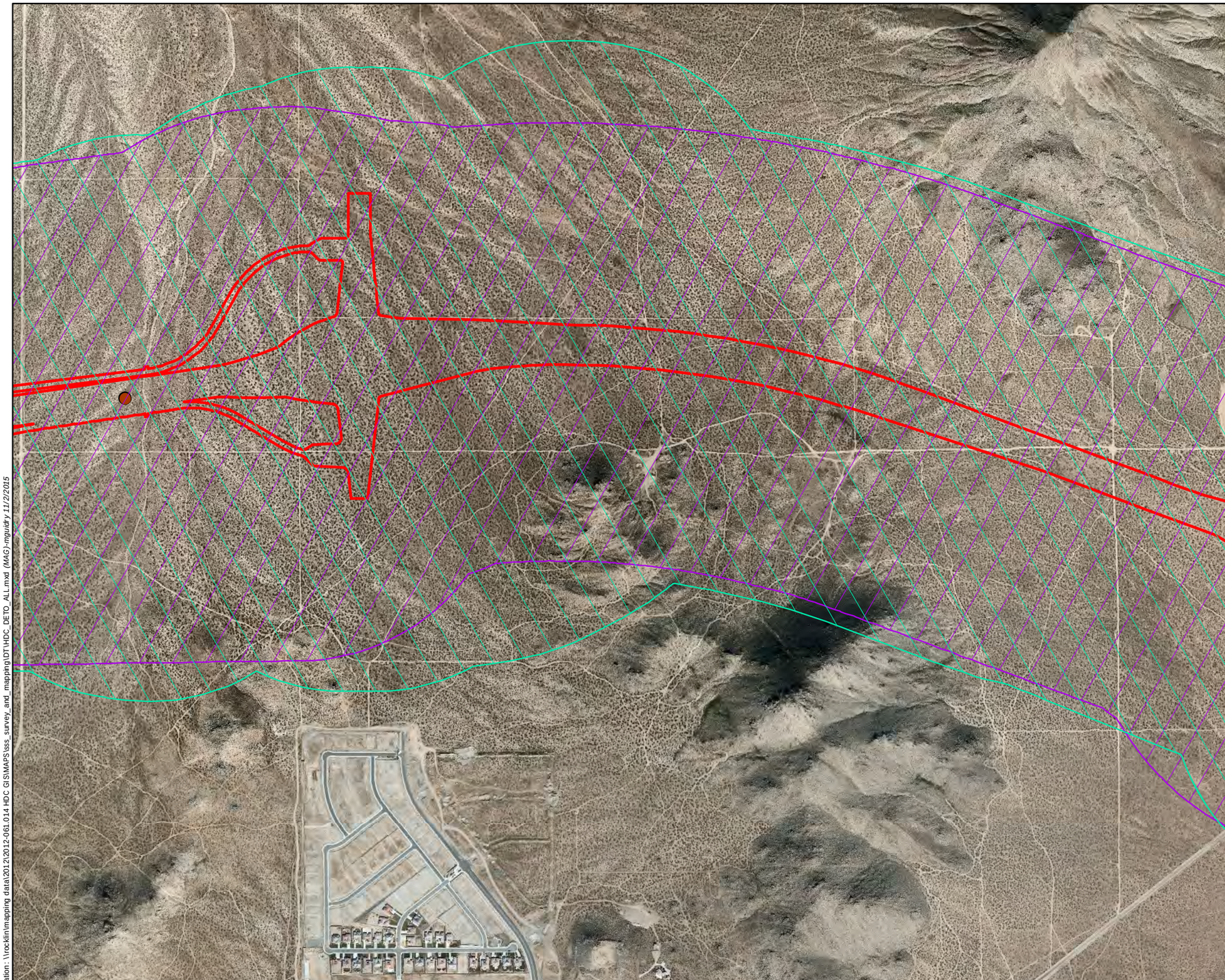
2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 34 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

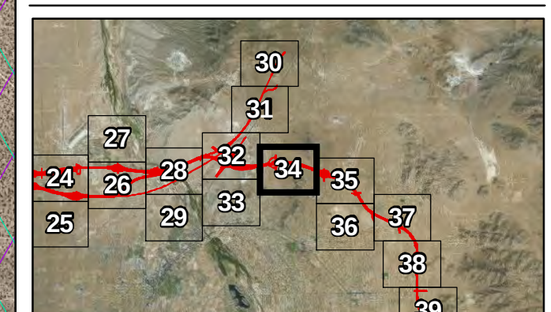
DETO ECORP 2013- Sign, Class

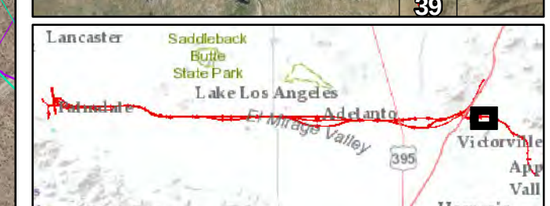
Burrow, Class 4

DETO AMEC 2011 - Sign, Class

Tortoise Burrow, Class 4

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

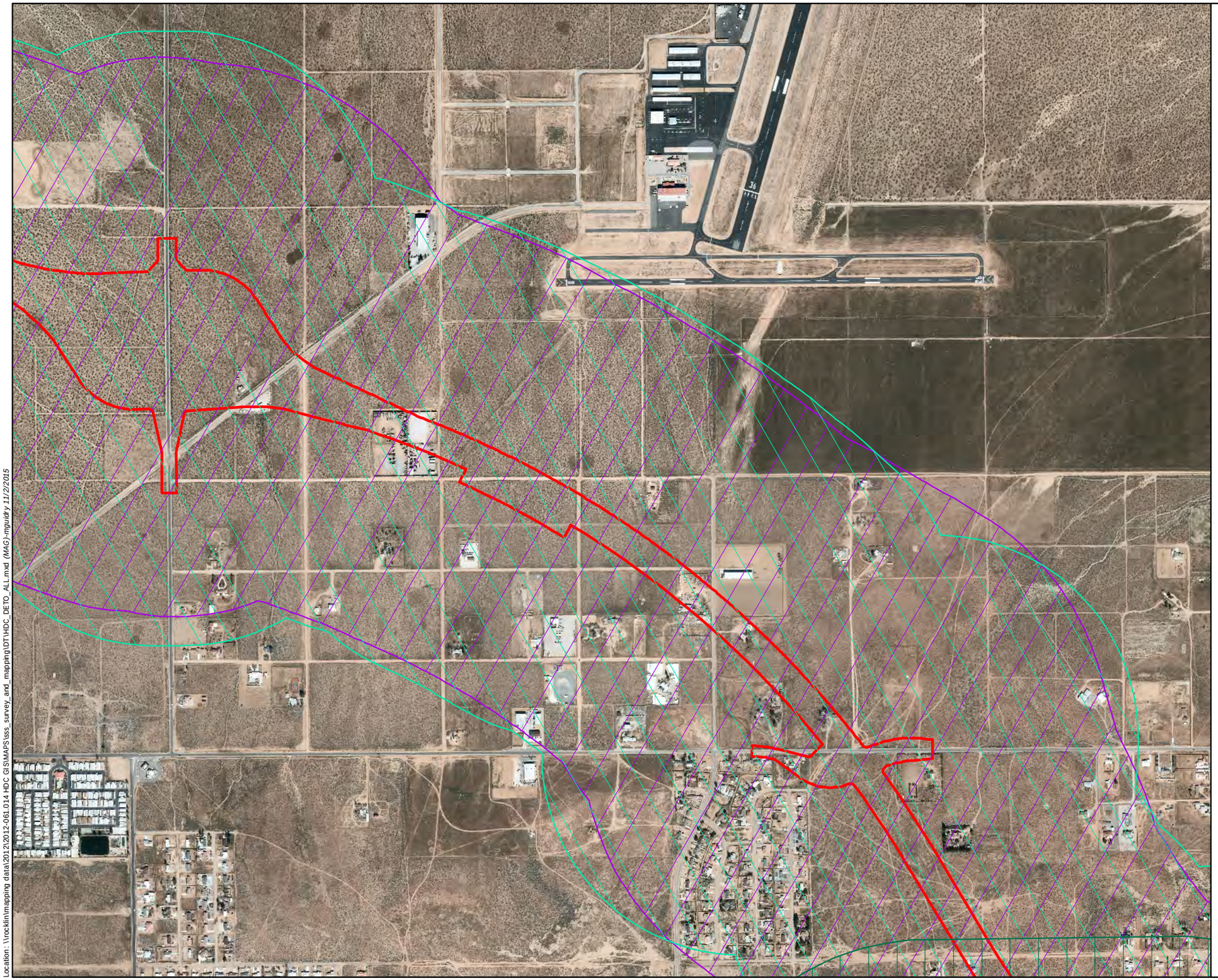
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 35 of 40

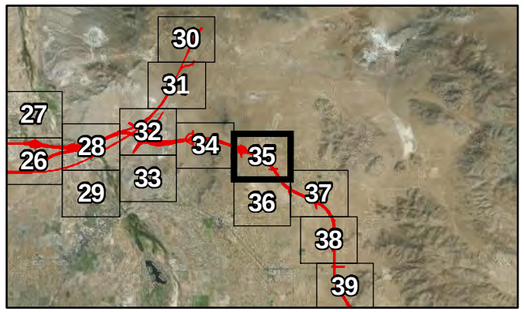


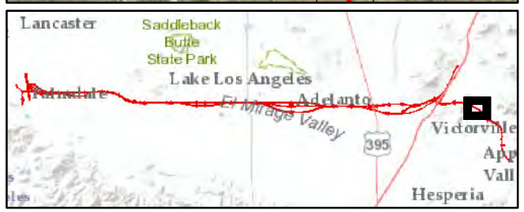
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

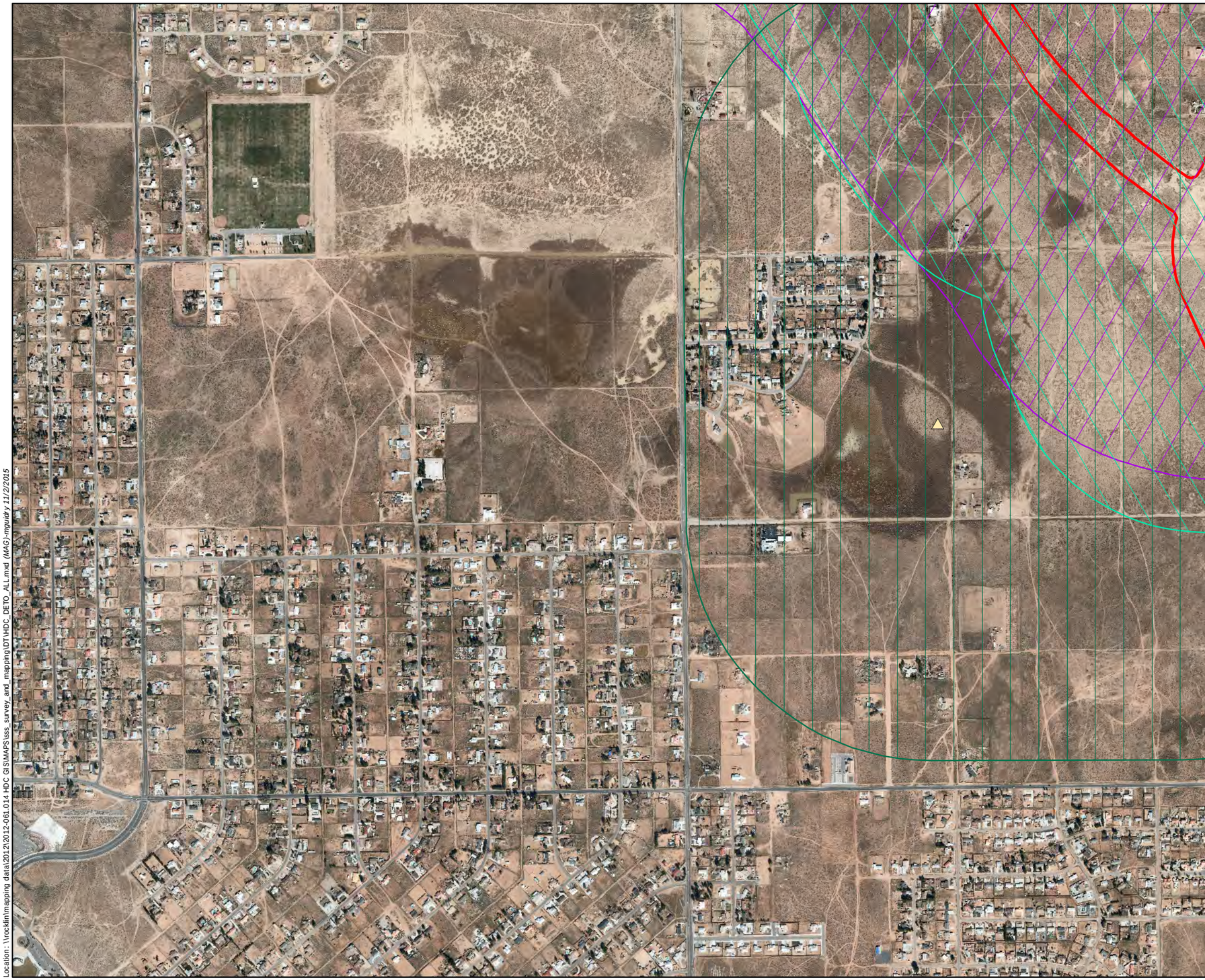
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 36 of 40



Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

AMEC - 2011

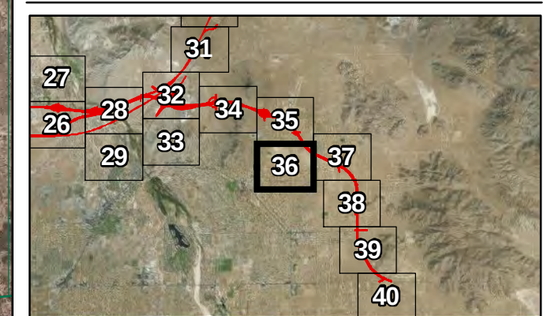
AMEC - 2012

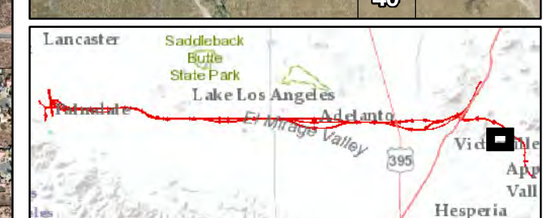
ECORP - 2013

DETO ECORP 2013- Sign, Class

Scat, Class 2

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

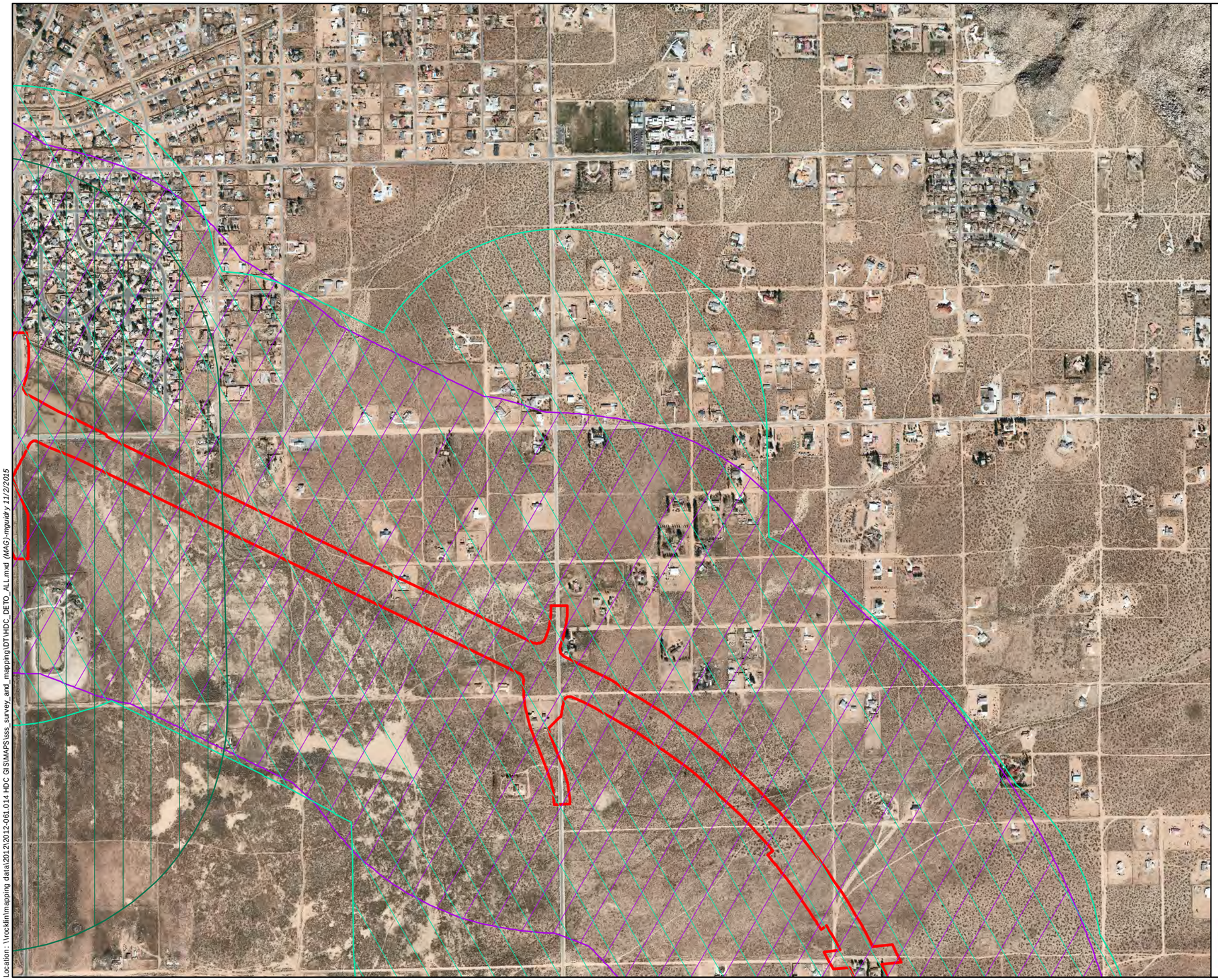
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 37 of 40

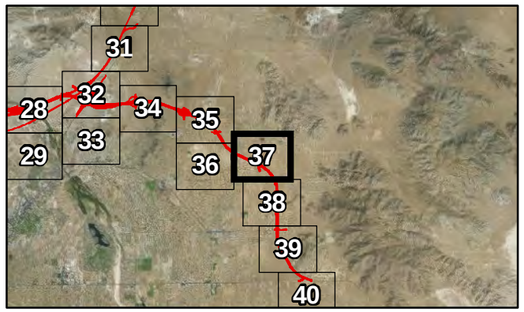


Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

- AMEC - 2011
- AMEC - 2012
- ECORP - 2013

[1] Caltrans



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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 38 of 40

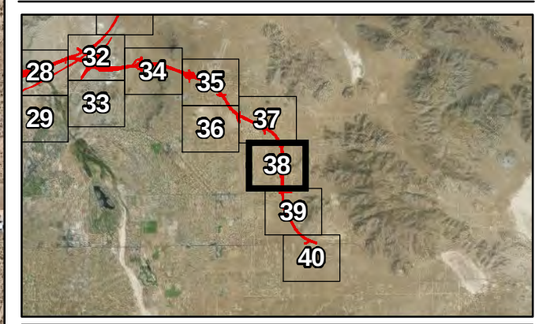
Impact Area of All Project Alternatives [1]

Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

[1] Caltrans



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2012-061-014 High Desert Corridor Vegetation Summary

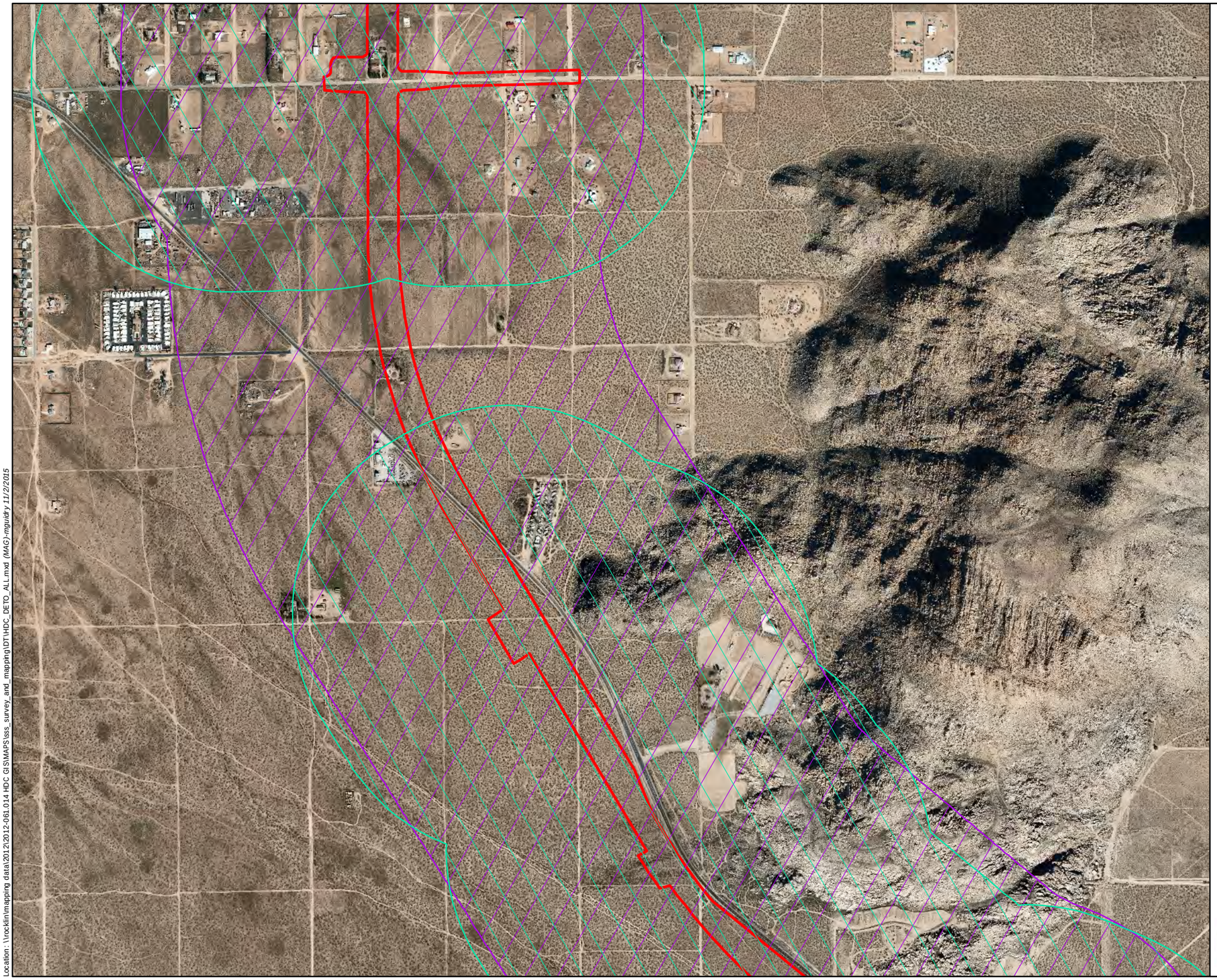
Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 39 of 40



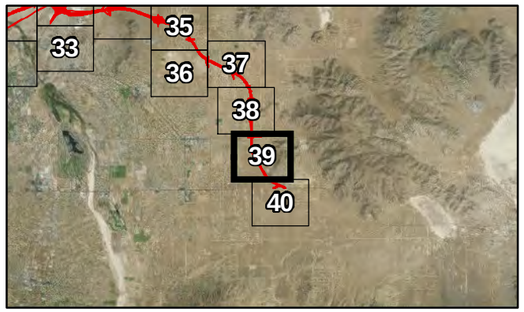
Impact Area of All Project Alternatives [1]

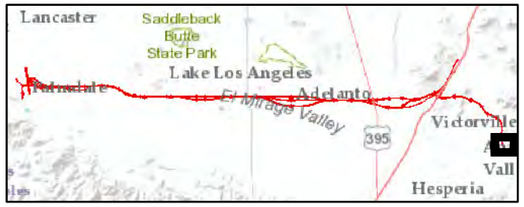
Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1.
Consolidation of
Desert Tortoise Studies
Sheet: 40 of 40

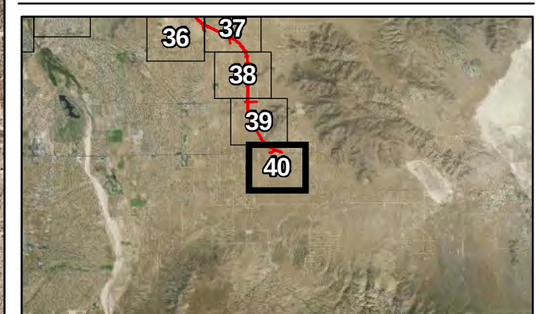
Impact Area of All Project Alternatives [1]

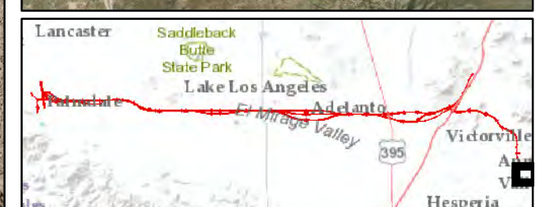
Survey Area: Company - Survey Year

AMEC - 2011

AMEC - 2012

[1] Caltrans





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2012-061-014 High Desert Corridor Vegetation Summary

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015