Consolidation of Mohave Ground Squirrel 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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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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ECORP Consulting, Inc.

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District/Region 7

Approved By:_____ **Date**:_____

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District/Region 7

High Desert Corridor: Consolidation of Mohave Ground Squirrel 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 consolidated the Mohave ground squirrel 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, this document is prepared with the intent that only this one consolidated report will be included in the appendices of the Natural Environment Study Report and the Final EIR/EIS documents.

Methods

Mohave ground squirrel (MGS) studies, including habitat assessments and protocol trapping, were performed by AMEC, ECORP, Caltrans, and LSA between 2011 and 2014. Protocol MGS trapping grids were conducted in accordance to the California Department of Fish and Game Mohave Ground Squirrel Guidelines (2003). A total of 20 grids among all Mohave ground squirrel trapping efforts were established throughout the Biological Study Area (BSA). The following list of studies conducted for Mohave ground squirrel is consolidated in this report:

- Habitat Assessment for Mohave Ground Squirrel, High Desert Corridor (AMEC 2011), San Bernardino County
- Focused Mohave Ground Squirrel Trapping Survey, High Desert Corridor Project (LSA 2011), San Bernardino County – 2 trapping grids
- Focused Mohave Ground Squirrel Trapping Survey, High Desert Corridor Project (ECORP 2012a), East Los Angeles County – 2 trapping grids
- Biological Survey Results Report for the State Route 138 New Freeway Construction Project (ECORP 2012b), West Los Angeles County – 4 trapping grids
- Focused Mohave Ground Squirrel Trapping Survey, High Desert Corridor Project (Caltrans 2014), San Bernardino County – 12 trapping grids

Results

Trapping results for MGS on all grids were negative. Attachment 1 contains one map set presenting all of trapping grid locations recorded for each survey summarized in this report. The individual data set from each report are identified on the map. ECORP (2012a) included an additional six trapping grids in their study, however the Alternative the trapping was conducted for was removed from the proposed project and not addressed in the DEIR/EIS and therefore was not included in this consolidated report. 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).

Literature Cited

[AMEC 2011] AMEC Environment & Infrastructure, Inc. 2011. California Department of Transportation High Desert Corridor Project, Mohave Ground Squirrel Habitat Assessment, San Bernardino County. December 30, 2011.

[Caltrans 2014] California Department of Transportation. 2014. Mohave Ground Squirrel Focused Survey, High Desert Corridor Project, Los Angeles and San Bernardino Counties, California. May 2014.

[CDFG 2003] California Department of Fish and Game. 2003. Mohave Ground Squirrel Survey Guidelines, California Department of Fish and Game.

[ECORP 2012a] ECORP Consulting, Inc. 2012. Final Mohave Ground Squirrel Trapping Results Report for the SR-138 (Avenue P-8) High Desert Corridor Project. January 2012.

[ECORP 2012b] ECORP Consulting, Inc. 2012. Biological Survey Results Report for the State Route 138 New Freeway Construction Project. April 2012.

[LSA 2011] LSA Associates, Inc. 2011. Mohave Ground Squirrel Focused Survey, High Desert Corridor Project, San Bernardino County, California. July 2011.

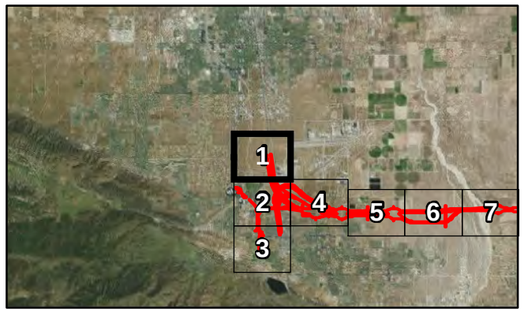
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 1 of 36

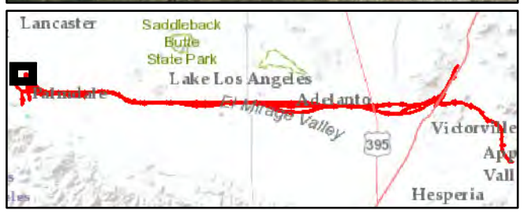
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet
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Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
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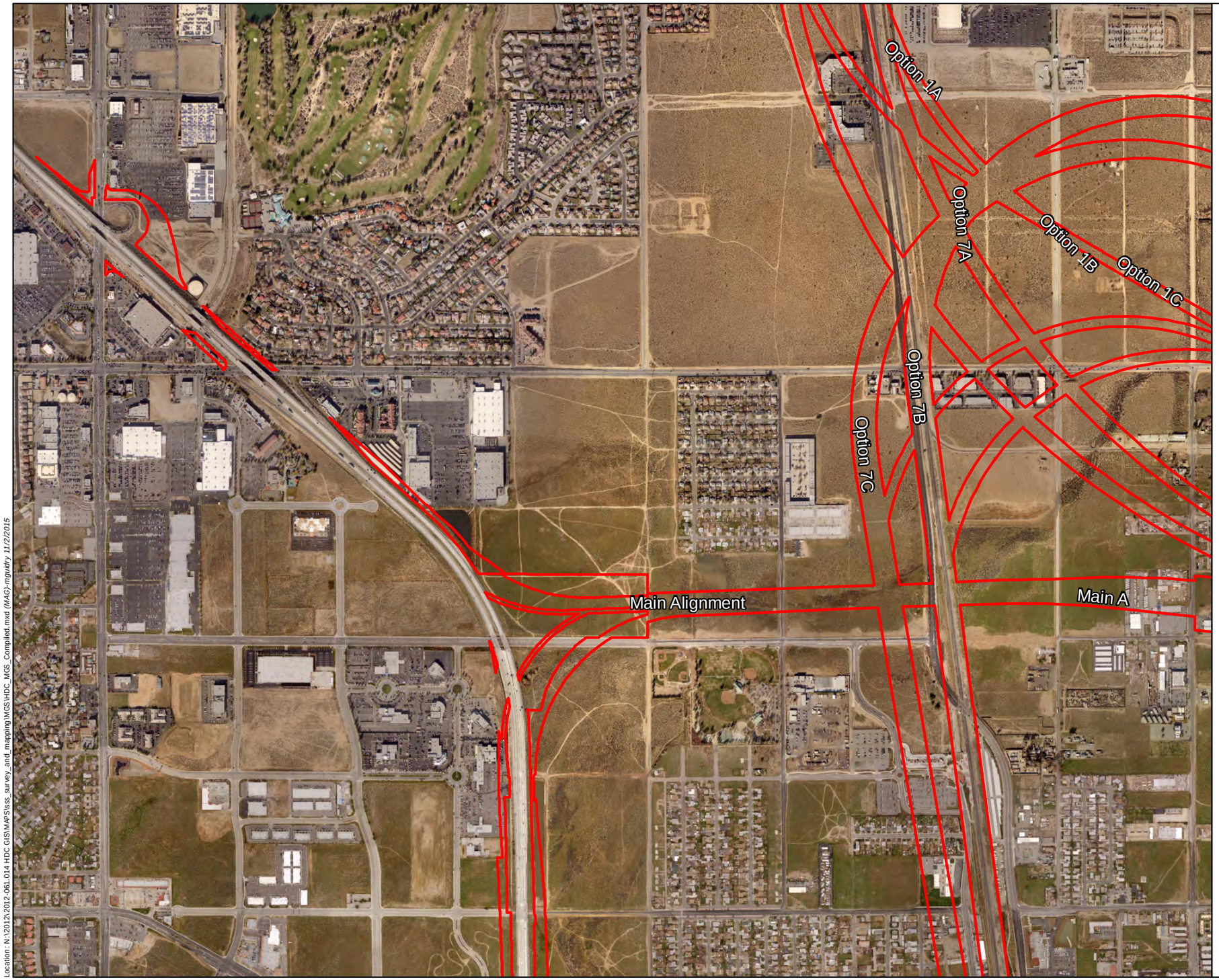

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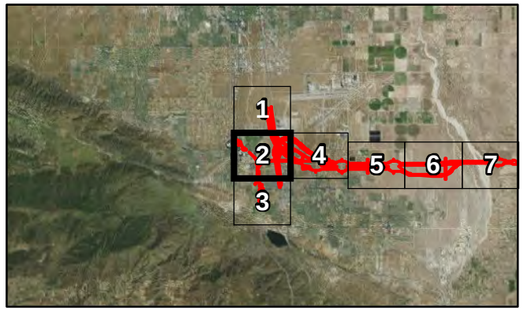

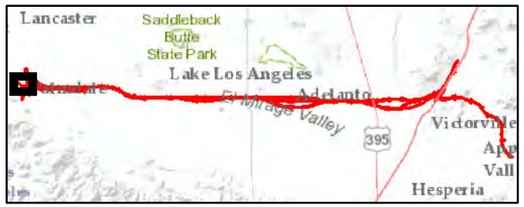

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2012-061-014 High Desert Corridor

Scale in Feet
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Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

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Sheet: 3 of 36

Impact Area of All Project Alternatives [1]

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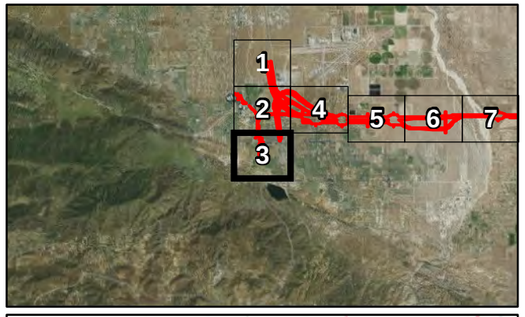

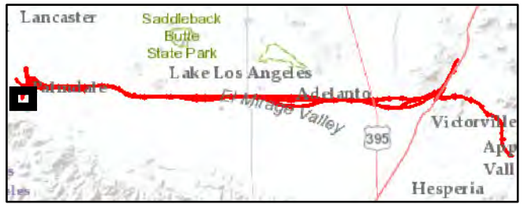

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2012-061-014 High Desert Corridor

Scale in Feet
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Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 4 of 36

Impact Area of All Project Alternatives [1]

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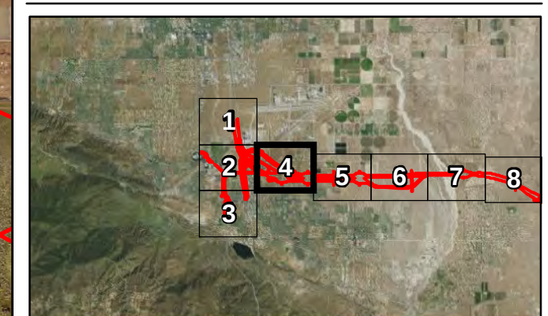

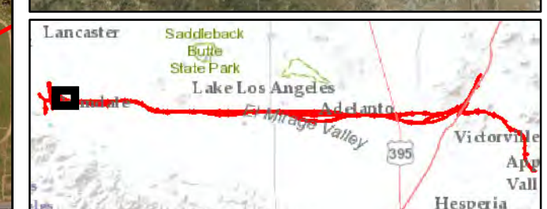

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2012-061-014 High Desert Corridor

Scale in Feet
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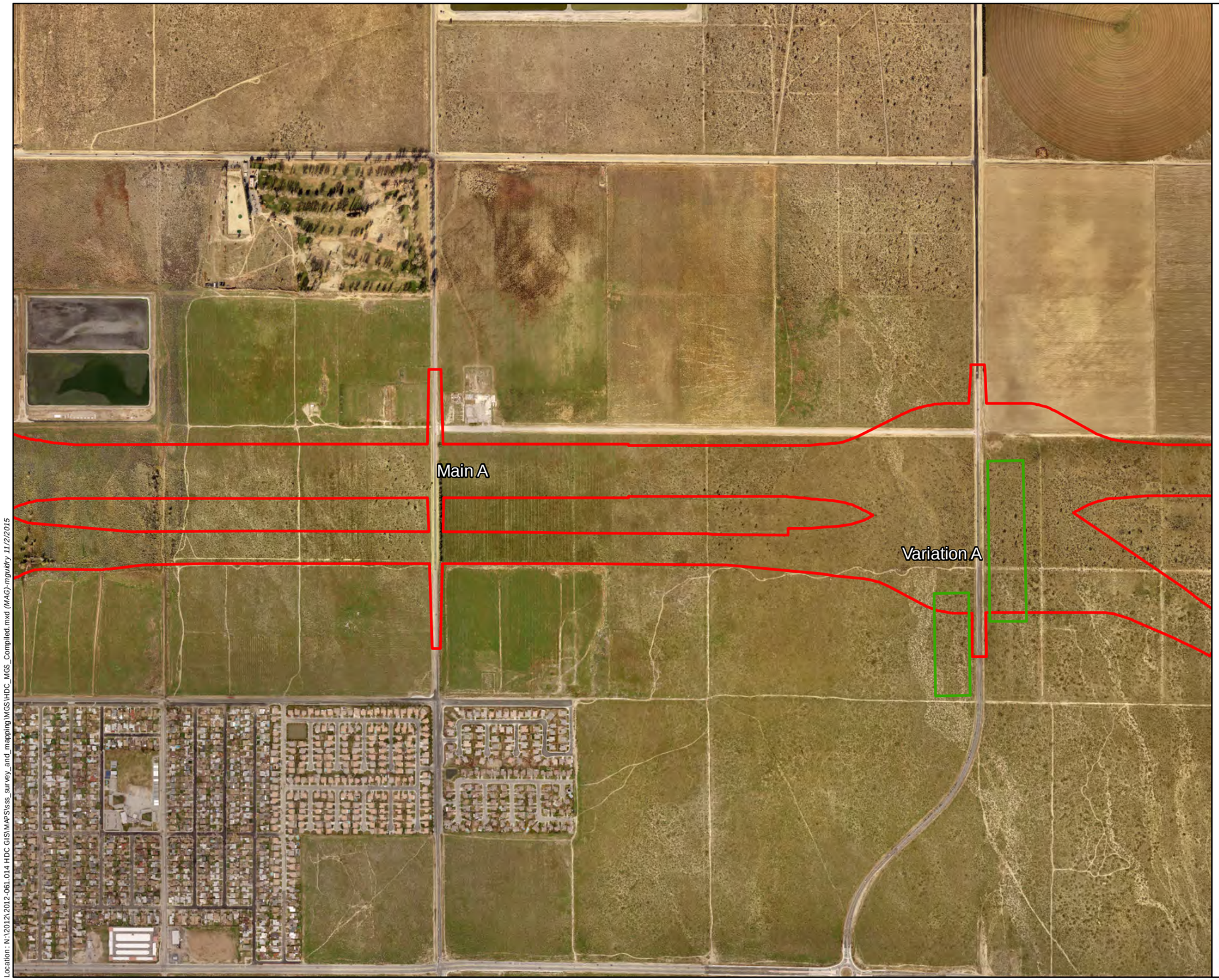
Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 5 of 36



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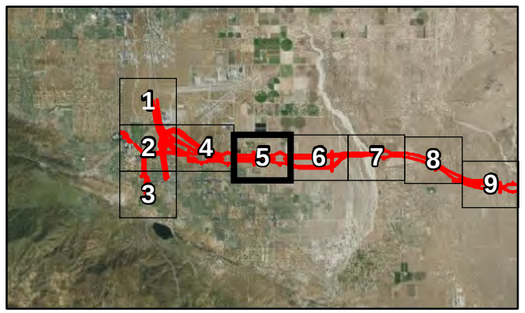

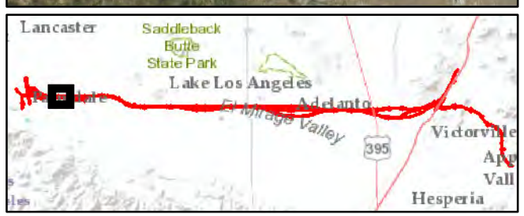

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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
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Impact Area of All Project Alternatives [1]

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- 2011 - LSA
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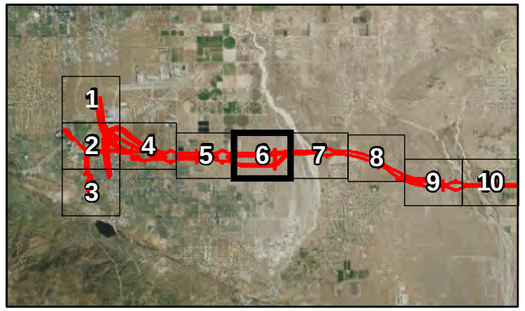

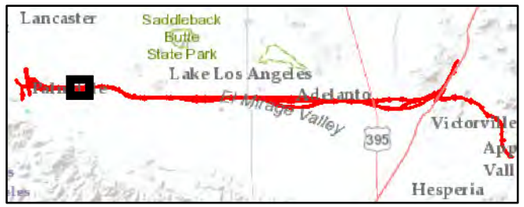

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2012-061-014 High Desert Corridor

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

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Sheet: 7 of 36

Impact Area of All Project Alternatives [1]

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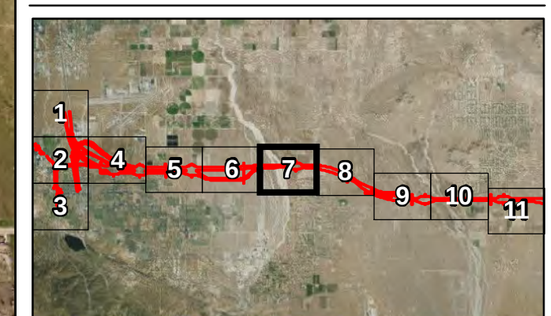

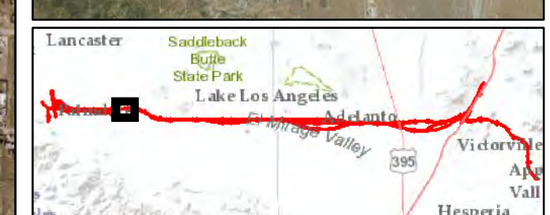

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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 8 of 36

Impact Area of All Project Alternatives [1]

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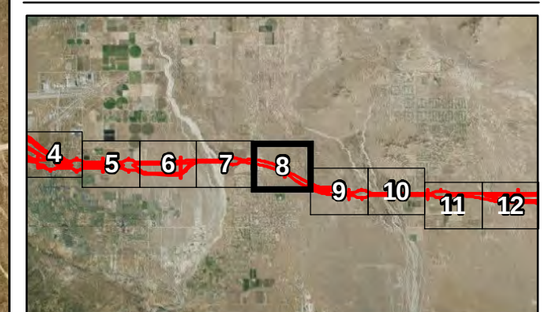

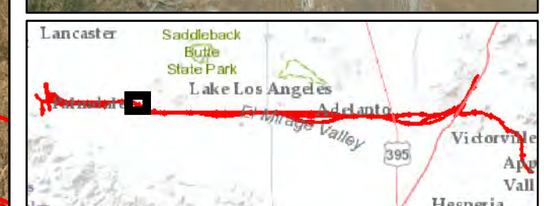

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2012-061-014 High Desert Corridor

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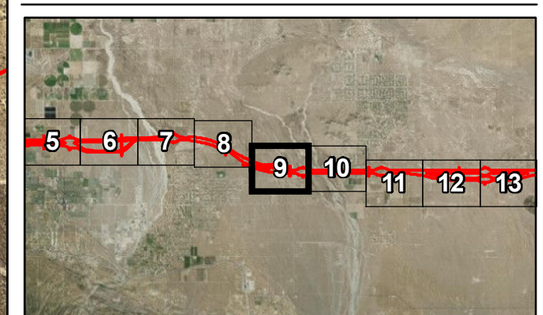

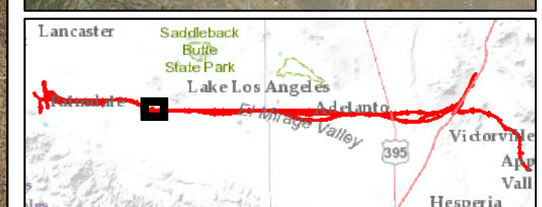

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2012-061-014 High Desert Corridor

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Photo Source: USGS (2010, 2011)

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Attachment 1. Consolidation of Mohave Ground Squirrel Studies
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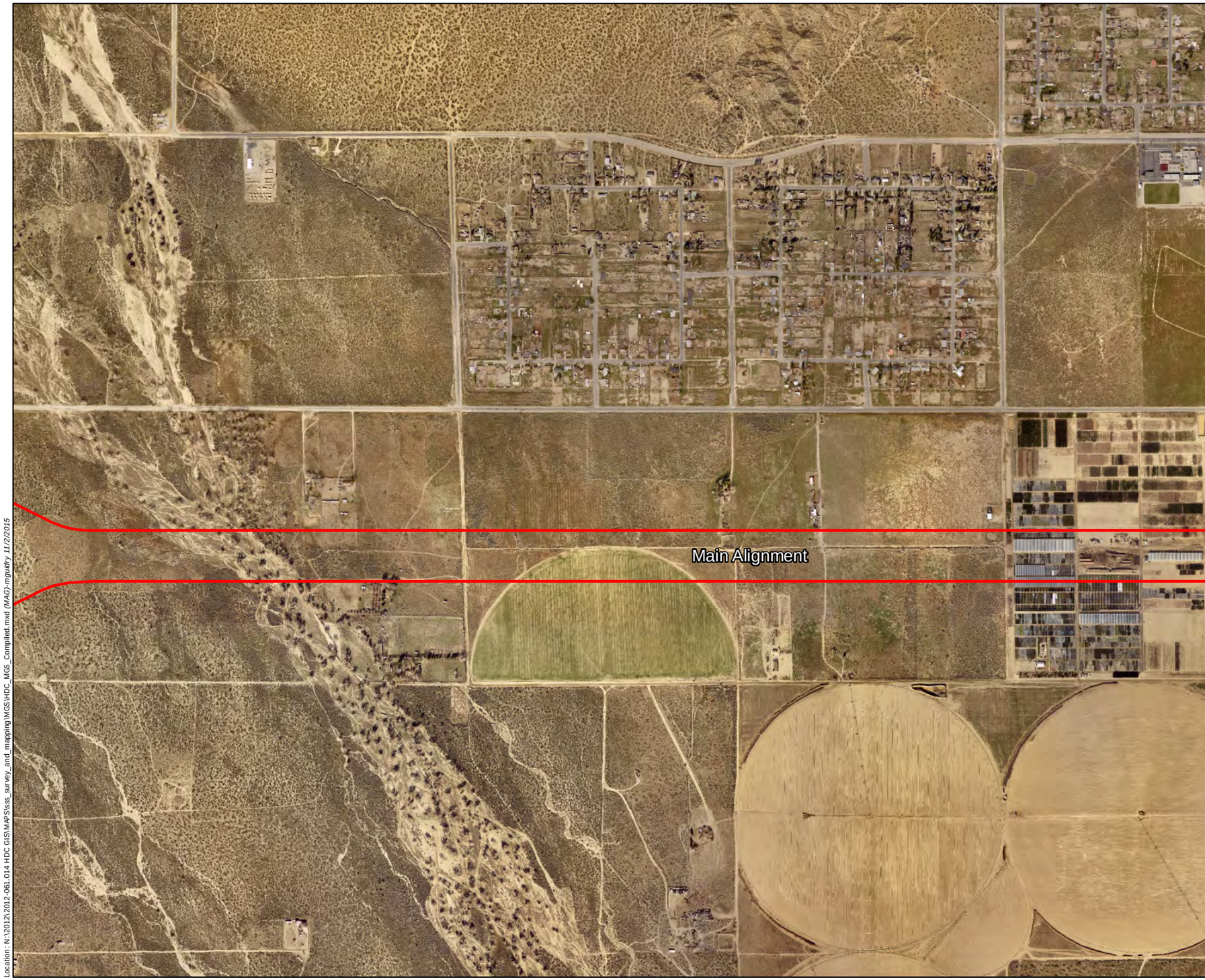

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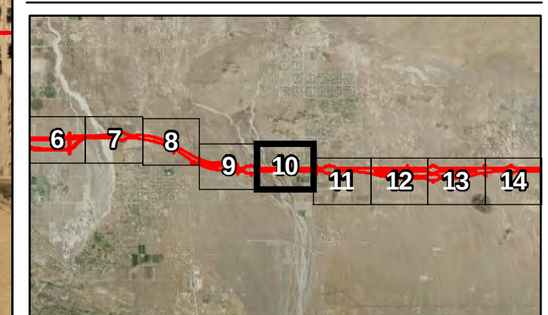

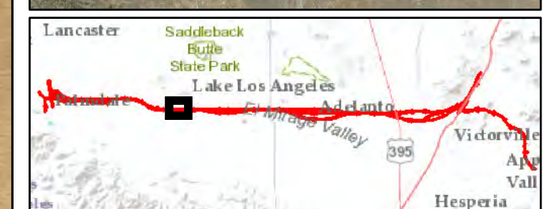

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2012-061-014 High Desert Corridor

Scale in Feet
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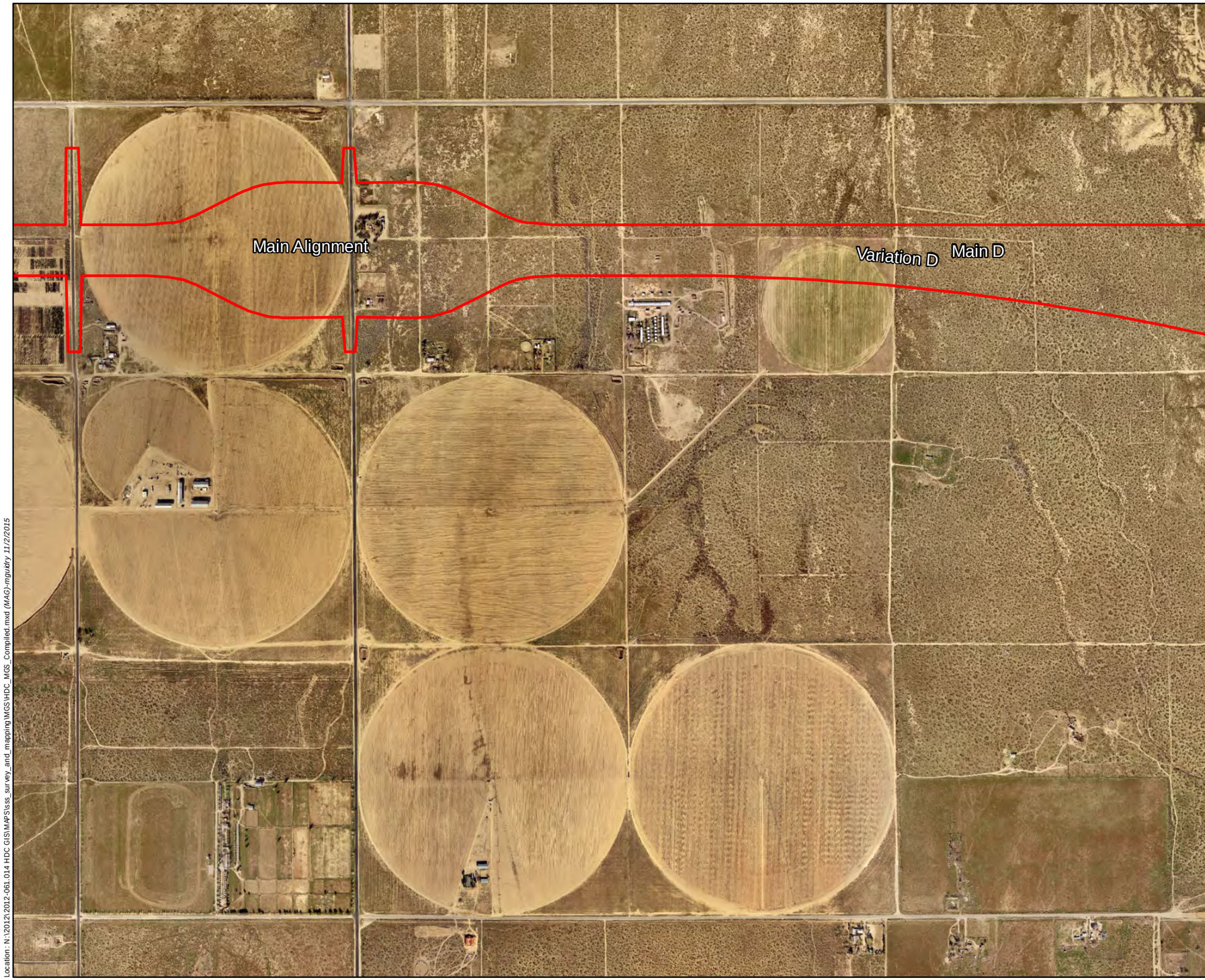
Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 11 of 36



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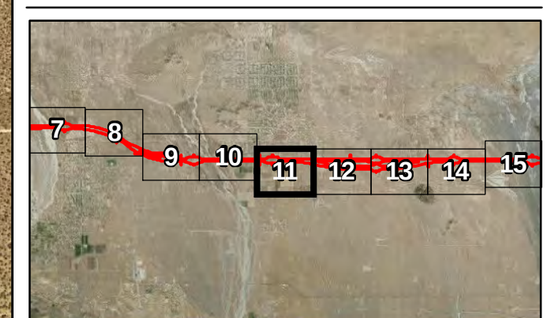

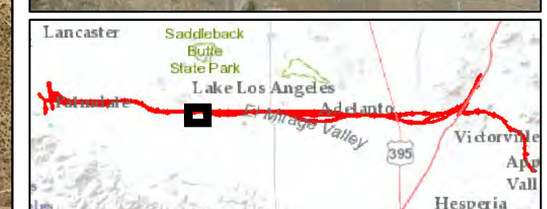

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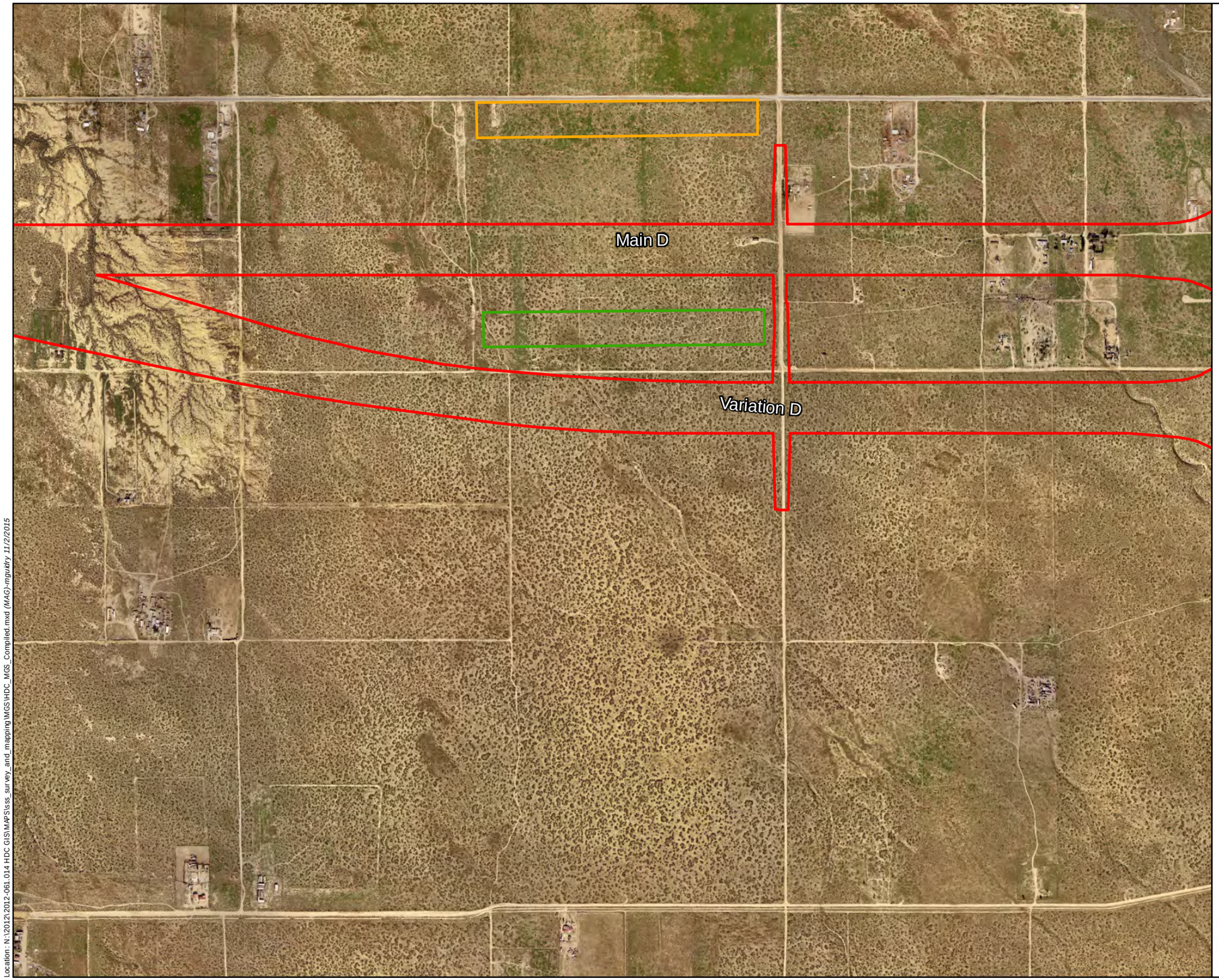
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 12 of 36



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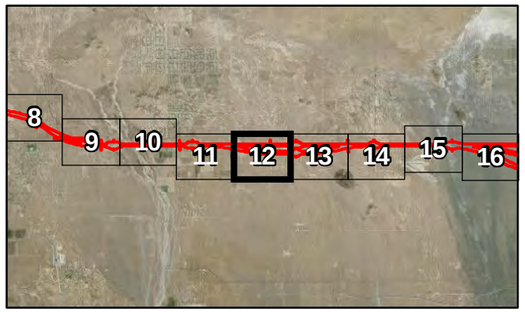

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2012-061-014 High Desert Corridor

Scale in Feet
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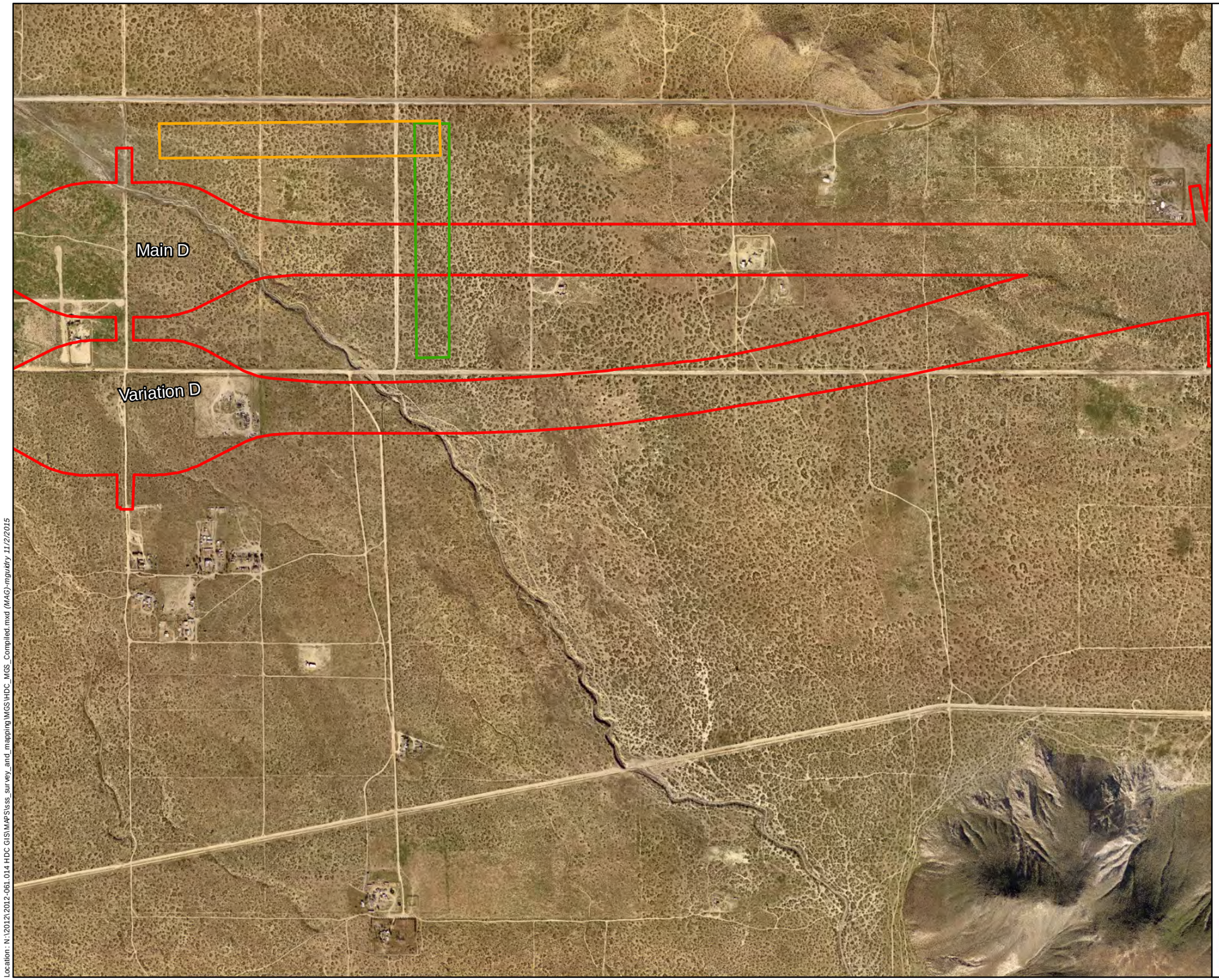
Sheet: 13 of 36



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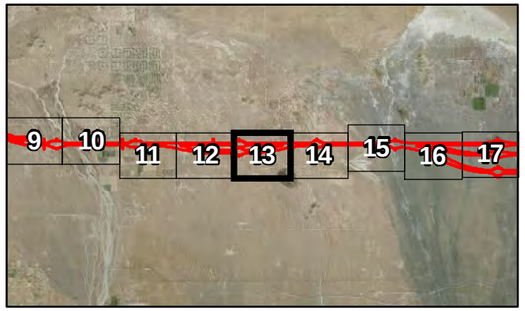

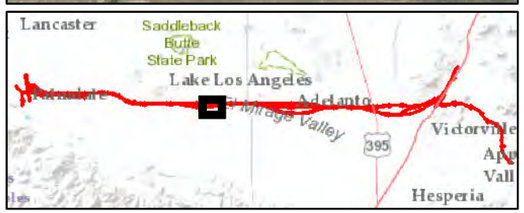

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Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 14 of 36

Impact Area of All Project Alternatives [1]

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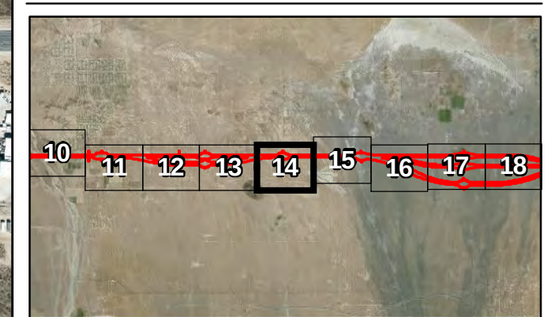
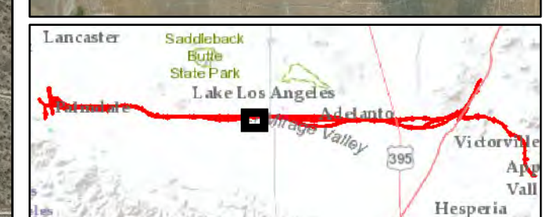
[1] Caltrans





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Location: N:\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\MGS\HDC_MGS_Compiled.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

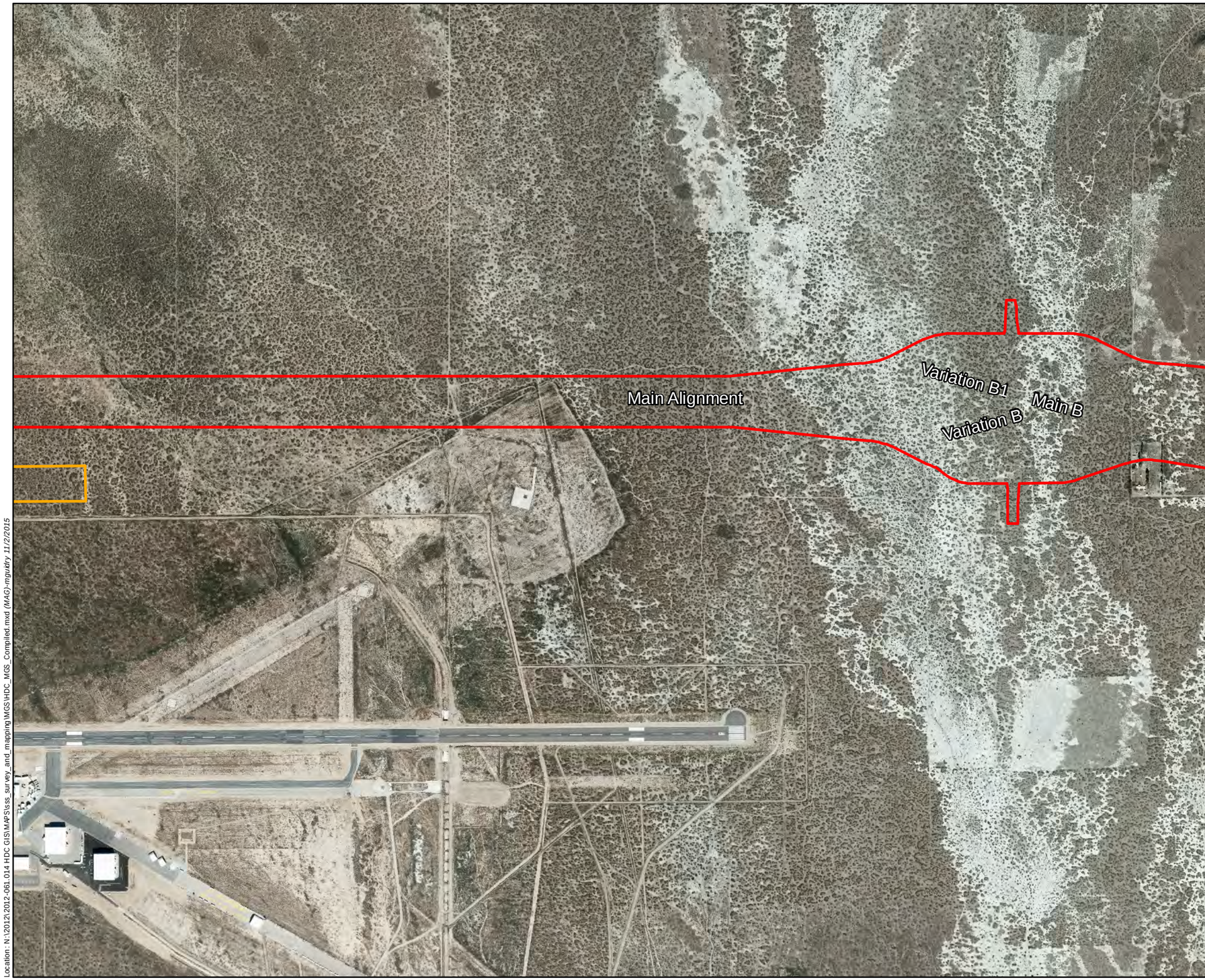
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 15 of 36

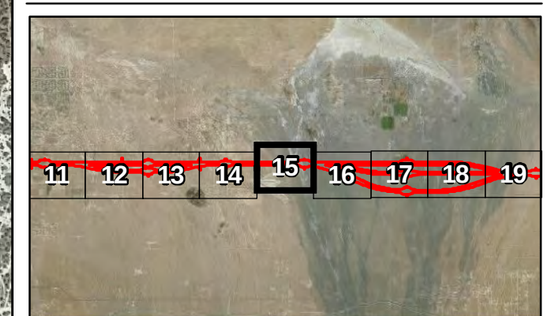
Impact Area of All Project Alternatives [1]

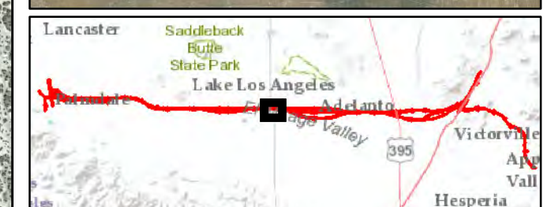
MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans







ECORP Consulting, Inc.
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Location: N:\2012\2012-061.014 HDC GIS\MAPS\ss_survey_and_mapping\MGS\HDC_MGS_Compiled.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

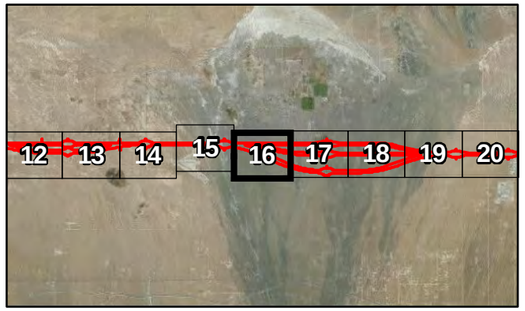
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 16 of 36

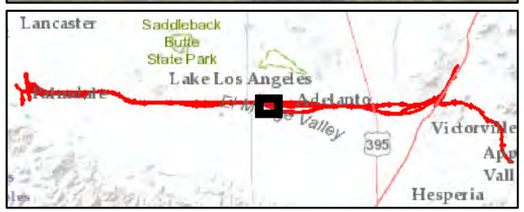
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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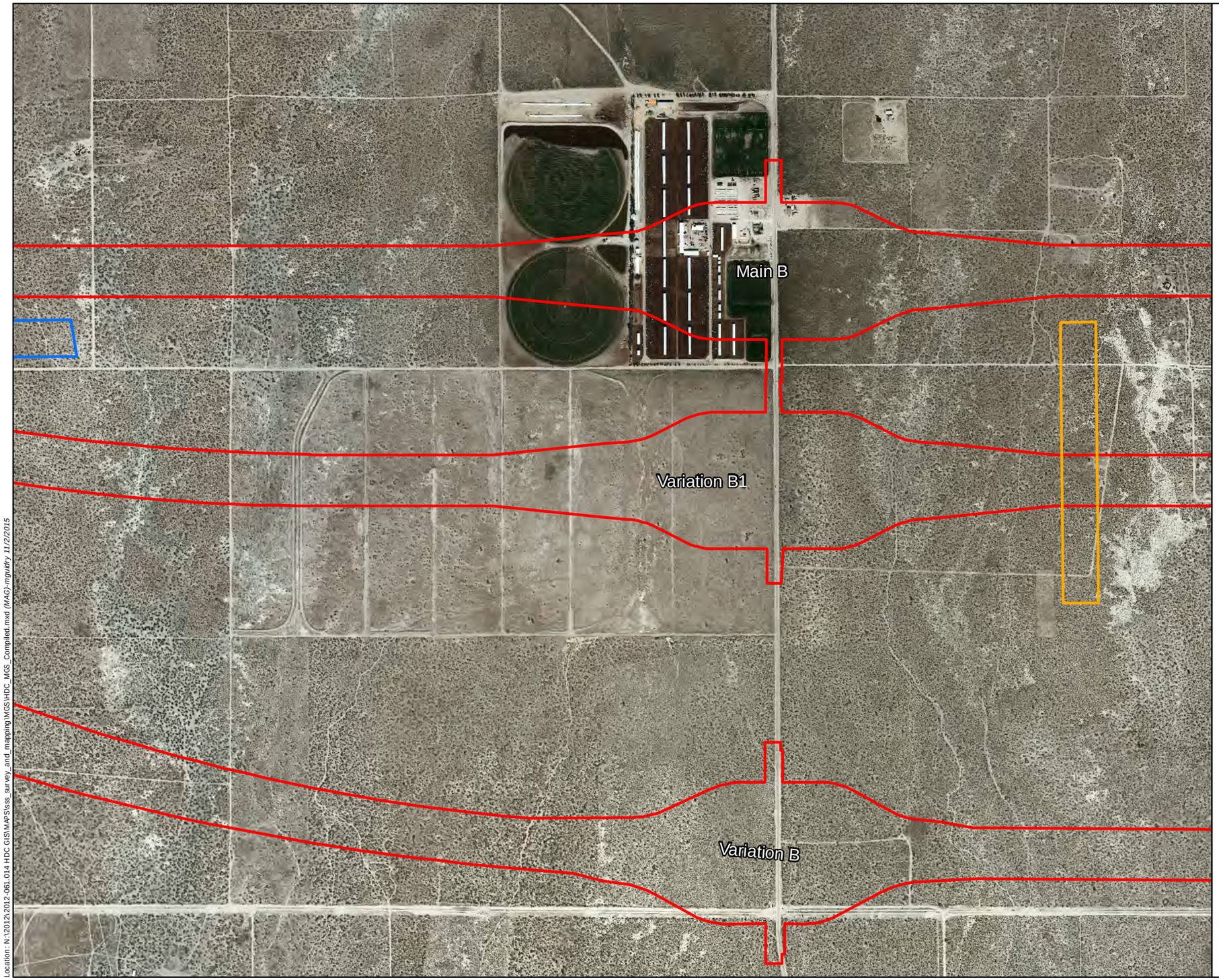
2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 17 of 36

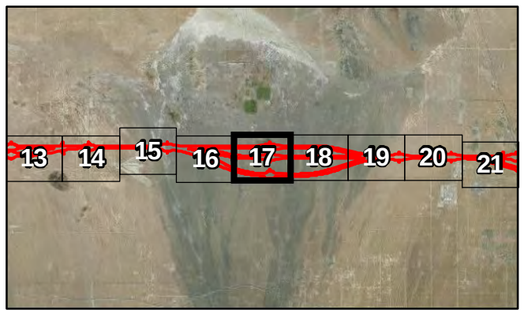


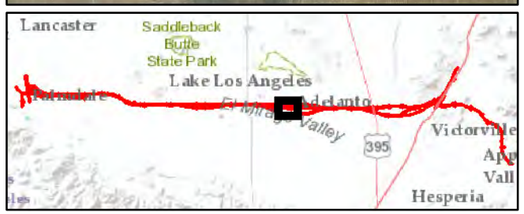
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

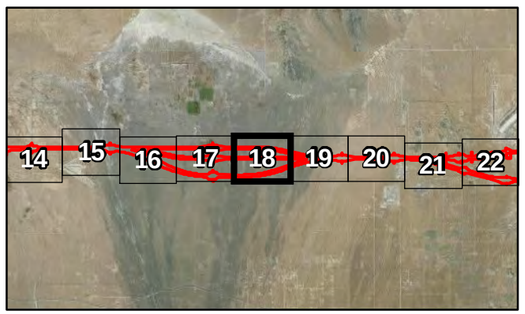
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 18 of 36

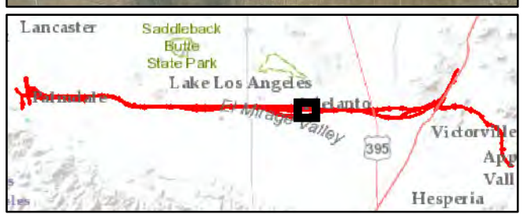
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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Location: N:\2012\2012-061.014 HDC GIS\MAPS\sss_survey_and_mapping\MGS\HDC_MGS_Compiled.mxd (MAG)-mguidry 11/2/2015

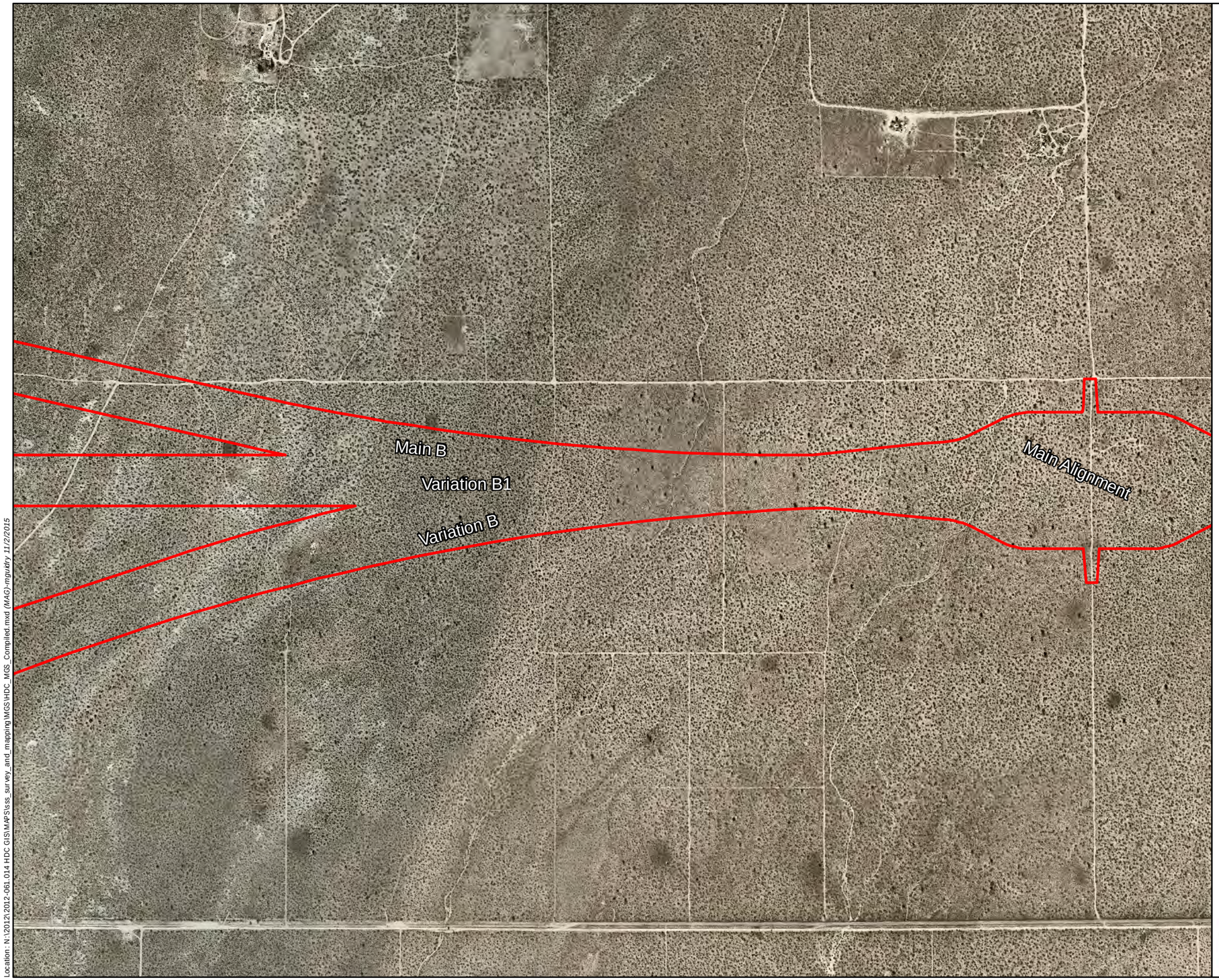
2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 19 of 36

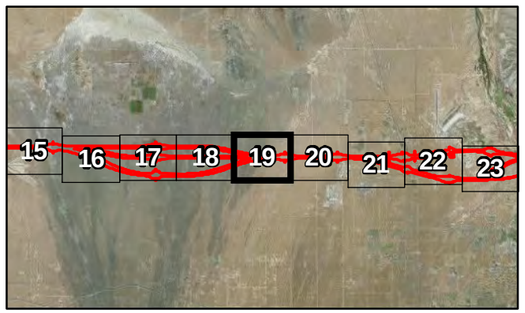


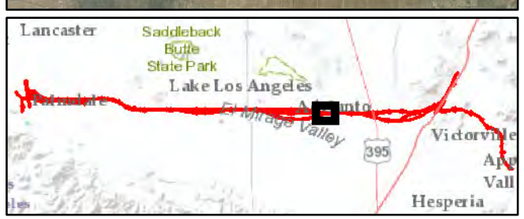
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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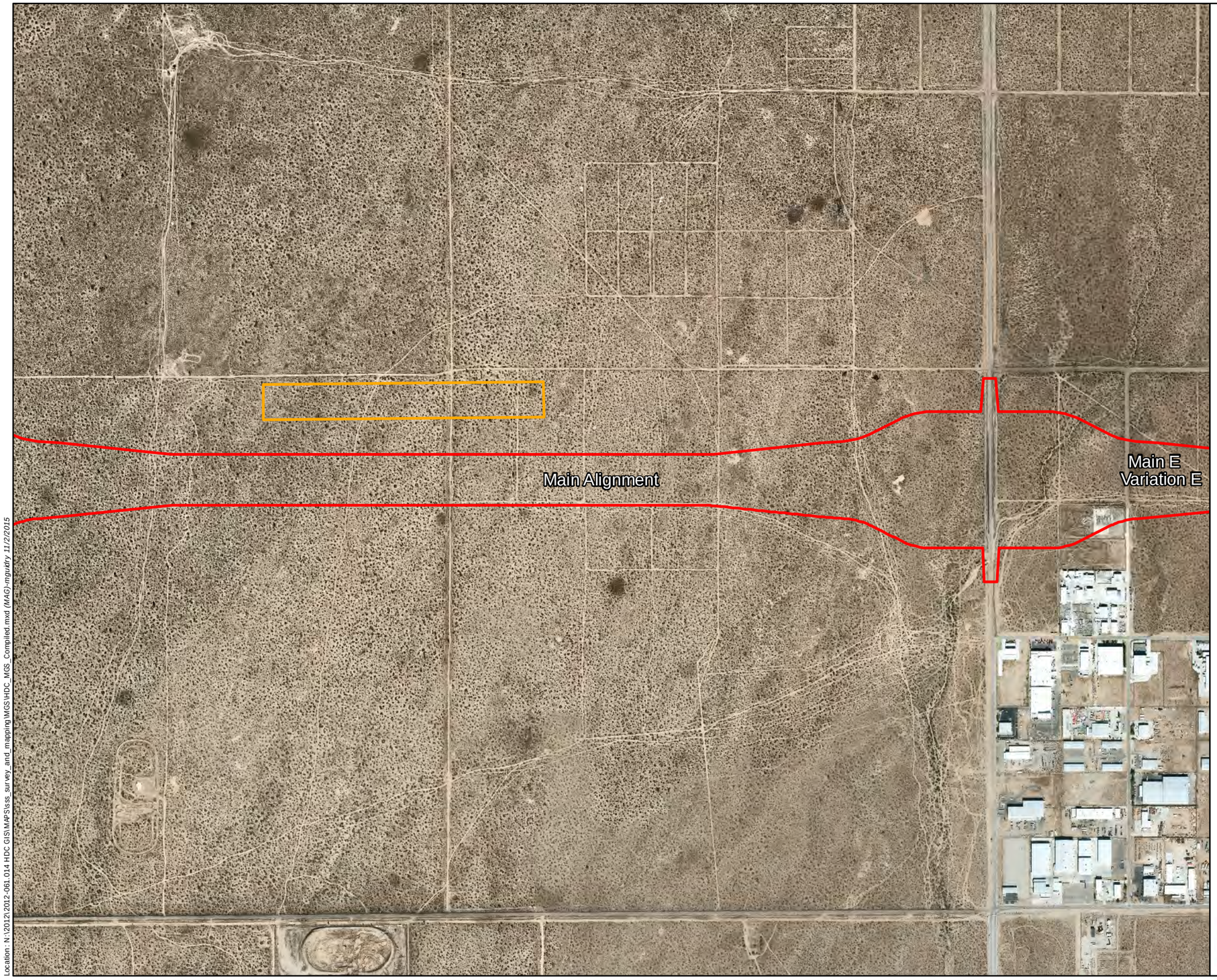
2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 20 of 36

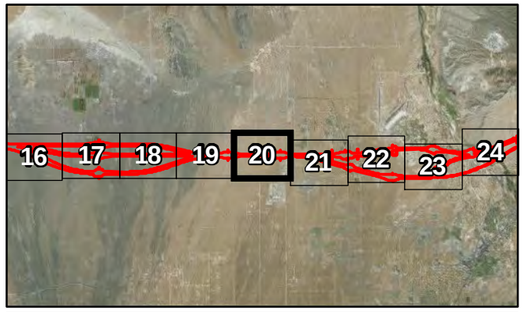


Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans



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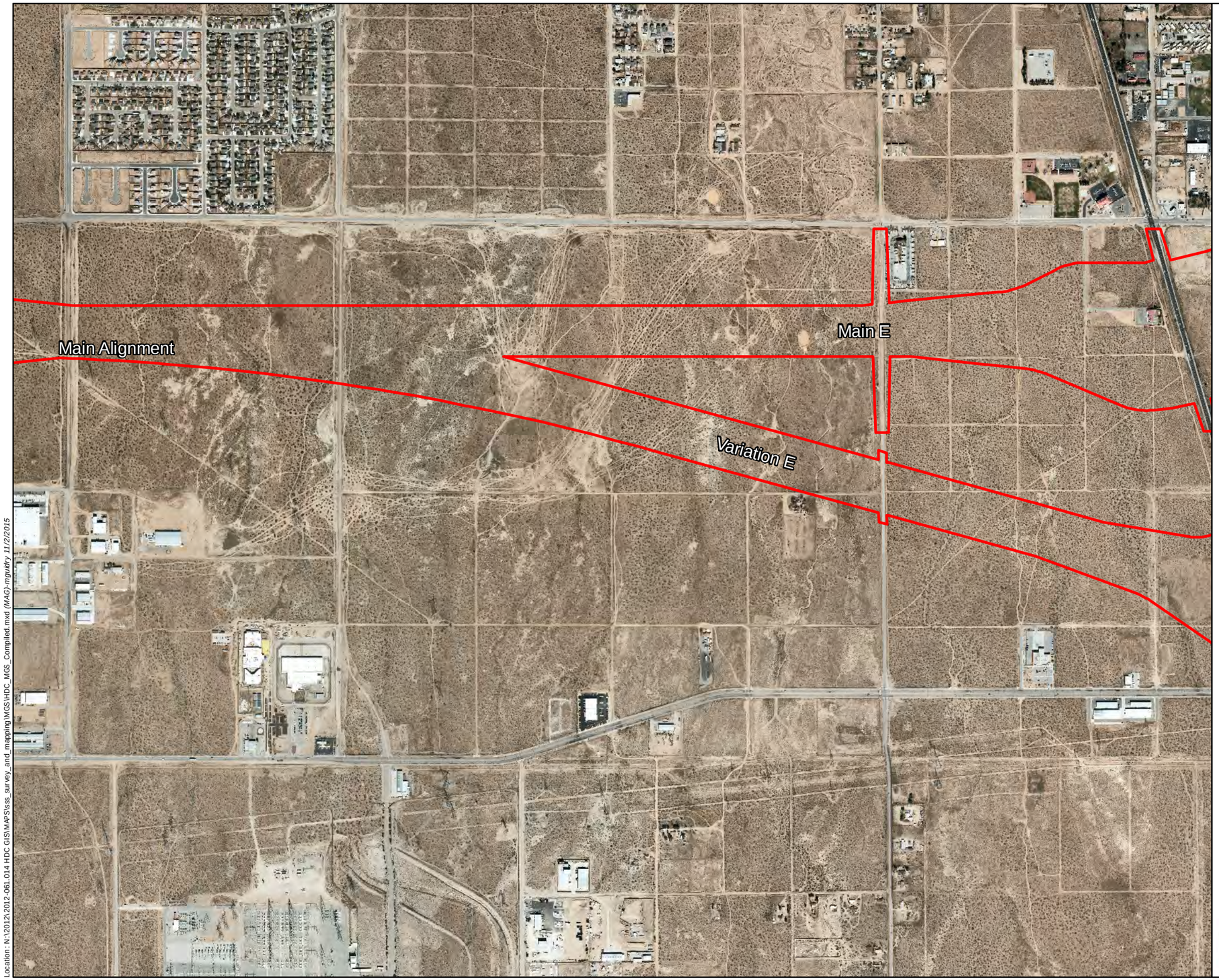
2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 21 of 36

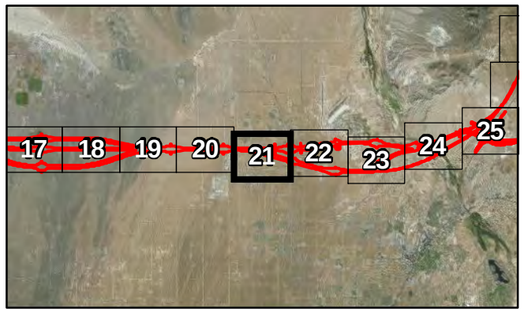


Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans



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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

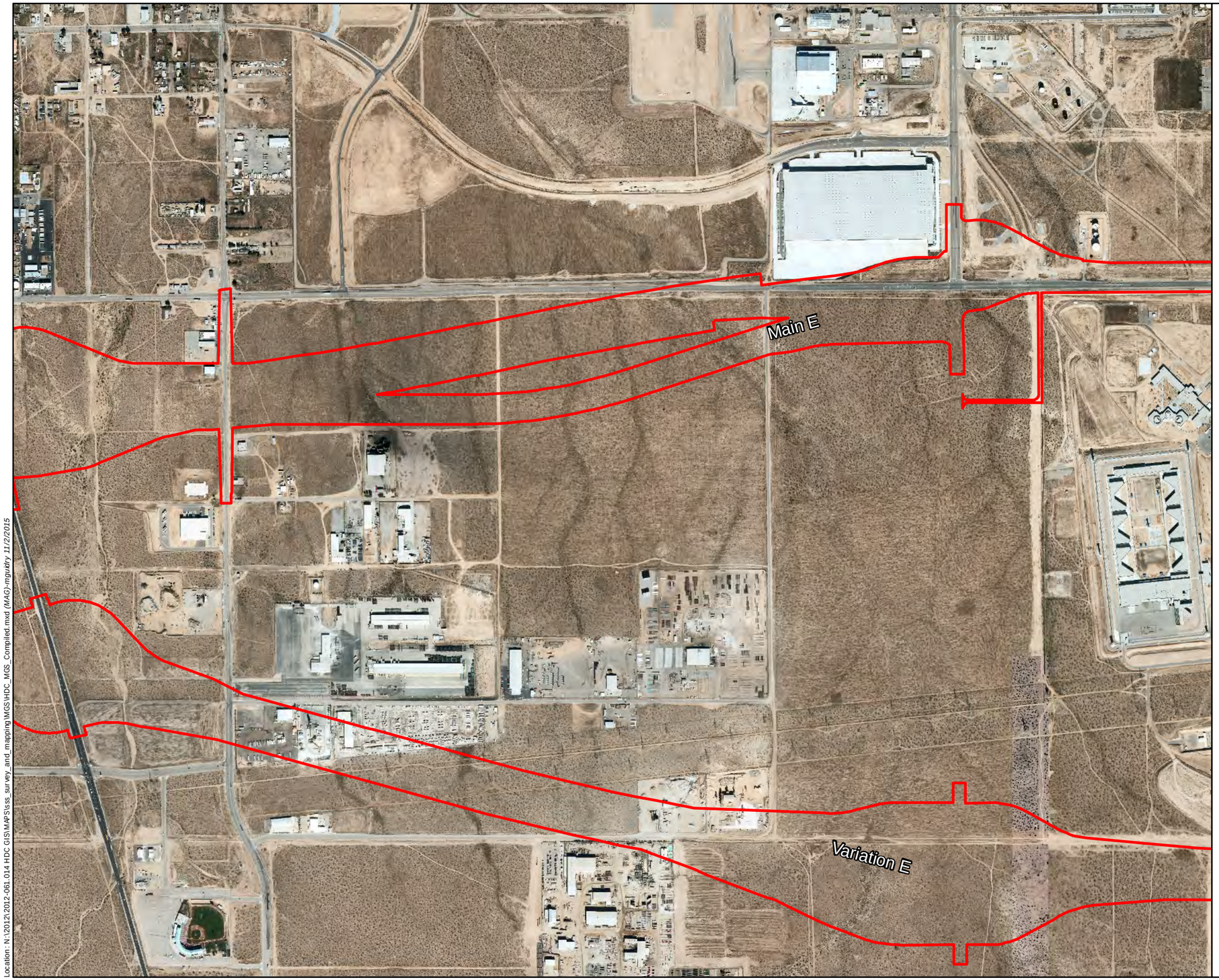
Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 22 of 36

Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans



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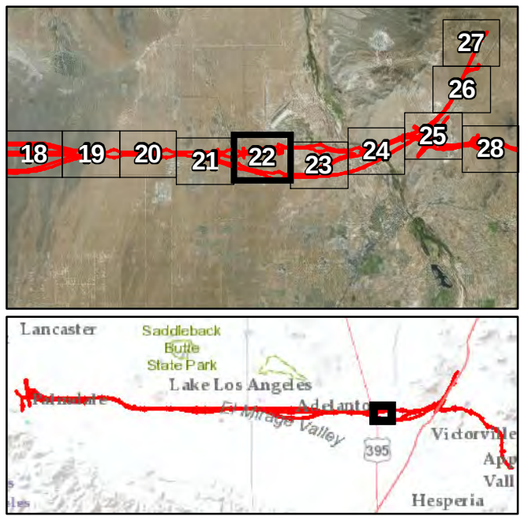

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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

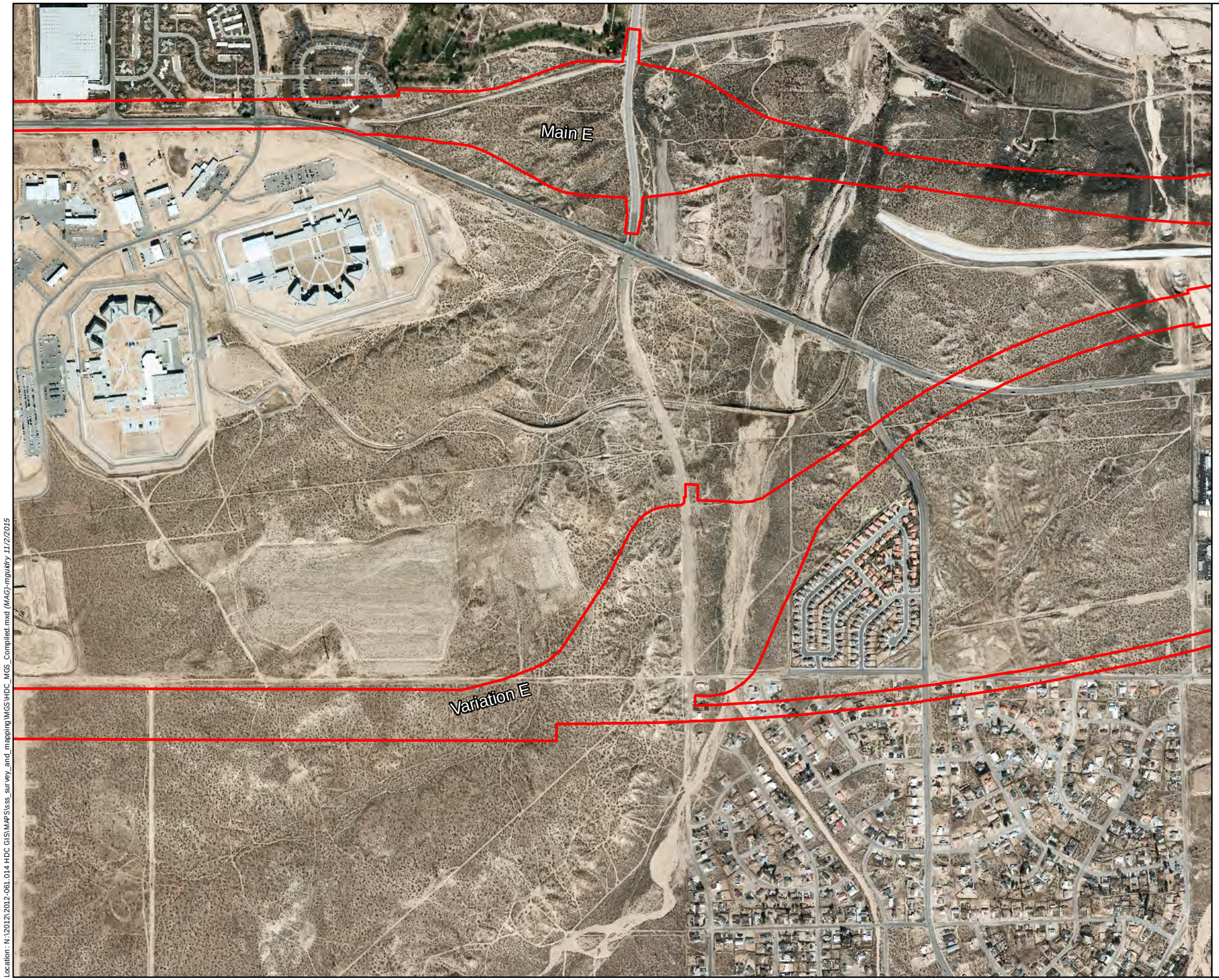
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 23 of 36

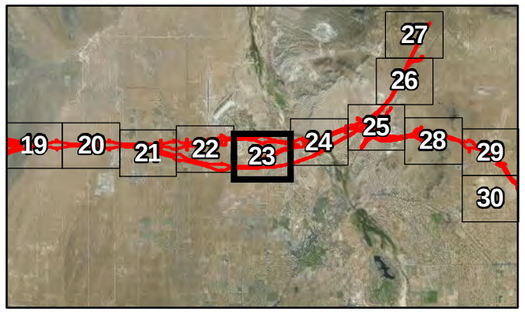
Impact Area of All Project Alternatives [1]

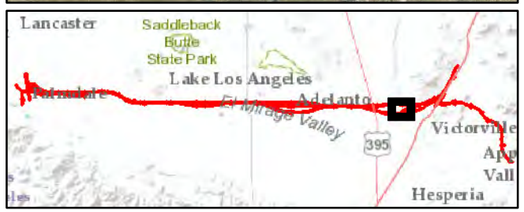
MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans







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2012-061-014 High Desert Corridor

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

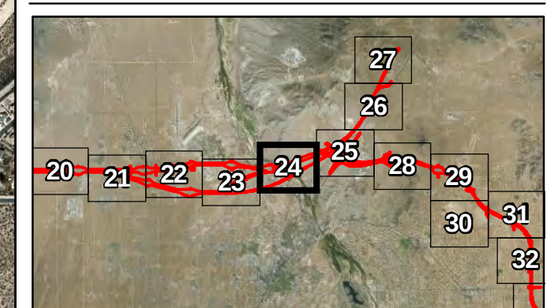
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 24 of 36

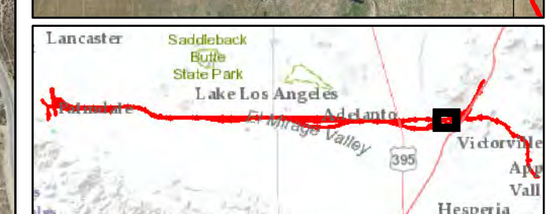
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

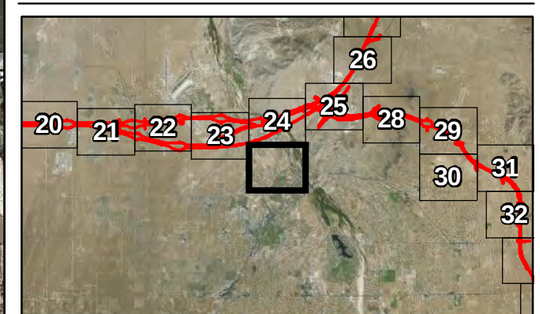
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 25 of 36

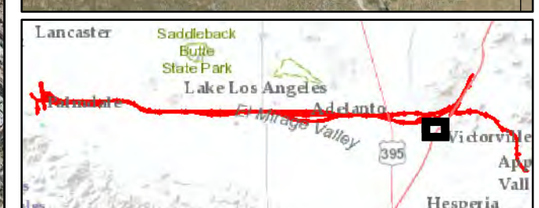
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

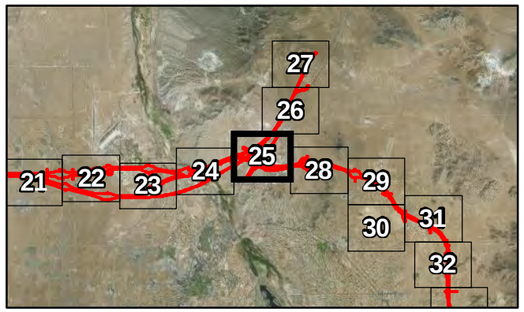
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 26 of 36

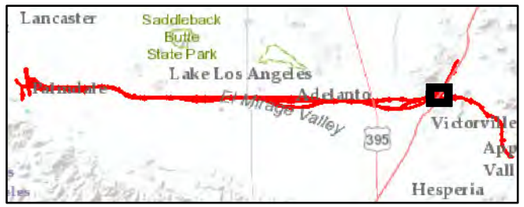
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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Location: N:\2012\2012-061.014 HDC GIS\MAPS\ss_survey_and_mapping\MGS\HDC_MGS_Compiled.mxd (MAG)-mguidry 11/2/2015

2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

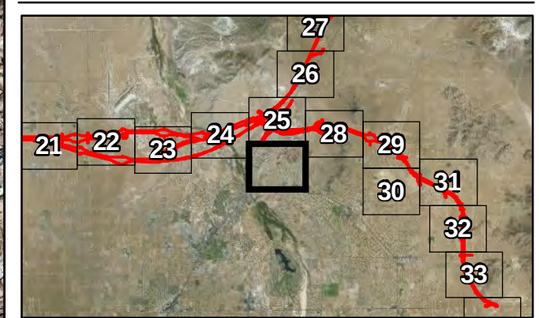
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 27 of 36

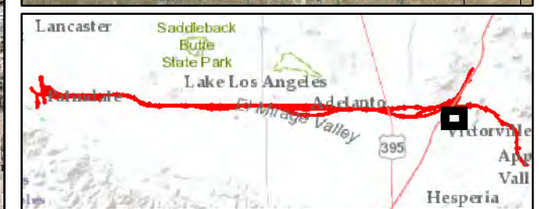
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

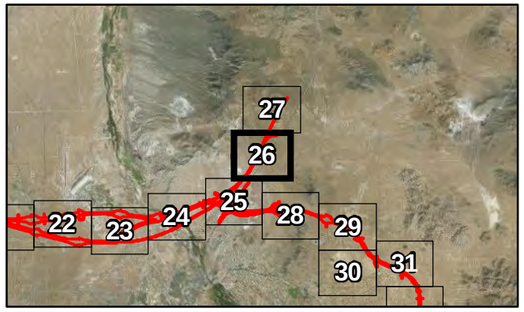
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 28 of 36

Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans



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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

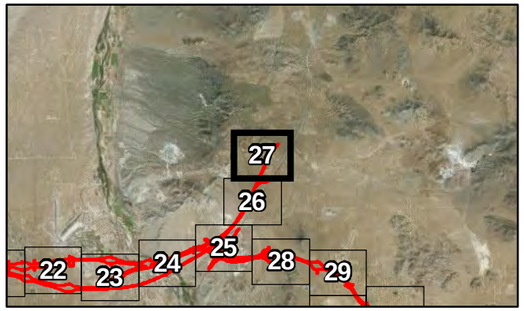
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 29 of 36

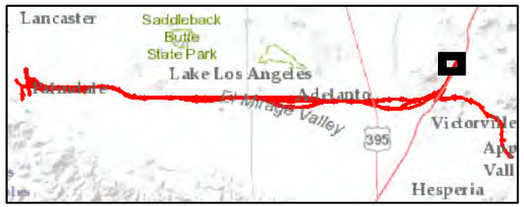
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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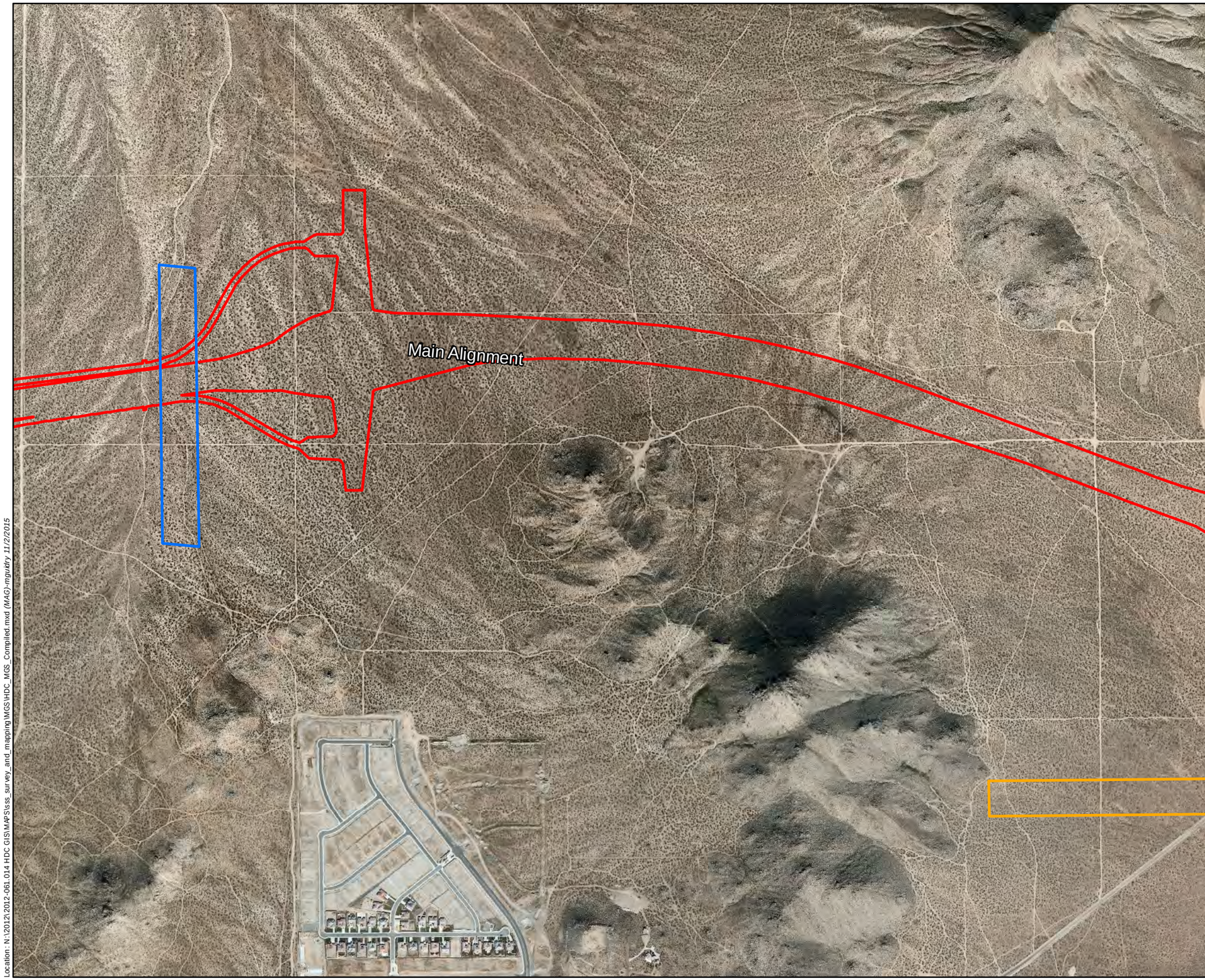
2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 30 of 36

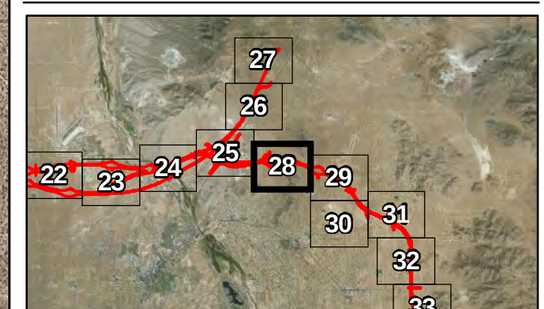


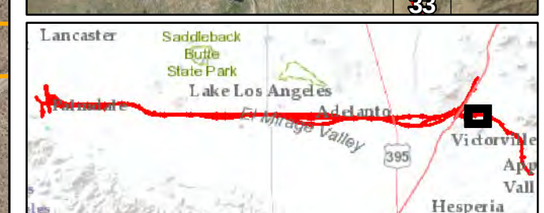
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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Location: N:\2012\2012-061.014 HDC GIS\MAPS\ss_survey_and_mapping\MGS\HDC_MGS_Compiled.mxd (MAG)-mgudry 11/2/2015

2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

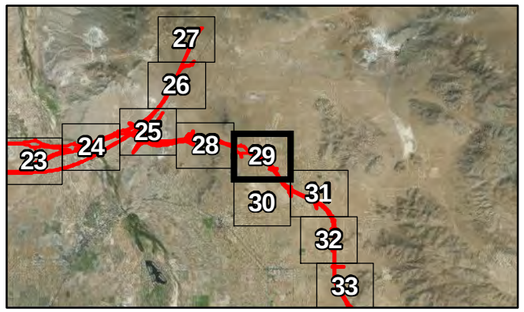
Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 31 of 36

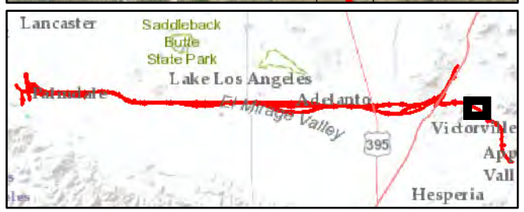
Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

- 2011 - LSA
- 2012 - ECORP
- 2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies Sheet: 32 of 36

Impact Area of All Project Alternatives [1]

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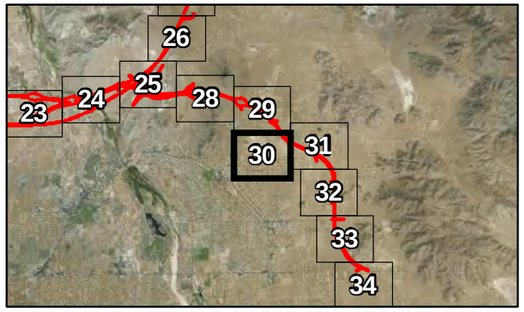
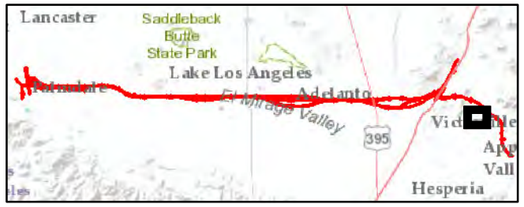
2012 - ECORP

2014 - Caltrans

[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet

0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 33 of 36

Impact Area of All Project Alternatives [1]

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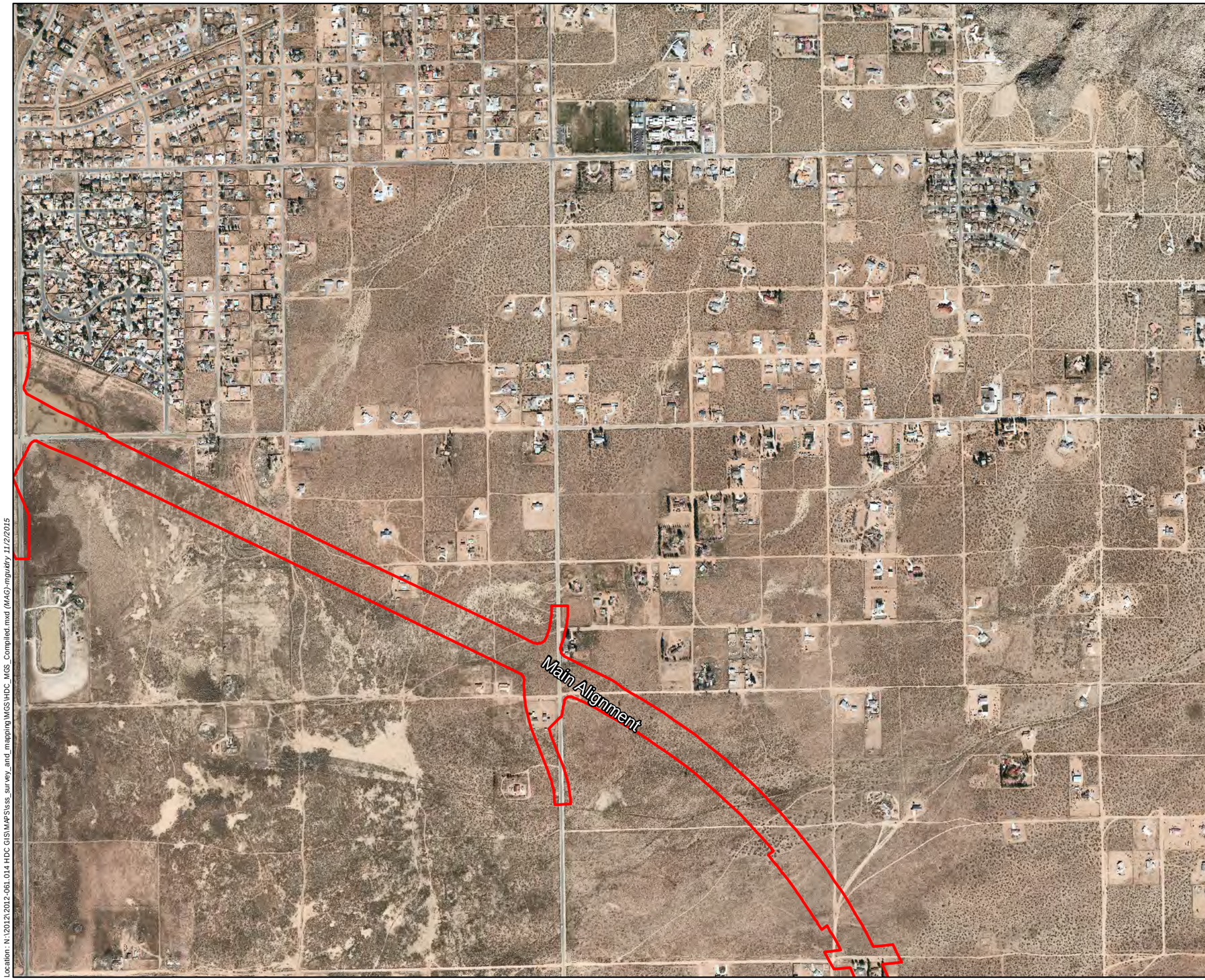

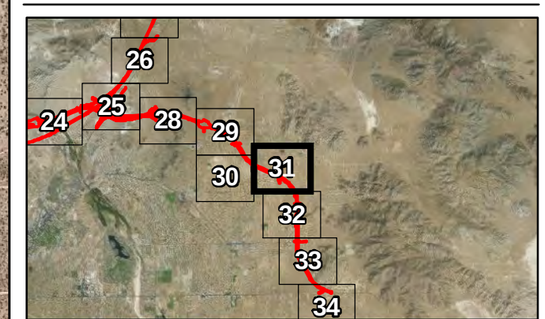

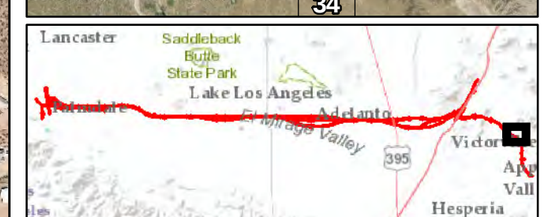

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2012-061-014 High Desert Corridor

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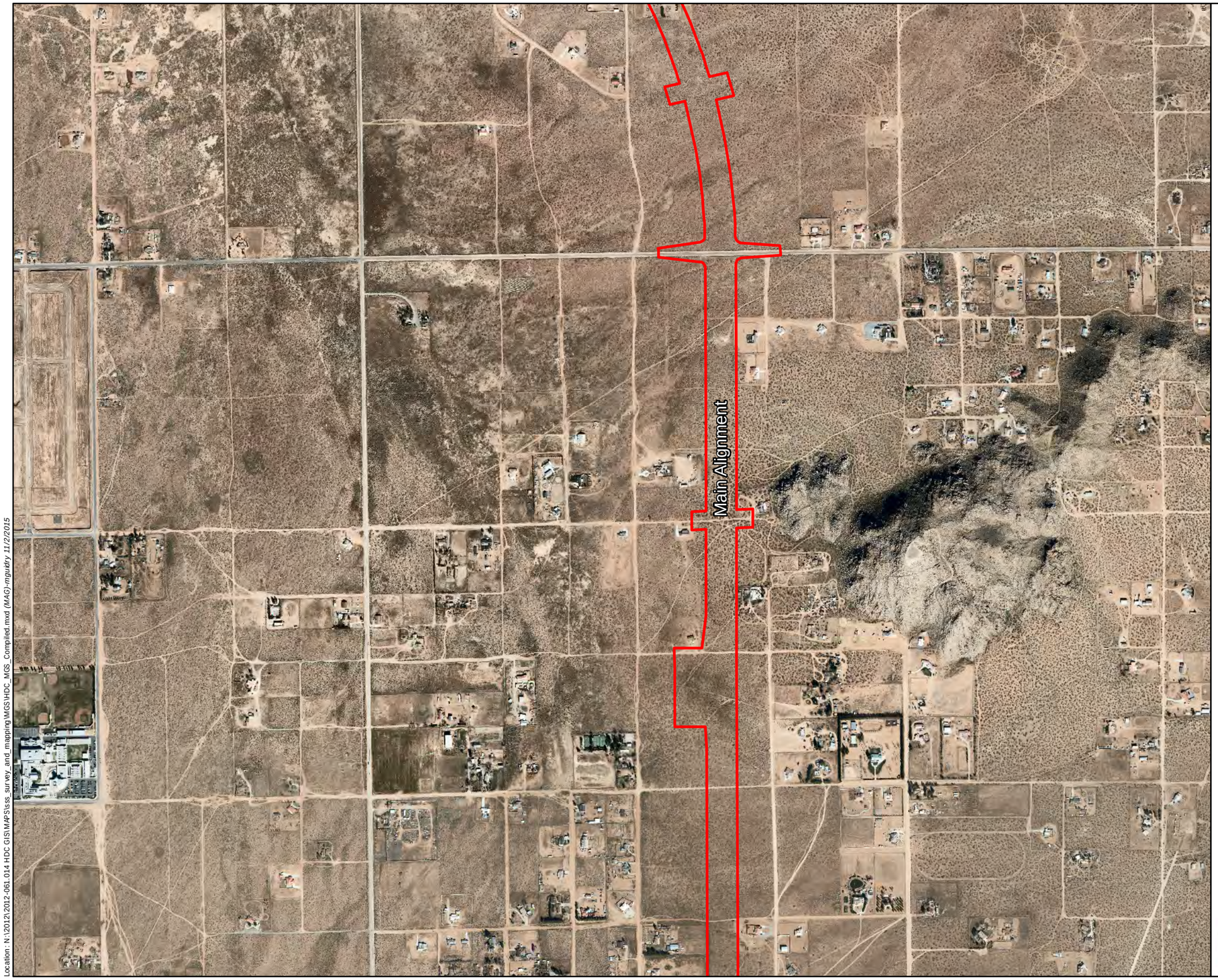
Map Date: 11/2/2015

Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 34 of 36



Impact Area of All Project Alternatives [1]

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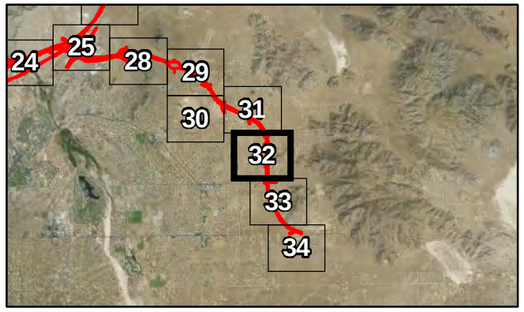

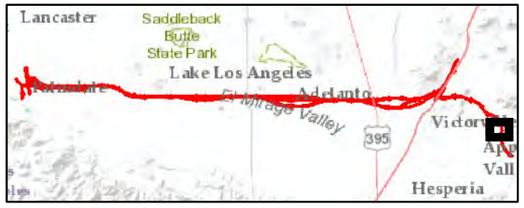

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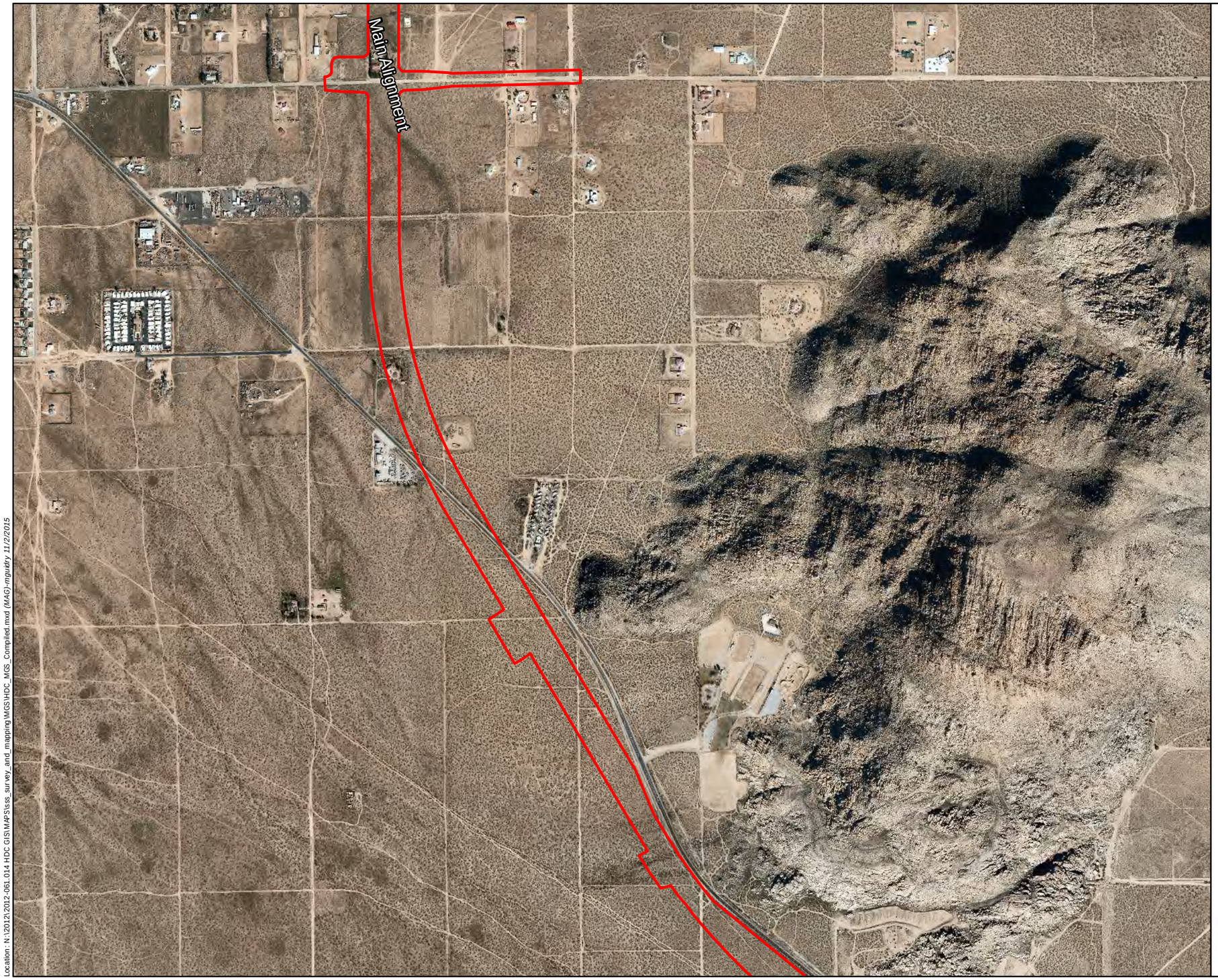
2012-061-014 High Desert Corridor

Scale in Feet
0 500 1,000

Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015



Attachment 1. Consolidation of Mohave Ground Squirrel Studies Sheet: 35 of 36

Impact Area of All Project Alternatives [1]

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- 2011 - LSA
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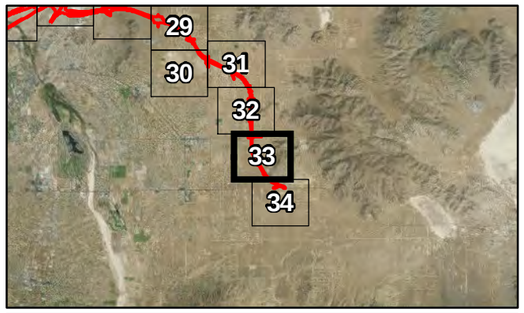
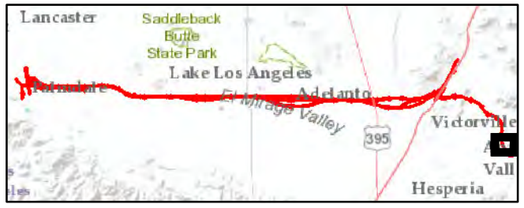
[1] Caltrans





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2012-061-014 High Desert Corridor

Scale in Feet
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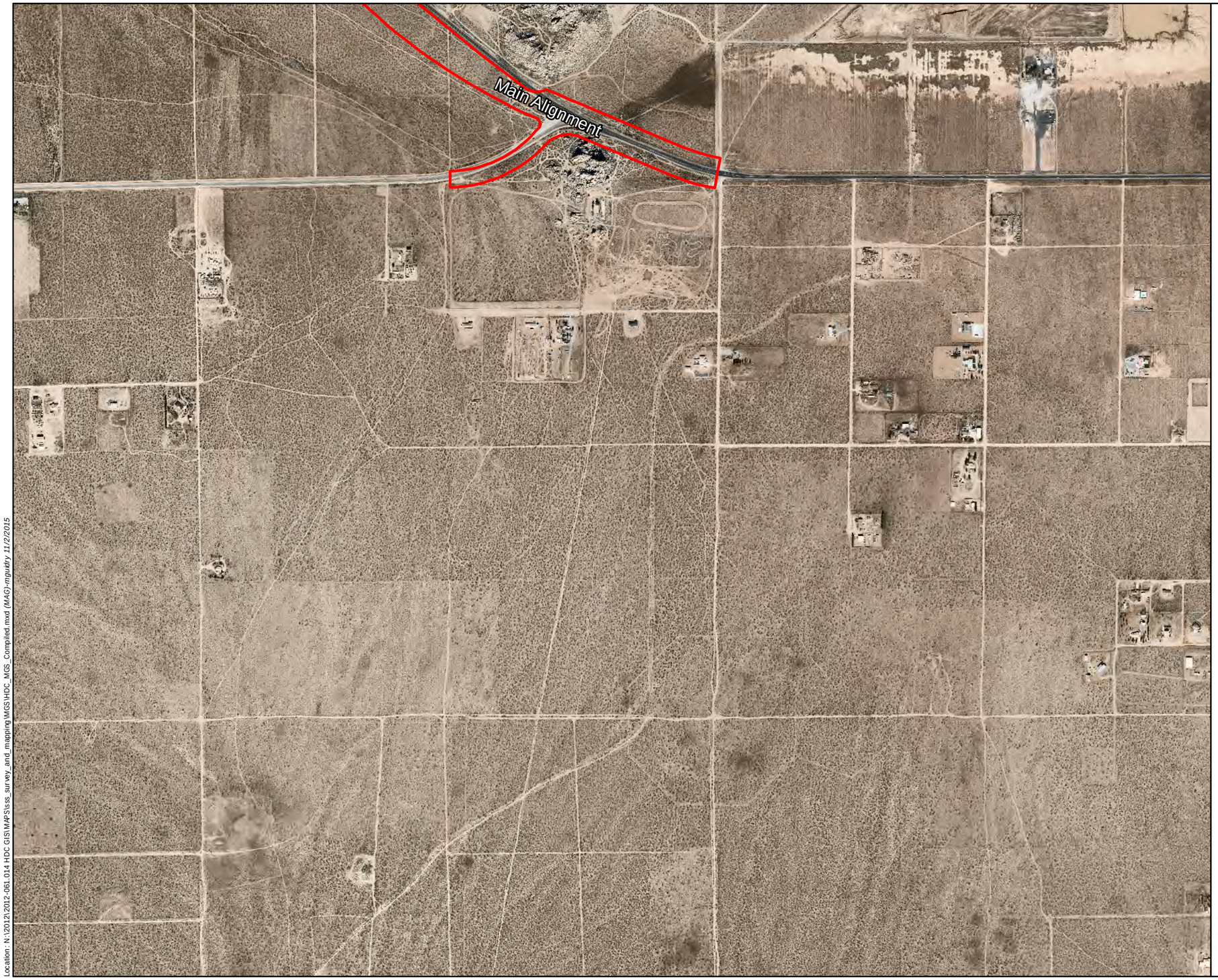
Photo Source: USGS (2010, 2011)

Map Date: 11/2/2015



Attachment 1. Consolidation of Mohave Ground Squirrel Studies
Sheet: 36 of 36

Impact Area of All Project Alternatives [1]

MGS Grids (Survey Year - Company)

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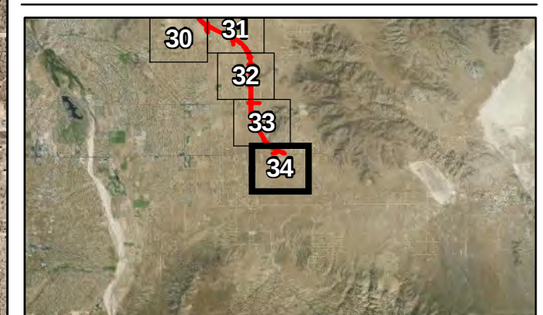

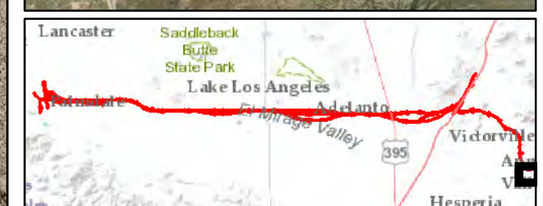

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2012-061-014 High Desert Corridor

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