PROTECTED PLANT PRESERVATION PLAN

APN 3039-321-08
HESPERIA, CALIFORNIA

Prepared for:

Loyal Brothers Mobile Truck Repair
Adelanto, CA 92301
(909) 782-8798

Prepared by:

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Project No: RCA#2017-104

October 27, 2017

TITLE PAGE

Date Report Prepared: October 27, 2017

Date Field Work Completed: October 26, 2017
Report Title: Protected Plant Preservation Plan

Project Location:	**Hesperia, California**
Prepared for:	**Loyal Brothers Mobile Truck Repair** **Adelanto, CA 92301**
Principal Investigators:	**Randall C. Arnold, Jr., Senior Biologist** **Parker Smith, Biological Technician**
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1.0 SUMMARY

At the request of the project proponent, RCA Associates LLC surveyed the 10-acre area encompassing the project site (Figures 1, 2, and 3). The site is located just northwest of the intersection of Caliente Road and Joshua Street in Hesperia, California (Township 4 North, Range 5 West, Section 28). This report provides the results of the Joshua tree (*Yucca brevifolia*) survey performed on the site on October 26, 2017. Following completion of the surveys, RCA Associates LLC prepared this Protected Plant Preservation Plan for the project to assist the proponent with future relocation of the Joshua Trees. Information on the Joshua trees which will need to be transplanted in the future is provided in Section 4.0. The City of Hesperia has established a Native Desert Vegetation Ordinance (Municipal Code: Chapter 16.24) to help protect and preserve desert vegetation, including Joshua trees, and the requirements of the Ordinance are provided in this report.

There are a total of eighty five (85) Joshua trees present within the boundaries of the property (See Table 4-1) based on the field investigations conducted by RCA Associates LLC on October 26, 2017. Based on the analysis, twenty four (24) of the Joshua trees (28%) are suitable for transplanting and these trees are noted in Table 4-1. The remaining trees (61) were determined to be unsuitable for transplanting due to a variety of factors such as size, condition, damage, possibly disease, etc.

2.0 INTRODUCTION AND PROJECT LOCATION

The property is approximately 10-acres in size and is located northwest of the intersection of Caliente Road and Joshua Street in Hesperia, California (T4N, R5W, Section 28) (Appendix A: Figures 1, 2, and 3). The site supports a moderately disturbed desert vegetation community with a limited number of plant species on the site (Figure 3). The perennials observed included brome grasses (*Bromus* sp.), schismus (*Schismus barbatus*), California buckwheat (*Eriogonum fasciculatum*), Sahara Mustard (*Brassica tournefortii*), and paperbag plant (*Salazaria Mexicana*). A few other species were scattered throughout the site such as Ephedra (*Ephedra nevadansis*), and eighty five (85) Joshua trees (*Yucca brevifolia*). The property is bordered on the north by an existing commercial development and to the south, east, and west by vacant land. The proponent is proposing to construct a commercial development on the property. RCA Associates LLC conducted field investigations on October 26, 2017 in order to evaluate the Joshua trees present throughout the boundaries of the property.

Joshua trees occur throughout the Mojave Desert in Southern California and are typically found at an elevation of 400 to 1,800 meters (~1,200 to ~5,400 feet). Joshua trees within the western portion of the Mojave Desert typically receive more annual precipitation during "normal" years; consequently, cloning occurs more often resulting in numerous trunks sprouting from the same root system (Rowland, 1978). Joshua tree habitats provide habitat for a variety of wildlife species including desert wood rats (*Neotoma* sp.) and night lizards (*Xantusia* sp.) both of which utilize the base of the trees. A variety of birds also utilize Joshua trees for nesting such as hawks, common ravens, and cactus wrens. CDFW consider Joshua tree woodlands as areas that support relatively high species diversity and as such are considered to be a sensitive desert communities. Joshua trees are also considered a significant resource under the California Environmental Quality Act (CEQA) and are included in the Desert Plant Protection Act, Food and Agricultural Code (80001 – 80006).

3.0 METHODOLOGIES

Surveys were conducted on October 26, 2017 to determine the presence of plants which are protected under the City's Native Desert Vegetation Ordinance. As part of the field investigations, biologists from RCA Associates LLC evaluated each Joshua tree to determine which trees were suitable for transplanting based on a general health assessment. Each Joshua trees received a metal numbered tag which was affixed on the north side of each tree (for orientation purposes during future transplanting), the precise location of each tree was recorded using a Garmin GPS unit, and flagging was placed on those trees that were deemed "transplantable" to facilitate identification. Those Joshua trees which are suitable for transplanting are presented in Table 4-1 and are highlighted in red. The factors utilized to determine which Joshua trees are suitable for transplanting include the following factors:

1. Trees from 3 feet in height up to about 12 feet,
2. No visible signs of damage to the tree such as absence of bark due to rodent or other animals,
3. Minimal number of branches (No more than 2 to 3 branches),
4. No excessive leaning of the tree,
5. No yellow or brown fronds,
6. Proximity to other Joshua trees (i.e., clonal), and
7. No exposed roots at the base of the tree.

4.0 RESULTS

There are a total of eighty five (85) Joshua trees within the boundaries of the site, and the density of Joshua trees is approximately 8.5 trees per acre. The GPS locations of the Joshua trees are provided in Table 4-1 and in Figure 5. Twenty four (24) Joshua trees (28%) are suitable for transplanting based on the seven factors listed above in Section 3.0 (Table 4-1). These Joshua trees will need to be transplanted prior to construction activities and should be utilized for on-site landscaping where possible, or transplanted off site. The remaining sixty one (61) trees were determined to not be suitable for transplanting due to size, health of the tree, presence of damage, excessive branches, and exposed roots.

Table 4-1: Census of Joshua trees to be transplanted. (Note: The GPS locations [approximate] of the Joshua trees are provided below, and those trees which will be transplanted at some future date are highlighted in red.

Total Number of Joshua Trees On-Site	Joshua Trees to be transplanted	Number of Clonal Trees	Number of Non-Clonal Trees
85	24	48	37

Tag Number	Height(ft.)	Location	Health	Transplantable
93	4	N34° 24.608' W117° 24.249'	Good	No(C)
88	6	N34° 24.595' W117° 24.255'	Good	Yes
67	16	N34° 24.587' W117° 24.252'	Good	No(C)
99	12	N34° 24.587' W117° 24.240'	Good	Yes
95	10	N34° 24.581' W117° 24.250'	Good	No(C)
65	14	N34° 24.577' W117° 24.245'	Fair	No
64	14	N34° 24.577' W117° 24.242'	Fair	No(C)
63	5	N34° 24.572' W117° 24.229'	Good	Yes
62	5	N34° 24.556' W117° 24.232'	Fair	No(C)
68	13	N34° 24.760' W117° 35.379'	Good	No(C)
100	3	N34° 24.559' W117° 24.238'	Fair	No-leaning

91	7	N34° 24.557' W117° 24.241'	Good	Yes
92	4	N34° 24.563' W117° 24.250'	Good	Yes
94	6	N34° 24.561' W117° 24.249'	Good	Yes
96	7	N34° 24.560' W117° 24.250'	Good	No(C)
98	3	N34° 24.548' W117° 24.249'	Good	Yes
97	4	N34° 24.546' W117° 24.244'	Good	Yes
80	12	N34° 24.547' W117° 24.237'	Good	No(C)
81	13	N34° 24.551' W117° 24.233'	Good	No(C)
82	3	N34° 24.546' W117° 24.233'	Good	No(C)
83	4	N34° 24.518' W117° 24.232'	Good	No(C)
84	7	N34° 24.516' W117° 24.270'	Good	Yes
85	3	N34° 24.527' W117° 24.266'	Good	Yes
86	3	N34° 24.529' W117° 24.271'	Good	Yes
23	5.5	N34° 24.532' W117° 24.264'	Good	Yes
19	5	N34° 24.541' W117° 24.264'	Good	No(C)
79	5	N34° 24.546' W117° 24.260'	Good	Yes
70	4	N34° 24.546' W117° 24.255'	Good	Yes
90	15	N34° 24.552' W117° 24.256'	Good	No(C)
78	16	N34° 24.575' W117° 24.256'	Good	No(C)
87	3	N34° 24.587' W117° 24.267'	Good	Yes
77	6	N34° 24.588' W117° 24.270'	Good	No(C)
89	14	N34° 24.592' W117° 24.276'	Fair	No(C)
69	17	N34° 24.591' W117° 24.284'	Fair	No(C)
71	18	N34° 24.582' W117° 24.285'	Fair	No(C)
72	4	N34° 24.581' W117° 24.278'	Good	Yes
73	13	N34° 24.570' W117° 24.265'	Fair	No(C)
74	13	N34° 24.564'	Good	No(C)

		W117° 24.264'		
75	12	N34° 24.559' W117° 24.265'	Fair	No(C)
76	6	N34° 24.553' W117° 24.269'	Good	Yes
300	14	N34° 24.515' W117° 24.285'	Good	No(C)
299	10	N34° 24.514' W117° 24.294'	Good	No(C)
298	15	N34° 24.518' W117° 24.300'	Fair	No(C)
297	14	N34° 24.520' W117° 24.302'	Good	No(C)
296	7	N34° 24.523' W117° 24.293'	Good	No(C)
295	5	N34° 24.530' W117° 24.287'	Good	Yes
294	12	N34° 24.538' W117° 24.284'	Fair	No(C)
293	6	N34° 24.547' W117° 24.294'	Good	Yes
292	8	N34° 24.554' W117° 24.291'	Good	Yes
291	10	N34° 24.560' W117° 24.296'	Fair	No(C)
290	11	N34° 24.560' W117° 24.298'	Good	Yes
289	10	N34° 24.585' W117° 24.273'	Fair	No(C)
288	12	N34° 24.603' W117° 24.281'	Good	No-Branching
287	10	N34° 24.613' W117° 24.302'	Fair	No(C)
286	4	N34° 24.615' W117° 24.307'	Good	No(C)
285	15	N34° 24.605' W117° 24.316'	Fair	No(C)
284	15	N34° 24.609' W117° 24.342'	Fair	No
283	14	N34° 24.593' W117° 24.320'	Good	No(C)
282	10	N34° 24.582' W117° 24.305'	Good	No(C)
281	10	N34° 24.587' W117° 24.340'	Fair	No(C)
202	10	N34° 24.615' W117° 24.307'	Good	No(C)
203	13	N34° 24.579' W117° 24.344'	Good	No
204	15	N34° 24.576' W117° 24.346'	Fair	No(C)
205	7	N34° 24.567' W117° 24.336'	Fair	No(C)

206	19	N34° 24.560' W117° 24.343'	Good	No(C)
103	12	N34° 24.554' W117° 24.334'	Good	No(C)
107	8	N34° 24.573' W117° 24.321'	Good	No(C)
102	4	N34° 24.570' W117° 24.317'	Good	No(C)
120	7	N34° 24.565' W117° 24.322'	Good	Yes
121	10	N34° 24.557' W117° 24.309'	Good	Yes
122	3	N34° 24.546' W117° 24.305'	Good	Yes
117	14	N34° 24.540' W117° 24.301'	Fair	No
534	6	N34° 24.535' W117° 24.297'	Good	No(C)
550	17	N34° 24.540' W117° 24.318'	Fair	No(C)
551	13	N34° 24.538' W117° 24.321'	Good	No
546	18	N34° 24.541' W117° 24.333'	Good	No
582	16	N34° 24.532' W117° 24.326'	Good	No
548	5	N34° 24.527' W117° 24.342'	Fair	No(C)
549	15	N34° 24.529' W117° 24.323'	Poor	No
552	14	N34° 24.526' W117° 24.318'	Good	No
553	10	N34° 24.524' W117° 24.317'	Fair	No(C)
554	14	N34° 24.524' W117° 24.307'	Good	No
555	12	N34° 24.521' W117° 24.309'	Good	No(C)
556	12	N34° 24.514' W117° 24.292'	Fair	No(C)
557	16	N34° 24.516' W117° 24.314'	Fair	No(C)

5.0 CONCLUSIONS

The property contains a total of eighty five (85) Joshua trees of which twenty four (24) are suitable for future transplanting. This number was determined based on: (1) trees which were greater than one foot in height and less than twelve feet tall (approximate); (2) in good health; (3), two branches or less; (4) density of trees (i.e., no clonal trees); no exposed roots; and (6) trees that are not leaning over excessively. The City of Hesperia's Municipal Code (Chapter 16.24) requires preservation of Joshua trees given their importance in the desert community. A qualified city-approved contractor will be retained to conduct any future transplanting activities, and will follow the protocol of the City's Municipal Code (Chapter 16.24). The following criteria will be utilized by the contractor when conducting any future transplanting activities.

A. The Joshua trees will be utilized as part of on-site landscaping, where possible, and will be transplanted to an area of the property where they can remain in perpetuity. The Joshua trees which will not be transplanted remaining trees will be cut-up and removed from the site.

B. Earthen berms will be created around each tree by the contractor prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.

C. Each tree will be moved to a pre-selected location which has already been excavated, and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the tree and the tree was also flagged with surveyor's flagging.

D. The contractor will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation.

6.0 REFERENCES

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7.0 CERTIFICATION

I hereby certify the statements furnished above and in the attached exhibits, present the data and information required for this Joshua tree survey and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this survey was performed by Parker Smith and Randall Arnold.

Date: 10/27/2017 Signed: _____
Biological Field Technician

Field Work Performed by: Parker Smith
Biological Field Technician

Field Work Performed by: Heidi Coduto
Biological Field Technician

APPENDIX A

Figures

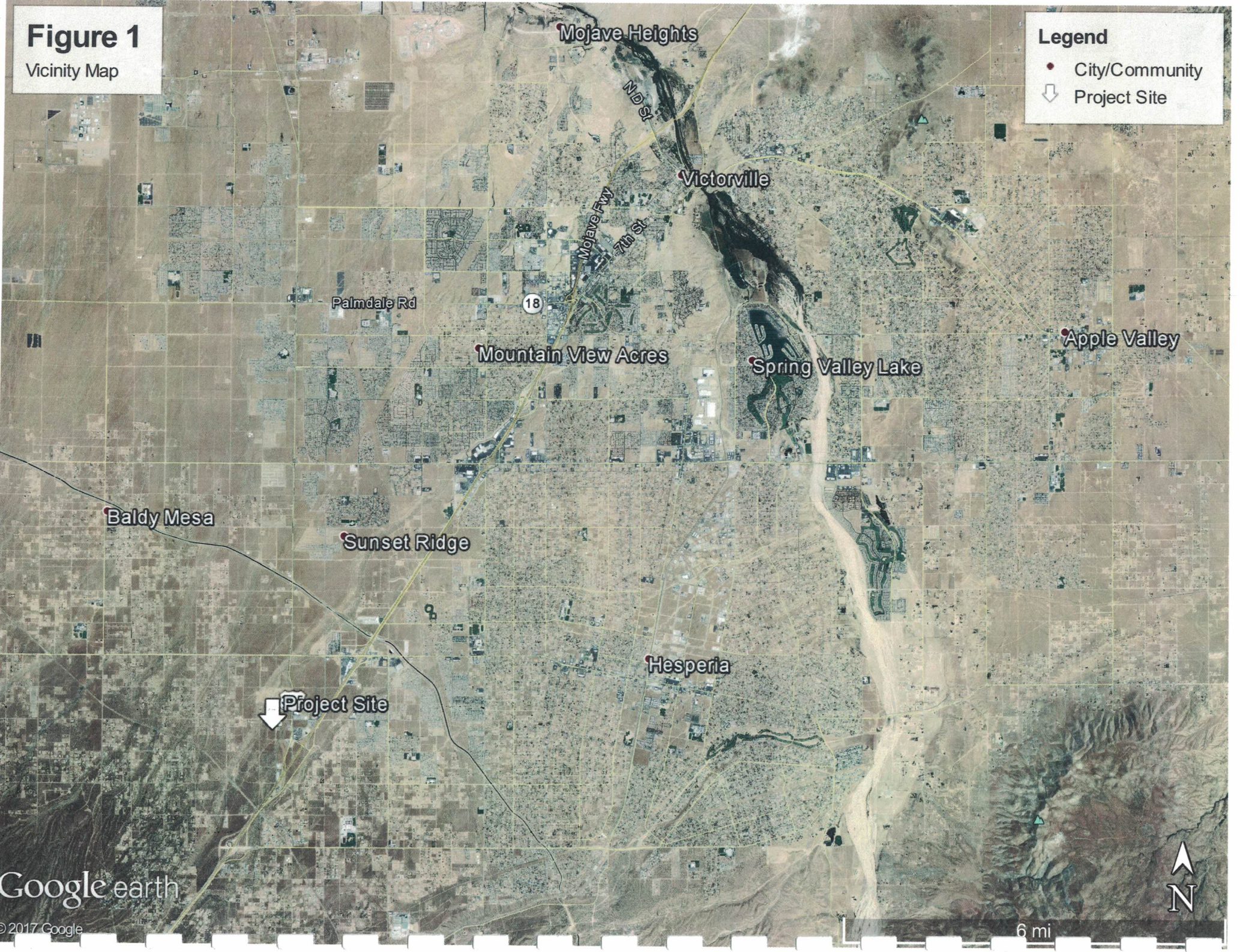


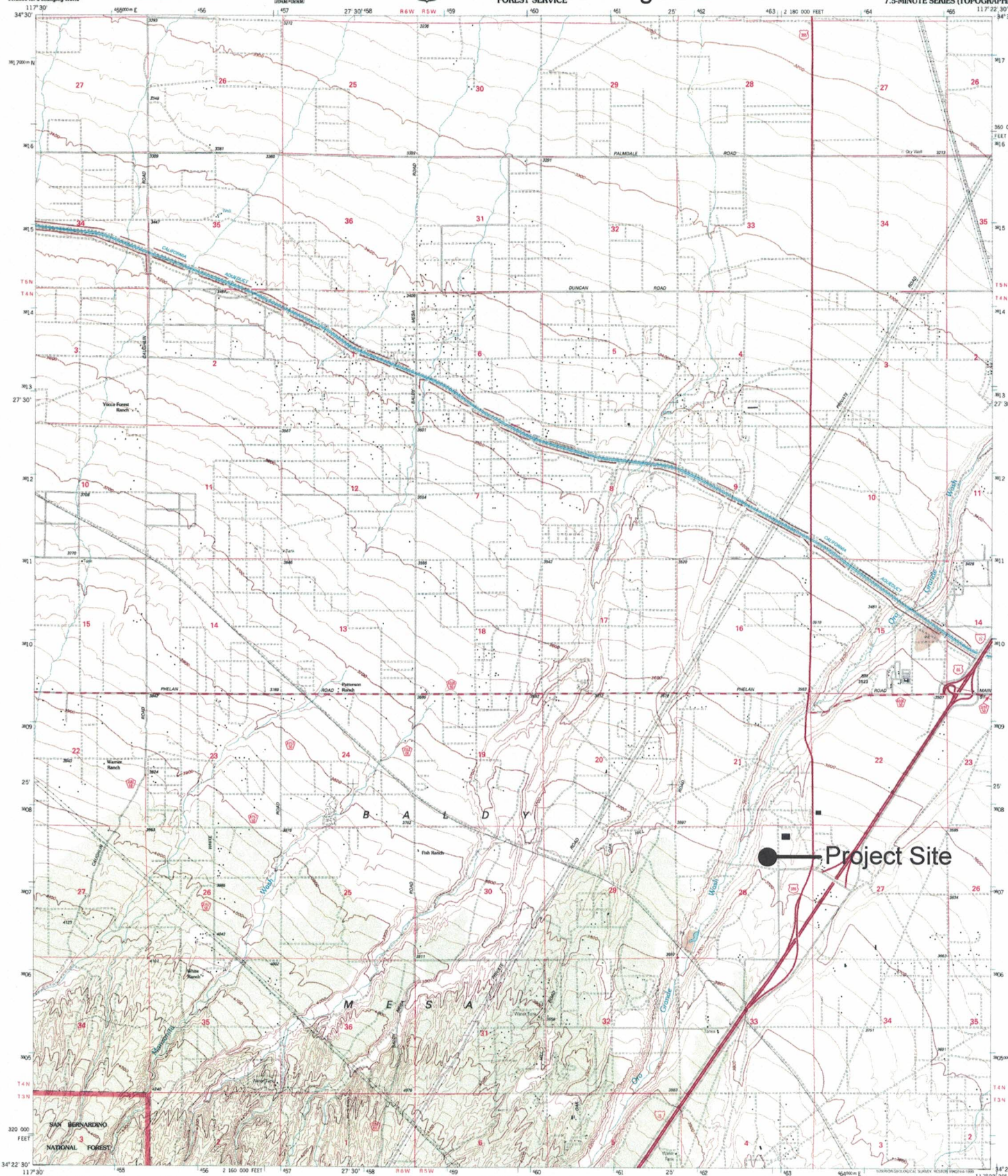
Figure 1
Vicinity Map
Legend
City/Community
Project Site
Mojave Heights
N D St
Victorville
Mojave Fwy
7th St
Palmdale Rd
18
Mountain View Acres
Spring Valley Lake
Apple Valley
Baldy Mesa
Sunset Ridge
Hesperia
Project Site
Google earth
© 2017 Google
6 mi
N

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Figure 2

BALDY MESA QUADRANGLE
CALIFORNIA-SAN BERNARDINO CO.
7.5-MINUTE SERIES (TOPOGRAPHIC)



Produced by the United States Geological Survey 1988
Revision within and adjacent to National Forest System lands by USDA Forest Service 1996

Compiled from aerial photographs taken 1952. Revised from aerial photographs taken 1994. Contours have not been revised

North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: California coordinate system, zone 5 (Lambert conformal conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 10

North American Datum of 1983 (NAD 83) is shown by dashed corner ticks
The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

Non-National Forest System lands within the National Forest inholdings may exist in other National or State reservations

This map is not a legal land line or ownership document. Public lands are subject to change and leasing, and may have access restrictions; check with local offices. Obtain permission before entering private lands

GN
MN
0°15'
4 MILS
14°
240 MILS

UTM GRID AND 1999 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

20% TOTAL RECYCLED FIBER

SCALE 1:24 000

MILES
FEET
KILOMETERS
METERS

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO CONVERT FEET TO METERS, MULTIPLY BY 0.3048

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 25286, DENVER, COLORADO 80225
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Shadow Mountains SE
2 Adelanto
3 Victorville
4 Phelan
5 Hesperia
6 Telegraph Peak
7 Cajon
8 Silverwood Lake

ADJOINING 7.5' QUADRANGLES

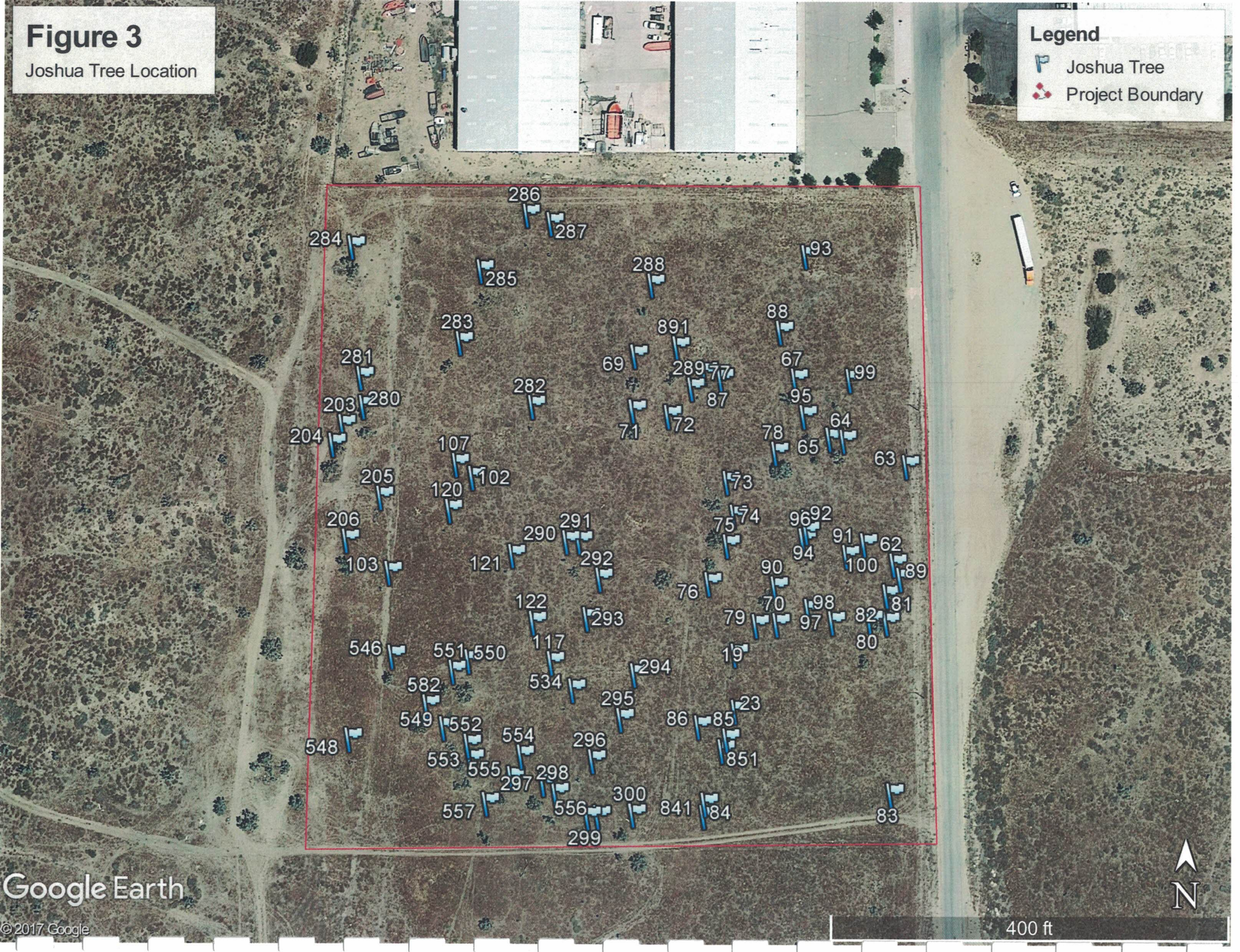
HIGHWAYS AND ROADS

Interstate
U. S.
State
County
National Forest, suitable for passenger cars
National Forest, suitable for high clearance vehicles
National Forest Trail

Primary highway
Secondary highway
Light-duty road
Paved
Gravel
Dirt
Composition unspecified
Unimproved; 4 wheel drive
Trail
Gate; Barrier

BALDY MESA, CA
1996

NIMA 2552 IV NW - SERIES V895

Figure 3

Joshua Tree Location