



JURISDICTIONAL WATERS DELINEATION

Victorville, CA
APN: 3096-351-002 & 003

Prepared for:
Frontier Communities
8300 Utica Avenue, Ste. 300
Rancho Cucamonga, CA
91730

Prepared by:
RCA Associates, LLC
15555 Main Street, #D4-235
Hesperia, CA 92345



Project No. RCA #2017 119
November 27, 2017



TITLE PAGE

Date Report Written: November 27, 2017

Date Field Work Completed: November 16, 2017

Report Title: Jurisdictional Waters Delineation

Assessor's Parcel Number: 3096-351-002 & 003

Prepared for: Frontier Communities
8300 Utica Avenue, Suite 300
Rancho Cucamonga, CA 91730

Principal Investigators: Randall C. Arnold, Jr., Principal Biologist
Parker L. Smith, Wildlife Biologist
Blake Curran, Environmental Biologist

Contact Information: Randall C. Arnold, Jr.
RCA Associates, LLC
15555 Main Street, #D4-235
Hesperia, CA 92345
(760) 956-9212
rca123@aol.com
www.rcaassociatesllc.com

Table of Contents

Executive Summary	1
1.0 Introduction	3
1.1 Property Description	3
1.2 Project Description	4
1.3 Regulatory Overview	4
1.3.1 U.S. Army Corps of Engineers	4
1.3.2 Regional Water Quality Control Board (RWQCB)	5
1.3.3 California Department of Fish and Wildlife (CDFW)	5
2.0 Delineation Methodology	
2.1 Literature Review	6
2.2 Field Surveys	6
2.3 Potential Waters of the US	7
3.0 Delineation Results	9
3.1 Jurisdictional Determination	9
3.1.1 U.S. Army Corps of Engineers Methodology Determination	9
3.1.2 Regional Water Quality Control Board Determination	10
3.1.3 California Department of Fish and Wildlife Determination	10
3.1.4 Significant Nexus Determination	11
3.2 US Army Corps of Engineers Permits	11
3.3 Regional Water Quality Control Board	11
3.4 California Department of Fish and Wildlife	12
4.0 Conclusion and Recommendations	13
5.0 References	14
Appendix A - Table and Figures	

EXECUTIVE SUMMARY

RCA Associates, LLC was retained by the project proponent to conduct a jurisdictional waters delineation (JD) in association with the proposed project located in Victorville, California (Section 33, Township 5 North, Range 5 West, San Bernardino Base Meridian) (Figures 1, 2, 3, and 4). The site shows signs of past grading activities and currently supports very little native vegetation. The USGS Baldy Mesa, California Quadrangle (1996) shows a blueline channel bisecting the western portion of the site in a south to north direction.

The delineation was conducted to evaluate and analyze the ordinary high water mark of the blueline channel as well as the drainage easement along the eastern boundary of the site. This report is being prepared for submittal to the various local, State, and Federal agencies as part of the environmental requirements of the California Environmental Quality Act (CEQA), and will be forwarded to the appropriate agencies for their review and comment.

The purpose of this jurisdictional delineation was to determine the location and size of areas that may be defined as Waters of the U.S. (WoUS) and Waters of the state (WoS). The data provided in this report was utilized to determine if any permits may be required for the proposed project, including a California Department of Fish and Wildlife (CDFW) Section 1600 permit, a U.S. Army Corps of Engineers (COE) Section 404 Nationwide or Individual Permit, and a California Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification.

Based on the results of the delineation and the jurisdictional analysis, it was determined the blueline channel does meet the criteria as WoS and WoUS based on several factors (See Section 2.4 for complete analysis.). The channel meets the characteristics that define the wash as a nexus to the nearest Traditional Navigable Water (TNW) (i.e., Mojave River) which is located approximately 17 miles northeast of the property site.

The Mojave River is considered a TNW since it supports habitats which may support populations of special status species, drains a large watershed, and is utilized by a wide variety of waterfowl when water is present.

RCA Associates, LLC conducted a jurisdictional delineation on November 16, 2017 during which the ordinary high water mark (OHWM) was evaluated and the centerline of the channel was flagged along the blueline channel. Based on the proposed construction plans, the project would impact streambeds and/or banks corresponding with the blueline channel, which is considered to be WoS and WoUS. Therefore, Section 1600, USCOE 404, and RWQCB 401 permits may be required by the respective agencies. The appropriate agencies would be contacted for concurrence with this conclusion.

1.0 INTRODUCTION

As part of the environmental process, a jurisdictional delineation (JD) was deemed necessary due to potential impacts to jurisdictional waters. The purpose of this jurisdictional delineation was to determine the location and size of any areas that may be defined as waters of the State (WoS) and waters of the U.S. (WoUS), and to identify the centerline of any jurisdictional areas. Pursuant to Title 14 of the California Code of Regulations and Article 4, Chapter 3, Sections 15050-15053 of the California Environmental Quality Act (CEQA), the City of Victorville is the "Lead Agency" and is responsible for distributing all environmental documents to the appropriate State and Federal agencies. The data collected during the field investigation for this JD was used in conjunction with other technical documents to determine if the project would impact any jurisdictional waters. The following sections provide a summary of the data collected and the analysis performed for the proposed project.

1.1 PROPERTY DESCRIPTION

Initial biological surveys were conducted on a 40-acre parcel (approximate) bordered on the south by La Mesa Road, to the west by Fremontia Road, and to the east by Mesa View Drive in the City of Victorville, California (Township 5 North, Range 5 West, Section 33, USGS Baldy Mesa, California Quadrangle, 1996) (Appendix A: Figures 1, 2, and 3). The site shows signs of past grading activities greatly reducing the native vegetation on the site. The USGS Victorville, California Quadrangle (1956) shows a blueline channel bisecting the southwestern portion of the site (Figures 2, 3 & 4).

The project proponent is proposing to construct a residential development on the property consisting of 183 single-family dwellings (Figure 4). No special status wildlife species were observed during any of the field investigations and no sensitive habitats were observed during the various field investigations conducted on the property. There was no water present in the blueline channel during the jurisdictional delineation conducted on November 16, 2017.

1.2 PROJECT DESCRIPTION

The project proponent (Frontier Communities) is proposing to construct a residential development consisting of approximately 183 SFR lots located in Victorville, California at the intersection La Mesa Road and Mesa View Drive. The proposed project will consist of 1800 – 2200 square foot homes on an average lot size of 4,500 square feet. Included in the development will be two (2) detention basins, one along the western boundary of the site and one in the northwest corner of the site.

1.3 REGULATORY OVERVIEW

Activities within streams, wetlands, and riparian areas are regulated by Federal, State, and regional agencies. The U.S. Army Corps of Engineers (COE) regulates Waters of the US (WoUS) and wetlands under Section 404 of the Clean Water Act. The California Department of Fish and Wildlife (CDFW) regulate activities within the streambed, bank, and associated habitat of stream channels under Fish and Game Code 1600-1616. The California Regional Water Quality Control Board regulates discharge into “waters of the U.S.” under Section 401 of the Federal Clean Water Act and into “Waters of the State” under the California Porter-Cologne Water Quality Act.

1.3.1 U.S. ARMY CORPS OF ENGINEERS (COE)

The COE oversees activities associated with Section 404 which includes permits, jurisdictional determinations, and enforcing Section 404 regulations. Specifically, the jurisdictional scope of Section 404 of the Clean Water Act was defined by the U.S. Supreme Court in 2006 in their decision in *Rapanos v. U.S.* and *Carbell v. U.S.* The decisions in these two cases outlined the specific analytical standards for determining jurisdictional issues associated with WoUS. These accepted standards have been utilized in the analysis for this project in determining the presence or absence of WoUS.

1.3.2 REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)

Based on the field investigations conducted on the site by RCA Associates LLC on November 16, 2017, the intermittent blueline stream bisecting the 40-acre property does meet the criteria for “Waters of the State” (WoS).

Waters of the State are defined as any surface water or groundwater that are within the boundaries of the State (Public Code Section 71200), which differs from the CWA definition of WoUS by its inclusion of groundwater and waters outside of the ordinary high water mark in its jurisdiction.

1.3.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

CDFW asserts jurisdiction over the bed and banks of a stream channel and associated wildlife and habitats as per CDFW Code Sections 1600-1616. The CDFW jurisdictional area is defined as the “top of bank” of a channel or to the limit (outer dripline) of the adjacent riparian vegetation. CDFW regulates any activities that would “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, ground pavement where it would pass into any river, stream, or lake” (Section 1602 of the CDFW Code [Streambed Alteration]).

2.0 DELINEATION METHODOLOGY

The initial steps in the delineation process involved conducting a literature review of all available data sources for the area prior to the start of field investigations. The literature review was used to determine where field surveys should be conducted and to locate areas of potential jurisdictional waters on available aerial photos. Following completion of the review of all available data, field surveys were conducted on November 16, 2017. Figure 4 shows the location of the blueline stream in relation to the project boundaries.

2.1 LITERATURE REVIEW

The following literature was used to identify areas that may fall under agency jurisdiction and the following resources were reviewed or used prior to the field surveys.

- The Corps of Engineers Wetlands Delineation Manual (USACE 1987)
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (USACE 2008)
- A Field Guide to the Identification of the Ordinary High Water mark (OHWM) in the Arid West Region of the Western United States (Lichvar and McColley 2008)
- U.S. Geological Survey 7.5 Minute Series Topographical Quadrangle for site.
- California Soils Resources Lab's Soil Web Google Earth interface
<http://casoilresource.lawr.ucdavis.edu/drupal/node/902>
- U.S. Fish and Wildlife Service, Department of Habitat and Resource Conservation, Wetland Geodatabase: <http://wetlandsfws.er.usgs.gov/NWI/index.html>
- Natural Resources Conservation Services, Hydric Soils List of California, 2010:
<http://soils.usda.gov/use/hydric/lists/state.html>

2.2 FIELD SURVEYS

Field investigations were conducted on November 16, 2017 to determine the structure and composition of the existing blueline channel in order to verify all potential jurisdictional areas. Vegetation communities observed during the surveys were initially viewed on aerial photos, evaluated during the field investigations, and described and classified using Holland's system (1986) (Appendix A: Table 1).

Transect data was collected using a handheld Global Positioning System (GPS) unit. The GPS coordinates were recorded along the centerline of the blueline channel and the existing drainage easement. Stakes and flagging were placed at intervals of approximately 25-50 feet and were labeled accordingly for future identification.

2.3 POTENTIAL WATERS OF THE U.S.

Federal jurisdiction over a non-wetland WoUS extends to the ordinary high-water mark (OHWM), defined in 33 CFR Part 328.3 of the Code of Federal regulations as “the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris.” In the Arid West region of the United States, waters are variable and include ephemeral/intermittent and perennial channel forms. The most problematic ordinary high-water (OHW) delineations are associated with the commonly occurring ephemeral/intermittent channels that dominate the desert landscape.

The hydrology, channel-forming processes and distribution of OHWM indicators are significantly influenced by the desert climate which can make delineations difficult. Typically, the OHWM zone in a low-gradient, alluvial ephemeral/intermittent channel is considered the active floodplain. The dynamics of channels in the arid regions and the frequent transitory nature of traditional OHW indicators in arid environments render the limit of the active floodplain and is the only reliable and repeatable feature in terms of OHW delineation according to Lichvar and McColley (2008). This conclusion was also supported by recent additional research in Vegetation and Channel Morphology Responses to ordinary High Water Discharge Events in Arid West Stream Channels (Lichvar et Al. 2009).

The location of the edge of the blue-line channel was identified based on field investigations. The OHWM of the channel was well defined in most areas along the channel. During the surveys, RCA Associates, LLC evaluated the characteristics of vegetation and substrate composition along the channel, and assessed the OHWMs (Figure 3). The boundaries of the OHWMs were walked while recording GPS data along the centerline of the channel (Appendix A: Table 2).

3.0 DELINEATION RESULTS

Based on the results of the field investigations it was determined that the blueline channel bisecting the site does meet the criteria as a jurisdictional channel (Figure 3). Although no water was seen during the field investigation, water will potentially flow in a south to north direction during major storm events (Figure 4). The USGS Baldy Mesa, California quadrangle shows the channel becoming an intermittent blueline channel approximately 1-mile north of the project site, and eventually merging with other smaller channels downstream before merging with the Mojave river approximately 8-miles north of the site.

3.1 PRELIMINARY JURISDICTIONAL DETERMINATION

3.1.1 U.S. ARMY COPRS OF ENGINEERS METHODOLOGY DETERMINATION

Based on a review of the U.S. Army Corps of Engineers Jurisdictional Delineation Instruction Guidebook (COE, 2007), 33 CFR Part 328, and the results of the field work conducted on November 16, 2017 it was determined that the intermittent blueline stream bisecting property would be considered jurisdictional and has an indirect connection to the nearest WoS (i.e., Mojave River), which is located about 17-miles northeast of the site. A brief discussion of characteristics of the Waters of the United States follows:

Vegetation - The 40-acre site supports a disturbed creosote bush community due to past grading activities. The widths of the blueline channel and drainage easement channel ranged in size from 36 to 159 feet and with depths of 1 to 4 feet. The OHWM of the blueline channel indicated by a change in angle of the banks, with some scouring present below the OHWM.

Soils – The soils within the channel were not hydric. The soils were sandy and well drained, with scattered small gravel, as well as small to large rocks within the channels. Soils were somewhat packed along the banks below the OHWMs. Scouring and erosion was evident below the OHWMs in many locations.

Hydrology – The blueline channel consisted of relatively distinctive channels which showed some scoured areas indicating a moderate amount of water flows during major storm events. The soils in the channels were very permeable and much of the water that flows within the channels normally infiltrate and dissipate rapidly following storm events; however, during major storm events some water may flow beyond the OHWM. On rare occasions of severe storm events and flash flooding, water will flow over the low points of the channels and flow into the surrounding areas. As noted above, the blueline channel appears to have an indirect connection to the Mojave River via other small channels north of the site. The Mojave River, which is about 8-miles northeast of the site, is considered to be a “Traditional Navigable Waters” (TNWs). This assumption is based on the presence of habitat along the River which may support populations of special status species and the fact that the Mojave River drains a large watershed in which the property is located. In addition, the River is also utilized each year by a variety of waterfowl when water is present. A total area of approximately 2.11-acres (91,911.6 square feet) of ephemeral stream channel present along the blueline channel will be impacted by development of the site.

3.1.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

Based on the field investigations and a review of available data, the USGS mapped blueline channel bisecting the property is considered to be WoS as described in Section 2.4.1.

3.1.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

The delineation summarized in this report indicates the blueline channel does meet the criteria to be considered WoUS and WoS. Therefore, the USACOE and CDFW should be contacted to discuss the results of the delineation and for concurrence with the conclusions presented in this report, as per CEQA requirements.

3.1.4 SIGNIFICANT NEXUS DETERMINATION

As referenced above, the Mojave River, which is about 8- miles northeast of the site, is seasonally flooded with special status species likely to occur along the edge of the River in adjacent habitats. The Mojave River also drains a large watershed basin, supports some recreational uses, and is used by various waterfowl when water is present. These characteristics, in total, result in the Mojave River being classified as a “Traditional Navigable Water” (TNW) based on the Corps of Engineers Guidelines for Waters of the United States. Based on the analysis of the Corps Guidelines, a nexus with a TNW (i.e., Mojave River) does exist. As described in Section 3.0, water flows through the blueline channel in a northwest direction and eventually connects to other small washes which then flow into the Mojave River.

3.2 US ARMY COPRS OF ENGINEERS PERMITS

The COE regulates discharge of dredged fill materials into WoUS pursuant to Section 404 of the Clean Water Act. Based on the location of the proposed construction and the presence of jurisdictional waters, a 404 permit from the Los Angeles COE District office maybe required. The COE District office will be contacted during the environmental review process for concurrence with this conclusion and for additional discussions.

3.3 REGIONAL WATER QUALITY CONTROL BOARD

The RWQCB regulates discharge to surface waters under the CWA and the California Porter-Cologne Water Quality Act. A Section 401 permit may be required in conjunction with the 404 permit, if the COE concurs that the project would impact WoUS. Effective July 1, 2010, all dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009 if any impacts occur to WoUS.

3.4 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Based on the field investigations conducted on November 16, 2017, the blue-line channel is considered to be jurisdictional waters and will be impacted by the proposed project. CDFW regulates streambeds and banks, and issues streambed alteration permits (Section 1600-1616) for those projects which impact jurisdictional channel; therefore, a 1602 Permit will be submitted to CDFW requesting issuance of a Streambed Alteration Agreement (SAA) for the project.

4.0 CONCLUSION AND RECOMMENDATIONS

State and federal regulations typically recommend avoiding riparian/riverine resources, and as discussed in the above sections, the proposed project would redirect the flow of water around the proposed construction by creating a drainage easement along the eastern boarder of the property. The total amount of impacts to the blueline channel would be approximately 2.11-acres (91,911.6 square feet). Therefore, the following mitigation measures are recommended for the project to compensate for the impacts to the intermittent blueline channel.

- (1) Prior to the issuance of a grading permit, the project applicant shall obtain a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code from the California Department of Fish and Wildlife. The following shall be incorporated into the permitting, subject to approval by the regulatory agencies:
 - (a) Replacement and/or restoration of jurisdictional “waters of the State” within the Mojave River watershed **at a ratio of no less than 2:1 onsite for permanent impacts to 2.11-acres (91,911.6 square feet) of an ephemeral stream channel.**

- (2) Prior to issuance of a grading permit, the developer shall obtain a Clean Water Act Section 404 Nation-Wide Permit from the U.S. Army Corps of Engineers and **compensate for the loss of 2.11-acres (91,911.6 square feet) of ephemeral stream channel**, and a Clean Water Act Section 401 Certification from the Lahontan Regional Water Quality Control Board. These permits will address impacts to identified jurisdictional resources on the project site and appropriate on-site mitigation. The developer shall implement this measure to the satisfaction of the City Planning Department.

5.0 REFERENCES

- Hickman, James C., (ed.). 1993. *The Jepson Manual: Higher Plants of California*. Berkeley: University of California Press.
- Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game (Sacramento), Nongame Heritage Program Report.
- Hurt, G.W., and L.M. Vasilas (eds.). 2006. *Field Indicators of Hydric Soils in the United States, Version 6.0*. United States of Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
- Lichvar, R.W., and S.M. McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*. Army Engineer Research and Development Center. ERDC/CRREL TR-08-12.
- Lichvar, R.W., B. Allen, J. Byersdorfer, D. Cate, L. Dixon, and C. Photos. *Vegetation and Channel Morphology Responses to Ordinary High Water Discharge Events in Arid West Stream Channels*. U.S. Army Engineer Research and Development Center. ERDC/CRREL TR-09-5.
- Planert, M., and J.S. Wouldiams. 1995. *Ground Water Atlas of the United States, California, Nevada, HA 730-B-Basin and Range Aquifers*. United States Geological Survey. Available at: http://capp.water.usgs.gov/gwa/ch_b/index.html. Accessed January 11, 2010.
- United States Army Corps of Engineers (USACE). 1987. *Wetlands Delineation Manual- Technical Report Y-87-1 (online edition)*. U.S. Army Corps of Engineers Waterways Experiment Station.
- United States Army Corps of Engineers (USACE). 2007. *Jurisdictional Delineation Form Instructional Guidebook*. Available at: <http://www.usace.army.mil/CECW/Pages/home.aspx>. Accessed January 11, 2010.
- United States Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* U.S. Army Engineer Research and Development Center. ERDC/EL TR-08-28.
- Western Regional Climate Center (WRCC). 2010. *Palm Springs, California (046635)*. Available at: <http://www.wrcc.dri.edu/>. Accessed January 11, 2010.

APPENDIX A
Table and Figures

Table 1 - Plants observed on the site and known to occur in the immediate surrounding area.

Common Name	Scientific Name	Location
Joshua tree	<i>Yucca brevifolia</i>	On site
Creosote bush	<i>Larrea tridentate</i>	“
Brome grass	<i>Bromus sp.</i>	“
Schismus	<i>Schismus barbatus</i>	“
Silver cholla	<i>Cylintropuntia echinocarpa</i>	“
Tamarisk	<i>Tamarix sp.</i>	“
Sandbar willow	<i>Salix exigua</i>	“
Burrobush	<i>Ambrosia dumosa</i>	“
Paperbag plant	<i>Salazaria mexicana</i>	Surrounding Area
Ephedra	<i>Ephedra nevadensis</i>	“
Yellow-green matchweed	<i>Gutierrezia sarothrae</i>	“
Lycium	<i>Lycium cooperi</i>	“
Buckwheat	<i>Eriogonum fasciculatum</i>	“
Anderson’s thornbush	<i>Lycium andersonii</i>	“
Cheesebush	<i>Hymenoclea salsola</i>	“
Spiny hopsage	<i>Graysia spinosa</i>	“
Fiddleneck	<i>Amsinckia tessellata</i>	“
Rabbitbrush	<i>Chrysothamnus nauseosus</i>	“
Goldenbush	<i>Ericamertia sp.</i>	“
Vinegar-weed	<i>Lessingia lemmonii</i>	“
Mustard	<i>Descurainia pinnata</i>	“
Winterfat	<i>Krascheninnikovia lanata</i>	“
Filaree	<i>Erodium cicutarium</i>	“
Gilia	<i>Gilia sp.</i>	“

Note: The above list is not intended to be a comprehensive list of every plant which may occur on the site or in the zone of influence

Table 2 - Wildlife observed on the site during the field investigations.

Common Name	Scientific Name	Location
Sage sparrow	<i>Amphispiza belli</i>	On Site
Mourning dove	<i>Zenaida macroura</i>	“
Western whiptail lizard	<i>Cnemidophorus tigris</i>	“
Side-blotched lizard	<i>Uta stansburiana</i>	“
Jackrabbit	<i>Lepus Californicus</i>	“
California ground squirrel	<i>Spermophilus beecheyi</i>	“
Common raven	<i>Corvus corax</i>	Surrounding Area
Song sparrow	<i>Melospiza melodia</i>	“
House sparrow	<i>Passer domesticus</i>	“
House finch	<i>Carpodacus mexicanus</i>	“
Northern mockingbird	<i>Mimus polyglottus</i>	“
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	“
Gambel’s quail	<i>Callipepla californicus</i>	“
Horned lark	<i>Eremophila alpestris</i>	“
Turkey vulture	<i>Cathartes aura</i>	“
Western flycatcher	<i>Tyrannus verticalis</i>	“
Desert spiny lizard	<i>Sceloporus magister</i>	“
Antelope ground squirrel	<i>Ammospermophilus leucurus</i>	“
Desert cottontail	<i>Sylvilagus auduboni</i>	“
Coyotes	<i>Canis latrans</i>	“

Note: The above Table is not a comprehensive list of every animal species which may occur in the area, but is a list of those common species which were identified on the site or which have been observed in the region by biologists from RCA Associates, Inc.

Table 3 – Location of Ordinary High Water Mark (OHWM)

TABLE 1: GPS LOCATION DATA FOR CHANNEL A/B	
WESTERN OHWM	GPS COORDINATES
Point A-1	34°29'5.86"N; 117°24'43.15"W
Point A-2	34°29'6.40"N; 117°24'43.52"W
Point A-3	34°29'6.96"N; 117°24'43.67"W
Point A-4	34°29'7.54"N; 117°24'43.41"W
Point A-5	34°29'7.98"N; 117°24'42.89"W
Point A-6	34°29'8.01"N; 117°24'42.57"W
Point A-7	34°29'8.64"N; 117°24'42.41"W
Point A-8	34°29'9.43"N; 117°24'42.61"W
Point A-9	34°29'9.81"N; 117°24'42.74"W
Point A-10	34°29'10.37"N; 117°24'42.90"W
Point A-11	34°29'10.84"N; 117°24'43.07"W
Point A-12	34°29'11.43"N; 117°24'43.20"W
Point A-13	34°29'11.99"N; 117°24'43.50"W
Point A-14	34°29'12.52"N; 117°24'43.75"W
Point A-15	34°29'13.24"N; 117°24'44.50"W
Point A-16	34°29'13.61"N; 117°24'44.92"W
Point A-17	34°29'13.98"N; 117°24'45.27"W
Point A-18	34°29'14.50"N; 117°24'45.81"W
EASTERN OHWM	
Point B-1	34°29'5.85"N; 117°24'42.02"W
Point B-2	34°29'6.16"N; 117°24'42.07"W
Point B-3	34°29'6.36"N; 117°24'41.93"W
Point B-4	34°29'6.85"N; 117°24'41.55"W
Point B-5	34°29'7.42"N; 117°24'41.55"W
Point B-6	34°29'7.98"N; 117°24'41.53"W
Point B-7	34°29'8.57"N; 117°24'41.69"W
Point B-8	34°29'9.41"N; 117°24'42.06"W
Point B-9	34°29'9.74"N; 117°24'42.22"W
Point B-10	34°29'10.42"N; 117°24'42.47"W
Point B-11	34°29'10.80"N; 117°24'42.67"W
Point B-12	34°29'11.37"N; 117°24'42.78"W
Point B-13	34°29'12.02"N; 117°24'43.02"W
Point B-14	34°29'12.67"N; 117°24'43.34"W
Point B-15	34°29'13.52"N; 117°24'43.81"W
Point B-16	34°29'14.00"N; 117°24'44.10"W
Point B-17	34°29'14.35"N; 117°24'44.90"W
Point B-18	34°29'14.77"N; 117°24'45.39"W

Figure 1

Vicinity Map

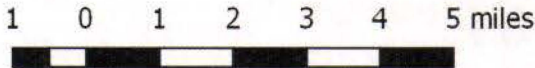
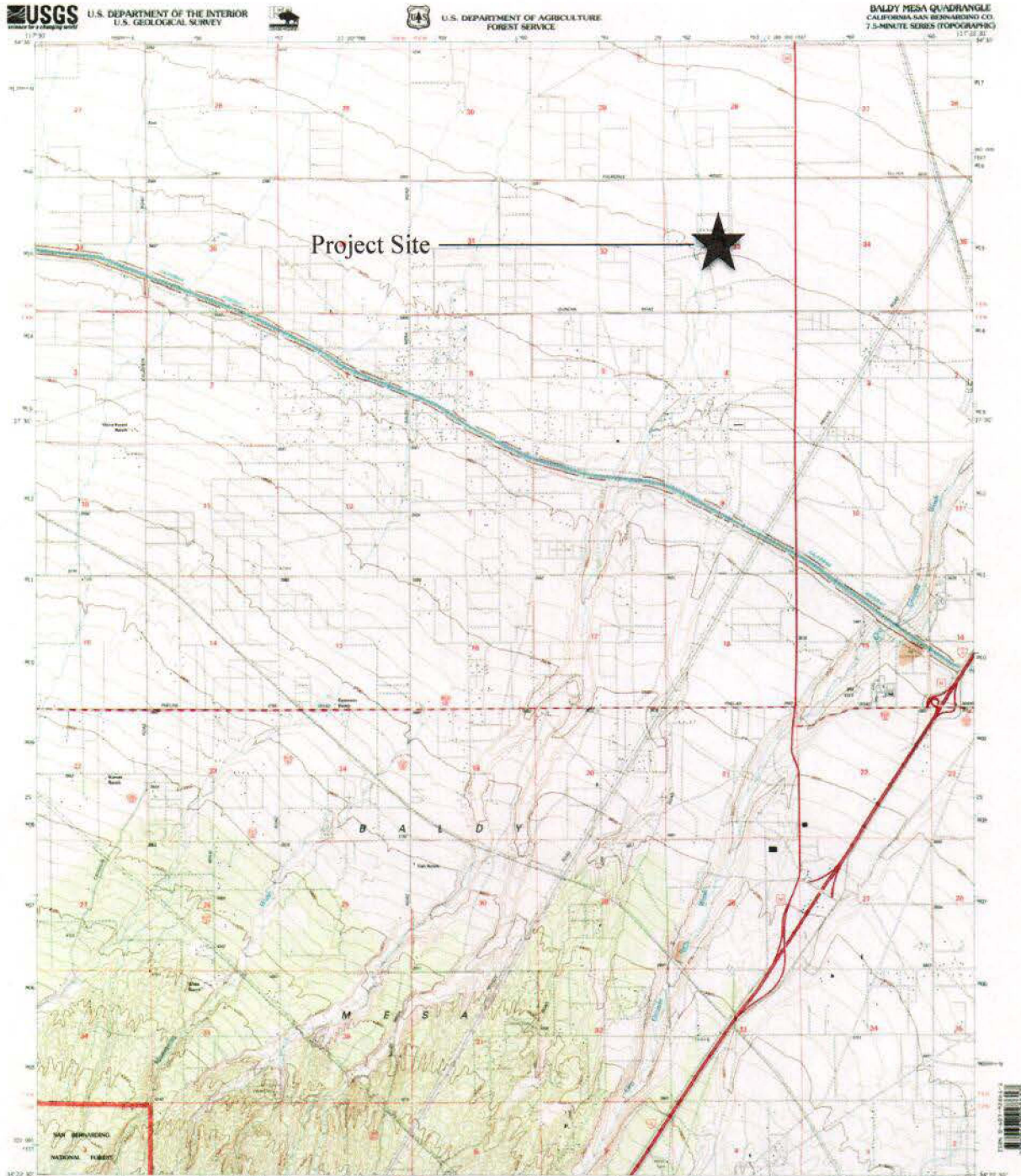


Figure 2

Topographic Map



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

Located from aerial photographs taken 1974. Contours from 1974 photographs
 North American Datum of 1983 (NAD 83). Elevation and 10 Meters Data
 Contour Interval (C.I.) 10 Meters. Contour Interval (C.I.) 10 Meters
 North American Datum of 1983 (NAD 83) is shown by dashed contour lines.
 The values of the 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000, 10100, 10200, 10300, 10400, 10500, 10600, 10700, 10800, 10900, 11000, 11100, 11200, 11300, 11400, 11500, 11600, 11700, 11800, 11900, 12000, 12100, 12200, 12300, 12400, 12500, 12600, 12700, 12800, 12900, 13000, 13100, 13200, 13300, 13400, 13500, 13600, 13700, 13800, 13900, 14000, 14100, 14200, 14300, 14400, 14500, 14600, 14700, 14800, 14900, 15000, 15100, 15200, 15300, 15400, 15500, 15600, 15700, 15800, 15900, 16000, 16100, 16200, 16300, 16400, 16500, 16600, 16700, 16800, 16900, 17000, 17100, 17200, 17300, 17400, 17500, 17600, 17700, 17800, 17900, 18000, 18100, 18200, 18300, 18400, 18500, 18600, 18700, 18800, 18900, 19000, 19100, 19200, 19300, 19400, 19500, 19600, 19700, 19800, 19900, 20000, 20100, 20200, 20300, 20400, 20500, 20600, 20700, 20800, 20900, 21000, 21100, 21200, 21300, 21400, 21500, 21600, 21700, 21800, 21900, 22000, 22100, 22200, 22300, 22400, 22500, 22600, 22700, 22800, 22900, 23000, 23100, 23200, 23300, 23400, 23500, 23600, 23700, 23800, 23900, 24000, 24100, 24200, 24300, 24400, 24500, 24600, 24700, 24800, 24900, 25000, 25100, 25200, 25300, 25400, 25500, 25600, 25700, 25800, 25900, 26000, 26100, 26200, 26300, 26400, 26500, 26600, 26700, 26800, 26900, 27000, 27100, 27200, 27300, 27400, 27500, 27600, 27700, 27800, 27900, 28000, 28100, 28200, 28300, 28400, 28500, 28600, 28700, 28800, 28900, 29000, 29100, 29200, 29300, 29400, 29500, 29600, 29700, 29800, 29900, 30000, 30100, 30200, 30300, 30400, 30500, 30600, 30700, 30800, 30900, 31000, 31100, 31200, 31300, 31400, 31500, 31600, 31700, 31800, 31900, 32000, 32100, 32200, 32300, 32400, 32500, 32600, 32700, 32800, 32900, 33000, 33100, 33200, 33300, 33400, 33500, 33600, 33700, 33800, 33900, 34000, 34100, 34200, 34300, 34400, 34500, 34600, 34700, 34800, 34900, 35000, 35100, 35200, 35300, 35400, 35500, 35600, 35700, 35800, 35900, 36000, 36100, 36200, 36300, 36400, 36500, 36600, 36700, 36800, 36900, 37000, 37100, 37200, 37300, 37400, 37500, 37600, 37700, 37800, 37900, 38000, 38100, 38200, 38300, 38400, 38500, 38600, 38700, 38800, 38900, 39000, 39100, 39200, 39300, 39400, 39500, 39600, 39700, 39800, 39900, 40000, 40100, 40200, 40300, 40400, 40500, 40600, 40700, 40800, 40900, 41000, 41100, 41200, 41300, 41400, 41500, 41600, 41700, 41800, 41900, 42000, 42100, 42200, 42300, 42400, 42500, 42600, 42700, 42800, 42900, 43000, 43100, 43200, 43300, 43400, 43500, 43600, 43700, 43800, 43900, 44000, 44100, 44200, 44300, 44400, 44500, 44600, 44700, 44800, 44900, 45000, 45100, 45200, 45300, 45400, 45500, 45600, 45700, 45800, 45900, 46000, 46100, 46200, 46300, 46400, 46500, 46600, 46700, 46800, 46900, 47000, 47100, 47200, 47300, 47400, 47500, 47600, 47700, 47800, 47900, 48000, 48100, 48200, 48300, 48400, 48500, 48600, 48700, 48800, 48900, 49000, 49100, 49200, 49300, 49400, 49500, 49600, 49700, 49800, 49900, 50000, 50100, 50200, 50300, 50400, 50500, 50600, 50700, 50800, 50900, 51000, 51100, 51200, 51300, 51400, 51500, 51600, 51700, 51800, 51900, 52000, 52100, 52200, 52300, 52400, 52500, 52600, 52700, 52800, 52900, 53000, 53100, 53200, 53300, 53400, 53500, 53600, 53700, 53800, 53900, 54000, 54100, 54200, 54300, 54400, 54500, 54600, 54700, 54800, 54900, 55000, 55100, 55200, 55300, 55400, 55500, 55600, 55700, 55800, 55900, 56000, 56100, 56200, 56300, 56400, 56500, 56600, 56700, 56800, 56900, 57000, 57100, 57200, 57300, 57400, 57500, 57600, 57700, 57800, 57900, 58000, 58100, 58200, 58300, 58400, 58500, 58600, 58700, 58800, 58900, 59000, 59100, 59200, 59300, 59400, 59500, 59600, 59700, 59800, 59900, 60000, 60100, 60200, 60300, 60400, 60500, 60600, 60700, 60800, 60900, 61000, 61100, 61200, 61300, 61400, 61500, 61600, 61700, 61800, 61900, 62000, 62100, 62200, 62300, 62400, 62500, 62600, 62700, 62800, 62900, 63000, 63100, 63200, 63300, 63400, 63500, 63600, 63700, 63800, 63900, 64000, 64100, 64200, 64300, 64400, 64500, 64600, 64700, 64800, 64900, 65000, 65100, 65200, 65300, 65400, 65500, 65600, 65700, 65800, 65900, 66000, 66100, 66200, 66300, 66400, 66500, 66600, 66700, 66800, 66900, 67000, 67100, 67200, 67300, 67400, 67500, 67600, 67700, 67800, 67900, 68000, 68100, 68200, 68300, 68400, 68500, 68600, 68700, 68800, 68900, 69000, 69100, 69200, 69300, 69400, 69500, 69600, 69700, 69800, 69900, 70000, 70100, 70200, 70300, 70400, 70500, 70600, 70700, 70800, 70900, 71000, 71100, 71200, 71300, 71400, 71500, 71600, 71700, 71800, 71900, 72000, 72100, 72200, 72300, 72400, 72500, 72600, 72700, 72800, 72900, 73000, 73100, 73200, 73300, 73400, 73500, 73600, 73700, 73800, 73900, 74000, 74100, 74200, 74300, 74400, 74500, 74600, 74700, 74800, 74900, 75000, 75100, 75200, 75300, 75400, 75500, 75600, 75700, 75800, 75900, 76000, 76100, 76200, 76300, 76400, 76500, 76600, 76700, 76800, 76900, 77000, 77100, 77200, 77300, 77400, 77500, 77600, 77700, 77800, 77900, 78000, 78100, 78200, 78300, 78400, 78500, 78600, 78700, 78800, 78900, 79000, 79100, 79200, 79300, 79400, 79500, 79600, 79700, 79800, 79900, 80000, 80100, 80200, 80300, 80400, 80500, 80600, 80700, 80800, 80900, 81000, 81100, 81200, 81300, 81400, 81500, 81600, 81700, 81800, 81900, 82000, 82100, 82200, 82300, 82400, 82500, 82600, 82700, 82800, 82900, 83000, 83100, 83200, 83300, 83400, 83500, 83600, 83700, 83800, 83900, 84000, 84100, 84200, 84300, 84400, 84500, 84600, 84700, 84800, 84900, 85000, 85100, 85200, 85300, 85400, 85500, 85600, 85700, 85800, 85900, 86000, 86100, 86200, 86300, 86400, 86500, 86600, 86700, 86800, 86900, 87000, 87100, 87200, 87300, 87400, 87500, 87600, 87700, 87800, 87900, 88000, 88100, 88200, 88300, 88400, 88500, 88600, 88700, 88800, 88900, 89000, 89100, 89200, 89300, 89400, 89500, 89600, 89700, 89800, 89900, 90000, 90100, 90200, 90300, 90400, 90500, 90600, 90700, 90800, 90900, 91000, 91100, 91200, 91300, 91400, 91500, 91600, 91700, 91800, 91900, 92000, 92100, 92200, 92300, 92400, 92500, 92600, 92700, 92800, 92900, 93000, 93100, 93200, 93300, 93400, 93500, 93600, 93700, 93800, 93900, 94000, 94100, 94200, 94300, 94400, 94500, 94600, 94700, 94800, 94900, 95000, 95100, 95200, 95300, 95400, 95500, 95600, 95700, 95800, 95900, 96000, 96100, 96200, 96300, 96400, 96500, 96600, 96700, 96800, 96900, 97000, 97100, 97200, 97300, 97400, 97500, 97600, 97700, 97800, 97900, 98000, 98100, 98200, 98300, 98400, 98500, 98600, 98700, 98800, 98900, 99000, 99100, 99200, 99300, 99400, 99500, 99600, 99700, 99800, 99900, 100000.

CONTOUR INTERVAL IN FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1983
 ALL CONTOUR FEET TO NEAREST 10 FEET OR 1/4 MILE

THESE MAPS COMPLY WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 378, DENVER, COLORADO 80268
 A FURTHER DENVER TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

USGS U.S. DEPARTMENT OF THE INTERIOR U.S. GEOLOGICAL SURVEY
 U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE
 BALDY MESA QUADRANGLE CALIFORNIA SAN BERNARDINO CO. 7.5-MINUTE SERIES (TOPOGRAPHIC)
 SCALE 1:24,000
 BALDY MESA CA
 1996

Figure 3
Site Photos



Figure 4

Jurisdictional Delineation

