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## **APPENDIX D**

### **WETLAND DELINEATION**

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BERKELEY  
CARLSBAD  
FRESNO  
IRVINE  
PALM SPRINGS  
POINT RICHMOND  
RIVERSIDE  
ROSEVILLE  
SAN LUIS OBISPO

July 1, 2019

Katerina Galacatos  
South Branch Chief, Regulatory Branch  
U.S. Army Corps of Engineers  
1455 Market Street, 16th Floor  
San Francisco, CA 94103-1398

Subject: Request for Verification of Preliminary Clean Water Act Jurisdictional Delineation for the  
San Bruno Recreation Center Project, San Bruno, San Mateo County, California

Dear Ms. Galacatos:

On behalf of Group 4 Architecture, Research and Planning, Inc., on behalf of the City of San Bruno, LSA is requesting verification of the extent of U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act for the above-referenced project site. The attached report presents the results of a delineation performed by LSA of the potential extent of jurisdictional waters within that site. The project proponent request verification of the included data and map as a Preliminary Jurisdictional Delineation pursuant to Corps RGL 08-02.

Please feel free to contact me directly at [bernhard.warzecha@lsa.net](mailto:bernhard.warzecha@lsa.net) or 510 236 6810.

Sincerely,

**LSA Associates, Inc.**



Bernhard Warzecha  
Project Manager

Enclosures: Hardcopy and CD of the San Bruno Recreation Center Project Aquatic Resources  
Delineation Report

# **AQUATIC RESOURCES DELINEATION**

## **SAN BRUNO RECREATION CENTER PROJECT SAN MATEO COUNTY, CALIFORNIA**

Submitted to:

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Group 4 Architecture, Research + Planning  
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Project No. GRP1803



June 2019

## TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>1</b>
<b>STUDY AREA DESCRIPTION.....</b>	<b>1</b>
Location .....	1
Setting .....	1
Vegetation .....	1
Topography and Hydrogeomorphology .....	4
Soils .....	4
<b>REGULATORY BACKGROUND .....</b>	<b>4</b>
<b>METHODS.....</b>	<b>5</b>
Wetlands .....	5
Tributaries .....	6
Additional Background Information.....	6
<b>RESULTS .....</b>	<b>6</b>
Climatic Conditions.....	6
Potential Jurisdictional Waters of the United States .....	6
El Zanjon Creek.....	8
Culverts and Stormdrain Outfall Pipes .....	8
Regional Water Quality Control Board Jurisdiction .....	8
<b>CONCLUSIONS .....</b>	<b>8</b>
 <b>APPENDICES</b>	
A: WETS ANALYSIS	



FIGURES AND TABLES

FIGURES

Figure 1: Regional Location and Study Area..... 2

Figure 2: Study Area ..... 3

Figure 3: Aquatic Resource Delineation ..... 7

TABLES

Table A: Potential Jurisdictional Waters of the U.S..... 6

## INTRODUCTION

At the request of Group 4 Architecture, Research and Planning, Inc., on behalf of the City of San Bruno, LSA has completed a delineation of potential jurisdictional aquatic resources for the San Bruno Recreation Center Project Study Area.

## STUDY AREA DESCRIPTION

### LOCATION

The 2.77-acre Study Area includes El Zanjon Creek within the San Bruno City Park and surrounding areas within the City of San Bruno in San Mateo County. The approximately 29.09-acre park (Assessor's Parcel Number [APN] 020-320-030) is located at 251 City Park Way and is bounded by Crystal Springs Road to the north, residential uses and Cypress Avenue to the east, residential, public, and institutional uses to the south, and the San Bruno Senior Center and Junipero Serra Park to the west. The Study Area location and regional vicinity are shown in Figure 1, and the Study Area and surrounding land on a USGS topographic map are shown in Figure 2.

The delineated section of the creek includes a reach of El Zanjon Creek between the intersection of Crystal Springs Road/City Park Way, and approximately 850 feet to the south where City Park Way crosses the creek via a vehicle bridge.

### SETTING

The landscape setting consists of either hardscape or landscaping. Landscaping generally consists of lawn and landscape trees typical for public parks in this area (see Vegetation discussion, below). At the lower reach of the surveyed section, pavement connects City Park Way to a parking lot for the San Bruno City Park. At this location, vehicles access the parking spaces by driving through the armored El Zanjon Creek channel. The creek conditions are discussed in detail in the Results section, below.

### VEGETATION

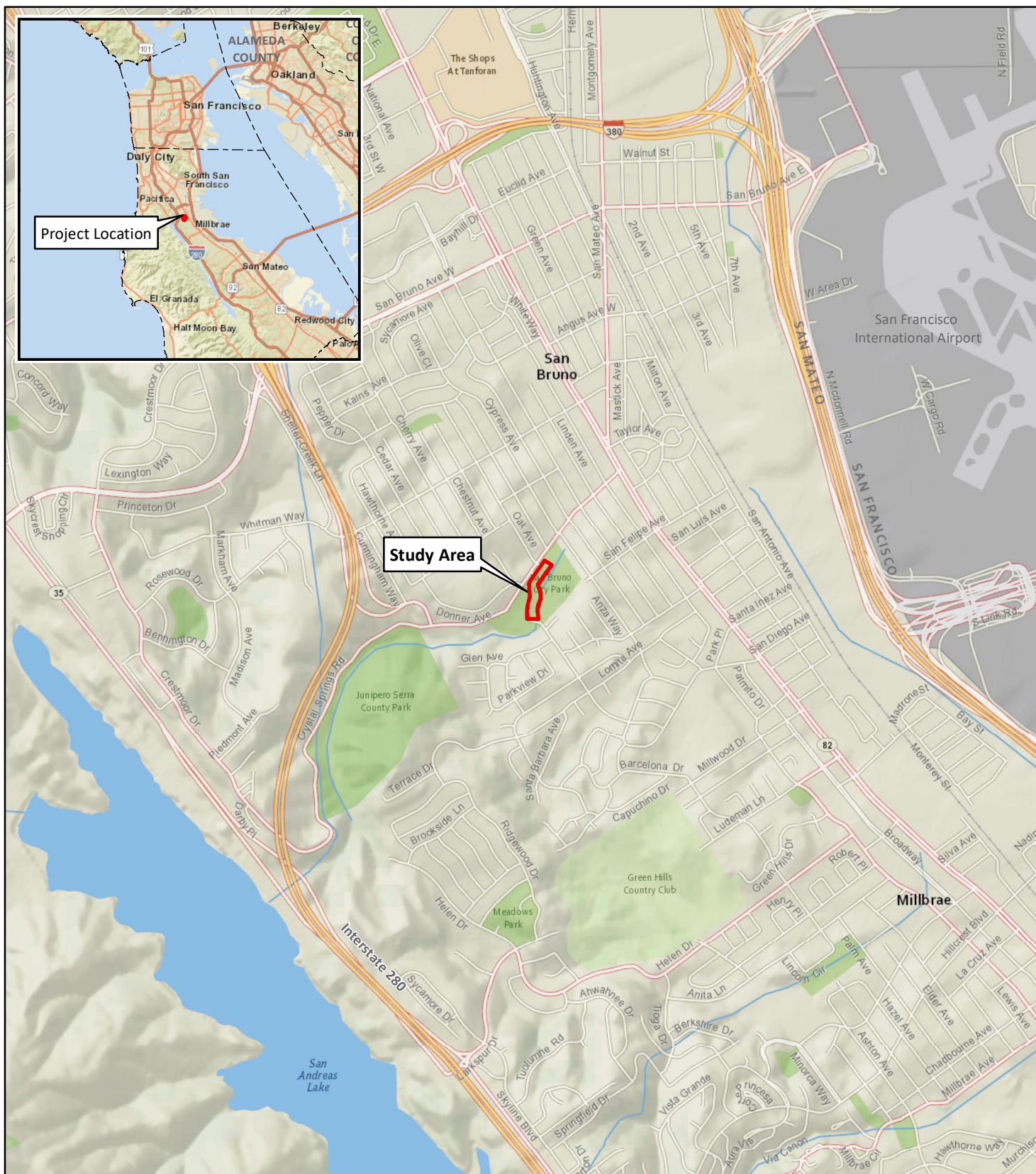
The lawn/landscape areas in the Study Area are maintained, including regular mowing. At the time of the survey, the lawn was mowed to approximately 3 inches. Lawn plants observed included typical non-native landscape grasses<sup>1</sup> and ruderal forbs, including clover (*Trifolium* sp.), bristly ox-tongue (*Helminthotheca echinoides*), broadleaf plantain (*Plantago major*), English ivy (*Hedera helix*), and common daisy (*Bellis perennis*).

Trees lining the creek consist of predominantly typical landscape trees (both native and non-native), including, but not limited to, California sycamore (*Platanus racemosa*), eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), coast redwood (*Sequoia sempervirens*), coast live oak (*Quercus agrifolia*), birch (*Betula* sp.), and magnolia (*Magnolia* sp.). The trees lining the creek are generally of mature heights of their respective species.

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<sup>1</sup> Due to the recent mowing, a reliable identification of the grass species of the lawn was not feasible.



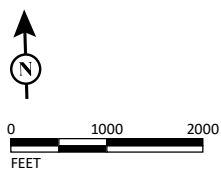


LSA

LEGEND

Study Area

FIGURE 1



SOURCE: Esri World Service (04/2019), National Geographic World Map (04/2019).

I:\GRP1803\GIS\Maps\Delineation\Figure 1\_Regional Location and Study Area.mxd (5/14/2019)

*San Bruno Recreation Center Project  
San Bruno, San Mateo County, California  
Regional Location and Study Area*





LSA

LEGEND

Study Area

FIGURE 2



0 1000 2000  
FEET

SOURCE: USGS 7.5-minute Topo Quads – Mondara Mountain, Calif. (1980) and San Francisco South, Calif. (1980).

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*San Bruno Recreation Center Project*  
*San Bruno, San Mateo County, California*  
**Study Area**



## TOPOGRAPHY AND HYDROGEOMORPHOLOGY

The Study Area slopes eastward towards San Francisco Bay. El Zanjon Creek consists of a semi-natural drainage channel, armored with concave concrete panels. The channel drains all water of the surrounding watershed to the San Bruno municipal stormwater drainage system, and ultimately to San Francisco Bay, a traditional navigable water of the United States located approximately 4 miles east of the Study Area.

## SOILS

The Study Area soils are mapped as Candlestick-Kron-Buriburi complex, 30 to 75 percent slopes<sup>1</sup>. This soil type is described as well drained, and runoff is classified as high. This soil type is generally not hydric.

## REGULATORY BACKGROUND

The U.S. Army Corps of Engineers (Corps) is responsible under Section 404 of the Clean Water Act (CWA) to regulate the discharge of fill material into waters of the United States. Waters of the United States and their lateral limits are defined in *Clean Water Rule: Definition of "Waters of the United States"* (33 Code of Federal Regulations [CFR] Part 328; published June 29, 2015). Waters of the United States as defined in the Clean Water Rule include Traditional Navigable Waters, Interstate Waters, Territorial Seas, Impoundments, Tributaries, Adjacent Waters, and Case-Specific Waters of the United States.

The lateral limits of jurisdiction for a tributary are measured at the line of the Ordinary High Water Mark (OHWM) or the limit of adjacent wetlands located within the floodplain. Any permanent extension of the limits of an existing water of the United States, whether natural or man-made (e.g., ditches or culverts), results in a similar extension of Corps jurisdiction.

The term wetland refers to areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs, as well as seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined in the Clean Water Rule.

Waters and wetlands that cannot trace a continuous hydrological connection to a navigable water of the United States are not tributary to waters of the United States. These features can nevertheless qualify as jurisdictional adjacent waters, impoundments, or case-specific waters of the United States. Adjacent waters are generally considered jurisdictional if they significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas; and are jurisdictional by rule if they are within 100 feet of a jurisdictional aquatic resource.

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<sup>1</sup> Natural Resources Conservation Service (NRCS) Web Soil Survey. Accessed May 2019.

In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the acreage involved and the purpose of the proposed fill.

In addition, the California Regional Water Quality Control Board (RWQCB) has jurisdiction over wetlands and other Waters of the State under Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Waters of the State are generally coincident with waters of the United States but additionally “regulates controllable water quality factors to protect the physical, chemical, and biological components of aquatic ecosystems and the associated functions provided by perennial, intermittent, and ephemeral streams, wetlands, and associated riparian areas.”<sup>1</sup> An RWQCB Water Quality Certification must be obtained for discharges requiring Corps permits for fill and dredge discharges. For Projects potentially affecting beneficial uses of waters of the State and adjacent riparian communities that are not waters of the U.S., Waste Discharge Requirements will be defined by the RWQCB.

## METHODS

LSA Senior Biologist and certified wetland delineator Bernhard Warzecha investigated the Study Area on February 6, 2019. During this survey, all relevant features were evaluated and mapped, including the extent of OHWM and top-of-bank. Additionally, areas potentially qualifying as wetlands or other aquatic resources were assessed.

## WETLANDS

The presence/absence of potential wetlands was determined following requirements of the *Corps of Engineers Wetlands Delineation Manual*<sup>2</sup> (Corps Manual) and the revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*<sup>3</sup> (Regional Supplement). These procedures include standards that define wetlands, including specific saturation and/or ponding regimes, and evaluation of hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland indicator status of vegetation follows the *2016 National Wetland Plant List for the Arid West Region*.<sup>4</sup> Additional guidance of the 2015 Clean Water Rule and the *Technical Support Document for the Clean Water Rule: Definition of Waters of the United States*<sup>5</sup> was incorporated into this jurisdictional delineation.

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<sup>1</sup> San Francisco Regional Water Quality Control Board. 2015. *Stream Maintenance And Enhancement Projects Best Management Practices And Permit Requirements. Fact Sheet.*

<sup>2</sup> Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, Mississippi.

<sup>3</sup> U.S. Army Corps of Engineers. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

<sup>4</sup> Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1-17. Published April 28, 2016. ISSN 2153 733X.

<sup>5</sup> Technical Support Document for the Clean Water Rule: Definition of Waters of the United States. 2015. U.S. Army Corps of Engineers.

## TRIBUTARIES

Tributaries were determined to be potentially jurisdictional through the presence of bed, bank, and OHWM and/or hydrological connectivity. The OHWM is determined and characterized using definitions and guidance of *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*.<sup>1</sup>

## ADDITIONAL BACKGROUND INFORMATION

Additional relevant information about the Study Area was reviewed. This included current and historical aerial imagery (Google Earth Pro); the *Watershed Assessment, Tracking and Environmental Results System* (U.S. Environmental Protection Agency [EPA]); and the *Web Soil Survey, and the Climate Analysis for Wetlands (WETS)* (Natural Resources Conservation Service [NRCS]). Specifically, the standard NRCS WETS analysis<sup>2</sup> includes a weighted comparison of historical rainfall to observed rainfall for the 3-month period before a wetland delineation field survey in order to evaluate if abnormal rainfall patterns may have contributed to observed presence or absence of indicators. The WETS analysis is based on data from the nearest WETS-listed station at the San Francisco International Airport.

## RESULTS

### CLIMATIC CONDITIONS

The results of the WETS analysis (Appendix A) indicate that conditions were wetter than normal during the 3-month period prior to this delineation. Additionally, approximately 3.6 inches of rain fell over the week before the delineation survey.

### POTENTIAL JURISDICTIONAL WATERS OF THE UNITED STATES

Potential jurisdictional features are shown on Figure 3. The dimensions of potential jurisdictional features are presented in Table A.

**Table A: Potential Jurisdictional Waters of the U.S.**

	Length (linear feet)	Average Width (linear feet)	Area (square feet)	Area (acre)
El Zanjon Creek	920	3	2,760	0.063

\*Totals are rounded to nearest tens for square feet; and to nearest 3rd decimal for acres.

<sup>1</sup> 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*. U.S. Army Corps of Engineers.

<sup>2</sup> Part 650 Engineering Field Handbook - Chapter 19: Hydrology Test for Wetland Determination. NRCS 1997.



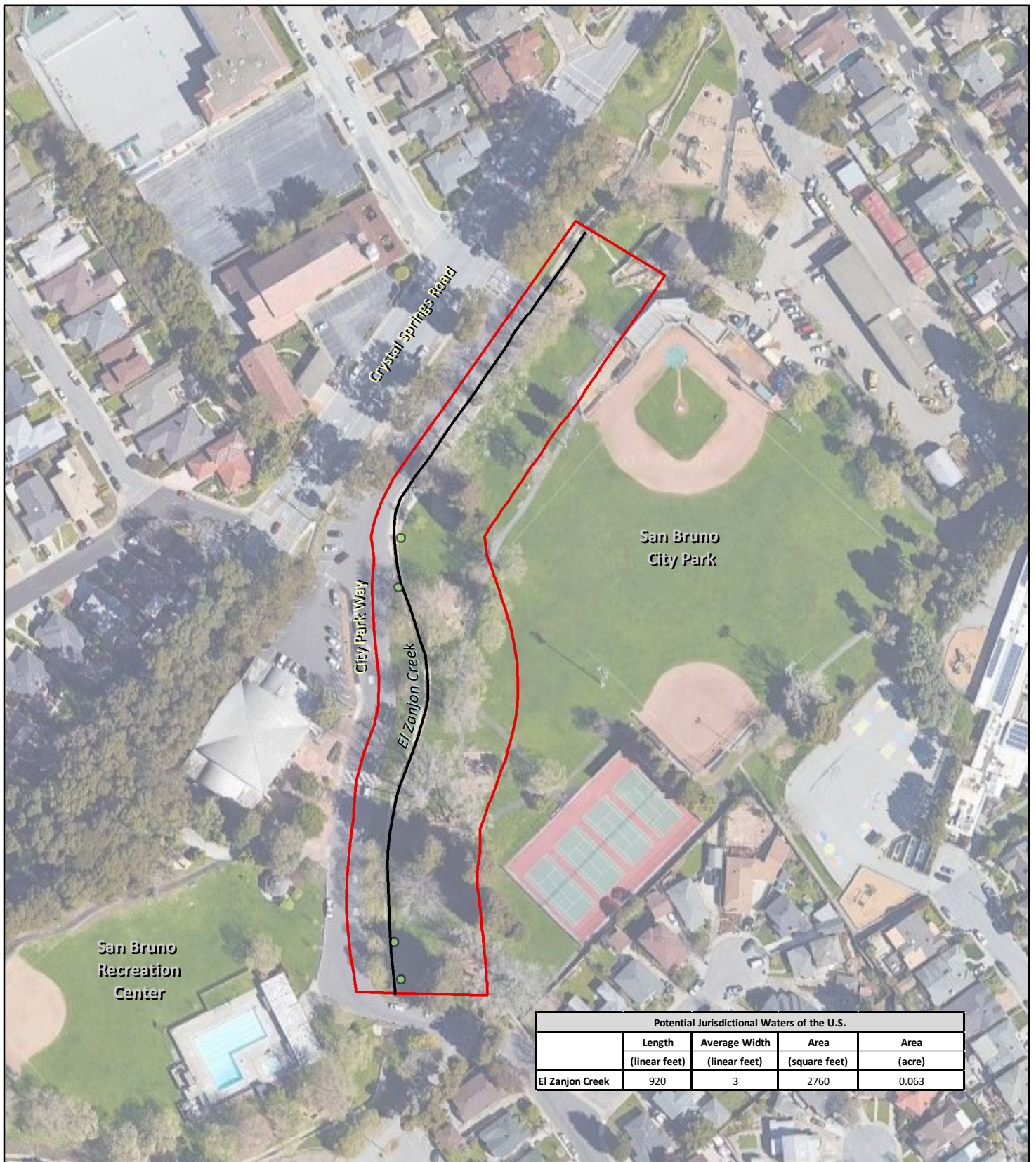


FIGURE 3

LSA



0 75 150  
FEET

SOURCE: Google Maps Sat (04/2019).

I:\GRP1803\GIS\Maps\Delineation\Figure 3\_Aquatic Resources Delineation2.mxd (5/14/2019)

LEGEND

Study Area

Potential Jurisdictional Waters of the U.S.

Creek Segment

Other Features

● Culvert

*San Bruno Recreation Center Project  
San Bruno, San Mateo County, California  
Aquatic Resource Delineation*

## El Zanjon Creek

The delineated sections of the creek generally consist of a generally 10-foot-wide channel formed by concave concrete panels or slabs. The height between the bottom of the concave concrete slabs and the top of the slabs is generally in the range of 1 to 2 feet (depending on the varying angles of the placement of the concrete slabs). The top of the concrete slabs generally functions as top-of-bank through most of the length of the delineated section.

The surveyed section of the creek appears to convey intermittent to ephemeral surface flows. These flows may predominantly originate in the watershed of the westerly slopes of Junipero Serra Park, but they may also include precipitation from the watershed including easterly slopes of Interstate 280 at this location.

At the time of the survey, flowing water approximately 2 inches in depth and between 2 and 5 feet in width was observed. However, approximately 3 inches of rain fell during the week before the survey. Therefore, the flow depth observed at the time of the survey is likely to occur only after considerable rainfall. Typically, creeks similar to the surveyed section do not normally convey surface flow outside the wet season. However, surface flows of this creek section do occur frequently and long enough to produce an OHWM on the concrete slabs that form the creek bed. The OHWM is between 2 and 5 feet wide, with an average width of approximately 3 feet. Additionally, a clear natural OHWM can be observed upstream of the delineated creek section, where the creek has a naturally occurring earthen bed and bank.

## CULVERTS AND STORMDRAIN OUTFALL PIPES

Along the creek section within the Study Area are four locations where culverts or stormdrain outfall pipes terminate at the creek channel (Figure 3). The culvert pipes are located underground and could therefore not be mapped during the delineation visit. The culverts appear to be part of the municipal stormdrain system, draining surrounding hardscape and other developed areas after rain events. Therefore, the culvert pipe areas are not considered potentially jurisdictional.

## REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION

The extent of waters of the State for the potential jurisdictional features identified on the Study Area for this Project is expected to be identical to Corps jurisdiction. However, the RWQCB may extend jurisdiction to all areas where the Project may affect controllable water quality factors to protect the physical, chemical, and biological components of aquatic ecosystems and the associated functions provided by perennial, intermittent, and ephemeral streams, wetlands, and associated riparian areas.

## CONCLUSIONS

Potential Clean Water Act Section 404 waters of the United States identified in the Study Area include approximately 2,760 square feet (0.063 acre) of potential jurisdictional tributaries, consisting of a section of the armored El Zanjon Creek. Potential jurisdictional aquatic resources and

Study Area boundaries are mapped on Figure 3. No additional aquatic resources (such as potential wetlands) were observed within the Study Area.

The findings and conclusions presented in this report, including the location and extent of waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the Corps.



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## APPENDIX A

### WETS ANALYSIS

WETS Analysis  
San Francisco Airport Station

Month	30% Chance Precipitation less than	Average	30% Chance Precipitation more than	Observed rainfall (inch)	Condition (dry, wet, normal)	Condition Value	Weighting Factor	Product of previous 2 columns
November	1.19	1.92	2.32	3.07	wet	3	1	3
December	1.42	4.34	5.19	1.65	normal	2	2	4
January	1.14	3.24	3.73	4.57	wet	3	3	9
							Sum =	16
If sum is:					Condition values:			
6-9:	prior period has been drier than normal				Dry=1			
10-14:	prior period has been normal				Normal=2			
15-18:	prior period has been wetter than normal				Wet=3			