Jurisdictional Waters/Wetland Delineation for the San Diego Fire-Rescue Air Operations Hangar Project
San Diego, California

Prepared for
Platt/Whitelaw Architects, Inc.
4034 30th Street
San Diego, CA 92104
Contact: Ms. Alison Whitelaw

Prepared by
RECON Environmental, Inc.
1927 Fifth Avenue
San Diego, CA 92101
P 619.308.9333

RECON Number 9078
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Andrew Smisek, Biologist

Karyl Field, Associate Environmental Analyst

TABLE OF CONTENTS

ATTACHMENTS

Acronyms and Abbreviations

City	City of San Diego
FACU	facultative upland
FACW	facultative wetland
GPS	global positioning system
NI	no indicator
NRCS	Natural Resource Conservation Service
OBL	obligate
OHWM	Ordinary High Water Mark
Project	San Diego Fire-Rescue Air Operations Hangar Project
RWQCB	Regional Water Quality Control Board
UDP	upland data point
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VPHCP	Vernal Pool Habitat Conservation Plan
WDP	wetland data point

1.0 Site Description and Landscape Setting

The project area is located in the northeastern corner of the Montgomery-Gibbs Executive Airport in the city of San Diego, California. It includes the main area proposed for project development and the access road leading from Ponderosa Avenue to the existing airport facilities. The Review Area for this analysis includes the project area plus a 100-foot buffer around the main portion of the project area (no buffer along the access road), totaling 7.98 acres (Attachment 1: Figure 1). The Review Area is found within an unsectioned portion of the Mission San Diego landgrant on the U.S. Geological Survey (USGS) 7.5-minute La Mesa and La Jolla quadrangles (Attachment 1: Figure 2, USGS 1975, 1996) and is presented on the City of San Diego 800-foot-scale maps, Number 234-1725 (Attachment 1: Figure 3). The Review Area is adjacent to the Air Traffic Control Tower between the Federal Aviation Administration lease area, the Runway Object Free Area, and the Runway Protection Zone for the northwest approach to Runway 5/23 (Attachment 1: Figure 4). Entry to the Review Area is via an asphalt road accessed from a security gate located off Ponderosa Avenue.

The majority of the Review Area occurs as mostly flat land vegetated with non-native grasses that had been mowed at the time of the survey. The Review Area includes a number of developed areas that are associated with the airport facilities.

The applicant will accompany the U.S. Army Corps of Engineers (USACE) on all site visits. The USACE must contact the applicant prior to visiting the site. The contact information for the applicant is:

Property Owner:	City of San Diego
Applicant:	City of San Diego Public Works Department
Project Biologist:	Sean Paver, Senior Planner – Biologist
Telephone:	(619) 533-3629
E-mail:	spaver@sandiego.gov

2.0 Site Alterations, Current and Past Land Use

A majority of the Review Area has been altered by regular mowing of the vegetated land surrounding the buildings and other developed areas. Mowing is conducted as part of airport maintenance activities. The land within the Review Area has likely been graded historically as it occurs as mostly flat and does not match the surrounding topography in undisturbed areas.

2.1 Soils

Information on the soil types sampled in the Review Area is summarized from the Soil Survey for San Diego County (U.S. Department of Agriculture [USDA] 1973), the San Diego

Association of Governments' 1995 geographic information system data (SANDAG 1995), and the San Diego County Hydric Soils list obtained from the Natural Resource Conservation Service (NRCS; 2014).

One soil series, Redding gravelly loam (RdC), 2 to 9 percent slopes, has been mapped within the Review Area, appears on the hydric soil list, and is described below according to the classifications from the USDA characterizations of soil types in the County (USDA 1973; Attachment 1: Figure 5). These soils can be considered hydric soils when occurring in unnamed, ponded depressions (NRCS 2014).

2.2 Hydrology

The natural hydrology of the Review Area includes a network of shallow depressions, many of which function as vernal pools, as well as a small swale in the southeastern portion of the Review Area. The vernal pools occur mostly in the northern half of the Review Area, north of the developed areas. Some also occur east and west of the developed areas. These vernal pools pond seasonally during, and for extended periods following, rain events. The majority of vernal pools do not appear to be directly connected to each other or to any drainage courses. However, the vernal pools east of the access road may overflow into a nearby off-site drainage. The swale in the southeastern portion of the Review Area is fed by a culvert that drains some of the developed portions of the Review Area, and also may overflow into this off-site drainage. The off-site drainage has connectivity to downstream waterways within the San Diego River watershed. Along the access road portion of the Review Area, a culvert occurs under the paved road to allow overflow from potential vernal pools northwest of the road to those southeast of the road. This culvert and connected vernal pools likely also overflow into the nearby drainage.

2.3 Vegetation

Vegetation within the Review Area consists mostly of non-native grassland dominated by non-native bromes (*Bromus* sp.) and filaree (*Erodium* sp.). The presence of non-native grassland may be a result of the regular mowing mentioned above. Other herbaceous species scattered throughout these non-native grassland areas include fascicled tarweed (*Deinandra fasciculata*), graceful tarplant (*Holocarpha virgata*), and stinkwort (*Dittrichia graveolens*). Vegetation within the vernal pool depressions was notably different from the surrounding uplands areas, being dominated by hyssop loosestrife (*Lythrum hyssopifolia*) and dwarf woollyheads (*Psilocarphus brevissimus*). A small area in the northern portion of the Review Area and the eastern portion of the Review Area, east of the access road and developed areas, do not undergo regular mowing or maintenance and contains a mix of coastal sage scrub and native herbaceous vernal pool vegetation.

3.0 Precipitation Data and Analysis

Climate data, including precipitation totals, for the nearest recording station to the project site was gathered from the NRCS and National Water and Climate Center databases. The climate data obtained are discussed below.

3.1 Climate and Growing Season

The Review Area is located approximately seven miles from the Pacific Ocean, in an area generally characterized by warm, dry summers and mild winters, with the majority of precipitation typically falling between November and March. This area is influenced by coastal climate weather regimes, resulting in a marine layer during spring and early summer and milder summer temperatures than occur further inland. The growing season can vary but typically occurs after winter rains as temperatures begin to increase during the spring months and into early summer.

3.2 Precipitation and Natural Resource Conservation Service WETS Table Summary

Historical climate data for the nearest recording station to the Review Area is from San Diego Montgomery Field. Data summarized over the time period of 1971–2019 is presented in the WETS table (Attachment 2: Table 1). The total average annual precipitation for this time period and station is 9.79 inches. The total annual precipitation for 2019 was 9.31 inches.

Climate data summaries in 2019 for the months of April through June, which were prior to the first site visit, and July through October, which were prior to the second site visit, are provided in Attachment 2: Tables 2-8. Total 2019 precipitation for April was 0.35 inch, for May 1.03 inches, for June 0.09 inch, for July less than 0.01 inch, for August 0.00 inch, for September 0.06 inch, and for October 0.00 inch.

3.3 Wetland Hydrology and Analysis

The Review Area as a whole contains depressions that pond after rain events. Additionally, a swale occurs in the southern eastern portion of Review Area conveys flow from a culvert outfall eastward toward an off-site drainage and a culvert crosses under the paved access road portion of the Review Area.

4.0 Investigation Methods

RECON Environmental, Inc. wetland specialists Andrew Smisek and Karyl Field performed a routine aquatic resource delineation within the Review Area on July 17, 2019. Mr. Smisek conducted a follow-up site visit on November 1, 2019. The aquatic resources delineation was performed according to the guidelines set forth by the U.S. Army Corps of

Engineers (USACE; 1987, 2008). The potential jurisdictional areas were surveyed by walking throughout the site and making observations of those areas exhibiting characteristics of jurisdictional waters or wetlands. During both surveys, the RECON biologist was accompanied by a City of San Diego (City) biologist familiar with the known vernal pools and other biological resources on-site.

4.1 Wetland Parameters

4.1.1 Hydrophytic Vegetation

The wetland indicator status of each species recorded was determined by using the National Wetland Plant List (Lichvar et al. 2016). Plant species nomenclature follows that contained in the Jepson eFlora (Jepson Flora Project 2019). Dominant species with an indicator status of "NI" (not indicated) or not listed in the 2016 plant list were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats that are characteristic in southern California.

The vegetation of each vernal pool was assessed using the wetland determination data forms to determine if the hydrophytic vegetation parameter was met for each (Attachment 3). The presence of vernal pool indicator plant species was also noted.

4.1.2 Hydric Soils

Soil test pits were located: (1) within potential wetland areas and (2) in or adjacent to the spot where the boundary between wetland and upland was inferred (based on changes in the topography, hydrology, and composition of the vegetation). A total of 12 paired sample points were assessed, each pair containing a wetland data point (WDP) and an upland data point (UDP), with the exception that one upland point, UDP9/10 was paired with both WDP9 and WDP10 (see Attachment 3). The depth of the majority of pits dug during the surveys was restricted by a layer of hard rock and/or compact soil. In addition, in order to minimize impacts to the subsurface soil layers and the ponding ability of any given vernal pool basin, soil pits dug within basins were limited to only the depth necessary to determine the presence of hydric soils.

4.1.3 Wetland Hydrology

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. The hydrology indicators of each vernal pool and the swale were assessed using the wetland determination data forms to determine if the hydrology parameter was met for each (see Attachment 3).

4.2 Pre-Field Review

Prior to conducting the delineation, an aerial photograph, the USGS La Mesa (1975) & La Jolla (1996) quadrangles, and the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory were examined to aid in the determination of potential waters of the U.S. on-site (USFWS 2019; Attachment 1: Figure 6). Additionally, data provided by the City was analyzed prior to the surveys. This data includes the presence of vernal pool indicator plant species and fairy shrimp within a number of basins within the Review Area.

4.3 On-site Wetland Investigation

Once on-site, the parcel of land was examined to determine the presence of any indicators of wetlands, including wetland vegetation, hydric soils, and hydrology. In areas where signs of ponding were evident, special attention was paid to USACE vernal pool indicator species (USACE 1997).

Field data, including hand drawn maps and recorded global positioning system (GPS) points and lines, were later digitized/downloaded into ArcGIS. Mapped jurisdictional waters created using these data were analyzed in ArcGIS to provide acreages or target jurisdictional and vegetation boundaries. USACE wetland determination data forms are included as Attachment 3. Photographs of the Review Area are provided in Attachment 4.

4.4 On-site Ordinary High Water Mark Investigation

No potential non-wetland waters were observed during the surveys, so no Ordinary High Water Mark (OHWM) data was collected. The swale in the southeastern portion of the Review Area does not exhibit an obvious bed and bank structure that would necessitate a delineation of the lateral extent of OHWM features. The culvert along the access road portion of the Review Area was not sampled during the surveys.

5.0 Description of All Wetlands and Other Non-wetland Waters

The aquatic resources delineated include a total of 15 vernal pools and 1 wetland swale within the Review Area (Attachment 1: Figure 7 and Attachment 4). Five of the 15 vernal pools extend outside the limits of the Review Area. Therefore, only the areas of the portions occurring within the Review Area were used to calculate the total acreage of jurisdictional resources within the Review Area. The culvert that crosses under the paved access road within the Review Area is assumed to be considered non-wetland waters of the U.S. The aquatic resource features delineated within the Review Area total 0.187 acre of wetland waters of the U.S. and 24 square feet (15.5 linear feet) of non-wetland waters of the U.S. A summary of the aquatic resources and location of these resources in relation to the Review

Area boundary is provided in Attachment 2: Table 9 and on Attachment 1: Figure 7, respectively.

5.1 Wetlands

Wetlands delineated on the site include vernal pools and a swale. Each is discussed separately below.

5.1.1 Vernal Pool Wetlands

Of the 11 vernal pools sampled within the Review Area, nine met the hydrophytic vegetation standard via the dominance test or prevalence index. The remaining two vernal pools were not sufficiently dominated by hydrophytic plant species to pass the dominance test or prevalence index. However, these two pools are still considered to meet the hydrophytic vegetation parameter under a problematic wetland; where the vegetation criteria are considered met when the area meets both the hydric soils and wetland hydrology criteria. In fact, all of the vernal pools sampled within the Review Area could be considered to be problematic wetlands for vegetation because regular mowing occurs throughout these areas, which has likely significantly altered the percent cover and distribution of hydrophytic vegetation. The four vernal pools that were not sampled include one in the northern portion of the Review Area and three in the eastern portion, east of the access road. As mentioned above, these areas do not undergo regular mowing and, therefore, would not be considered to be problematic wetlands for vegetation. Based on data provided by the City, hydrophytic vegetation is assumed present within these four unsampled vernal pools.

Additionally, all 11 of the sampled vernal pools within the Review Area contain at least one vernal pool indicator plant species. The vernal pool plant indicator species observed includes dwarf woollyheads (*Psilocarphus brevissimus*; facultative wetland [FACW]) and Lemmon's canarygrass (*Phalaris lemmonii*; FACW). Dwarf wollyheads and hyssop loosestrife (*Lythrum hyssopifolia*; obligate [OBL]) dominated the vegetation cover within the majority of the vernal pool depressions.

The distribution of hydrophytic plant species and upland plant species throughout the Review Area clearly followed local topographic trends, with hydrophytic species being dominant within the depressions of the vernal pools and upland species being dominant outside the margin of the vernal pools. The common upland plant species observed included red brome (*Bromus madritensis* ssp. *rubens*; UPL), filaree (facultative upland [FACU]) and fascicled tarweed (FACU). Hydrophytic plant species, such as dwarf wollyheads and hyssop loosestrife, were occasionally observed in upland areas outside the topographic depression of the vernal pools within the Review Area, likely because these areas occur only inches above the vernal pool basins and may stay wet enough during some rain years to support individuals of these hydrophytic species. However, where hydrophytic plant species occurred in upland areas outside the vernal pools, they were observed with very low vegetation cover.

One hydric soil indicator, redox depressions, was observed during the surveys within all 11 vernal pools sampled (see Attachment 3, WDPs 1 through 11). This hydric soil indicator occurs in closed depressions that are subject to ponding. At each WDP, redox concentrations were observed within a layer at least 2 inches thick within the first 6 inches from the soil surface. In many cases, soil pits were only dug to 2 or 3 inches because redox concentrations were prevalent at these depths, just below the surface. Based on data provided by the City, hydric soils are assumed present within the four unsampled vernal pools.

The source of the water for the vernal pools is primarily from natural rainfall and local runoff from the surrounding land. The water that reaches these vernal pools is seasonal, temporarily ponds within the limits of the pools. Wetland hydrology indicators observed in a majority of the vernal pools within the Review Area included biotic crusts. Surface soil cracks were observed at WDP 2. The known presence of aquatic invertebrates (e.g., fairy shrimp), based on the City's data for on-site vernal pools, is also a primary indicator of wetland hydrology; as found in vernal pools at WDP 1, 3, 4, 5, 6, 7, 8, and 11 (see Attachment 3). Based on data provided by the City, wetland hydrology is assumed present within the four unsampled vernal pools.

5.1.2 Swale Wetland

As mentioned above, the swale in the southeastern portion of the Review Area is fed by a culvert leading from the existing developed structures. The vegetation observed within this swale includes a number of herbaceous hydrophytic plant species, including hyssop loosestrife, tall flatsedge (*Cyperus eragrostis*; FACW), and toad rush (*Juncus bufonius*; FACW). Outside of the swale, the surrounding upland areas contained Diegan coastal sage scrub dominated by California buckwheat (*Eriogonum fasciculatum*; no indicator [NI]) and red brome.

One hydric soil indicator, redox depressions, was observed within the wetland swale (see Attachment 3, WDP 12). This swale appears to function as a depression based on local topography, but it does not contain vernal pool indicator plant species. Both biotic crusts and non-riverine sediment deposits were observed during the survey. This swale has direct connectivity to a drainage that occurs just outside the Review Area which receives overflowing water from the swale. From here, water is conveyed southward off-site through a culvert and into a series of storm drains and canyons as part of the downstream watershed.

5.2 Non-wetland Waters

The culvert that crosses under the paved access road within the Review Area is assumed to be considered non-wetland waters of the U.S. (see Attachment 1, Figure 7). However, this culvert was not sampled during the surveys. The total estimate area for this non-wetland water feature is 24 square feet and 15.5 linear feet.

5.3 Waters of the State

The waters of the state under the jurisdiction of the Regional Water Quality Control Board (RWQCB) delineated within the Review Area entirely overlap with those waters of the U.S. described above, including the vernal pools, swale, and culvert. RWQCB waters within the Review Area total 0.187 acre of wetland waters of the state and 24 square feet (15.5 linear feet) of non-wetland waters of the state (Attachment 1, Figure 8).

5.4 City Wetlands

The City wetlands delineated within the Review Area include the vernal pools and the swale mapped as wetland waters of the U.S. as described above. But City wetlands on-site do not include the culvert mapped as non-wetland waters of the U.S. Therefore, City wetlands within the Review Area total 0.187 acre (Attachment 1, Figure 9).

6.0 Deviation from National Wetland Inventory

The results of this analysis vary substantially from the National Wetland Inventory (see Attachment 1, Figure 6). The National Wetlands Inventory includes a temporarily flooded Freshwater Forested/Shrub Wetland (code PSSA) crossing the access road within the Review Area, but does not include any other aquatic resource features within the Review Area. Based on this analysis and data provided by the City, a number of vernal pools occur within the Review Area and the surrounding undeveloped land.

7.0 Mapping Method

The maps of the delineated jurisdictional waters within the Review Area are based on the above analysis. The boundary of the majority of aquatic resource was obtained from previously collected data provided by the City. Additionally, the boundaries of two vernal pools were mapped during the surveys using sub-meter resolution GPS technology. The location of the culvert along the access road was estimated using aerial photography. GIS mapping software (ArcMap) was used to produce the graphical maps contained in this report.

8.0 Results and Conclusions

USACE jurisdictional waters include all 15 vernal pools mapped within the Review Area, as well as the swale in the southeastern portion of the Review Area. As described above, the vernal pools and the swale all meet the three wetland parameters and, therefore, would be considered wetland waters of the U.S. (see Attachment 1: Figure 7). The water type for the vernal pools is considered “isolate” (see Attachment 2, Table 10), as they do not have a distinct connection to any wetland or non-wetland water drainage courses. However, the

water type for the ephemeral swale and culvert are considered to be "non-relatively permanent waters" (see Attachment 2, Table 10) due to their connectivity with an off-site jurisdictional drainage.

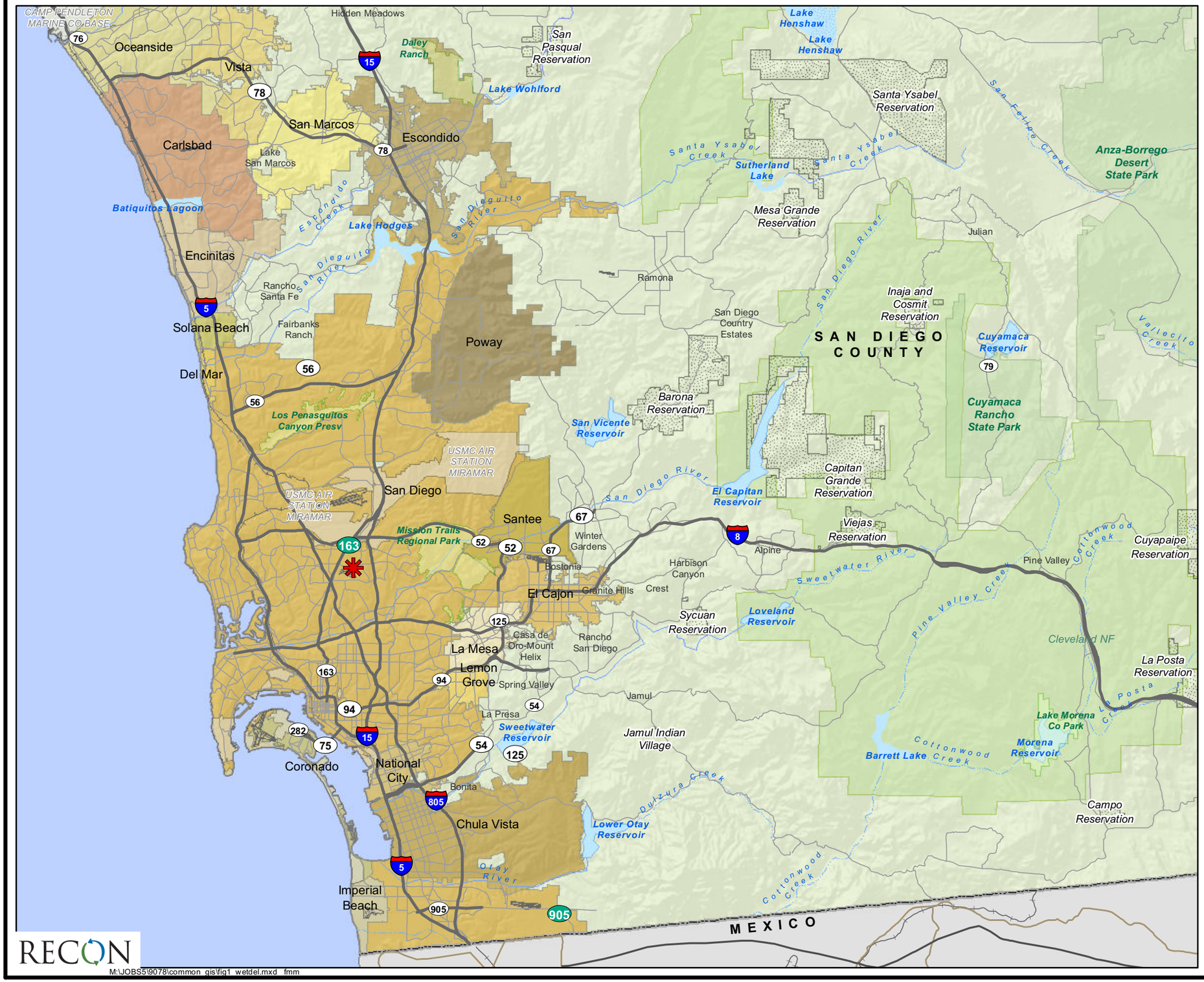
9.0 Disclaimer Statement

This report describes the results of a jurisdictional waters delineation conducted within the 7.98-acre Review Area. The jurisdictional waters delineation is used to identify and map the extent of the federal jurisdictional waters of the U.S. The purpose of this study was to identify and map the limits of any jurisdictional water features on the property to provide necessary background information for analysis by USACE in making a jurisdictional determination. USACE will review the content of this report and ultimately make a determination of federal jurisdiction for any waters of the U.S. that may be present in the Review Area. References used in the preparation of this report are included below in Attachment 5.

ATTACHMENTS

ATTACHMENT 1

Maps



RECON

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✱ Project Location

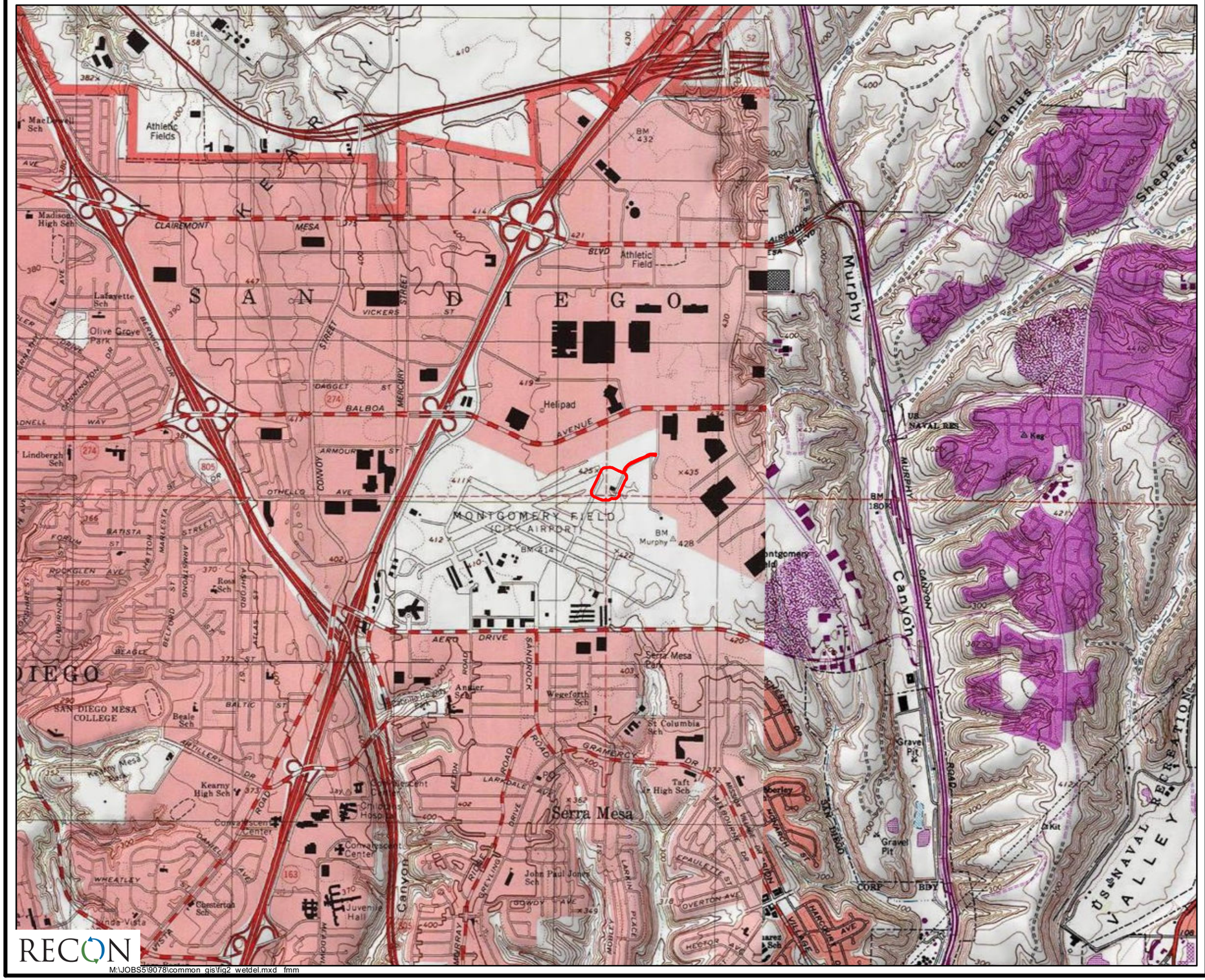
Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Miles 10

FIGURE 1: REGIONAL LOCATION

SAN DIEGO FIRE-RESCUE AIR OPERATIONS HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019



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Review Area

Map Source: USGS 7.5 minute topographic map series,
La Mesa (1975) & La Jolla (1996) quadrangles,
Mission San Diego Land Grant

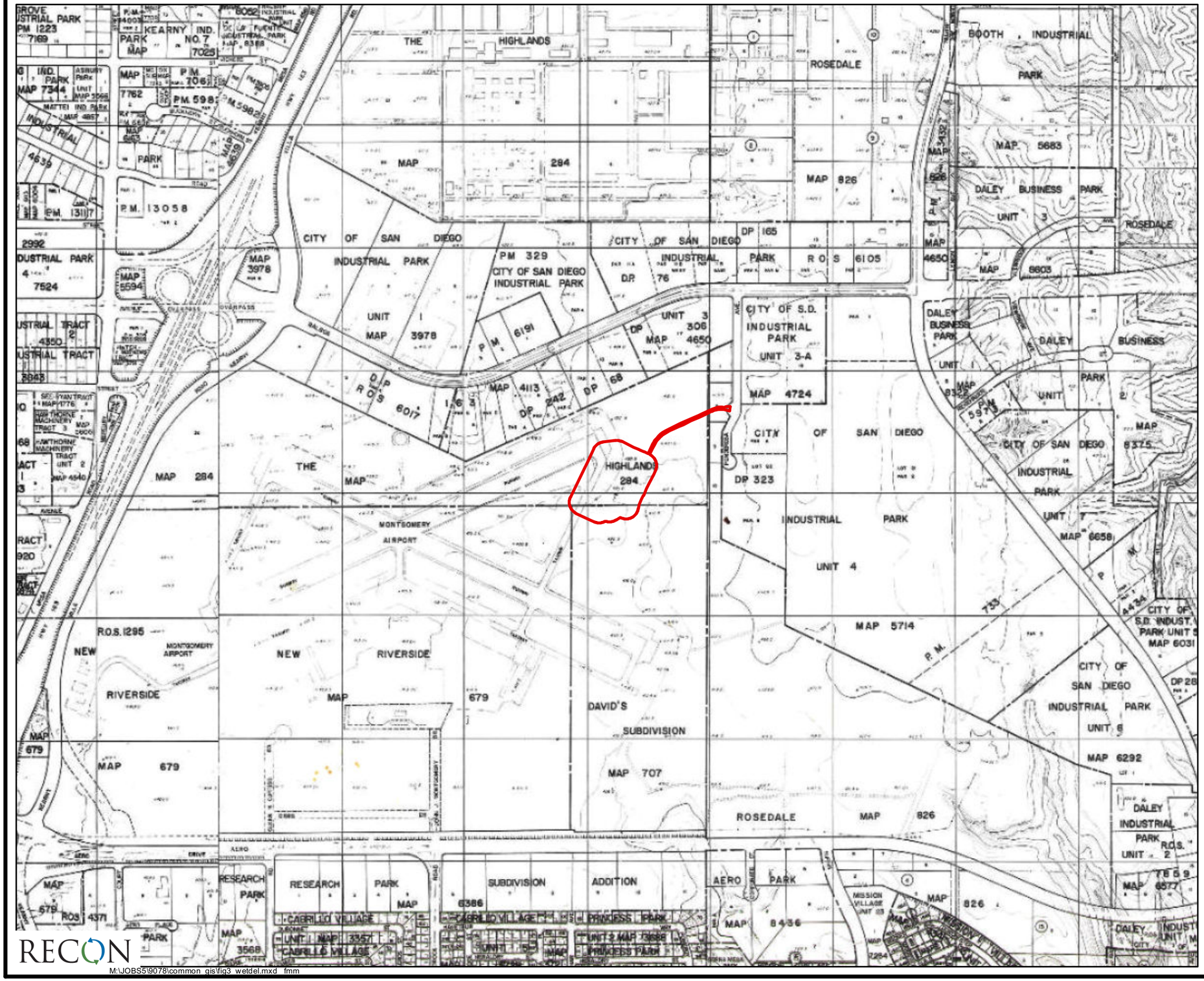
Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 4,000

FIGURE 2: PROJECT LOCATION ON USGS MAP

SAN DIEGO FIRE-RESCUE AIR OPERATIONS HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019



Review Area

Map Source: City of San Diego, Engineering and Development Department, City 800' Maps, Number 234-1725

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 1,600

FIGURE 3:
PROJECT LOCATION ON CITY 800' MAP

SAN DIEGO FIRE-RESCUE AIR OPERATIONS HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019

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Review Area

Image Source: Nearmap (flown September 2019)

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 400

FIGURE 4:
PROJECT LOCATION ON AERIAL PHOTOGRAPH

SAN DIEGO FIRE-RESCUE
AIR OPERATIONS
HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019

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Review Area

Soils

- OhE, Olivenhain Cobbly Loam
- RdC, Redding Gravelly Loam
- RfF, Redding Cobbly Loam Dissected

Image Source: Nearmap (flown September 2019)

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 1,000

FIGURE 5:
NRCS SOIL TYPES

SAN DIEGO FIRE-RESCUE
AIR OPERATIONS
HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019

RECON

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Image Source: Nearmap (flown September 2019)

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 400

FIGURE 6: NATIONAL WETLANDS INVENTORY

SAN DIEGO FIRE-RESCUE AIR OPERATIONS HANGAR PROJECT

SAN DIEGO, CA

SEPTEMBER 24, 2019

RECON

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Review Area

Non-wetland Waters
(18-inch culvert)

Wetlands (vernal pool)

Wetlands (swale)

Wetland Data Form Point (WDP)

Upland Data Form Point (UDP)

Photo Points (PP)

Topography
(2-foot Contour Interval)

Image Source: Nearmap (flown September 2019)

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 250

FIGURE 7:
WATERS OF THE U.S.

**SAN DIEGO FIRE-RESCUE
AIR OPERATIONS
HANGAR PROJECT
SAN DIEGO, CA**

SEPTEMBER 24, 2019

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Review Area

Non-wetland Waters
(18-inch culvert)

RWQCB Wetlands (vernal pool)

RWQCB Wetlands (swale)

Wetland Data Form Point (WDP)

Upland Data Form Point (UDP)

Photo Points (PP)

Topography
(2-foot Contour Interval)

Image Source: Nearmap (flown September 2019)

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 250

FIGURE 8:
WATERS OF THE STATE

SAN DIEGO FIRE-RESCUE
AIR OPERATIONS
HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019

Review Area
18-inch Culvert
Wetlands (vernal pool)
Wetlands (swale)
Wetland Data Form Point (WDP)
Upland Data Form Point (UDP)
Photo Points (PP)
Topography
(2-foot Contour Interval)

Image Source: Nearmap (flown September 2019)

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

0 Feet 250

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FIGURE 9:
CITY OF SAN DIEGO WETLANDS

SAN DIEGO FIRE-RESCUE AIR OPERATIONS HANGAR PROJECT
SAN DIEGO, CA

SEPTEMBER 24, 2019

ATTACHMENT 2

Tables

Attachment 2: Table 1

WETS Table

WETS Station: SAN DIEGO MONTGOMERY FIELD, CA								
Requested years: 1971 - 2019								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	67.5	45.9	56.7	1.75	0.45	2.04	3	-
Feb	66.5	46.6	56.6	2.38	1.00	2.80	4	-
Mar	68.0	49.7	58.9	0.97	0.49	1.19	3	-
Apr	69.7	52.3	61.0	0.73	0.23	0.86	2	-
May	70.8	56.7	63.8	0.34	0.08	0.29	1	-
Jun	74.2	60.2	67.2	0.03	0.00	0.04	0	-
Jul	79.4	64.6	72.0	0.13	0.00	0.00	0	-
Aug	81.3	65.5	73.4	0.01	0.00	0.01	0	-
Sep	80.8	63.6	72.2	0.18	0.00	0.14	0	-
Oct	77.1	58.0	67.5	0.61	0.11	0.56	1	-
Nov	72.1	50.7	61.4	0.87	0.34	1.05	2	-
Dec	66.7	45.4	56.0	1.80	0.60	2.15	3	-
Annual:					7.75	11.09		
Average	72.8	54.9	63.9	-	-	-	-	-
Total	-	-	-	9.79			20	-

GROWING SEASON DATES			
Years with missing data:	24 deg = 27	28 deg = 27	32 deg = 28
Years with no occurrence:	24 deg = 22	28 deg = 22	32 deg = 21
Data years used:	24 deg = 22	28 deg = 22	32 deg = 21
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	No occurrence	No occurrence
70 percent *	No occurrence	No occurrence	No occurrence
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1998				1.60	0.82	0.14	T	0.01	0.10	0.06	1.15	0.88	4.76
1999	2.06	0.69	1.23	1.65	T	0.07	0.03	0.00	0.08	0.01	0.05	0.17	6.04
2000	0.21	3.61	1.17	0.56	0.02	T	T	0.01	0.04	1.12	0.16	0.02	6.92
2001	2.70	2.56	0.75	M0.97	T	T	T	0.00	0.01	0.02	0.87	0.54	8.42
2002	0.47	0.10	0.71	0.72	0.01	0.00	T	0.00	0.37	0.13	1.33	2.41	6.25
2003	0.08	3.55	1.43	1.86	0.58	0.06	0.04	0.02	T	0.05	0.56	0.98	9.21
2004	0.61	2.87	0.27	0.47	T	T	0.00	T	0.01	5.05	0.45	1.76	11.49
2005	5.29	5.72	2.41	0.44	M0.29	T	T	0.00	0.15	0.69	0.17	0.34	15.50
2006	0.64	1.34	2.42	1.69	0.64	0.07	0.26	0.02	T	0.95	0.35	0.86	9.24
2007	0.58	2.53	0.21	0.71	T	0.00	0.00	T	0.09	0.22	1.67	1.38	7.39

2008	3.88	1.81	0.18	0.01	0.26	0.02	T	T	T	0.06	1.65	3.85	11.72
2009	0.14	5.40	0.16	0.16	0.03	0.03	0.00	T	0.00	0.08	0.42	M3.27	9.69
2010	M5.24	2.74	0.50	1.89	T	T	T	0.00	0.21	1.89	1.16	6.49	20.12
2011	0.15	3.47	1.78	0.28	0.45	0.05	T	T	0.11	0.70	3.08	0.61	10.68
2012	0.45	M1.55	1.35	1.16	0.02	0.00	T	0.02	0.00	0.51	0.37	2.93	8.36
2013	1.35	0.65	1.31	0.08	0.35	0.00	T	T	T	0.51	0.29	0.41	4.95
2014	0.04	1.31	0.99	0.35	T	0.00	0.07	0.08	1.08	T	0.55	1.75	6.22
2015	0.09	T	M0.17	0.07	1.81	0.09	2.46	0.01	1.05	0.69	1.97	1.58	9.99
2016	4.47	0.06	1.08	0.88	0.60	T	0.00	0.00	0.38	0.16	0.92	4.81	13.36
2017	4.32	4.96	0.15	0.02	0.59	0.03	T	T	0.11	T	0.02	0.07	10.27
2018	1.94	0.46	1.08	0.05	0.04	0.00	T	0.00	0.00	0.50	1.04	2.69	7.80
2019	M2.09	4.51	1.10	0.35	1.03	0.09	T	0.00	0.06	0.00	M0.08		9.31
Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.													
Data missing for all days in a month or year is blank.													
Creation date: 2016-07-22													

Attachment 2: Table 2

Climatological Data for ALPINE, CA - April 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-04-01	82	56	69.0	29	19	0.00	M	M
2019-04-02	69	48	58.5	19	9	0.00	M	M
2019-04-03	64	51	57.5	18	8	0.12	M	M
2019-04-04	64	48	56.0	16	6	0.00	M	M
2019-04-05	57	50	53.5	14	4	0.06	M	M
2019-04-06	69	50	59.5	20	10	0.01	M	M
2019-04-07	80	47	63.5	24	14	0.00	M	M
2019-04-08	88	56	72.0	32	22	0.00	M	M
2019-04-09	73	54	63.5	24	14	0.00	M	M
2019-04-10	71	43	57.0	17	7	0.00	M	M
2019-04-11	71	44	57.5	18	8	0.00	M	M
2019-04-12	67	48	57.5	18	8	0.00	M	M
2019-04-13	76	47	61.5	22	12	0.00	M	M
2019-04-14	77	49	63.0	23	13	0.00	M	M
2019-04-15	72	47	59.5	20	10	0.00	M	M
2019-04-16	57	51	54.0	14	4	0.00	M	M
2019-04-17	77	48	62.5	23	13	0.00	M	M
2019-04-18	85	49	67.0	27	17	0.00	M	M
2019-04-19	83	54	68.5	29	19	0.00	M	M
2019-04-20	69	51	60.0	20	10	0.00	M	M
2019-04-21	67	51	59.0	19	9	0.00	M	M
2019-04-22	72	48	60.0	20	10	0.00	M	M
2019-04-23	78	49	63.5	24	14	0.00	M	M
2019-04-24	83	54	68.5	29	19	0.00	M	M
2019-04-25	83	53	68.0	28	18	0.00	M	M
2019-04-26	77	51	64.0	24	14	0.00	M	M
2019-04-27	76	52	64.0	24	14	0.00	M	M
2019-04-28	76	51	63.5	24	14	0.00	M	M
2019-04-29	59	52	55.5	16	6	0.11	M	M
2019-04-30	58	50	54.0	14	4	0.18	M	M
Average|Sum	72.7	50.1	61.4	649	349	0.48	M	M

Attachment 2: Table 3

Climatological Data for SAN DIEGO MONTGOMERY FIELD, CA - May 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-05-01	69	58	63.5	24	14	0.00	0.0	0
2019-05-02	69	56	62.5	23	13	0.00	0.0	0
2019-05-03	72	56	64.0	24	14	0.00	0.0	0
2019-05-04	73	57	65.0	25	15	0.00	0.0	0
2019-05-05	70	57	63.5	24	14	T	0.0	0
2019-05-06	70	58	64.0	24	14	0.04	0.0	0
2019-05-07	68	58	63.0	23	13	T	0.0	0
2019-05-08	64	56	60.0	20	10	T	0.0	0
2019-05-09	64	57	60.5	21	11	0.04	0.0	0
2019-05-10	65	56	60.5	21	11	0.04	0.0	0
2019-05-11	70	57	63.5	24	14	0.12	0.0	0
2019-05-12	71	57	64.0	24	14	0.00	0.0	0
2019-05-13	70	60	65.0	25	15	0.00	0.0	0
2019-05-14	73	59	66.0	26	16	0.00	0.0	0
2019-05-15	66	59	62.5	23	13	0.00	0.0	0
2019-05-16	66	56	61.0	21	11	0.10	0.0	0
2019-05-17	67	51	59.0	19	9	T	0.0	0
2019-05-18	70	50	60.0	20	10	0.00	0.0	0
2019-05-19	65	54	59.5	20	10	0.16	0.0	0
2019-05-20	64	53	58.5	19	9	0.23	0.0	0
2019-05-21	64	53	58.5	19	9	0.01	0.0	0
2019-05-22	63	54	58.5	19	9	0.12	0.0	0
2019-05-23	66	53	59.5	20	10	T	0.0	0
2019-05-24	68	50	59.0	19	9	0.00	0.0	0
2019-05-25	66	52	59.0	19	9	0.00	0.0	0
2019-05-26	62	54	58.0	18	8	0.15	0.0	0
2019-05-27	64	51	57.5	18	8	0.02	0.0	0
2019-05-28	67	48	57.5	18	8	0.00	0.0	0
2019-05-29	70	54	62.0	22	12	0.00	0.0	0
2019-05-30	71	58	64.5	25	15	0.00	0.0	0
2019-05-31	68	58	63.0	23	13	0.00	0.0	0
Average|Sum	67.6	55.2	61.4	670	360	1.03	0.0	0.0

Attachment 2: Table 4

Climatological Data for SAN DIEGO MONTGOMERY FIELD, CA - June 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-06-01	66	58	62.0	22	12	0.00	0.0	M
2019-06-02	68	58	63.0	23	13	0.00	0.0	0
2019-06-03	67	58	62.5	23	13	0.01	0.0	0
2019-06-04	67	59	63.0	23	13	T	0.0	0
2019-06-05	70	59	64.5	25	15	0.00	0.0	0
2019-06-06	70	59	64.5	25	15	0.00	0.0	0
2019-06-07	69	60	64.5	25	15	0.00	0.0	0
2019-06-08	70	59	64.5	25	15	0.00	0.0	0
2019-06-09	82	58	70.0	30	20	0.00	0.0	0
2019-06-10	91	57	74.0	34	24	0.00	0.0	0
2019-06-11	79	59	69.0	29	19	0.00	0.0	0
2019-06-12	76	62	69.0	29	19	0.00	0.0	0
2019-06-13	72	59	65.5	26	16	0.00	0.0	0
2019-06-14	70	60	65.0	25	15	0.00	0.0	0
2019-06-15	71	61	66.0	26	16	0.00	0.0	0
2019-06-16	69	60	64.5	25	15	0.00	0.0	0
2019-06-17	65	59	62.0	22	12	0.00	0.0	0
2019-06-18	72	60	66.0	26	16	0.00	0.0	0
2019-06-19	73	58	65.5	26	16	0.00	0.0	0
2019-06-20	69	60	64.5	25	15	0.02	0.0	0
2019-06-21	68	59	63.5	24	14	0.06	0.0	0
2019-06-22	72	60	66.0	26	16	0.00	0.0	0
2019-06-23	74	62	68.0	28	18	0.00	0.0	0
2019-06-24	70	61	65.5	26	16	0.00	0.0	0
2019-06-25	69	60	64.5	25	15	0.00	0.0	0
2019-06-26	70	60	65.0	25	15	0.00	0.0	M
2019-06-27	74	60	67.0	27	17	0.00	0.0	M
2019-06-28	77	61	69.0	29	19	0.00	0.0	M
2019-06-29	83	60	71.5	32	22	0.00	0.0	M
2019-06-30	86	63	74.5	35	25	0.00	0.0	M
Average|Sum	72.6	59.6	66.1	791	491	0.09	0.0	0.0

Attachment 2: Table 5

Climatological Data for SAN DIEGO MONTGOMERY FIELD, CA - July 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-07-01	79	60	69.5	30	20	0.00	0.0	0
2019-07-02	74	61	67.5	28	18	0.00	0.0	0
2019-07-03	71	61	66.0	26	16	0.00	0.0	0
2019-07-04	72	62	67.0	27	17	0.00	0.0	0
2019-07-05	73	61	67.0	27	17	0.00	M	M
2019-07-06	73	62	67.5	28	18	0.00	M	M
2019-07-07	73	62	67.5	28	18	0.00	M	M
2019-07-08	71	61	66.0	26	16	0.00	M	M
2019-07-09	77	63	70.0	30	20	0.00	M	M
2019-07-10	79	60	69.5	30	20	0.00	M	M
2019-07-11	79	63	71.0	31	21	0.00	M	M
2019-07-12	78	62	70.0	30	20	0.00	M	M
2019-07-13	76	61	68.5	29	19	0.00	M	M
2019-07-14	79	61	70.0	30	20	0.00	M	M
2019-07-15	83	62	72.5	33	23	0.00	M	M
2019-07-16	75	61	68.0	28	18	0.00	M	M
2019-07-17	72	61	66.5	27	17	0.00	M	M
2019-07-18	79	63	71.0	31	21	0.00	M	M
2019-07-19	73	63	68.0	28	18	0.00	M	M
2019-07-20	76	64	70.0	30	20	0.00	M	M
2019-07-21	78	65	71.5	32	22	0.00	M	M
2019-07-22	83	65	74.0	34	24	T	M	M
2019-07-23	88	68	78.0	38	28	0.00	M	M
2019-07-24	92	70	81.0	41	31	0.00	M	M
2019-07-25	90	71	80.5	41	31	0.00	M	M
2019-07-26	87	68	77.5	38	28	0.00	M	M
2019-07-27	85	68	76.5	37	27	0.00	M	M
2019-07-28	78	64	71.0	31	21	0.00	M	M
2019-07-29	80	63	71.5	32	22	0.00	M	M
2019-07-30	74	64	69.0	29	19	0.00	M	M
2019-07-31	78	62	70.0	30	20	0.00	M	M
Average|Sum	78.2	63.3	70.8	960	650	T	0.0	0.0

Attachment 2: Table 6

Climatological Data for SAN DIEGO MONTGOMERY FIELD, CA - August 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-08-01	81	65	73.0	33	23	0.00	0.0	0
2019-08-02	83	65	74.0	34	24	0.00	0.0	0
2019-08-03	79	65	72.0	32	22	0.00	0.0	0
2019-08-04	81	62	71.5	32	22	0.00	0.0	0
2019-08-05	83	64	73.5	34	24	0.00	0.0	0
2019-08-06	79	65	72.0	32	22	0.00	0.0	0
2019-08-07	77	64	70.5	31	21	0.00	0.0	0
2019-08-08	78	63	70.5	31	21	0.00	0.0	0
2019-08-09	78	61	69.5	30	20	0.00	0.0	0
2019-08-10	78	65	71.5	32	22	0.00	0.0	0
2019-08-11	75	63	69.0	29	19	0.00	0.0	0
2019-08-12	75	62	68.5	29	19	0.00	0.0	0
2019-08-13	80	61	70.5	31	21	0.00	0.0	0
2019-08-14	82	61	71.5	32	22	0.00	0.0	0
2019-08-15	82	62	72.0	32	22	0.00	0.0	0
2019-08-16	77	62	69.5	30	20	0.00	0.0	0
2019-08-17	75	62	68.5	29	19	0.00	0.0	0
2019-08-18	75	63	69.0	29	19	0.00	0.0	0
2019-08-19	79	65	72.0	32	22	0.00	0.0	0
2019-08-20	81	64	72.5	33	23	0.00	0.0	0
2019-08-21	82	63	72.5	33	23	0.00	0.0	0
2019-08-22	73	62	67.5	28	18	0.00	0.0	0
2019-08-23	77	63	70.0	30	20	0.00	0.0	0
2019-08-24	82	63	72.5	33	23	0.00	0.0	0
2019-08-25	91	66	78.5	39	29	0.00	0.0	0
2019-08-26	88	69	78.5	39	29	0.00	0.0	0
2019-08-27	83	67	75.0	35	25	0.00	0.0	0
2019-08-28	77	66	71.5	32	22	0.00	0.0	0
2019-08-29	81	66	73.5	34	24	0.00	0.0	0
2019-08-30	84	66	75.0	35	25	0.00	0.0	0
2019-08-31	86	68	77.0	37	27	0.00	0.0	0
Average|Sum	80.1	64.0	72.0	1002	692	0.00	0.0	0.0

Attachment 2: Table 7

Climatological Data for SAN DIEGO MONTGOMERY FIELD, CA - September 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-09-01	83	67	75.0	35	25	0.00	0.0	0
2019-09-02	88	68	78.0	38	28	0.00	0.0	0
2019-09-03	88	72	80.0	40	30	0.00	0.0	0
2019-09-04	91	72	81.5	42	32	0.01	0.0	0
2019-09-05	88	71	79.5	40	30	0.00	0.0	0
2019-09-06	90	69	79.5	40	30	0.00	0.0	0
2019-09-07	86	67	76.5	37	27	0.00	0.0	0
2019-09-08	76	64	70.0	30	20	0.00	0.0	0
2019-09-09	75	64	69.5	30	20	0.00	0.0	0
2019-09-10	75	64	69.5	30	20	0.00	0.0	0
2019-09-11	78	65	71.5	32	22	0.00	0.0	0
2019-09-12	81	61	71.0	31	21	0.00	0.0	0
2019-09-13	89	64	76.5	37	27	0.00	0.0	0
2019-09-14	94	65	79.5	40	30	0.00	0.0	0
2019-09-15	93	65	79.0	39	29	0.00	0.0	0
2019-09-16	82	67	74.5	35	25	0.00	0.0	0
2019-09-17	81	64	72.5	33	23	0.00	0.0	0
2019-09-18	77	60	68.5	29	19	0.00	0.0	0
2019-09-19	75	61	68.0	28	18	0.00	0.0	0
2019-09-20	77	58	67.5	28	18	0.00	0.0	0
2019-09-21	81	61	71.0	31	21	0.00	0.0	0
2019-09-22	84	60	72.0	32	22	0.00	0.0	0
2019-09-23	78	61	69.5	30	20	0.00	0.0	0
2019-09-24	84	59	71.5	32	22	0.00	0.0	0
2019-09-25	76	66	71.0	31	21	T	0.0	0
2019-09-26	74	68	71.0	31	21	0.00	0.0	0
2019-09-27	73	67	70.0	30	20	0.00	0.0	0
2019-09-28	72	63	67.5	28	18	0.05	0.0	0
2019-09-29	71	58	64.5	25	15	0.00	0.0	0
2019-09-30	74	52	63.0	23	13	0.00	0.0	0
Average|Sum	81.1	64.1	72.6	987	687	0.06	0.0	0.0

Attachment 2: Table 8

Climatological Data for SAN DIEGO MONTGOMERY FIELD, CA - October 2019

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-10-01	72	54	63.0	23	13	0.00	0.0	0
2019-10-02	76	53	64.5	25	15	0.00	0.0	0
2019-10-03	76	55	65.5	26	16	0.00	0.0	0
2019-10-04	79	53	66.0	26	16	0.00	0.0	0
2019-10-05	81	53	67.0	27	17	0.00	0.0	0
2019-10-06	87	55	71.0	31	21	0.00	0.0	0
2019-10-07	87	57	72.0	32	22	0.00	0.0	0
2019-10-08	84	56	70.0	30	20	0.00	0.0	0
2019-10-09	73	63	68.0	28	18	0.00	0.0	0
2019-10-10	75	59	67.0	27	17	0.00	0.0	0
2019-10-11	87	55	71.0	31	21	0.00	0.0	0
2019-10-12	80	53	66.5	27	17	0.00	0.0	0
2019-10-13	75	61	68.0	28	18	0.00	0.0	0
2019-10-14	73	60	66.5	27	17	0.00	0.0	0
2019-10-15	80	55	67.5	28	18	0.00	0.0	0
2019-10-16	84	60	72.0	32	22	0.00	0.0	0
2019-10-17	74	63	68.5	29	19	0.00	0.0	0
2019-10-18	77	57	67.0	27	17	0.00	0.0	0
2019-10-19	81	56	68.5	29	19	0.00	0.0	0
2019-10-20	80	54	67.0	27	17	0.00	0.0	0
2019-10-21	91	57	74.0	34	24	0.00	0.0	0
2019-10-22	97	62	79.5	40	30	0.00	0.0	0
2019-10-23	88	61	74.5	35	25	0.00	0.0	0
2019-10-24	96	60	78.0	38	28	0.00	0.0	0
2019-10-25	91	61	76.0	36	26	0.00	0.0	0
2019-10-26	87	59	73.0	33	23	0.00	0.0	0
2019-10-27	68	57	62.5	23	13	0.00	0.0	0
2019-10-28	77	52	64.5	25	15	0.00	0.0	0
2019-10-29	71	49	60.0	20	10	0.00	0.0	0
2019-10-30	80	50	65.0	25	15	0.00	0.0	0
2019-10-31	78	44	61.0	21	11	0.00	0.0	0
Average|Sum	80.8	56.3	68.5	890	580	0.00	0.0	0.0

Attachment 2: Table 9 Summary of Jurisdictional Waters	
Jurisdiction	Area (linear feet)
Waters of the U.S. – USACE	
Vernal pools	0.164 ac
Wetland (swale)	0.023 ac
Non-wetland Water (culvert)	24 sq. ft. (15.5)
Total Waters of the U.S.	**0.187 ac (15.5)**
Waters of the State – RWQCB	
Vernal pools	0.164 ac
Wetland (swale)	0.023 ac
Non-wetland Water (culvert)	24 sq. ft. (15.5)
Total Waters of the State – RWQCB	**0.187 ac (15.5)**
City of San Diego Wetlands	
Vernal pools	0.164 ac
Wetland (swale)	0.023 ac
Total City of San Diego Waters	**0.187 ac (15.5)**

Attachment 2: Table 10 List of Aquatic Resources									
Waters ID	Cowardin Code	HGM Code	Area (Sq. Ft)	Linear Feet	Waters Type	Latitude (dd NAD83)	Longitude (dd NAD83)	Local Waterway	Dominant Vegetation
WDP 1	P	Depress	1381	--	Isolate	32.81788651770	-117.13557392600	Depression	Lythrum hyssopifolia
WDP 2	P	Depress	104	--	Isolate	32.81813787510	-117.13526848500	Depression	Lythrum hyssopifolia
WDP 3	P	Depress	1211	--	Isolate	32.81816850630	-117.13479181100	Depression	Psilocarphus brevissimus
WDP 4	P	Depress	587	--	Isolate	32.81804586220	-117.13542924100	Depression	Lythrum hyssopifolia
WDP 5	P	Depress	501	--	Isolate	32.81824660260	-117.13470848300	Depression	Psilocarphus brevissimus
WDP 6	P	Depress	71	--	Isolate	32.81842640010	-117.13467545600	Depression	Lythrum hyssopifolia
WDP 7	P	Depress	644	--	Isolate	32.81859580850	-117.13451168800	Depression	Lythrum hyssopifolia
WDP 8	P	Depress	1238	--	Isolate	32.81859086300	-117.13459745300	Depression	Psilocarphus brevissimus
WDP 9	P	Depress	88	--	Isolate	32.81878000080	-117.13534626000	Depression	Psilocarphus brevissimus
WDP 10	P	Depress	53	--	Isolate	32.81878865810	-117.13526933300	Depression	Psilocarphus brevissimus
WDP 11	P	Depress	143	--	Isolate	32.81803285540	-117.13486054600	Depression	Psilocarphus brevissimus
WDP 12	R	Riverine	1195	--	NRPW	32.81746897750	-117.13497485800	Riverine	Lythrum hyssopifolia
13	P	Depress	1217	--	Isolate	32.81891223	-117.13524099	Depression	unknown (not sampled)
14	P	Depress	3218	--	Isolate	32.81795266	-117.13440880	Depression	unknown (not sampled)
15	P	Depress	715	--	Isolate	32.81759730	-117.13484744	Depression	unknown (not sampled)
16	P	Depress	396	--	Isolate	32.81718727	-117.13479255	Depression	unknown (not sampled)
17	R	Riverine	24	15.5	NRPW	32.81946200000	-117.13307200000	Riverine	unknown (not sampled)
P = Palustrine; HGM = hydrogeomorphic									

ATTACHMENT 3

Jurisdictional Waters Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: July 17, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 1

Investigator(s): Andrew Smisek, Karyl Field Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135577422 Long: 32.8178077472 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No x	**Is the Sampled Area within a Wetland?** **Yes** **No** x
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No x	

Remarks:
Paired point to WDP1 occurring in upload just outside WDP1 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	30	Y	FACU
2. *Festuca myuros*	10	N	UPL
3. *Erodium sp*	10	N	FACU
4. *Deinandra fasciculata*	5	N	FACU
5. *Gazania linearis*	1	N	UPL
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size:)			
1. *None*			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	3	x 4 =	12
UPL species	2	x 5 =	10
Column Totals:	5 (A)		22 (B)

Prevalence Index = B/A = 4.4

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No x

Remarks: Vegetation has been recently mowed (possibly today).

SOIL

Sampling Point: UDP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1								lots of organic debris
1-7	7.5YR 4/3	93	7.5YR 5/8	7	C	M	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compacted soil

Depth (inches): 7

Hydric Soil Present? Yes ___ No X

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? Yes ___ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: July 17, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 1

Investigator(s): Andrew Smisek, Karyl Field Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135573926 Long: 32.8178865177 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation x, Soil , or Hydrology significantly disturbed? Yes Are "Normal Circumstances" present? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x No		
Wetland Hydrology Present?	Yes x No		

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Lythrum hyssopifolia*	40	Y	OBL
2. *Psilocarphus brevissimus*	5	N	FACW
3. *Dittrichia graveolens*	1	N	UPL
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size:)			
1. *None*			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No

Remarks:
Vegetation has been recently mowed (possibly today).
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	7.5YR 3/1				RM	M	sandy loam	lots of organic debris
1-7	7.5YR 4/2	95	7.5YR 5/8	5	C	PL & M	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- x Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks: redox features obvious and observed throughout 1-7 inch layer. Only dug 7 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- x Biotic Crust (B12)
- x Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.
Known presence of San Diego fairy shrimp

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 2

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135292364 Long: 32.8181105697 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks:
Paired point to WDP2 occurring in upload just outside WDP2 depression.
Section, Township, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	30	Yes	FACU
2. *Erodium sp*	50	Yes	FACU
3. *Dittrichia graveolens*	1	No	NI
4. *Gazania linearis*	5	No	NI
5. *Croton setiger*	1	No	NI
6.			
7.			
8.			
	87 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been mowed.

SOIL

Sampling Point: UDP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 3/3	70	5YR 4/6	10	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compacted soil

Depth (inches): 6

Hydric Soil Present? Yes ____ No x

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: July 17, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 2

Investigator(s): Andrew Smisek, Karyl Field Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135268485 Long: 32.8181378751 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x No		
Wetland Hydrology Present?	Yes x No		

Remarks: Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Lythrum hyssopifolia*	30	Y	OBL
2. *Psilocarphus brevissimus*	10	N	FACU
3. *Deinandra fasciculata*	10	N	FACW
4. *Bromus madritensis*	1	N	FACU
5.			
6.			
7.			
8.			
	51 = Total Cover		
Woody Vine Stratum (Plot size:)			
1. *None*			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No

Remarks: Vernal pool indicator species present.

SOIL

Sampling Point: WDP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 3/3	70	5YR 4/6	20	C	M	sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks: Many redox features throughout. Only dug 6 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- x Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil cracking observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 3

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134842675 Long: 32.8182494581 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** **No** X

Remarks:
Paired point to WDP3 occurring in upload just outside WDP3 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Erodium sp.*	50	Yes	FACU
2. *Bromus madritensis*	30	Yes	FACU
3. *Gazania linearis*	5	No	NI
4. *Lofia gallica*	1	No	NI
5. *Croton setiger*	1	No	NI
6.			
7.			
8.			
	87 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed

SOIL

Sampling Point: UDP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 3/3						sandy loam	
4-8	2.5YR 3/4	70	2.5YR 4/8	5	C	M	clay	redox features present

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compacted soil

Depth (inches): 8

Hydric Soil Present? Yes ___ No X

Remarks: Redox features in the clay 4-8 inch layer very small but distinguishable. Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: July 17, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 3

Investigator(s): Andrew Smisek, Karyl Field Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134791811 Long: 32.8181685063 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Palustrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes x	No	
Wetland Hydrology Present?	Yes x	No	

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus*	40	Y	FACW
2. *Deinandra fasciculata*	5	N	FACU
3. *Holicarpha virgata*	1	N	UPL
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size:)			
1. *None*			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust 70

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed (possibly today).
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5 YR 3/2	80	5YR 4/6	20	C	M	sandy loam	
5-7	2.5YR 3/6	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- x Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks: redox features obvious and observed throughout 0-5 inch layer. Only dug 7 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- x Biotic Crust (B12)
- x Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Algal crusts consitent throughout. Known presence of San Diego fairy shrimp .

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 4

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135469055 Long: 32.8180743603 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** **No** X

Remarks:
Paired point to WDP4 occurring in upload just outside WDP4 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Erodium sp.*	50	Yes	FACU
2. *Bromus madritensis*	20	Yes	FACU
3. *Deinandra fasciculata*	5	No	FACU
4. *Croton setiger*	5	No	NI
5.			
6.			
7.			
8.			
	80	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed

SOIL

Sampling Point: UDP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/3	70	2.5YR 3/6	5	C	M	sandy clay loam	much gravel throughout

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compacted soil

Depth (inches): 8

Hydric Soil Present? Yes _____ No X

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 4

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135429241 Long: 32.8180458622 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Lythrum hyssopifolia*	35	Yes	OBL
2. *Euphorbia maculata*	15	Yes	UPL
3. *Deinandra fasciculata*	5	No	FACU
4. *Psilocarphus brevissimus*	5	No	FACW
5.			
6.			
7.			
8.			
	60 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	5	x 2 =	10
FAC species		x 3 =	
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	60 (A)		140 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed (possibly today).
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 3/3	85	5YR 4/6	15	C	M	sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
X Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: Many redox features observed. Only dug 6 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
X Biotic Crust (B12)
X Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ____ Depth (inches): _____

Water Table Present? Yes _____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Biotic crusts observed throughout vernal pool depression
Known presence of San Diego fairy shrimp.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP5

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134741589 Long: 32.8182598933 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks:
Paired point to WDP5 occurring in upload just outside WDP5 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Erodium sp.*	30	Yes	FACU
2. *Bromus madritensis*	30	Yes	FACU
3. *Lythrum hyssopifolium*	10	No	OBL
4. *Deinandra fasciculata*	5	No	FACU
5.			
6.			
7.			
8.			
	75 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed

SOIL

Sampling Point: UDP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/2	70	5YR 4/6	20	C	M	sandy clay loam	gravel mixed in

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil

Depth (inches): 8

Hydric Soil Present? Yes ___ No X

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 5

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134708483 Long: 32.8182466026 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus*	20	Yes	FACW
2. *Deinandra fasciculata*	15	Yes	FACU
3. *Dittrichia graveolens*	10	Yes	NI
4. *Lythrum hyssopifolium*	5	No	OBL
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	20	x 2 =	40
FAC species		x 3 =	
FACU species	15	x 4 =	60
UPL species	10	x 5 =	50
Column Totals:	50 (A)		155 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Although vegetation doesn't meet the hydrophytic vegetation standard via the dominance test or prevalence index, it is still considered to meet the hydrophyticstandard as problematic due to the active management of vegetation here. Mowing appears to occur frequently for airport maintenance purposes which may alter the vegetation away from naturally hydrophytic conditions.
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/3	70	2.5YR 3/6	10	C	M	sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock

Depth (inches): 3

Hydric Soil Present? Yes X No ___

Remarks: redox features observed throughout sample

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: biotic crusts scattered throughout vernal pool depression
Known presence of San Diego fairy shrimp.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 6

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134710554 Long: 32.8184234723 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks:
Paired point to WDP6 occurring in upload just outside WDP6 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	40	Yes	FACU
2. *Erodium sp.*	25	Yes	FACU
3. *Holocarpha virgata*	5	No	NI
4. *Dittrichia graveolens*	5	No	UPL
5.			
6.			
7.			
8.			
	75 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed

SOIL

Sampling Point: UDP 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/3	60	5YR 4/6	5	C	M	sandy clay loam	gravel present

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil

Depth (inches): 8

Hydric Soil Present? Yes _____ No X

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 6

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134675456 Long: 32.8184264001 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Phalaris lemmonii*	20	Yes	FACW
2. *Lythrum hyssopifolia*	20	Yes	OBL
3. *Holocarpha virgata*	20	Yes	NI
4. *Dittrichia graveolens*	10	No	UPL
5.			
6.			
7.			
8.			
	70 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed

SOIL

Sampling Point: WDP 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	5YR 3/3	70	5YR 4/6	20	C	M	sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
X Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: Redox features obvious and presernt throughout sample. Only dug 2 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
X Biotic Crust (B12)
X Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.
Known presence of San Diego fairy shrimp

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 7

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134542336 Long: 32.8186025684 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks: Paired point to WDP7 occurring just outside WDP7 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	50	Yes	FACU
2. *Deinandra fasciculata*	5	No	FACU
3. *Dittrichia graveolens*	5	No	UPL
4. *Lythrum hyssopifolium*	1	No	OBL
5. *Psilocarphus brevissimus*	1	No	FACW
6.			
7.			
8.			
	62 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed. Although Lythrum hyssopifolium and vernal pool indicator species, Psilocarphus brevissimus, are present, these species are scattered locally in this upland area sampled.

SOIL

Sampling Point: UDP 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	5RY 3/3	80	5YR 4/6	15	C	M	sandy clay loam	some gravel and organics mixed in

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil

Depth (inches): 8

Hydric Soil Present? Yes ___ No X

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 7

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134511688 Long: 32.8185958085 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.
Known presence of San Diego fairy shrimp

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Lythrum hyssopifolia*	20	Yes	OBL
2. *Bromus madritensis*	20	Yes	FACU
3. *Juncus bufonius*	15	Yes	FACW
4. *Dittrichia graveolens*	15	Yes	UPL
5. *Phalaris lemmonii*	12	No	FACW
6. *Deinandra fasciculata*	5	No	FACU
7. *Holocarpha virgata*	5	No	NI
8.			
	92 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	27	x 2 =	54
FAC species		x 3 =	
FACU species	25	x 4 =	100
UPL species	20	x 5 =	100
Column Totals:	92 (A)		174 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed.
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	5YR 3/2	70	5YR 4/6	20	C	RC	sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
X Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: redox features obvious and observed throughout sample. Only dug 2 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
X Biotic Crust (B12)
X Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ____ Depth (inches): _____

Water Table Present? Yes _____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.
Known presence of San Diego fairy shrimp

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 8

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.13463011 Long: 32.8186188328 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks: Paired point to WDP8 occurring in upload just outside WDP8 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	50	Yes	FACU
2. *Deinandra fasciculata*	10	No	FACU
3. *Dittrichia graveolens*	5	No	UPL
4. *Lythrum hyssopifolium*	2	No	OBL
5.			
6.			
7.			
8.			
	67 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed.

SOIL

Sampling Point: UDP 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	5YR 3/3	75	5YR 4/6	15	C	M	sandy clay loam	some gravel mixed in and organics at surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil

Depth (inches): 3

Hydric Soil Present? Yes ___ No X

Remarks: Soils at this sample point would meet the criteria for Redox Depressions (F8) if this location occurred in a depressional landform. Redox features may be present due to hardpan subsurface that minmizes drainage of this area and likely causes prolonged saturation during the rainy season.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 8

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134597453 Long: 32.818590863 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus*	30	Yes	FACW
2. *Lythrum hyssopifolia*	10	Yes	OBL
3. *Dittrichia graveolens*	10	Yes	UPL
4. *Deinandra fasciculata*	3	No	FACU
5.			
6.			
7.			
8.			
	53 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed.
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	5YR 3/2	70	5YR 4/6	25	C	M	Sandy clay loam	organics at surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
X Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: Redox features obvious and observed throughout sample. Only dug 2 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
X Biotic Crust (B12)
X Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ____ Depth (inches): _____

Water Table Present? Yes _____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.
Known presence of San Diego fairy shrimp.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 9/10

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.135279773 Long: 32.8187663103 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks: Paired point to WDP9 and WDP10 occurring between the WDP9 and WDP10 depressions in an area where gravel has been laid for an access road. Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	50	Yes	FACU
2. *Deinandra fasciculata*	10	No	FACU
3. *Dittrichia graveolens*	5	No	UPL
4. *Pennisetum setaceum*	5	No	NI
5.			
6.			
7.			
8.			
	70 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed.

SOIL

Sampling Point: UDP 9/10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	7.5YR 4/3	100					sandy clay loam	much gravel mixed in
3-8	7.5YR 3/3	95					sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil

Depth (inches): 8

Hydric Soil Present? Yes ____ No X

Remarks: no redox features observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 9

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.13534626 Long: 32.8187800008 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a small depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus*	20	Yes	FACW
2. *Lythrum hyssopifolia*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed.
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/2	70	2.5YR 3/6	15	C	M	sandy clay loam	some gravel on surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: Redox features obvious and observed throughout sample. Only dug 3 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 10

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: 117.135269333 Long: 32.8187886581 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a small depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus*	20	Yes	FACW
2. *Lythrum hyssopifolia*	10	Yes	OBL
3. *Dittrichia graveolens*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation has been recently mowed.
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/2	70	2.5YR 3/6	15	C	M	sandy clay loam	some gravel on surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: Redox features obvious and observed throughout sample. Only dug 3 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 11

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134923912 Long: 32.8180422736 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks: Paired point to WDP11 occurring in upload just outside WDP11 depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	15	Yes	UPL
2. *Erodium sp.*	15	Yes	FACU
3. *Deinandra fasciculata*	10	Yes	FACU
4. *Dittrichia graveolens*	5	No	UPL
5. *Holocarpha virgata*	1	No	NI
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Vegetation has been recently mowed

SOIL Sampling Point: UDP 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 3/3	100					sandy clay loam	no redox features

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil
Depth (inches): 5

Hydric Soil Present? Yes ___ No X

Remarks: no redox features observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 11

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134860546 Long: 32.8180328554 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a known vernal pool depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.
Known presence of San Diego Fairy Shrimp

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus*	10	Yes	FACW
2. *Deinandra fasciculata*	10	Yes	FACU
3. *Dittrichia graveolens*	5	Yes	UPL
4. *Erodium sp.*	1	No	FACU
5. *Holocarpha virgata*	1	No	NI
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Although vegetation doesn't meet the hydrophytic vegetation standard via the dominance test or prevalence index, it is still considered to meet the hydrophyticstandard as problematic due to the active management of vegetation here. Mowing appears to occur frequently for airport maintenance purposes which may alter the vegetation away from naturally hydrophytic conditions.
Vernal pool indicator specicies present.

SOIL

Sampling Point: WDP 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	5YR 3/2	70	2.5Yr 3/6	25	C	M	sandy clay loam	organics at surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: Redox features obvious and observed throughout sample. Only dug 2 inches due to vernal pool sensitivity.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dried biotic crust observed throughout pool.
Known presence of San Diego fairy shrimp.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: UDP 12

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134971254 Long: 32.817428241 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	**Yes** **No** X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks: Paired point to WDP12 occurring in upload just outside WDP12 swale.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Eriogonum fasciculatum*	25	Yes	NI
2. *Acmispon glaber*	10	Yes	NI
3. *Baccharis sarothroides*	5	No	FACU
4.			
5.			
	40 = Total Cover		
Herb Stratum (Plot size:)			
1. *Bromus madritensis*	20	Yes	UPL
2. *Logfia gallica*	10	Yes	NI
3. *Deinandra fasciculata*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: No hydrophytic species presernt

SOIL

Sampling Point: UDP 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	7.5YR 3/3	100					sandy clay loam	no redox features

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: no hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Fire-Rescue Air Operations Hangar City/County: San Diego / San Diego Sampling Date: Nov 1, 2019

Applicant/Owner: City of San Diego State: CA Sampling Point: WDP 12

Investigator(s): Andrew Smisek Section, Township, Range: See Remarks

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR-C Lat: -117.134974858 Long: 32.8174689775 Datum: NAD83

Soil Map Unit Name: Redding gravelly loam (RdC), 2 to 9 percent slopes NWI classification: Paulstrine Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: Sample point occurs in a small swale that appears to remain ponded after rain events and functions as a depression.
Section, Touwnship, Range: unsectioned portion of the Mission San Diego landgrant on the La Mesa and La Jolla quadrangles.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Lythrum hyssopifolia*	25	Yes	OBL
2. *Cyperus eragrostis*	20	Yes	FACW
3. *Pennisetum setaceum*	10	No	NI
4. *Deinandra fasciculata*	5	No	FACU
5. *Juncus bufonius*	5	No	FACW
6. *Avena sp.*	5	No	NI
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation meets hydrophytic standard. most species dry and dessicated during survey.

SOIL

Sampling Point: WDP 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/2	90	5YR 4/6	5	C	M	sandy clay	cobble mixed in

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard rock/compact soil

Depth (inches): 8

Hydric Soil Present? Yes X No ___

Remarks: redox features observed throughout sample soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: This swale may convey flowing water during rain events, but the topography indicates that it likely functions as a depression by holding water for extended periods after rain events. Non-riverine sediment deposits observed along margins of depression, biotic crust observed at bottom of depression.

ATTACHMENT 4

Ground Level Color Photographs

PHOTOGRAPH 1
View of Project Area, Facing Northeast
Photo Date: July 17, 2019

PHOTOGRAPH 2
View of Project Area, Facing Northwest
Photo Date: July 17, 2019

PHOTOGRAPH 3
View of Vernal Pool in Central Portion of Project Area,
Photopoint 3, Facing North
Photo Date: November 1, 2019

PHOTOGRAPH 4
View of Vernal Pool in Eastern Portion of Project Area,
Photopoint 4, Facing Southwest
Photo Date: November 1, 2019

PHOTOGRAPH 5
View of Northeastern Portion of Project Area,
Photopoint 5, Facing Northeast
Photo Date: November 1, 2019

PHOTOGRAPH 6
View of Vernal Pool in Northeastern Portion of Project Area,
Photopoint 6, Facing Northeast
Photo Date: November 1, 2019

PHOTOGRAPH 7
View of Vernal Pool in Northeastern Portion of Project Area,
Photopoint 7, Facing Southwest
Photo Date: November 1, 2019

PHOTOGRAPH 8
View of Swale in East-Central Portion of Project Area,
Photopoint 7, Facing West
Photo Date: November 1, 2019

ATTACHMENT 5

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