APPENDIX E

Jurisdictional Delineation

CANYON SPRINGS HEALTHCARE PROJECT

CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

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April 2016

CANYON SPRINGS HEALTHCARE PROJECT

CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the United States" (including wetlands) and "waters of the State" determination for the above-referenced project.

Travis J. McGill
Biologist
Natural Resources

Thomas J. McGill, Ph.D.
Vice President
Natural Resources

April 2016

Executive Summary

Michael Baker International has prepared this Delineation of State and Federal Jurisdictional Waters report for the Canyon Springs Healthcare Project (Project), located in the City of Riverside, Riverside County, California. The delineation documents the regulatory authority of the U.S. Army Corps of Engineers (Corps), the Santa Ana Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Section 1600 *et. seq.* of the California Fish and Game Code.[1]

State and federal jurisdictional areas were observed within the boundaries of the project site. Placement of fill and/or alteration within these jurisdictional areas is subject to Corps, Regional Board, and CDFW jurisdiction and approval. Refer to Table ES-1 for a summary of jurisdictional areas within the project site.

Table ES-1: Jurisdictional Area Summary

Jurisdictional Feature	Corps/Regional Board Jurisdictional Non-Wetland Waters		CDFW Jurisdictional Streambed	
	Acreage	Linear Feet	Acreage	Linear Feet
Drainage 1	0.02	253	0.12	253
TOTALS	**0.02**	**253**	**0.12**	**253**

Based on existing site conditions and current design plans, the project will result in the placement of fill material within on-site jurisdictional areas. Therefore, the project applicant must obtain the following regulatory approvals prior to impacts occurring within the identified jurisdictional areas: Corps CWA Section 404 Nationwide Permit 39: *Commercial and Industrial Developments*; Regional Board CWA Section 401 Water Quality Certification; and CDFW Section 1602 Streambed Alteration Agreement (SAA). Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

[1] The delineation was conducted on April 8, 2016 pursuant to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008); the Practices for Documenting Jurisdiction under Section 404 of the CWA Regional Guidance Letter (Corps 2007); and Minimum Standards for Acceptance of Preliminary Wetland Delineations (Corps 2001); the MESA Field Guide (CDFW 2014); and a Review of Stream Processes and Forms in Dryland Watersheds (CDFW 2010).

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EXHIBITS

APPENDIX

LIST OF ACRONYMS

CDFW	California Department of Fish and Wildlife
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative Vegetation
FACU	Facultative Upland Vegetation
FACW	Facultative Wetland Vegetation
Michael Baker	Michael Baker International
NRCS	Natural Resources Conservation Service
OBL	Obligate Wetland Vegetation
OHWM	Ordinary High Water Mark
Rapanos	Rapanos v. United States
Regional Board	Santa Ana Regional Water Quality Control Board
SWANCC	Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers
UPL	Obligate Upland Vegetation
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

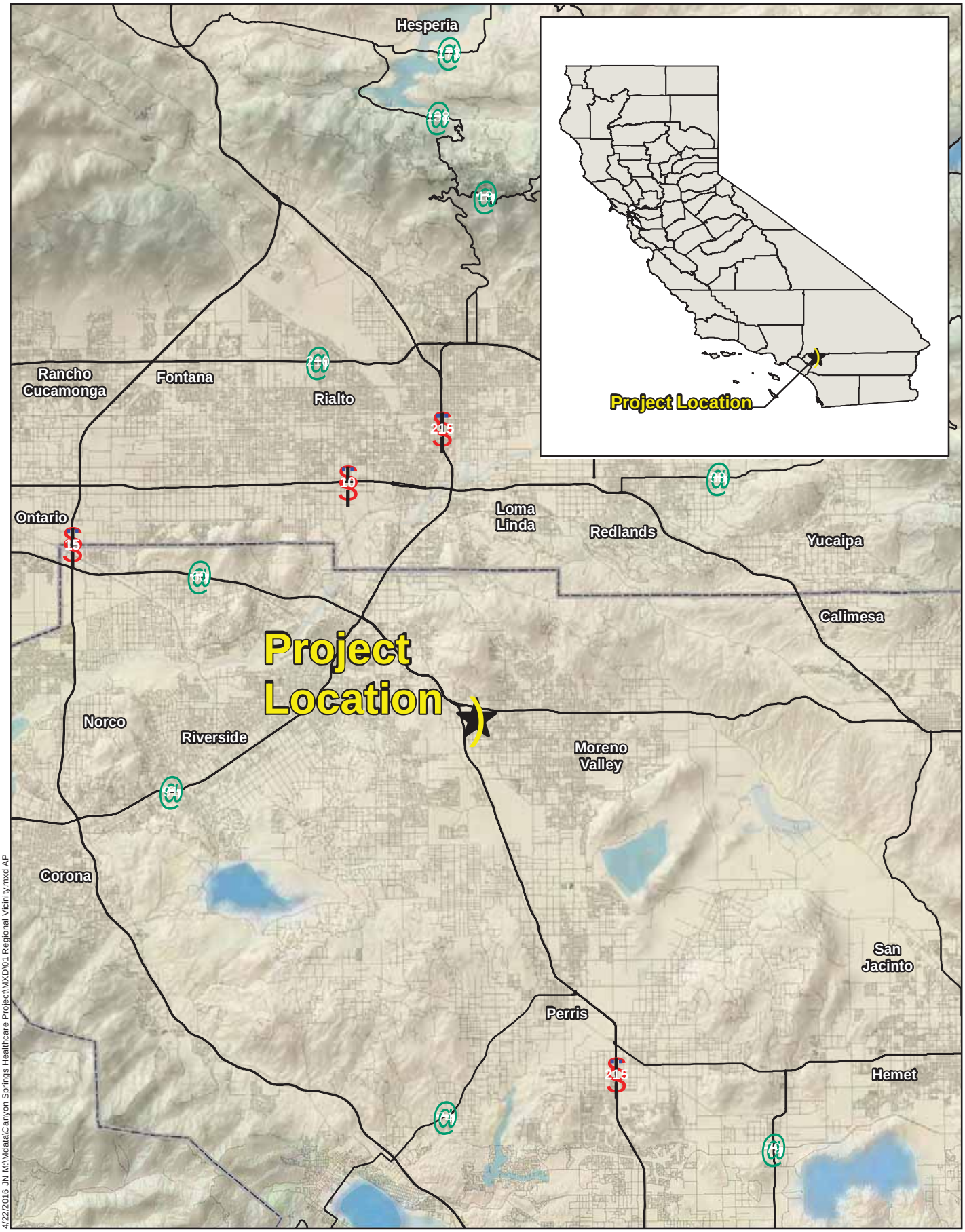
Section 1 Introduction and Purpose

This delineation has been prepared for Canyon Springs Marketplace Corp. in order to document the jurisdictional authority of the U.S. Army Corps of Engineers' (Corps), the Santa Ana Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Section 1600 *et seq.* of the Fish and Game Code. The analysis presented in this report is supported by field surveys and verification of site conditions conducted on April 8, 2016.

This delineation explains the methodology undertaken by Michael Baker International (Michael Baker) to define the jurisdictional authority of the aforementioned regulatory agencies and documents the findings made by Michael Baker. This report presents our best effort at documenting the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries.

1.1 PROJECT LOCATION

The project site is generally located south of State Route 60, north of Alessandro Boulevard, east of Interstate 215, and west of the Moreno Valley city limits in the City of Riverside, Riverside County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Riverside East quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in Section 3, Range 4 west, Township 3 south (Exhibit 2, *Site Vicinity*). Specifically, the project site consists of an undeveloped parcel that is bordered by Gateway Drive to the south, Canyon Park Drive to the west, Day Street to the east, and existing commercial buildings along Campus Parkway (Exhibit 3, *Project Site*).



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CANYON SPRINGS HEALTHCARE PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

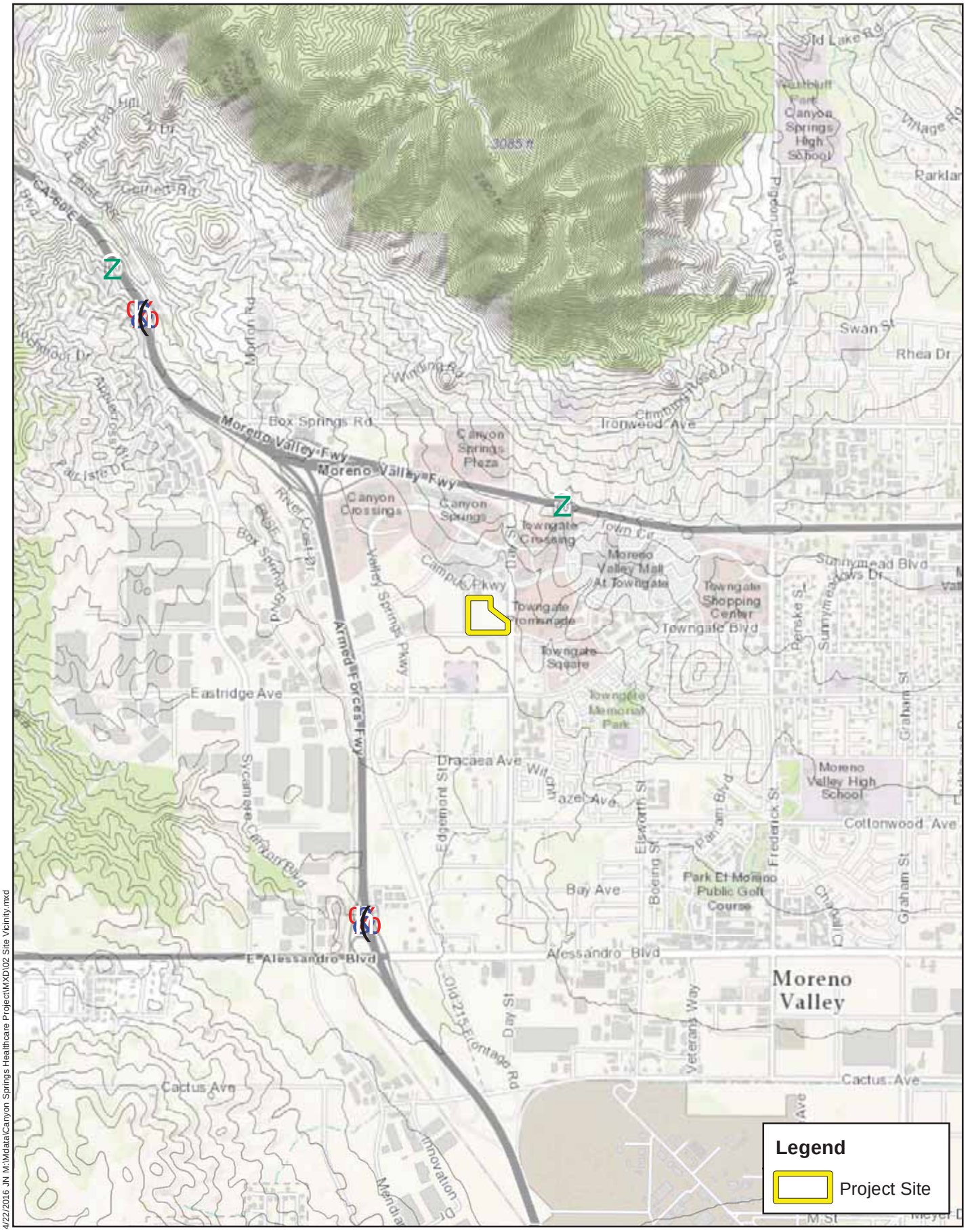
Regional Vicinity

Michael Baker INTERNATIONAL

0 2.5 5 10 Miles

Source: ESRI Relief Map, National Highway Planning Network

Exhibit 1



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CANYON SPRINGS HEALTHCARE PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Site Vicinity

Michael Baker INTERNATIONAL

0 0.25 0.5 1 Miles

Source: Riverside County, ESRI World Topographic Basemap

Exhibit 2

4/22/2016 JN M:\Mdata\Canyon Springs Healthcare Project\MXD\03 Project Site.mxd

CANYON SPRINGS HEALTHCARE PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Michael Baker INTERNATIONAL

0 100 200 400 Feet

Source: Riverside County, Nearmaps - Nov. 2015

Project Site

Exhibit 3

Section 2 Regulations

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the CWA, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. The Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates activities under Sections 1600 *et seq.* of the Fish and Game Code.

2.1 U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the discharge of dredged or fill material into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The terms *waters of the United States* and *wetlands* are defined under CWA Regulations 33 Code of Federal Regulations (CFR) §328.3 (a) through (b) and within Appendix A of this report.

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Boards that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

Additionally, the California Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Water Quality Control Act has become an important tool post *Solid Waste Agency of Northern Cook County vs. United States Corps of Engineers*[2] (SWANCC)

[2] Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)

and *Rapanos v. United States*[3] (Rapanos) court cases with respect to the State's regulatory authority over isolated and insignificant waters. Generally, any applicant proposing to discharge waste into a water body must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include discharge of dredged and fill material into water bodies.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Section 1600 *et seq.* of the Fish and Game Code establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to Section 1602 of the Fish and Game Code, a notification must be submitted to the CDFW for any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. This includes activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators.

3 Rapanos v. United States, 547 U.S. 715 (2006)

Section 3 Methodology

The analysis presented in this report is supported by field surveys and verification of site conditions conducted on April 8, 2016. Michael Baker conducted a site investigation to determine the jurisdictional limits of "waters of the United States" and "waters of the State" (including potential wetlands and vernal pools), located within the boundaries of the project site. While in the field, jurisdictional features were recorded on a aerial base map at a scale of 1" = 50' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high water mark (OHWM) indicators and the locations of photographs, soil pits, and other pertinent jurisdictional features, if present. This data was then transferred as a .shp file and added to the project's jurisdictional exhibits. The jurisdictional exhibits were prepared using ESRI ArcInfo Version 10 software.

3.1 WATERS OF THE UNITED STATES

In the absence of adjacent wetlands, the limits of the Corps jurisdiction in non-tidal waters extend to the OHWM, which is defined as " . . . *that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*"[4] Indicators of an OHWM are defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008). An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community. The Regional Board shares the Corps' jurisdictional methodology, unless SWANCC or Rapanos conditions are present. In the latter case, the Regional Board considers such drainage features to be jurisdictional waters of the State.

Pursuant to the Corps Wetland Delineation Manual (Corps 1987), the identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. In order to qualify as a wetland, a feature must exhibit at least minimal characteristics within each of these three parameters. It should also be noted that both the Regional Board and CDFW follow the methods utilized by the Corps to identify wetlands. For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008).

[4] CWA regulations 33 CFR §328.3(e).

3.2 WATERS OF THE STATE

3.2.1 REGIONAL WATER QUALITY CONTROL BOARD

The California *Porter-Cologne Water Quality Control Act* gives the Regional Board very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Regional Board shares the Corps' methodology for delineating the limits of jurisdiction based on the identification of OHWM indicators and utilizing the three parameter approach for wetlands.

3.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Section 1600 *et seq*. of the Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. Generally, the CDFW's jurisdictional limit is not defined by a specific flow event, nor by the presence of OHWM indicators or the path of surface water as this path might vary seasonally. Instead, CDFW's jurisdictional limit is based on the topography or elevation of land that confines surface water to a definite course when the surface water rises to its highest point. Further, the CDFW's jurisdictional limit extends to include any habitat (e.g. Riversidean alluvial fan sage scrub, riparian, riverine), including wetlands, supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. For this project location, CDFW jurisdictional limits were delineated using the methods outlined in the *MESA Field Guide* (Brady, III and Vyverberg 2013) and *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010), which were developed to provide guidance on the methods utilized to describe and delineate episodic streams within the inland deserts region of southern California.

Section 4 Literature Review

Michael Baker conducted a thorough review of relevant literature and materials to preliminarily identify areas that may fall under the jurisdiction of the regulatory agencies. A summary of materials utilized during Michael Baker's literature review is provided below and in Appendix B. In addition, refer to Section 8 for a complete list of references used throughout the course of this delineation.

4.1 WATERSHED REVIEW

The project site is located within the Santa Ana River Watershed (HUC 18070203). The Santa Ana River watershed is located in southern California, south and east of the city of Los Angeles. The watershed includes much of Orange County, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County. The watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north/west by the Mojave and San Gabriel watersheds. The watershed is approximately 2,800 square miles in area.

The Santa Ana River watershed is located in the Peninsular Ranges and Transverse Ranges Geomorphic Provinces of Southern California (California Geological Survey Note 36). The highest elevations (upper reaches) of the watershed occur in the San Bernardino Mountains (San Gorgonio Peak – 11,485 feet in elevation), eastern San Gabriel Mountains (Transverse Ranges Province; Mt. Baldy – 10,080 feet in elevation), and San Jacinto Mountains (Peninsular Ranges Province, Mt. San Jacinto – 10,804 feet in elevation). Further downstream, the Santa Ana Mountains and the Chino Hills form a topographic high before the river flows into the Coastal Plain (in Orange County) and into the Pacific Ocean. Primary slope direction is northeast to southwest, with secondary slopes controlled by local topography.

This watershed is in an arid region, and therefore has little natural perennial surface water. Surface waters start in the upper erosion zone of the watershed, primarily in the San Bernardino and San Gabriel Mountains. This upper zone has the highest gradient and soils/geology that do not allow large quantities of percolation of surface water into the ground. Flows consist mainly of snowmelt and storm runoff from the lightly developed San Bernardino National Forest; this water is generally high quality at this point. In this zone, the Santa Ana River is generally confined in its lateral movement, contained by the slope in the mountainous regions. In the upper valley, flows from the Seven Oaks dam to the city of San Bernardino consist mainly of storm flows, flows from the San Timoteo Creek, and groundwater that is rising due to local geological conditions. From the City of San Bernardino to the City of Riverside, the river flows perennially, and it includes treated discharges from wastewater treatment plants. From the City of Riverside to the recharge basins below Imperial Highway, river flow consists of highly treated wastewater discharges, urban runoff, irrigation runoff, and groundwater forced to the surface by shallow/rising bedrock. Near Corona, the river cuts through the Santa Ana Mountains and the Puente-Chino Hills. The river then flows into the Orange County Coastal Plain; the channel lessens

and the gradient decreases. In a natural environment, a river in this area would have a much wider channel, increased meandering, and increased sediment build-up. However, much of the Santa Ana River channel in this area has been contained in concrete-lined channels, which modifies the flow regime and sediment deposition environment. The only major tributary of the Santa Ana River in Orange County is Santiago Creek, which joins the river in the City of Santa Ana. There is only one natural freshwater lake of any size – Lake Elsinore. A variety of water storage reservoirs (Lake Perris, Lake Mathews, and Big Bear Lake) and Flood Control areas (Prado Dam area and Seven Oaks Dam area) have been created to hold surface water.

4.2 LOCAL CLIMATE

Riverside County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Relative to other areas in Southern California, winters are colder with frost and with chilly to cold morning temperatures common. Climatological data obtained from nearby weather stations indicates the annual precipitation averages 10.67 inches per year. Almost all of the precipitation in the form of rain occurs in the months between November and March, with hardly any occurring between the months of April and October. The wettest month is January, with a monthly average total precipitation of 2.47 inches. The average minimum and maximum temperatures for the region are 41 and 94 degrees Fahrenheit (°F) respectively with December (monthly average 41° F) being the coldest month and July and August being the hottest months (monthly average 94° F).

4.3 USGS TOPOGRAPHIC QUADRANGLE

The project site is located within the Riverside East quadrangle of the USGS 7.5-minute topographic map series in Section 3, Range 4 west, and Township 3 south. According to the topographic map, the project site is comprised of vacant/undeveloped land. One (1) ephemeral drainage features that begins at the edge of pavement of the existing parking lot north of the project site and appears to follow on-site topography to the south. The areas to the north and east of the project site are primarily developed with commercial buildings, while the areas to the west and south consist of vacant/undeveloped parcels. The vacant/undeveloped parcels are bordered by paved streets and supporting infrastructure, and are heavily disturbed by routine weed abatement activities. No additional drainage features, ponds, basins, or gravel pits are depicted within the project site.

4.4 AERIAL PHOTOGRAPHS

Prior to the field investigation, Michael Baker reviewed current and historical aerial photographs (1994-2016) of the project site as available from Google Earth Pro Imaging (Version 7.1.2.2041). Aerial photographs can be useful during the delineation process, as they often indicate the presence of drainage features and riparian/riverine habitat within the boundaries of the project site, if any.

1994-2002: In 1994 the project site appears to consist of vacant/undeveloped land that has been heavily disturbed with an unimproved dirt access road traversing the northern portion of the site from northwest to southeast. The project site appears to consist of a non-native grassland plant community that has been routinely disked and/or been subject to weed abatement activities. Paved streets have already been installed around the project site and surrounding area. Between 1994 and 2002 the commercial buildings that are currently found north of the project site were developed. Two office buildings and paved parking lots were installed. The aerials between 1994 and 2002 do not show any evidence of water flows across the project site.

2003-2016: In 2003, the conditions of the project site and surrounding area remain the same. However, evidence of a drainage feature that traverses the middle of the project site appears on the aerials. Based on the aerial photographs, the drainage feature begins at the edge of pavement of the existing parking lot north of the project site and appears to follow on-site topography to the south. There is an existing concrete inlet structure that collects water from the project site on its southern boundary and outlets into the street gutter, eventually flowing into the City's underground storm drain system. No additional drainage features, ponds, or basins occur on-site. Between 2003 and 2016 the on-site drainage feature appears to fluctuate between traversing the length of the project site and stopping at the dirt access road approximately 253 feet south of the parking lot.

4.5 SOIL SURVEY

Soils within and adjacent to the project site were researched prior to the field visit using the U.S. Department of Agriculture (USDA), Soil Conservation Service, the Natural Resources Conservation Service (NRCS), and Custom Soil Resource Report for the Western Riverside Area, California. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color). According to the Custom Soil Resource Report, the project site is underlain by the following soil units: Monserate sandy loam, 8 to 15 percent slopes, eroded (MmD2), Monserate sandy loam, 5 to 8 percent slopes, eroded (MmC2), Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded (CkF2), and Hanford coarse sandy loam, 2 to 8 percent slopes (HcC). Refer to Exhibit 4, *Soils*.

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CANYON SPRINGS HEALTHCARE PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Michael Baker INTERNATIONAL

0 75 150 300 Feet

Soils

Source: Riverside County, NRCS Soils DataMart, Nearmaps - Nov. 2015

Exhibit 4

4.6 HYDRIC SOILS LIST OF CALIFORNIA

Michael Baker reviewed the Hydric Soils List of California (December 2015), provided by the NRCS, in an effort to verify whether or not on-site soils are considered to be hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for on-site investigations. According to the hydric soils list, the on-site soils have not been listed as hydric in the Western Riverside Area.

4.7 NATIONAL WETLANDS INVENTORY

Michael Baker reviewed the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory maps. No wetland features have been documented within or adjacent to the project site. Refer to Appendix B, *Documentation*.

4.8 FLOOD ZONE

Michael Baker searched the Federal Emergency Management Act website for flood data for the project site. Based on Flood Insurance Rate Map No. 06065C0745G, the project site is within Zone D and Zone X which includes areas outside of the 100 year floodplain. Refer to Appendix B, *Documentation*.

Section 5 Site Conditions

Michael Baker biologist Travis J. McGill conducted a field investigation of the project site on April 8, 2016 to verify existing site conditions and document potential jurisdictional areas. Temperatures during the site visit were in the low-60s (°F) with cloudy skies. Michael Baker field staff encountered no limitations during the field investigation. Refer to Appendix C for representative photographs taken throughout the project site.

5.1 JURISDICTIONAL FEATURES

5.1.1 DRAINAGE FEATURES

Drainage 1

Drainage 1 is an unnamed, ephemeral drainage feature that flows north to south across the project site from the existing parking lot located to the north of the project site. During storm events, surface runoff from the parking lot enters Drainage 1 and follows on-site topography towards the south for approximately 253 linear feet before flows fan-out and infiltrate at a dirt access road. South of the dirt access road, Drainage 1 becomes a swale and directs flows towards an existing concrete inlet structure along the southern boundary of the project site. Flows entering the inlet structure are discharged onto Gateway Drive and eventually flow into the City's underground storm drain system.

Although surface water was not observed within Drainage 1, evidence of an OHWM and surface hydrology was observed via changes in terrestrial vegetation. South of the dirt access road flows fan-out and infiltrate, and evidence of a clearly defined OHWM/streambed was not observed. Based on the field investigation, it is assumed that surface water run-off is only capable of sheet flowing from the terminus of Drainage 1 through the middle of the project site and into the concrete inlet structure on the southern boundary of the project site during significant storm events. Within the boundaries of the project site, Drainage 1 measures approximately 253 linear feet in length, with an OHWM of 3 feet, and CDFW jurisdictional streambed ranging from 10 to 60 feet in width.

The northern portion of Drainage 1, immediately south of the parking lot, supports rabbitfoot grass (*Polypogon monspeliensis*, FACW), Bermuda grass (*Cynodon dactylon*, FACU), water bentgrass (*Polypogon viridis*, FACW), yellow sweetclover (*Melilotus indicus*, FACU), and slender oat (*Avena barbata*, UPL). As Drainage 1 flows south towards the dirt access road, the drainage feature is dominated by wild oat and yellow sweet clover. Other plant species observed within Drainage 1 include sow thistle (*Sonchus oleraceus*, UPL), filaree (*Erodium cicutarium*, UPL), and prickly lettuce (*Lactuca serriola*, FACU). South of the dirt access road, Drainage 1 becomes a swale that is vegetated with non-native grasses and early successional ruderal/weedy plant species including slender oat, prickly lettuce, sow thistle, filaree, red brome (*Bromus madritensis*, UPL), ripgut (*Bromus diandrus*, UPL), fiddle neck (*Amsinckia intermedia*, UPL), mouse barley (*Hordeum murinum*, FACU), popcorn flower (*Cryptantha*

sp., UPL), and bur clover (*Medicago polymorpha*, FACU). Areas surrounding Drainage 1 and the swale are comprised entirely of a non-native grassland plant community that has been heavily disturbed from on-going weed abatement activities. A dominance of riparian and/or hydrophytic vegetation was not observed in Drainage 1; therefore, soil samples were not warranted.

Section 6 Findings

This report presents Michael Baker's best effort at determining the extent of jurisdictional features using the most up-to-date regulations, written policy, and guidance from the regulatory agencies.

6.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

6.1.1 WATERS OF THE UNITED STATES DETERMINATION

Drainage 1 exhibits a surface hydrologic connection to downstream waters of the U.S. via the City's underground storm drain system. Further, the drainage feature was historically mapped as a blue-line stream on USGS topographic maps. Therefore, Drainage 1 qualifies as waters of the U.S. and falls under the jurisdiction of the Corps. Approximately 0.02 acre (253 linear feet) of Corps jurisdiction (non-wetland waters) is located within the boundaries of the project site. Refer to Exhibit 5, *Jurisdictional Map*, for an illustration of Corps jurisdictional areas.

6.1.2 WETLAND DETERMINATION

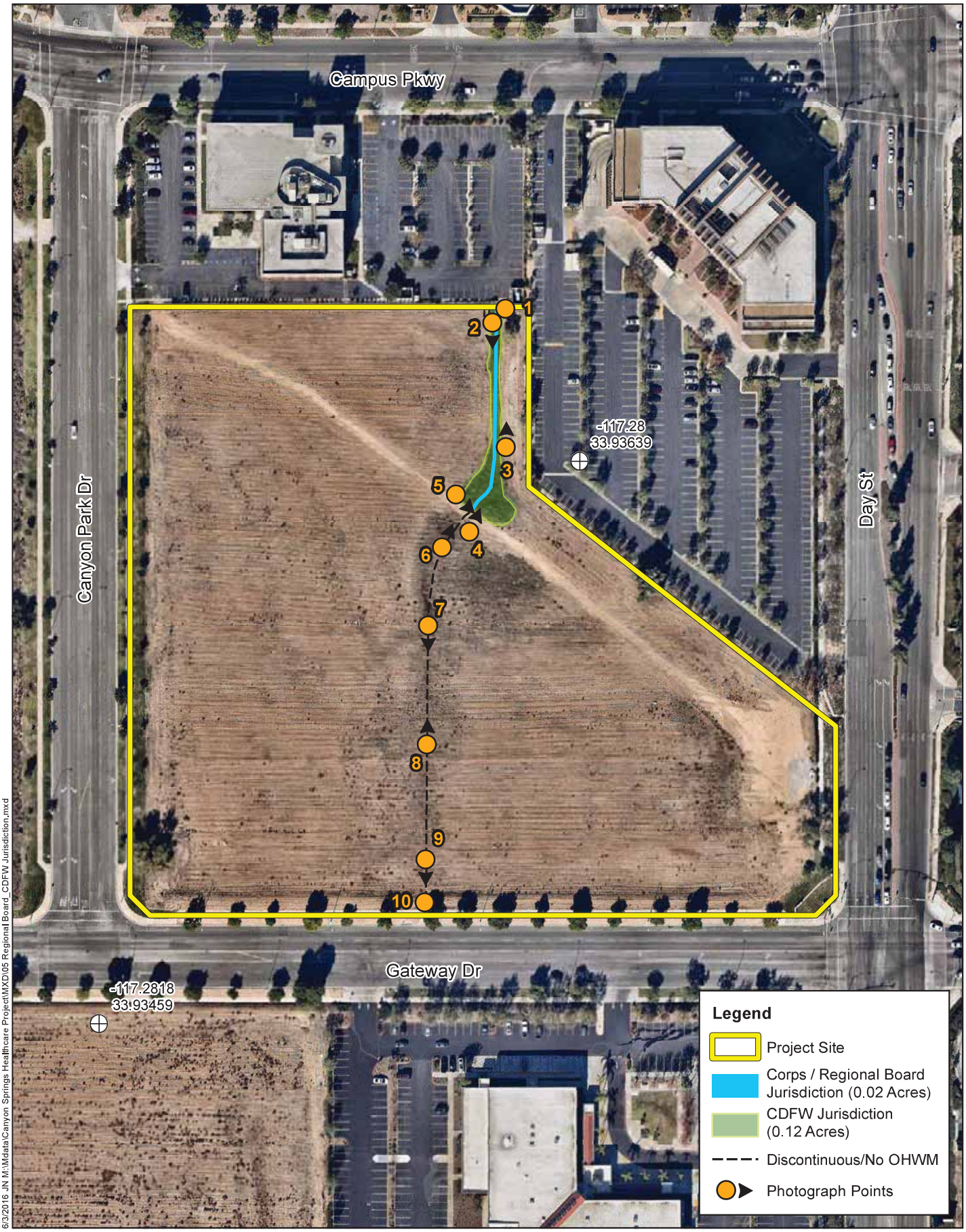
An area must exhibit all three wetland parameters described in the Corps Arid West Regional Supplement to be considered a jurisdictional wetland. Based on the results of the field investigation, it was determined that no areas within the project site met all three wetland parameters. Therefore, no jurisdictional wetland features occur within the project site.

6.2 REGIONAL WATER QUALITY CONTROL BOARD

No isolated or Rapanos conditions were observed within the boundaries of the project site. Therefore, the Regional Board jurisdictional limit follows that of the Corps and totals approximately 0.02 acres (253 linear feet). Refer to Exhibit 5, *Jurisdictional Map*, for an illustration of Regional Board jurisdictional areas.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Drainage 1 exhibits characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Therefore, approximately 0.12 acre (253 linear feet) of CDFW jurisdictional streambed is located within the boundaries of the project site. Refer to Exhibit 5, *Jurisdictional Map*, for an illustration of CDFW jurisdictional areas.



6/3/2016 JN M:\Mdata\Canyon Springs Healthcare Project\MXD\05 Regional Board_CDFW Jurisdiction.mxd

Michael Baker INTERNATIONAL

0 75 150 Feet

Source: Riverside County, Nearmaps - Nov. 2015

CANYON SPRINGS HEALTHCARE PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Jurisdictional Map

Exhibit 5

Section 7 Regulatory Approval Process

The following is a summary of the various permits, certifications, and agreements that may be necessary prior to construction and/or alteration within jurisdictional areas. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries and permitting requirements.

7.1 U.S. ARMY CORPS OF ENGINEERS

The Corps regulates discharges of dredged or fill materials into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. Therefore, it will be necessary for the project applicant to obtain a CWA Section 404 permit prior to impacts occurring within Corps jurisdictional areas. Since the project will result in the permanent loss of less than ½-acre of Corps jurisdiction, it is anticipated that the project can be authorized via a Nationwide Permit (NWP), specifically NWP No. 39: *Commercial and Industrial Developments*. There are no application or processing fees associated with the Corps CWA Section 404 permit.

7.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. Therefore, it will be necessary for the project applicant to obtain a CWA Section 401 Water Quality Certification prior to impacts occurring within Regional Board jurisdictional areas. Application fees for the Regional Board CWA Section 401 Water Quality Certification are calculated using the Regional Board Dredge and Fill Calculator, and are based on the size and extent of jurisdictional impacts, 0.02 acre (253 linear feet). The Regional Board also requires an annual discharge fee for the duration of the project, and annual post discharge monitoring fee until the Regional Board issues a Notice of Project Complete Letter.

7.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Pursuant to Section 1602 of the Fish and Game Code, the CDFW regulates any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream. Therefore, it will be necessary for the project applicant to obtain a Section 1602 Streambed Alteration Agreement prior to impacts occurring within CDFW jurisdictional areas. Application fees for the CDFW Section 1602 Streambed Alteration Agreement are based on the overall project cost and range from $245.50 for projects that cost less than $5,000 to $4,912.25 for projects that cost more than $500,000.

7.4 RECOMMENDATIONS

It is recommended that this delineation be forwarded to the regulatory agencies for their concurrence. The concurrence/receipt would solidify findings noted within this report.

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Appendix A Methodology

WATERS OF THE UNITED STATES

Since 1972, the Corps and EPA have jointly regulated the filling of waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, the placement of sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The term "*waters of the United States*" is defined as follows:

(1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) all interstate waters including interstate wetlands;

(3) all waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;

(4) all impoundments of waters otherwise defined as waters of the United States under the definition;

(5) tributaries of waters identified in paragraphs (1)-(4) mentioned above;

(6) the territorial seas; and,

(7) wetlands[1] adjacent to the waters identified in paragraphs (1)-(6) mentioned above.

WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008). This document is one of a series of Regional Supplements to the Corps Wetland

[1] The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Delineation Manual (Corps 1987). The identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology are examined using the methodology listed below and documented on Corps wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps.

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- *Tree Stratum:* Consists of woody plants 3 inches or more in diameter at breast height (DBH), regardless of height;
- *Sapling/shrub stratum:* Consists of woody plants less than 3 inches DBH, regardless of height;
- *Herb stratum:* Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,
- *Woody vines:* Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below.[2] Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also

[2] Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.

known as the "50/20 rule") of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using the *National Wetland Plant List, version 2.4.0* (Corps 2012). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- *Obligate Wetland (OBL):* Plants that almost always occur in wetlands;
- *Facultative Wetland (FACW):* Plants that usually occur in wetlands, but may occur in non-wetlands;
- *Facultative (FAC):* Plants that occur in wetlands and non-wetlands;
- *Facultative Upland (FACU):* Plants that usually occur in non-wetlands, but may occur in wetlands; and,
- *Obligate Upland (UPL):* Plants that almost never occur in wetlands.

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

Group A – Observation of Surface Water or Saturated Soils

Group A is based on the direct observation of surface water or groundwater during the site visit.

Group B – Evidence of Recent Inundation

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

Group C – Evidence of Recent Soil Saturation

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20 inches.[3] The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

<u>All Soils</u>

"All soils" refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

<u>Sandy Soils</u>

"Sandy soils" refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

[3] According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.

Loamy and Clayey Soils

"Loamy and clayey soils" refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

SWANCC WATERS

The term "isolated waters" is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3 parameter wetland methodology utilized by the Corps.

RAPANOS WATERS

The Corps will assert jurisdiction over non-navigable, not relatively permanent tributaries and their adjacent wetlands where such tributaries and wetlands have a significant nexus to a Traditional Navigable Water (TNW). The flow characteristics and functions of the tributary itself, in combination with the functions performed by any wetlands adjacent to the tributary, determine if these waters/wetlands significantly affect the chemical, physical, and biological integrity of the TNWs. Factors considered in the significant nexus evaluation include:

(1) The consideration of hydrologic factors including, but not limited to, the following:

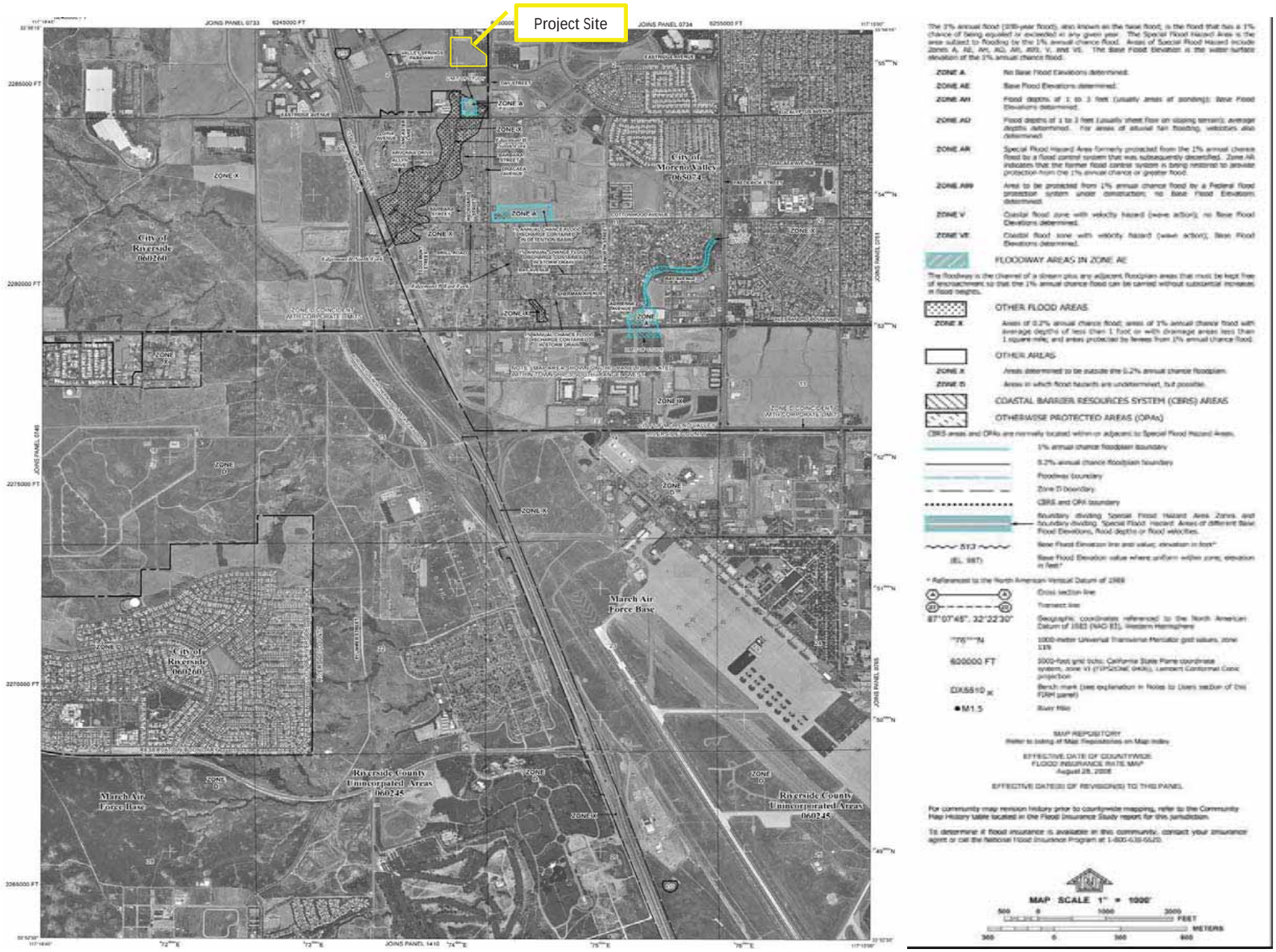
- volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary
- proximity to the TNW
- size of the watershed average annual rainfall
- average annual winter snow pack

(2) The consideration of ecologic factors including, but not limited to, the following:

- the ability for tributaries to carry pollutants and flood waters to TNWs
- the ability of a tributary to provide aquatic habitat that supports a TNW
- the ability of wetlands to trap and filter pollutants or store flood waters
- maintenance of water quality

Appendix B Documentation


U.S. Fish and Wildlife Service
National Wetlands Inventory
Wetlands
Freshwater Emergent
Freshwater Forested/Shrub
Estuarine and Marine Deepwater
Estuarine and Marine
Freshwater Pond
Lake
Riverine
Other
Towngate Promenade
100 m
500 ft
POWERED BY esri
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.
User Remarks:


Project Site
City of Riverside 060260
City of Moreno Valley 060074
March Air Force Base
Riverside County Unincorporated Areas 060245
ZONE A
ZONE X
ZONE AE
ZONE D
ZONE VE
FLOODWAY AREAS IN ZONE AE
OTHER FLOOD AREAS
OTHER AREAS
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)
MAP SCALE 1" = 1000'
FEET
METERS

Appendix C Site Photographs

Photograph 1: Beginning of the Drainage 1 on the northern boundary of the project site.

Photograph 2: From the parking lot, looking south along the northern portion of Drainage 1.

Photograph 3: From the southern portion of Drainage 1, looking north along the feature.

Photograph 4: From the dirt access road that traverses the northern portion of the project site, looking north at the terminus of Drainage 1.

Photograph 5: Looking southeast along the dirt access road. Drainage 1 terminates north of the road (right) and then sheet flows via on-site topography south of the road (left).

Photograph 6: South, of the existing dirt access road, looking north where the drainage feature begins to sheet flows.

Photograph 7: Looking south at the swale vegetated with non-native grasses and early successional ruderal/weedy plant species.

Photograph 8: Looking north at the swale vegetated with non-native grasses and early successional ruderal/weedy plant species.

Photograph 9: Looking south at the swale that flows into the concrete inlet structure.

Photograph 10: Concrete inlet structure that receives water from the project site, before flowing into the street gutter and storm drainage system.