

Delineation of Jurisdictional Wetlands and Waters

Spring Trails Specific Plan, San Bernardino County, California

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1.0 INTRODUCTION

This report presents the results of a jurisdictional wetland delineation of the Spring Trails Specific Plan site (project site) associated with the Spring Trails Specific Plan (proposed project). The project site is located in an unincorporated portion of San Bernardino County, within the Sphere of Influence of the City of San Bernardino. The project site is generally located northeast of Interstate 215, south of State Route 138, and southeast of the I-15/I-215 Interchange in southwestern San Bernardino County; specifically, within Sections 35 and 26, Township 2 North, Range 5 West of the Devore and San Bernardino North, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps. The project site is bounded by the San Bernardino National Forest to the north, east, and west, and Verdemont Heights on the southern side. Figures 1 and 2 provide the regional and vicinity locations of the project site.

The project site is located on gently sloping alluvial benches in between canyons, steep hillsides, and drainages. As shown in Figure 3, the topography of the project site varies from steep (over 30 percent slopes) in the north and southeast portions of the site to gentle (0–15 percent slopes) in the central portion of the site. The elevation of the site ranges from approximately 2,010 feet above sea level (AMSL) at its southern boundary to approximately 3,540 feet at the northern boundary, a difference of 1,530 feet. The site slopes to the southwest at approximately 10 to 15 percent.

Cable Canyon, which is shown as a blue-line stream according to USGS 7.5-minute topographic map, traverses through the northwestern portion of the project site. There are also two unnamed streams, one emerging from Cable Canyon and one from Meyers Canyon, shown as blue-line streams that flow into Cable Creek, the Cajon Creek Wash, the Santa Anta River, and ultimately the Pacific Ocean (Figure 1).

Project Description

The Spring Trails Specific Plan is a 351-acre residential community consisting of single-family lots in the foothills of the San Bernardino Mountains. The development footprint of the proposed project encompasses 70 percent of the total site (244 acres), and the other 30 percent is to remain as open space. The proposed project could impact several tributaries that either directly or indirectly drain into Cable Creek. Such potential impacts are discussed and quantified in this report.

2.0 METHODOLOGY

This wetland delineation was conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, and this report was prepared in accordance with the September 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. A Level 2 Onsite Inspection was conducted (as defined in the *Wetland Delineation Manual*), evaluating three parameters that identify and delineate the boundaries of jurisdictional wetlands, including (1) the dominance of wetland vegetation; (2) the presence of hydric soils; and (3) the presence of hydrologic conditions that result in periods of inundation or saturation on the surface from flooding or ponding. The *National List of Plant Species That Occur in Wetlands: California (Region 0)* was used to determine the wetland indicator status of plants observed within the project site. The *United States Department of Agriculture's soil survey for San Bernardino County, California* and the *National List of Hydric Soils* were used to identify soil types within the project site.

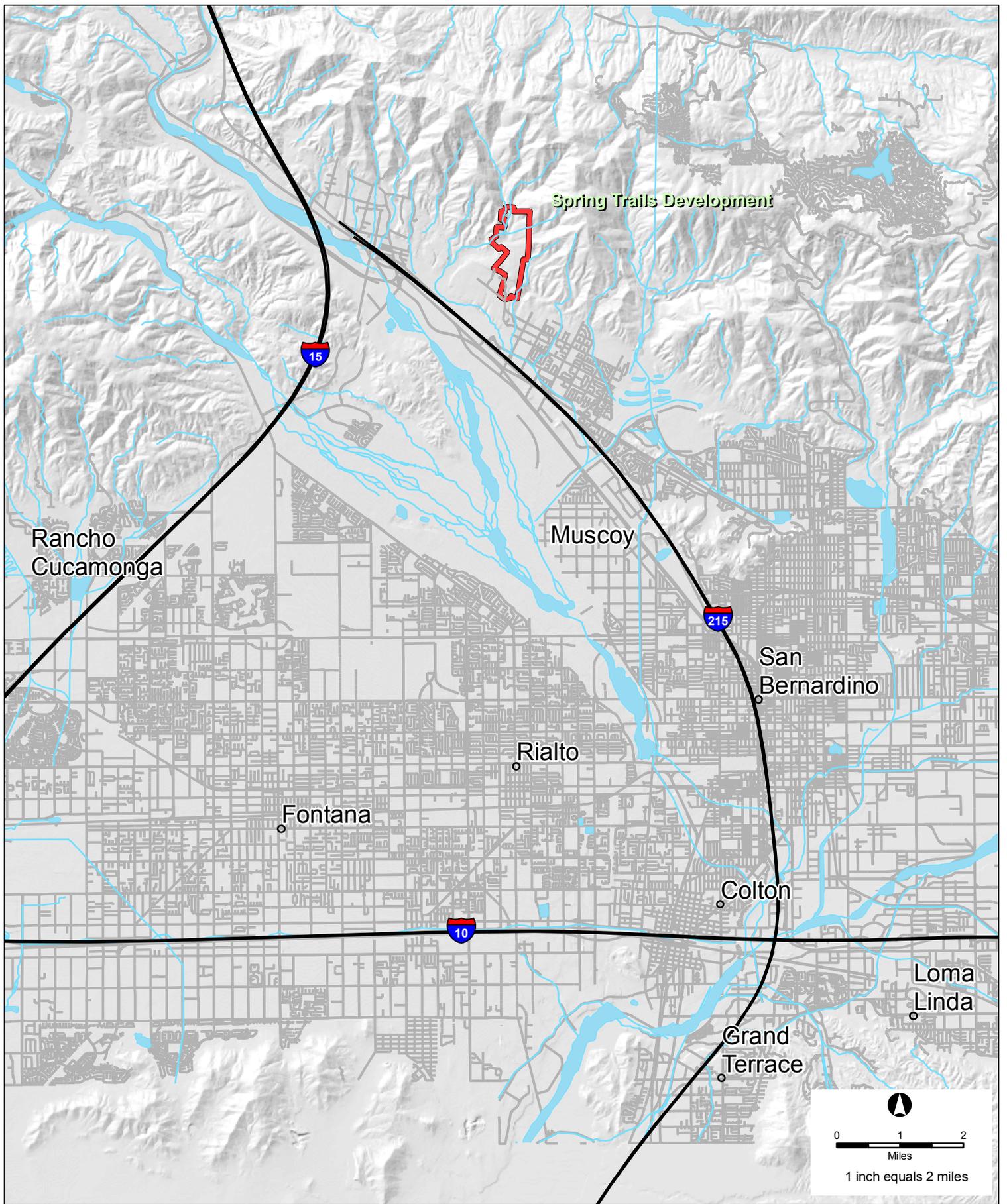


FIGURE 1
Regional Location



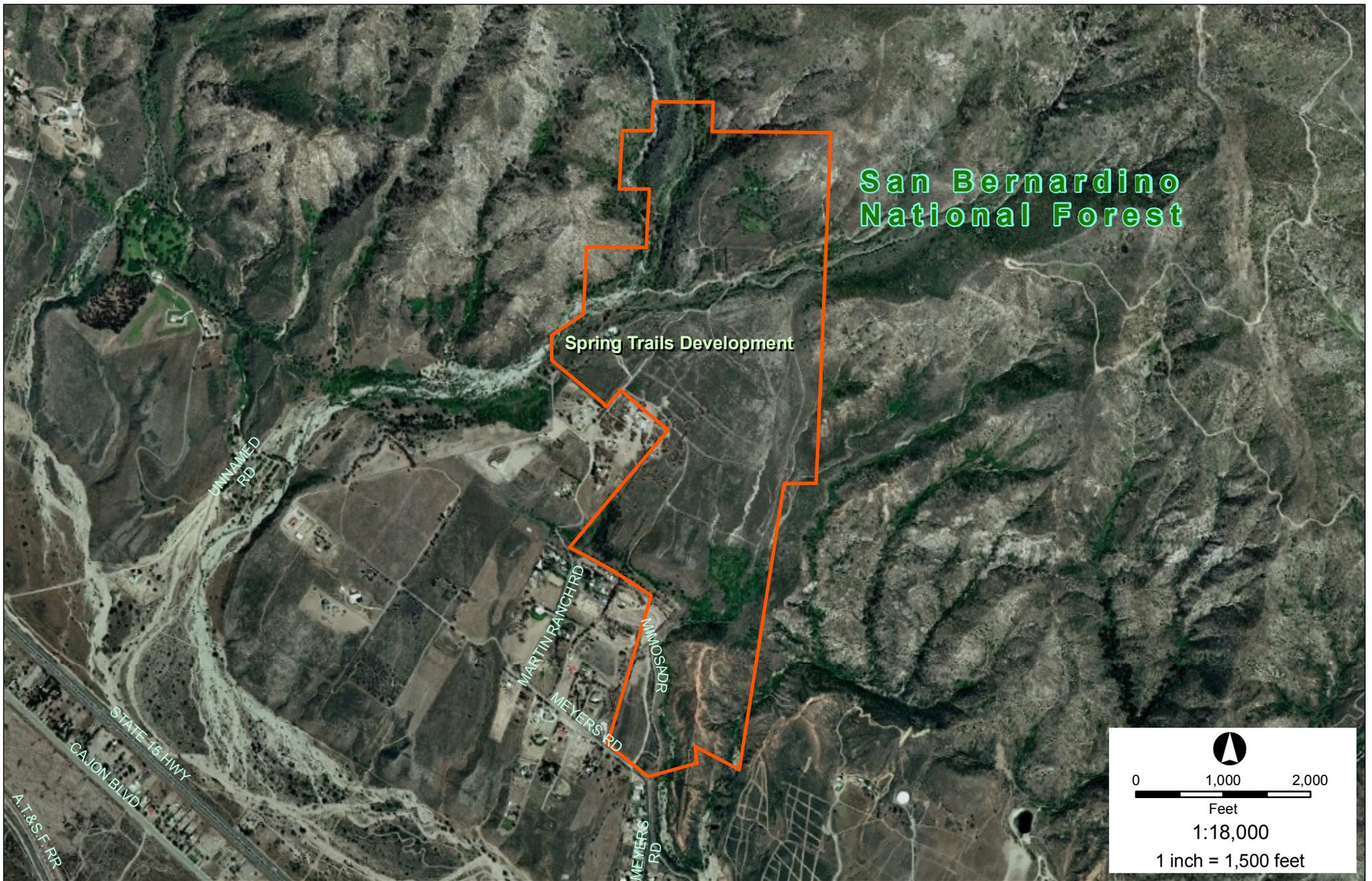


FIGURE 2
Project Vicinity



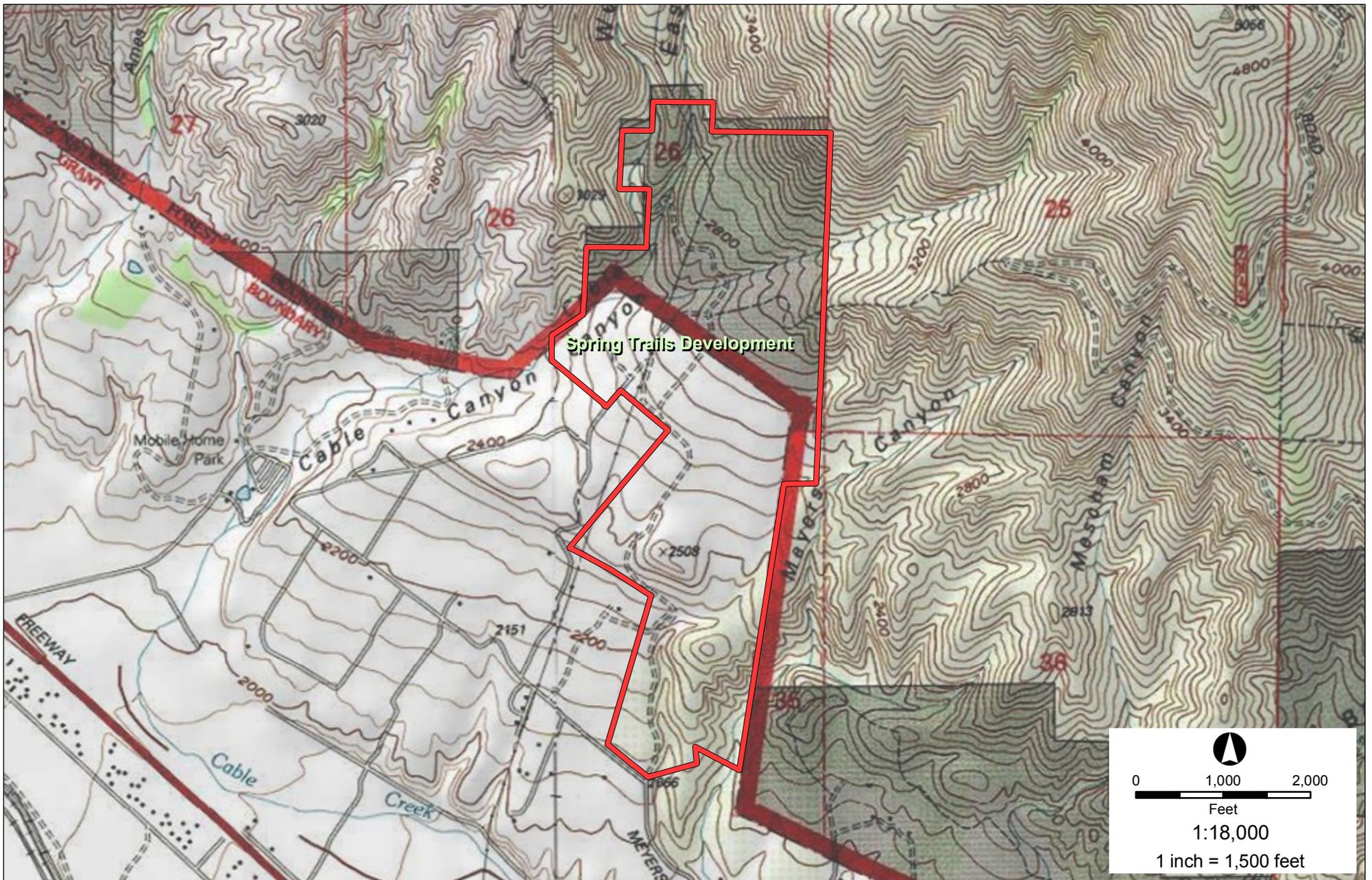


FIGURE 3
Topographic Map



On June 6th and 7th 2009, PBS&J biologists delineated the boundaries of and collected field data from 13 drainage features and one seasonal wetland located within the project site boundary. In addition, four drainages (T9, T12, T13, and T14) were identified as features on aeriels, but were not accessible at the time of the delineation. Accordingly, acreages of these four features have been estimated based on the closest data points taken, and aerial imagery. Arid West Data Sheets were prepared for sample sites within drainage features that exhibited potential wetland features, which are located in Appendix A. Representative photographs of the drainage features are located in Appendix B.

Data on vegetation, soils, and hydrology characteristics were recorded in the field and sampling points were located in areas considered to be potential wetland habitat. In addition, bed and bank features and adjacent riparian vegetation were also recorded to determine potential California Department of Fish and Game (CDFG) jurisdiction. All sample locations were examined for the presence of positive hydrologic indicators (e.g., direct evidence of inundation, sediment deposits, saturated soils, oxidized rhizospheres). Soils were examined (via soil test pits) to determine composition, matrix color, and the presence of reducing conditions (e.g., mottles). The percent dominance by hydrophytic vegetation was also recorded at each sample location. Coordinates of each sample location and measurement location were recorded in the field with a Garmin GPSMAP 60CSx hand-held GPS.

Waters of the U.S. Boundary Justification

The definition of “Waters of the U.S.” encompasses both wetland and non-wetland aquatic habitats. Wetlands are “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.” Non-wetland waters include streams, rivers, lakes, and ponds and are collectively referred to as “Other Waters of the U.S.”

The Waters of the U.S boundary was defined by the ordinary high water mark (OHWM) within a potentially jurisdictional feature, which is defined as that line on the shore that is established by the fluctuations of water. The OHWM is indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris.

Bed and bank and natural lines on the banks were the most distinct features encountered in the field when trying to establish the OHWM for this project.

The 17 drainages within the project site would be classified as Other Waters of the U.S. since they all drain into the Cajon Creek Wash, the Santa Anta River, and ultimately the Pacific Ocean. Additionally, some of these drainages support wetland conditions within and adjacent to portions of their reach. A large seasonal wetland area was also delineated in the southern portion of the site.

3.0 VEGETATION

According to the most recent habitat assessment prepared for the project site, 18 different plant communities are supported by the project site. The project site has recovered dramatically since the 2003 fire, and supports a diversity of habitat types as a result of numerous drainages and varied topographical conditions (MBA 2007).

Southern sycamore-alder riparian woodland, southern willow scrub/California walnut woodland, and sycamore alluvial woodland communities are the riparian habitats that occur along Cable Creek and other drainage features on the project site. These vegetation communities are further described below.

Southern Sycamore-Alder Riparian Woodland

This riparian community is a tall, open, broad-leafed, deciduous, streamside woodland dominated by white alder (*Alnus rhombifolia*) and western sycamore (*Platanus racemosa*). It occurs on rocky streambeds with some trees over 80 feet high and ranges from Point Conception south into Baja California. Prior to the 2003 fire, riparian overstory on-site consisted primarily of big leaf maple (*Acer macrophyllum*), coast live oak (*Quercus agrifolia*), white alder (*Alnus rhombifolia*), western sycamore, California bay (*Umbellularia californica*), California black walnut (*Juglans californica*), scrub oak (*Quercus berberidifolia*), and Mexican elderberry (*Sambucus mexicana*). The understory consisted of California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), wild grape (*Vitis californicus*), and mugwort (*Artemisia douglasiana*). Up to 17 acres of southern sycamore-alder riparian woodland occurs along Cable Creek from the northern boundary of the site, and a small portion near the southeastern boundary of the site.

Southern Willow Scrub/California Walnut Woodland

This riparian community consists of species associated with southern willow scrub and California walnut woodland communities. The southern willow scrub community supports arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata*), mulefat (*Baccharis salicifolia*), Fremont's cottonwood (*Populus fremontii* sp. *fremontii*), and Mexican elderberry. The understory consists of wild grape, poison oak, mugwort, California blackberry, and numerous ferns. Characteristic species of the California walnut woodland community include California walnut, coast live oak, sugar bush (*Rhus ovata*), and skunkbrush (*Rhus trilobata*). Understory species include rushes (*Juncus* sp.), western ragweed (*Ambrosia psilostachya*), and tarragon (*Artemisia dracuncululus*). One large patch totaling 7.2 acres in the canyon bottoms of the southern portion of the project site.

Sycamore Alluvial Woodland

Sycamore alluvial woodland is dominated by western sycamore, scrub oak, and Mexican elderberry. Approximately 5.2 acres of this riparian woodland is associated with the braided, depositional channels of Meyers Canyon in the southern portion of the project site.

4.0 SOILS

The United States Department of Agriculture (USDA) has published soil surveys that describe the soil series that occur within a particular area. A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These series are further subdivided into soil mapping units, which provide specific information regarding soil characteristics.

Based on the Natural Resources Conservation Service (NRCS) Soil Surveys for San Bernardino County, Southwestern Part and San Bernardino National Forest (USDA 2008), the project site contains seven distinct soil mapping units: Soboba-Hanford family, Osito-Modesto family, Cieneba-Rock outcrop complex, Saugus sandy loam, Trigo family-Lithic xerorthents, Soboba stony loamy sand, and Tujunga

gravelly loamy sand (Figure 4). General characteristics associated with these soils types are described below.

Soboba-Hanford families association, 2 to 15 percent slopes (AbD)

This association is about 50 percent Soboba family soils and 30 percent Hanford family soils. It occurs on floodplains at elevations of 1,600 to 4,000 feet. These soils are well to excessively drained, and runoff is moderate. This soil is not listed as hydric soil on the NRCS Soil Survey for San Bernardino National Forest.

Osito-Modesto families association, 30 to 50 percent slopes (CmF)

This association is about 40 percent Osito family soils and 30 percent Modesto family soils. It occurs on hills at elevations of 1,800 to 4,200 feet. These soils are well drained, and runoff is moderate. This soil is not listed as hydric soil on the NRCS Soil Survey for San Bernardino National Forest.

Cieneba-Rock outcrop complex, 30 to 50 percent slopes (Cr)

This complex is about 60 percent Cieneba and similar soils and 30 percent rock outcrop. It occurs on hills at elevations of 500 to 4,000 feet. These soils are somewhat excessively drained, and runoff is high. This soil is not listed as hydric soil on the NRCS Soil Survey for San Bernardino County, Southwestern Part.

Saugus sandy loam, 30 to 50 percent slopes (ShF)

This soil type is about 85 percent Saugus and similar soils. It occurs on hills at elevations of 600 to 2,500 feet. These soils are well drained, and runoff is low. This soil is not listed as hydric soil on the NRCS Soil Survey for San Bernardino County, Southwestern Part.

Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes (DnG)

This complex is about 50 percent Trigo family and similar soils and 20 percent Lithic xerorthents, warm, and similar soils. It occurs on hills at elevations of 1,790 to 6,400 feet. These soils are somewhat excessively drained, and runoff is high. This soil is not listed as hydric soil on the NRCS Soil Survey for San Bernardino County, Southwestern Part.

Soboba stony loamy sand, 2 to 9 percent slopes (SpC)

This soil type is about 85 percent Soboba and similar soils. It occurs on alluvial fans at elevations of 30 to 4,200 feet. These soils are excessively drained, and runoff is very high. This soil is not listed as hydric soil on the NRCS Soil Survey for San Bernardino County, Southwestern Part.

Tujunganga gravelly loamy sand, 0 to 9 percent slopes (TvC)

This soil type is about 85 percent Tujunganga and similar soils. It occurs on alluvial fans at elevations of 10 to 1,500 feet. These soils are somewhat excessively drained, and runoff is high. This soil is listed as partially hydric on the NRCS Soil Survey for San Bernardino County, Southwestern Part.

5.0 HYDROLOGY

Several drainage features are located throughout the project site. The main hydrologic feature within the project site is Cable Canyon, including the West Fork and East Fork, which becomes Cable Creek. There are an additional 14 unnamed drainages and one seasonal wetland within the project site, all of which flow directly or indirectly into Cable Creek. The hydrology of Cable Creek and its tributaries is discussed below and shown in Figure 5 and Figures 5a through 5k (Potential Corps and RWQCB Jurisdictional Areas within Project Site), Figure 6 and Figures 6a through 6k (Potential CDFG Jurisdictional Areas within Project Site). Impacts to potential jurisdictional features as a result of the proposed project are shown in Figure 7 (Impacts to Potential Corps and RWQCB Jurisdictional Areas within Project Site) and Figure 8 (Impacts to Potential CDFG Jurisdictional Areas within Project Site). Representative photographs of the project site are provided in Appendix B. Drainages associated with the proposed access road alignments are discussed a separate report - *Draft Jurisdictional Delineation for the Spring Trails Project* (June 2009).

Tributary 2 (T2)

Tributary 2 is a drainage feature that is a tributary to Cable Creek, and is located in the southern portion of the project site (see Figures 5f,5g, 5h, 6f, 6g, and 6h). This feature is identified on the USGS map as an intermittent blue-line stream emerging from Meyers Canyon, and would therefore be considered a non-Relatively Permanent Water (RPW). The source of water for Tributary 2 appears to be primarily from its headwaters and upper reach tributaries within Meyers Canyon located within higher elevations to the east of the project site. Its flows go subsurface through a portion of a seasonal wetland (discussed below) before it resurfaces and discharges out of the seasonal wetland area, and continues downstream out of the southern boundary of the project site. The vegetation within the active channel consists of a sycamore alluvial woodland community. The dominant species observed include willows, western sycamore, and mulefat. Other species present include Mexican elderberry and California sunflower (*Helianthus californicus*).

Four data points (DP01 through DP04) were taken within this feature. Results reveal that wetland conditions are present at DP02, where Tributary 2 discharges from the seasonal wetland area and flows in a westerly direction from the eastern to western portion of the project site. The portions of T2 delineated for DP02 comprise approximately 0.058 acre of wetlands within and adjacent to the active channel. Hydrophytic vegetation was dominated by willow, mulefat, and ferns; hydrogen sulfide odor was present indicating hydric soil conditions, and surface flows supporting a high water table, saturation, and inundation were observed.

Transect data for Tributary 2 reveals the OHWM for the active channel measuring at approximately two to four feet wide, with an average width of approximately 3.1 feet. Approximately 0.308 acre within the proposed site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the California Department of Fish and Game (CDFG) (streambed, bank, and associated riparian vegetation) measures at approximately nine to 74 feet wide, with an average width of approximately 34.8 feet. Approximately 6.150 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.308 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 2 within the project site, approximately 0.283 acre could be impacted by the proposed project (Figure 7). Additionally, of the 6.150 total acres of potential CDFG jurisdiction delineated for Tributary 2 within the project site, approximately 6.132 acres could be impacted by the proposed project (Figure 8).

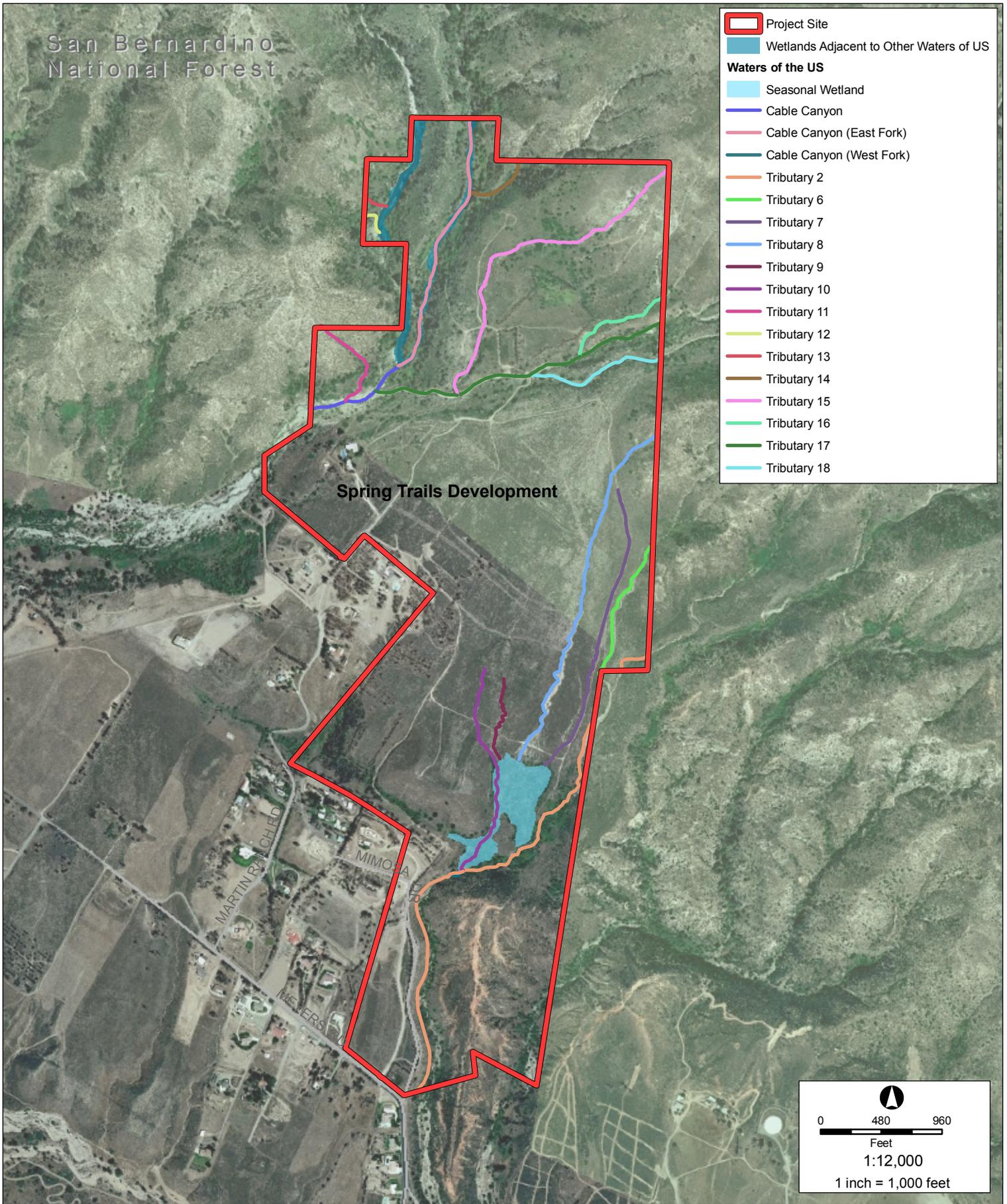


FIGURE 5
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



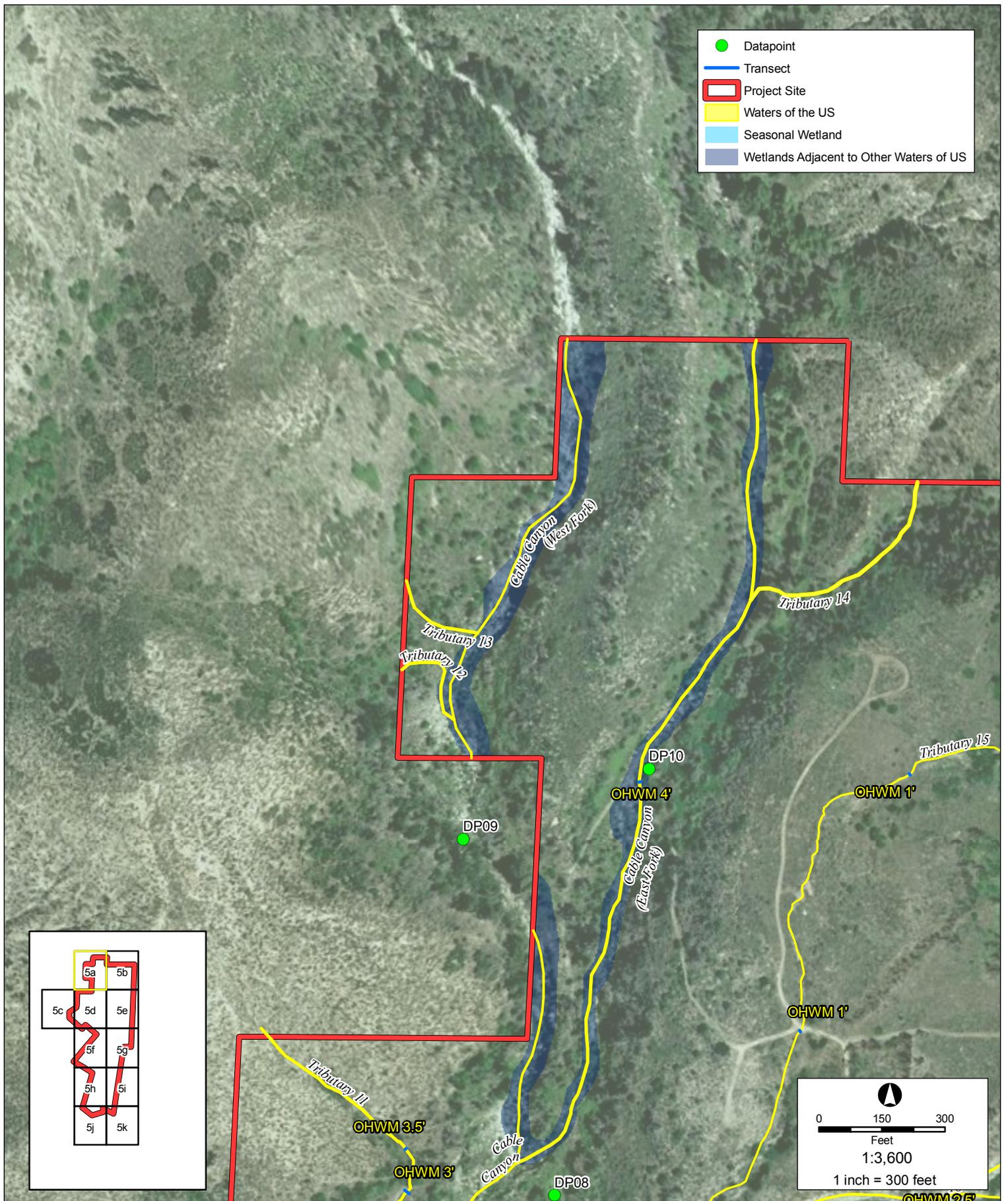


Figure 5a
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



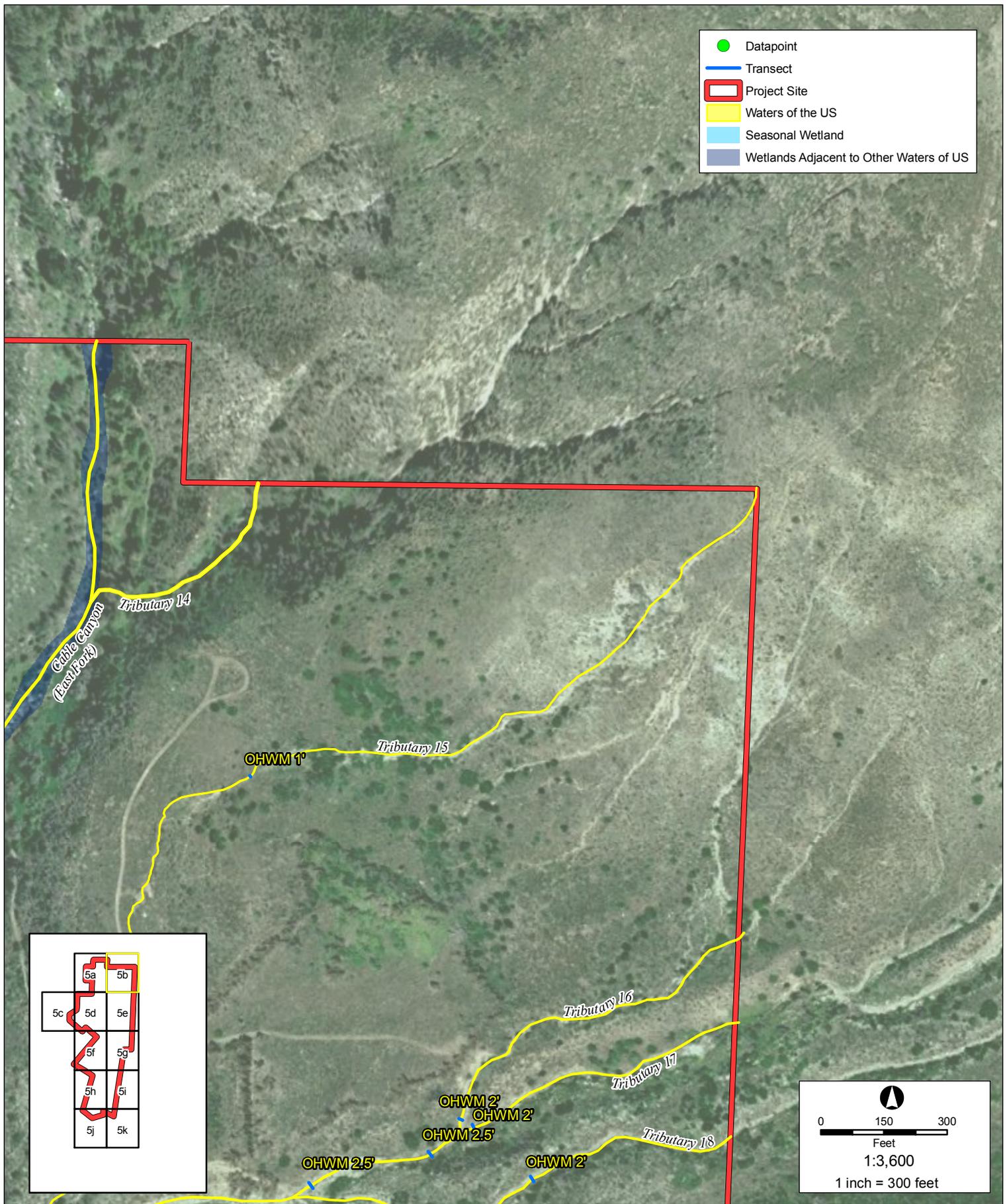


Figure 5b
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



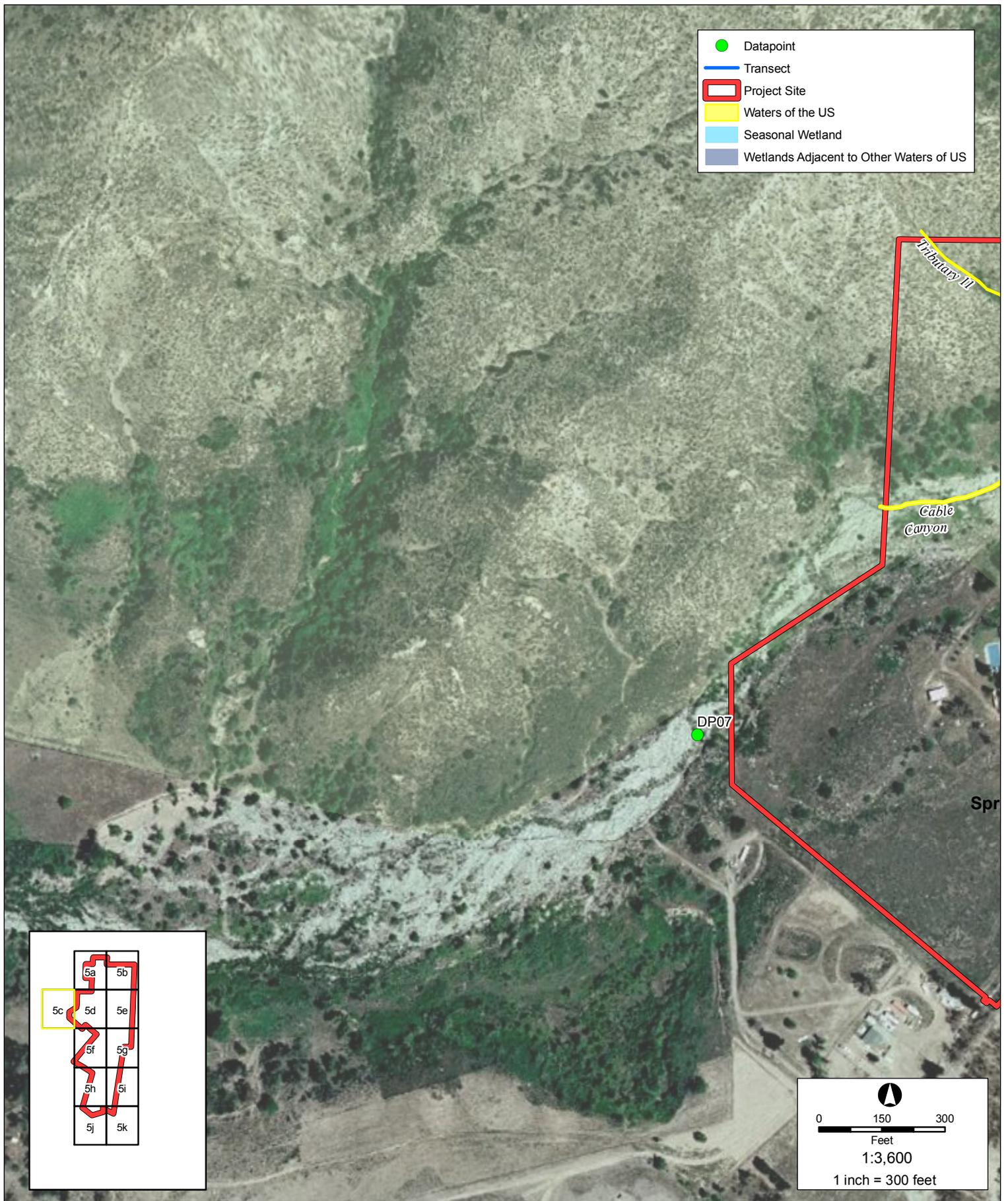


Figure 5c
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**

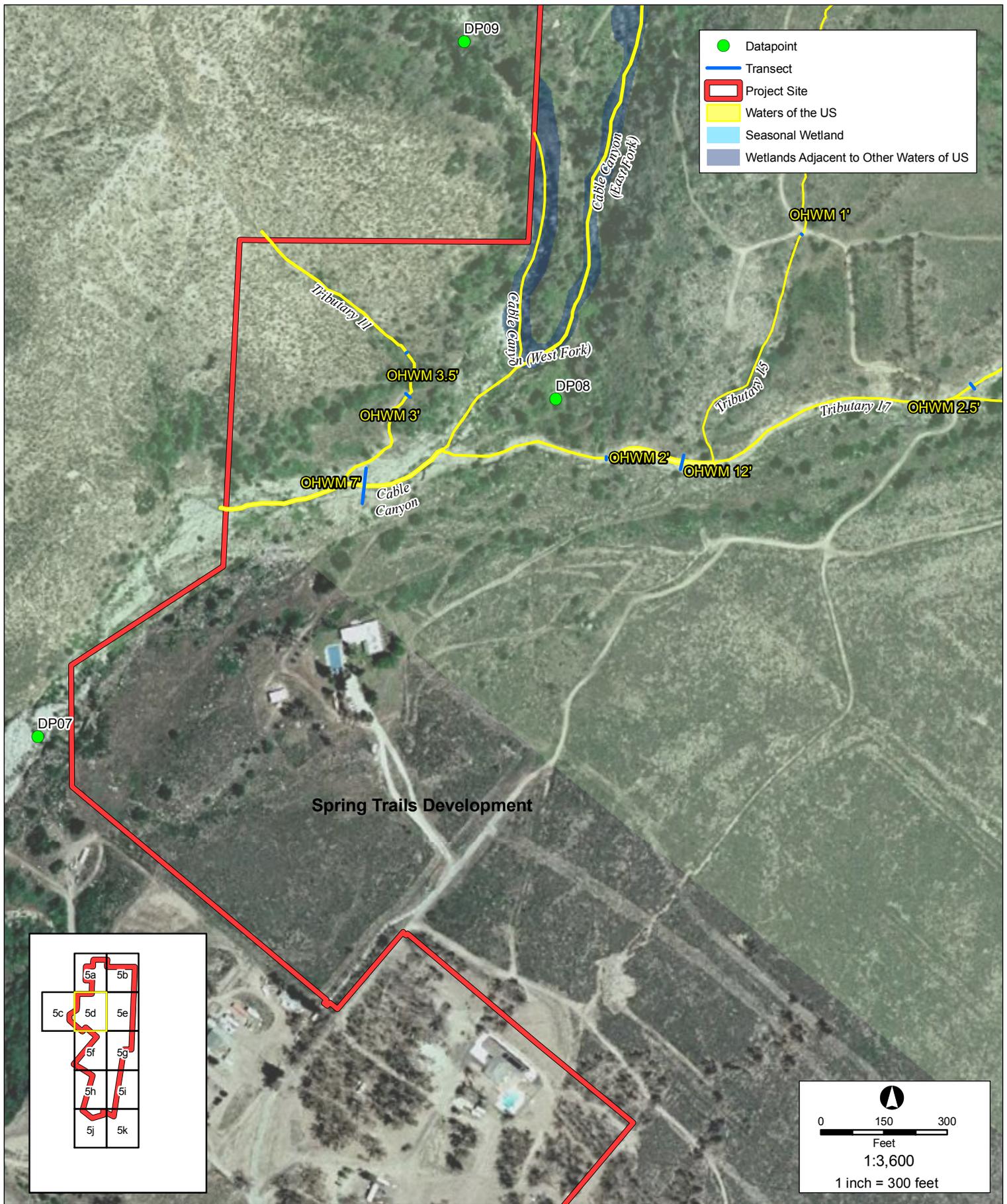


Figure 5d
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



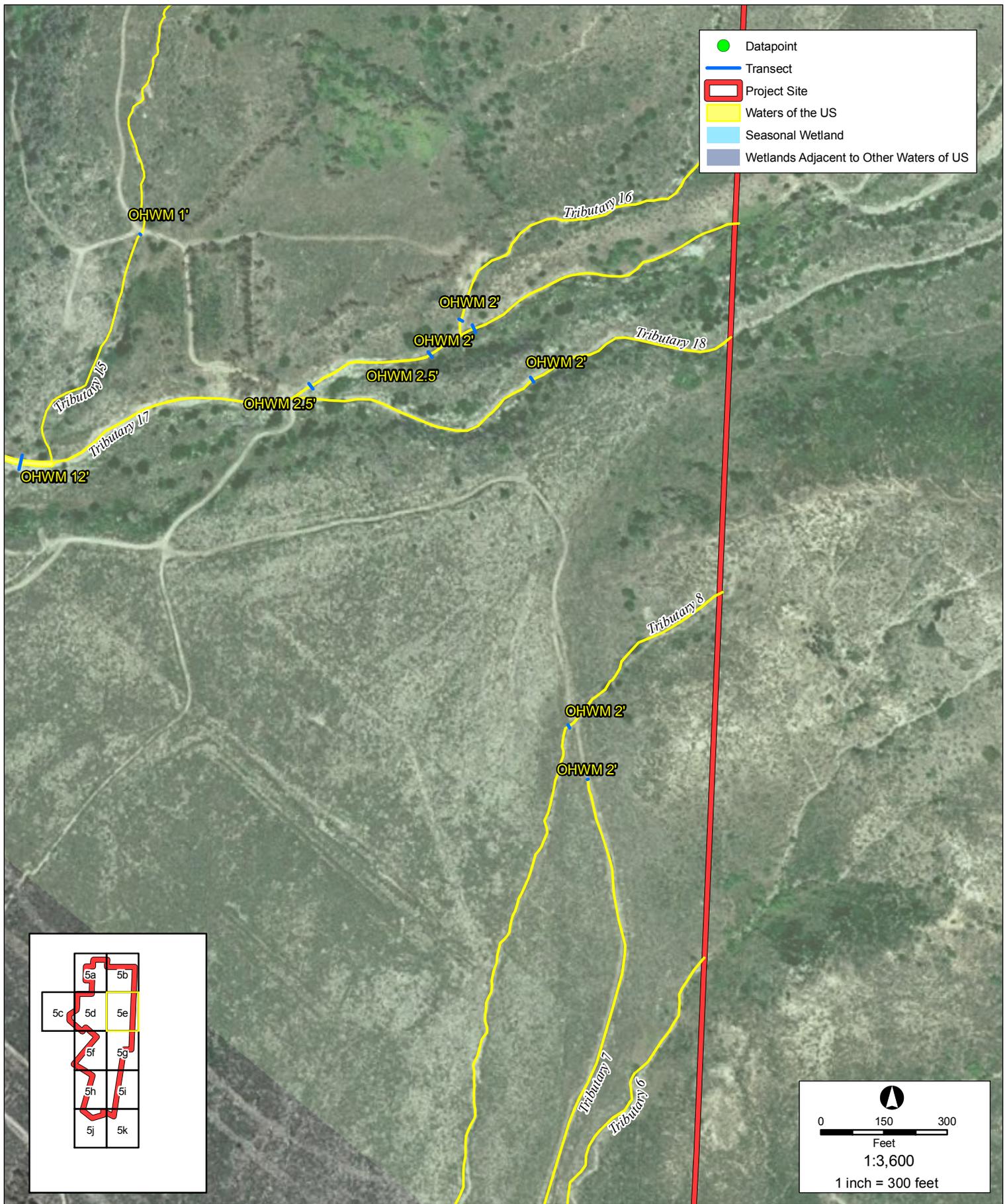
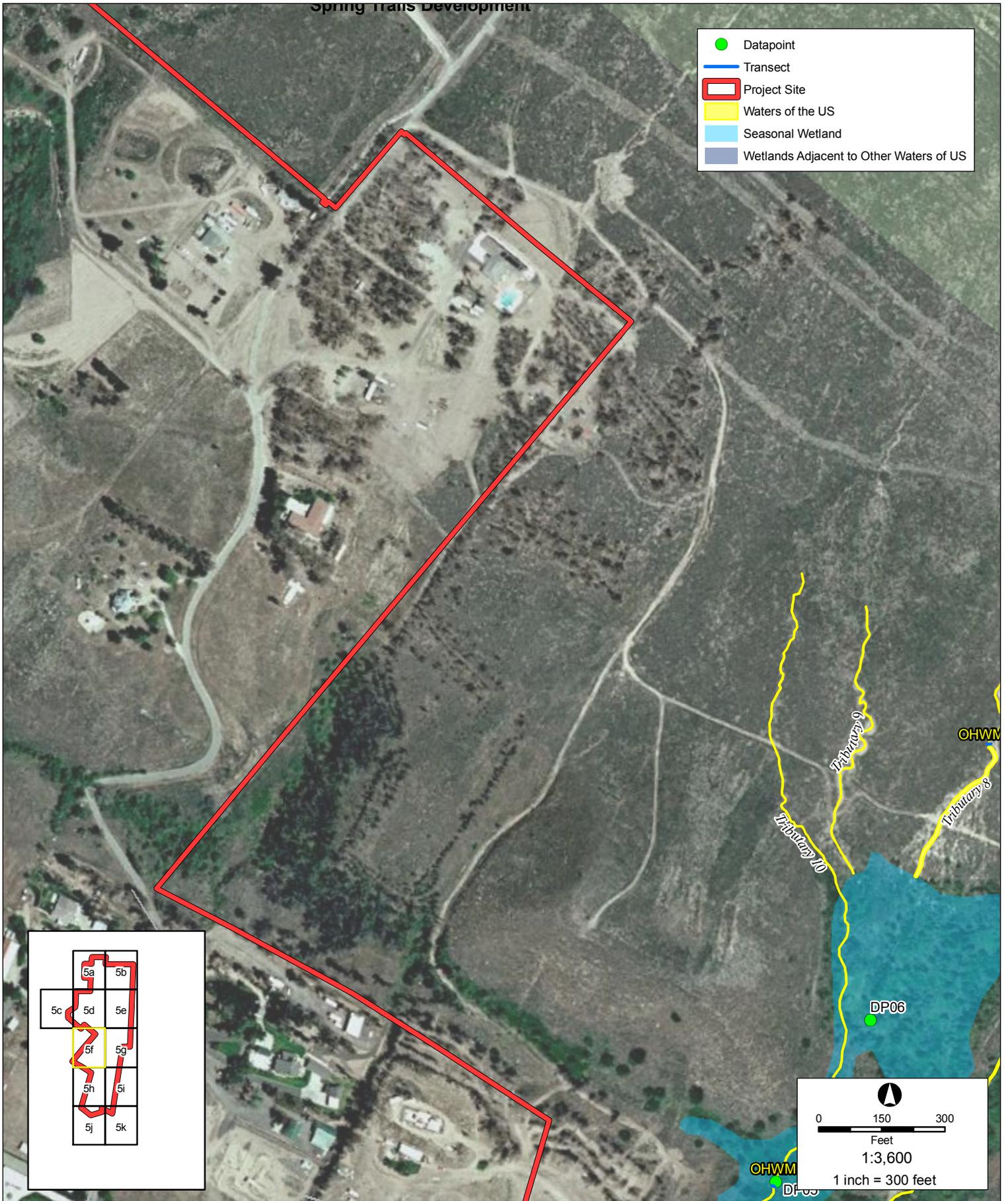
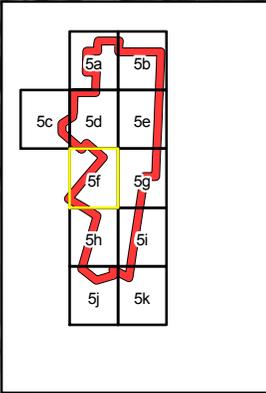


Figure 5e
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**





- Datapoint
- Transect
- ▭ Project Site
- Waters of the US
- Seasonal Wetland
- Wetlands Adjacent to Other Waters of US



0 150 300
Feet
1:3,600
1 inch = 300 feet



Figure 5f
**Potential Corps and RWQCB Jurisdictional Areas
within Project Site**

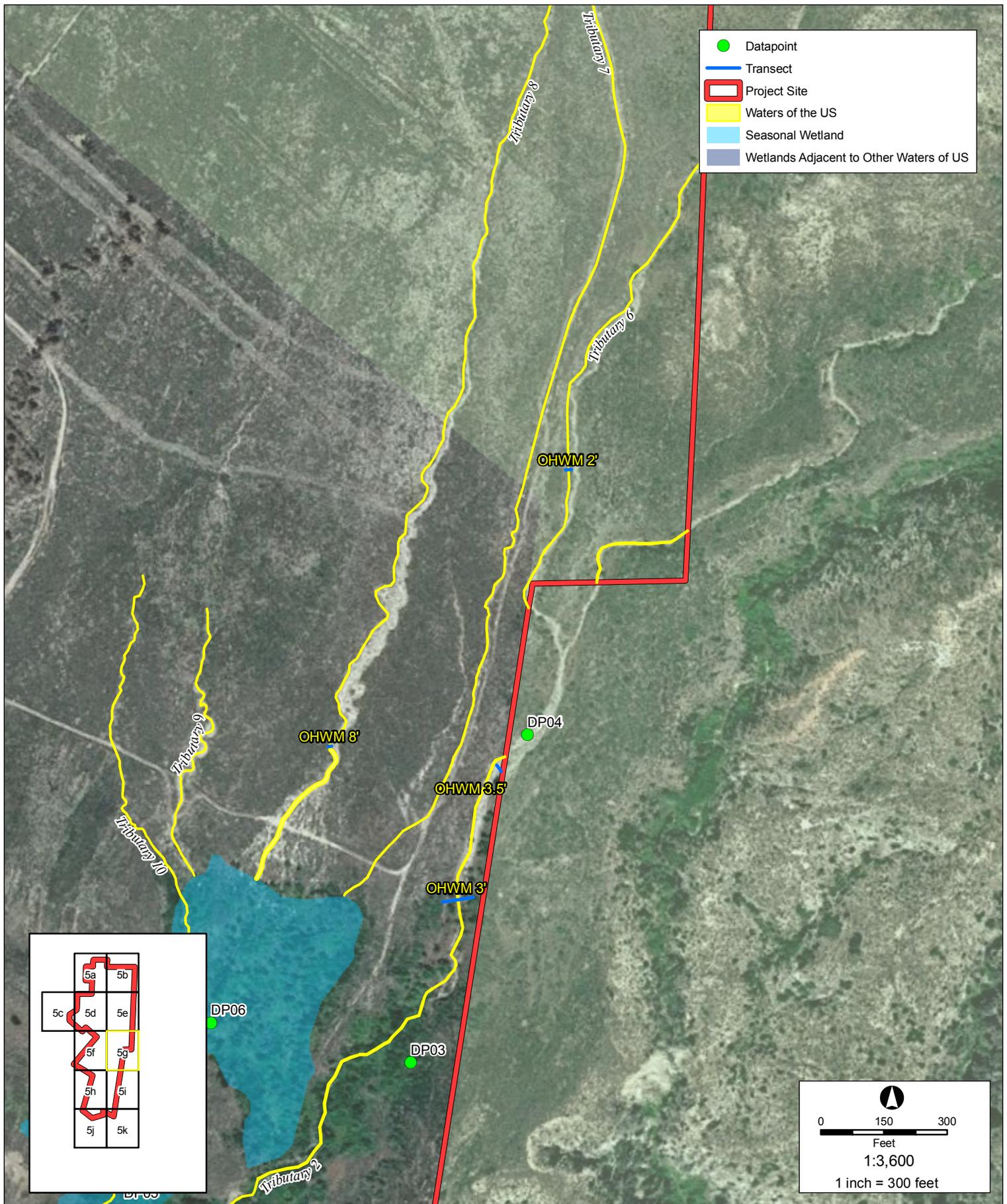


Figure 5g
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



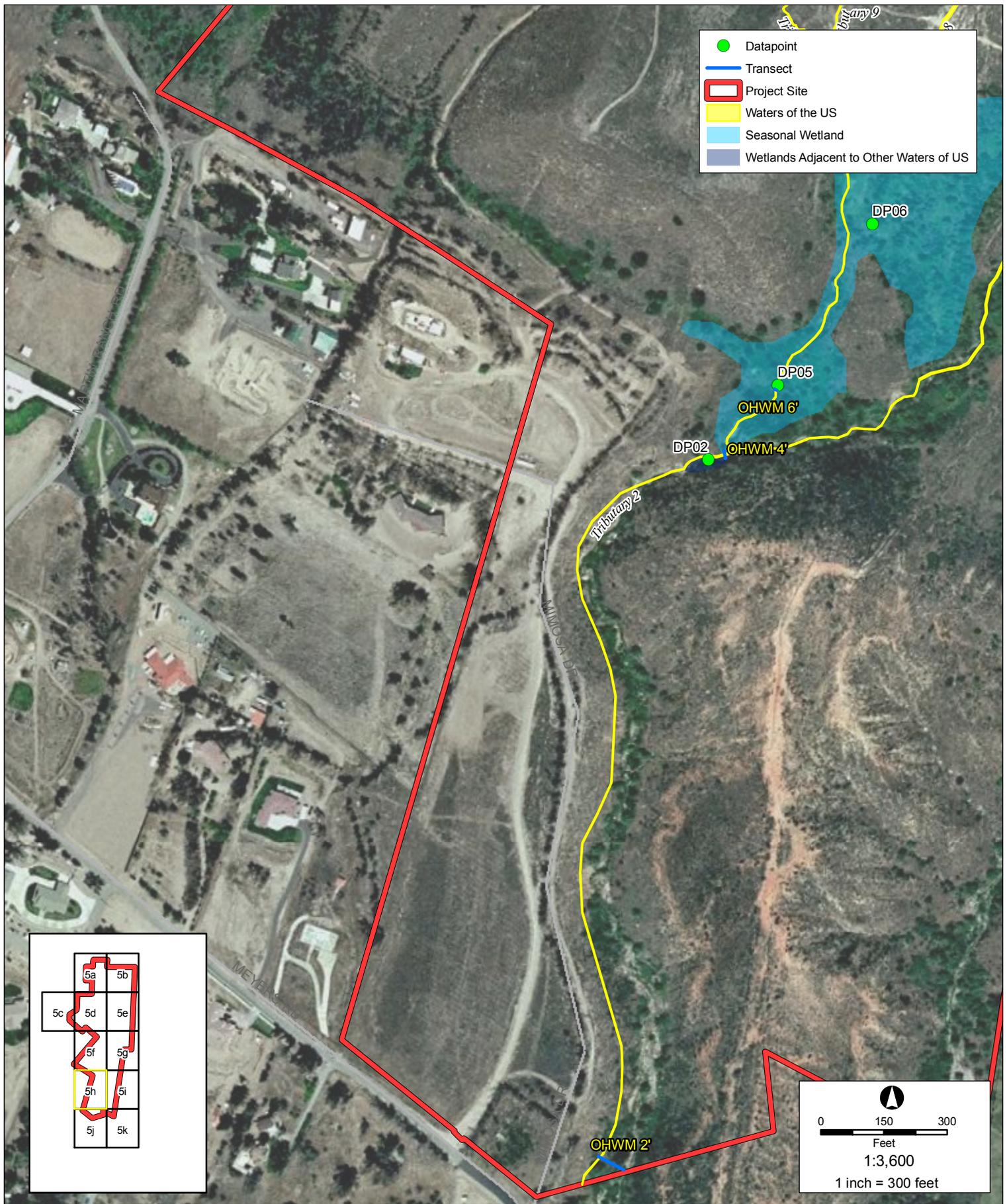


Figure 5h
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



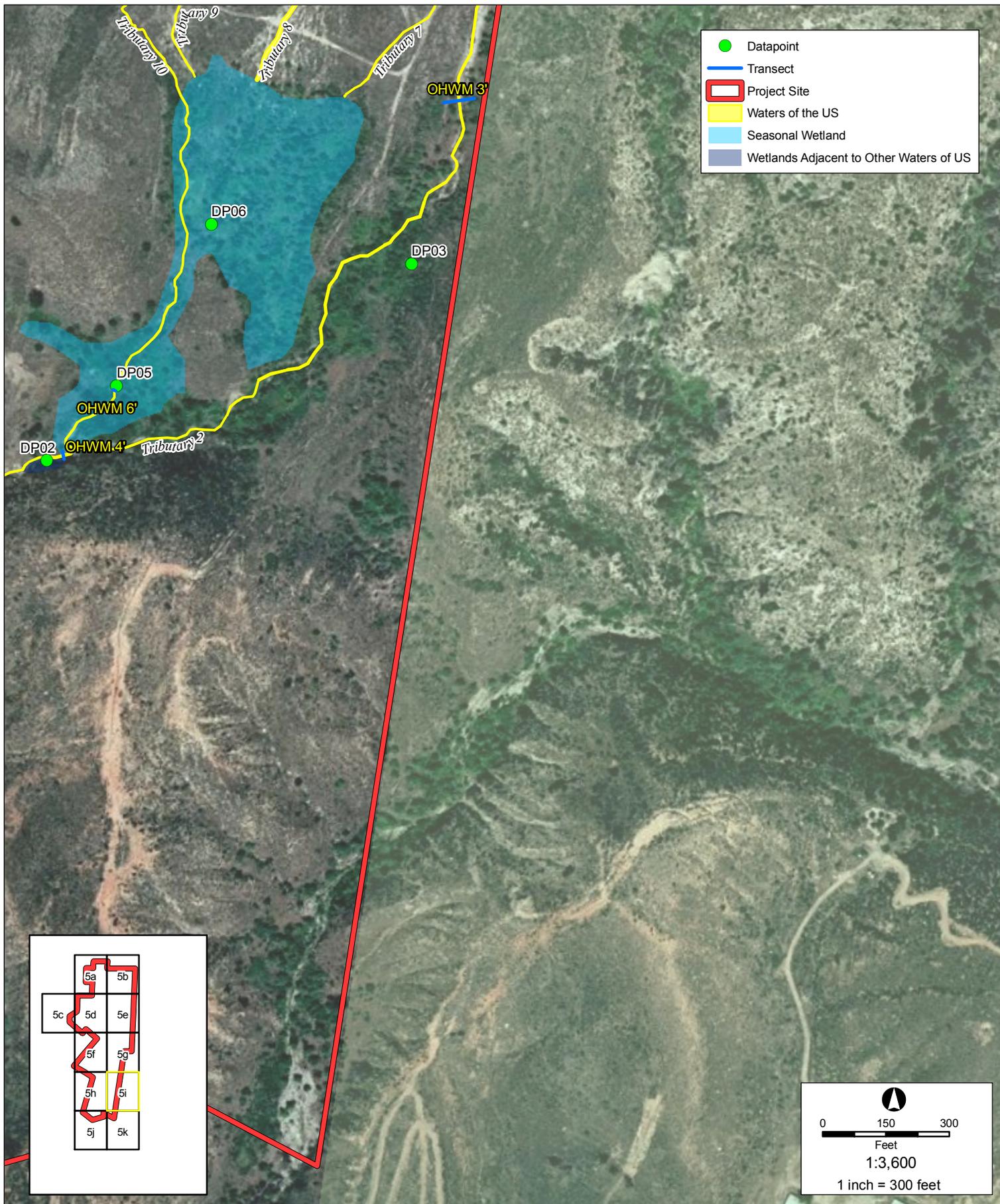


Figure 5i
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**





Figure 5j
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



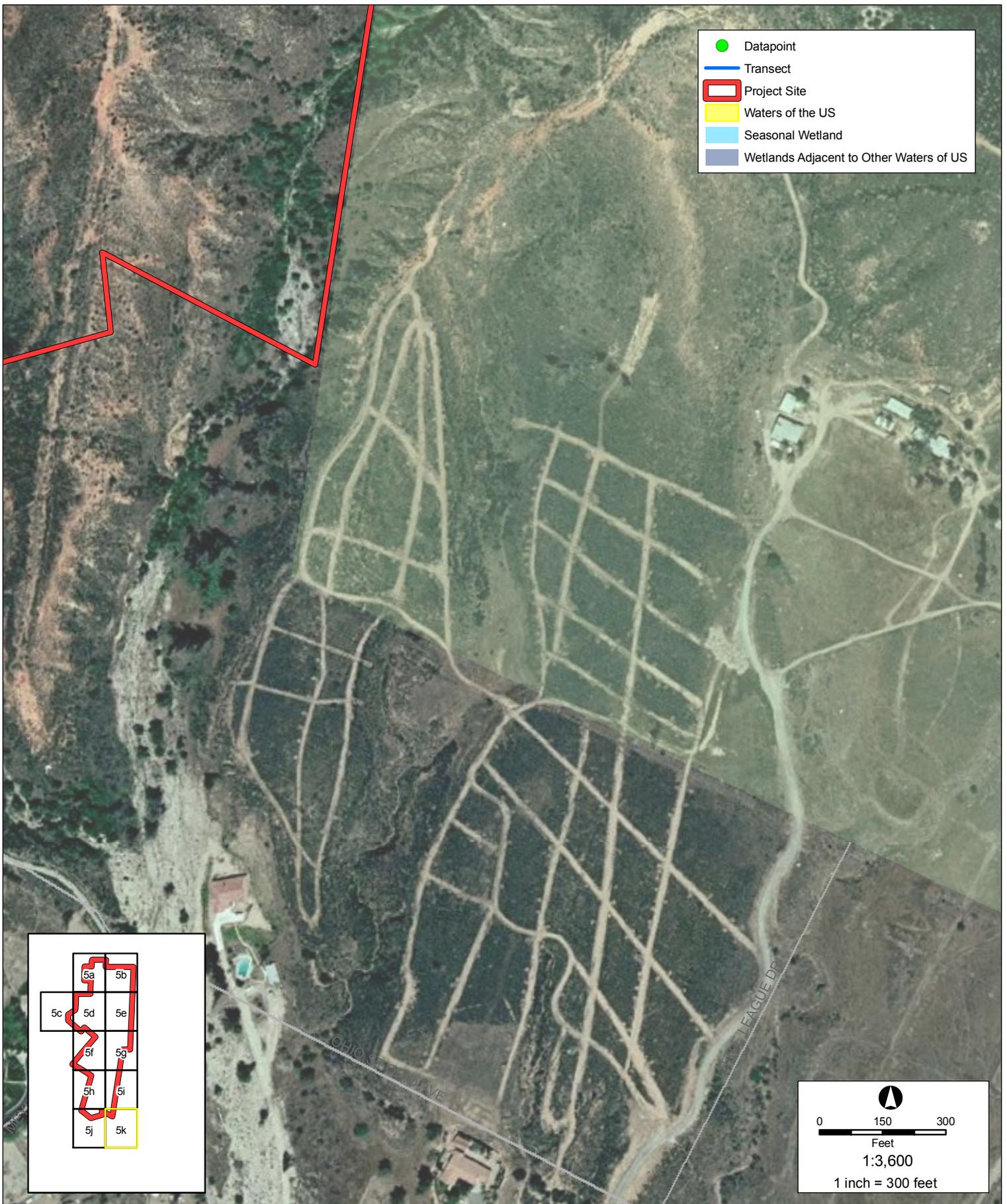


Figure 5k
**Potential Corps and RWQCB Jurisdictional Areas
 within Project Site**



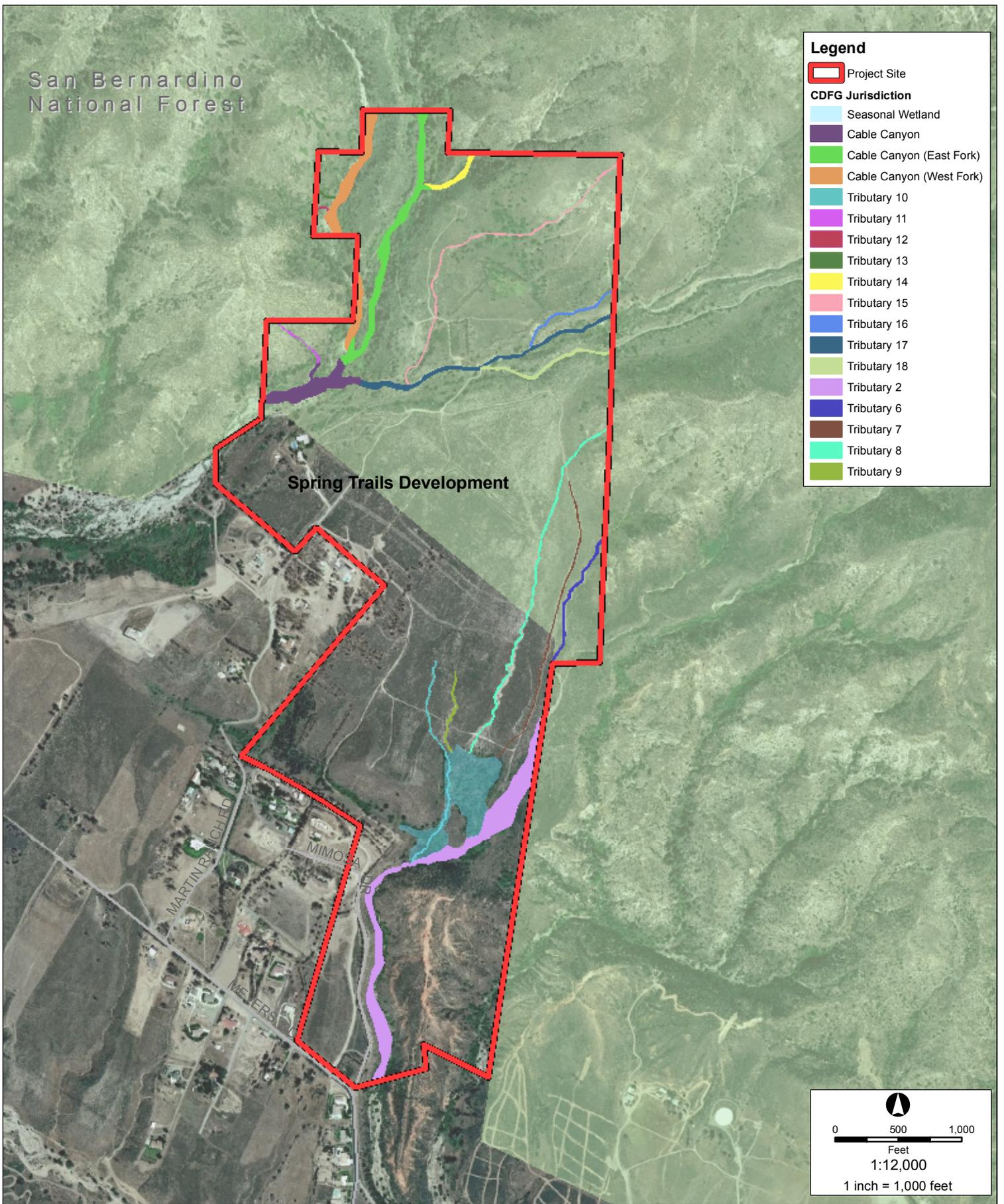


FIGURE 6
**Potential CDFG Jurisdictional Areas
 within Project Site**



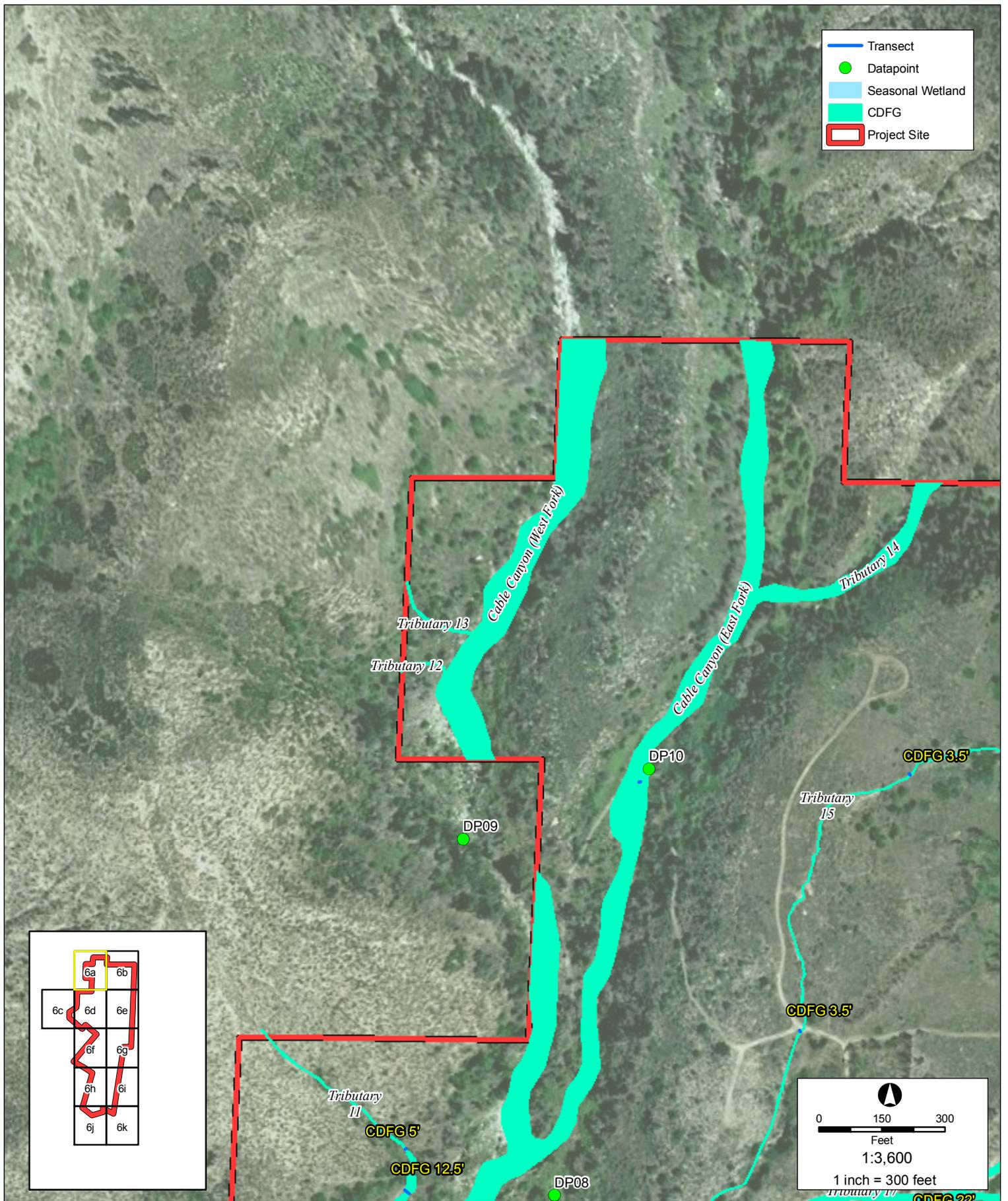


Figure 6a
**Potential CDFG Jurisdictional Areas
 within Project Site**



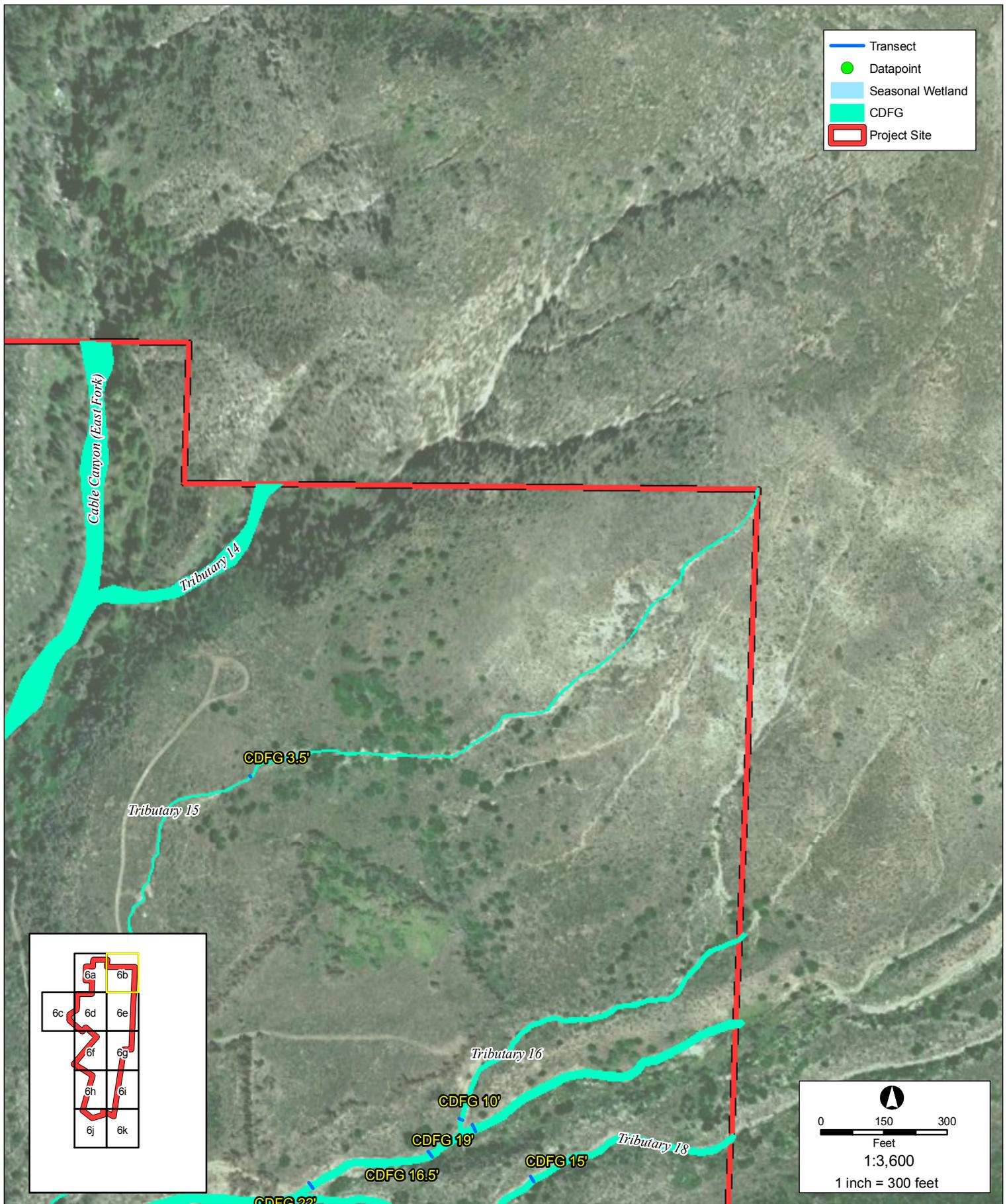


Figure 6b
**Potential CDFG Jurisdictional Areas
 within Project Site**



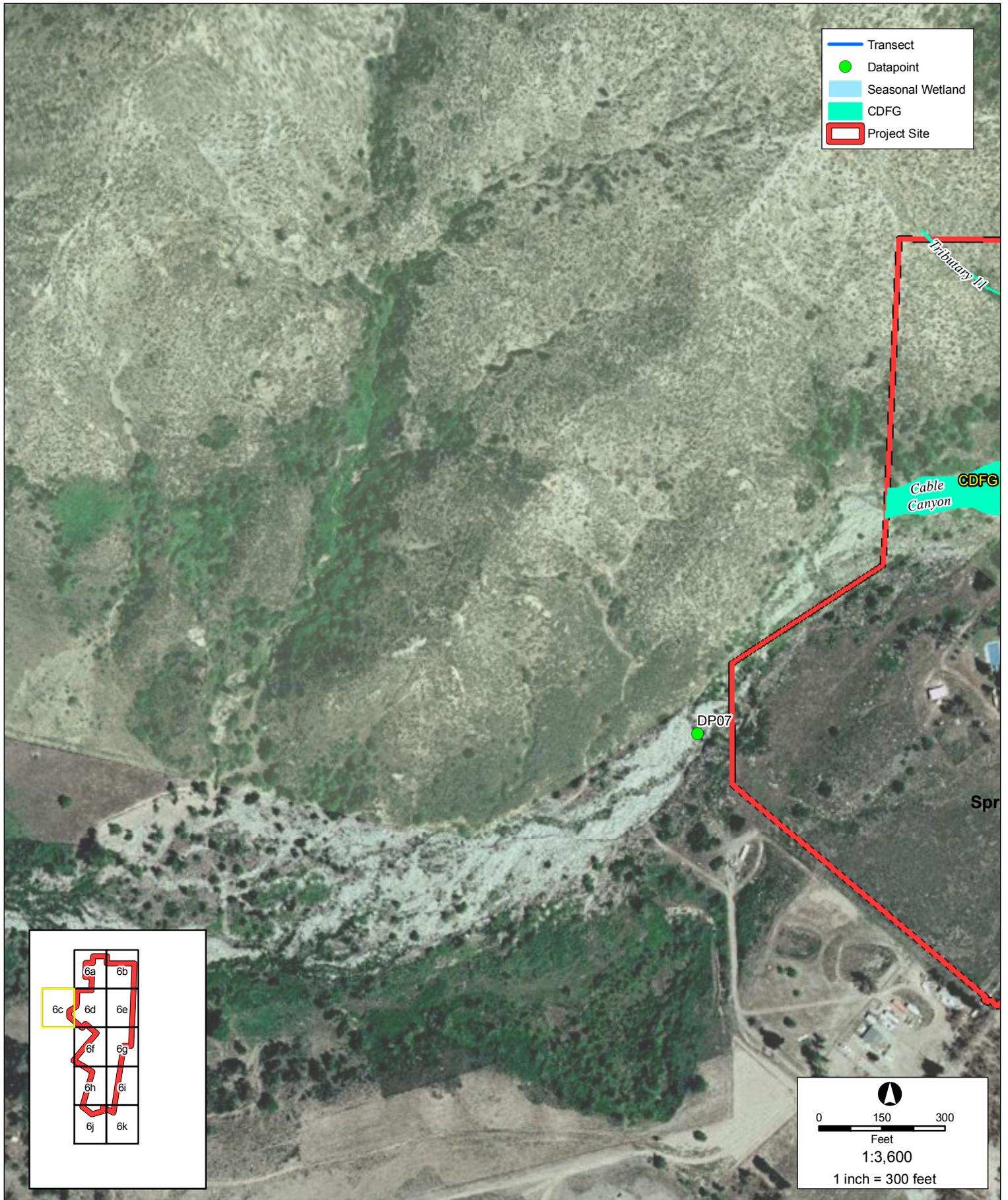


Figure 6c
**Potential CDFG Jurisdictional Areas
 within Project Site**



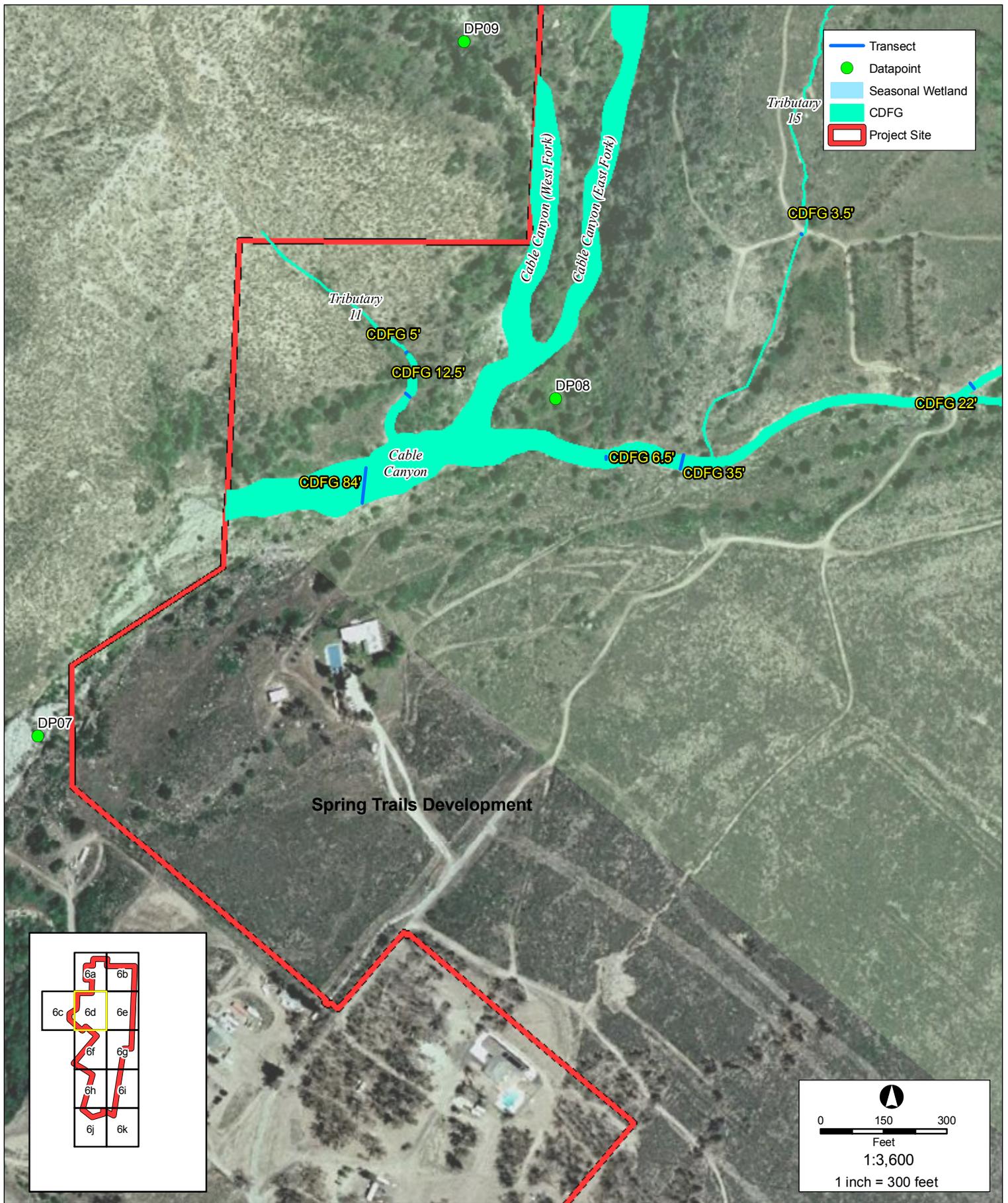


Figure 6d
**Potential CDFG Jurisdictional Areas
 within Project Site**



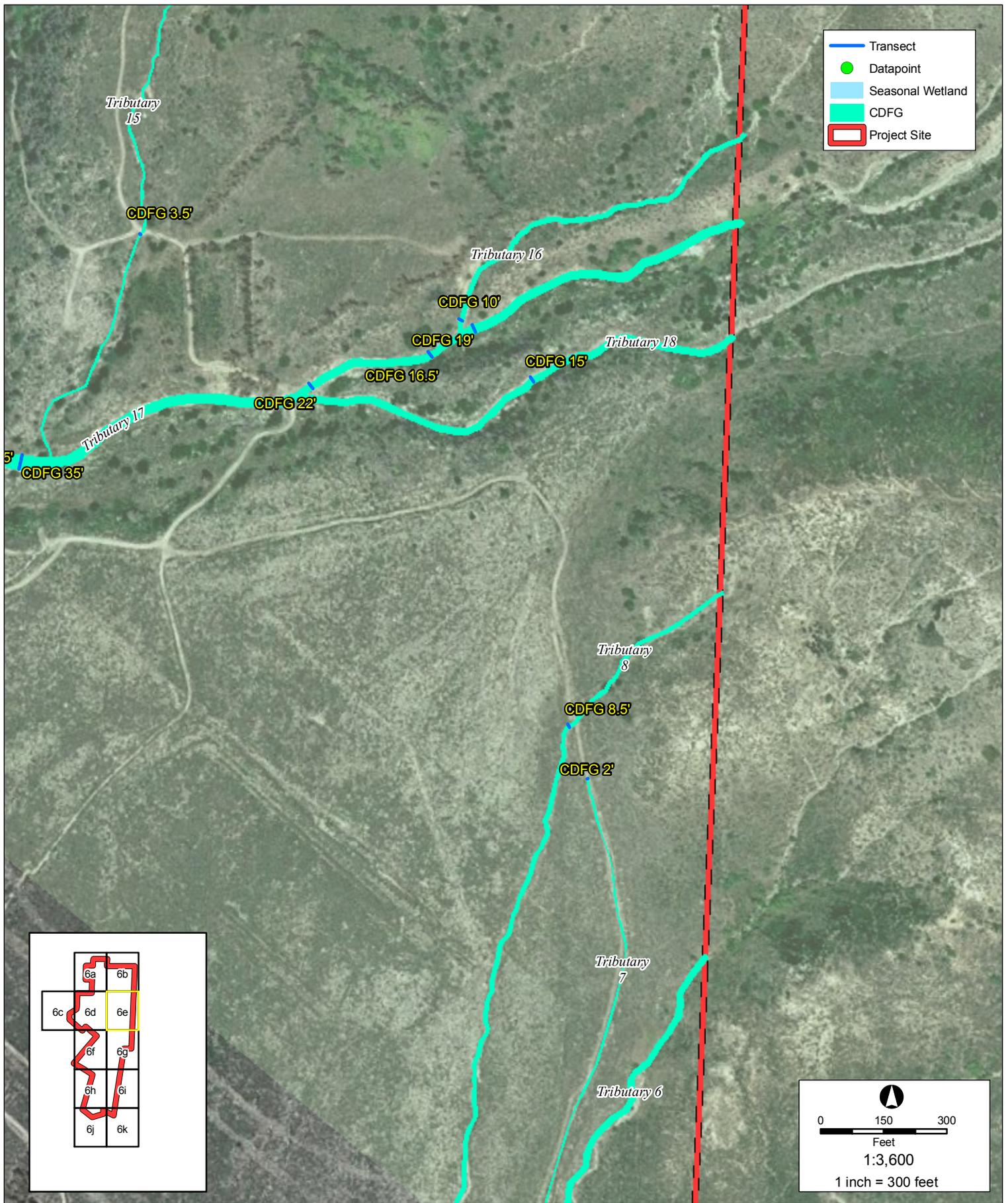


Figure 6e
**Potential CDFG Jurisdictional Areas
 within Project Site**



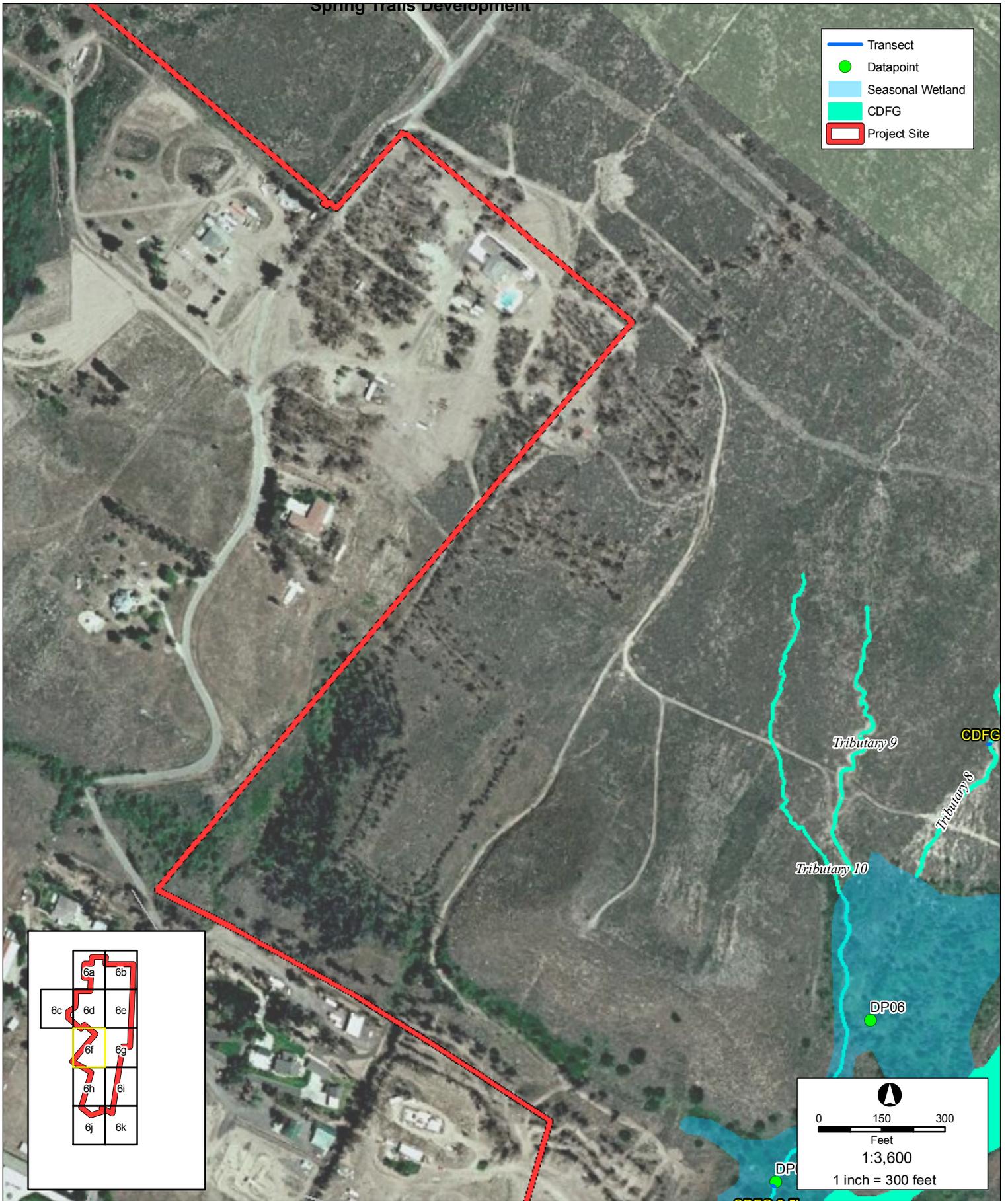


Figure 6f
**Potential CDFG Jurisdictional Areas
within Project Site**



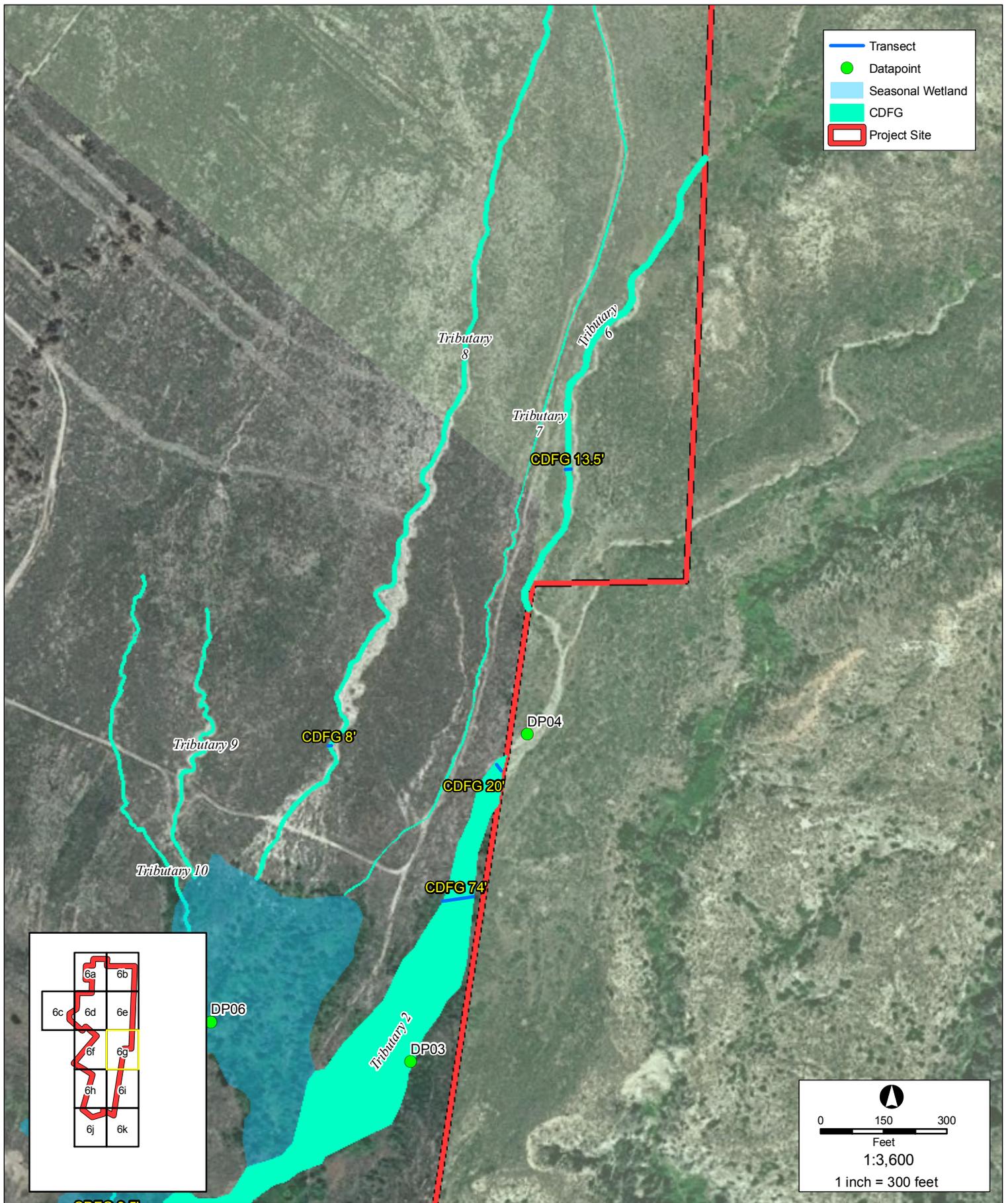


Figure 6g
**Potential CDFG Jurisdictional Areas
 within Project Site**



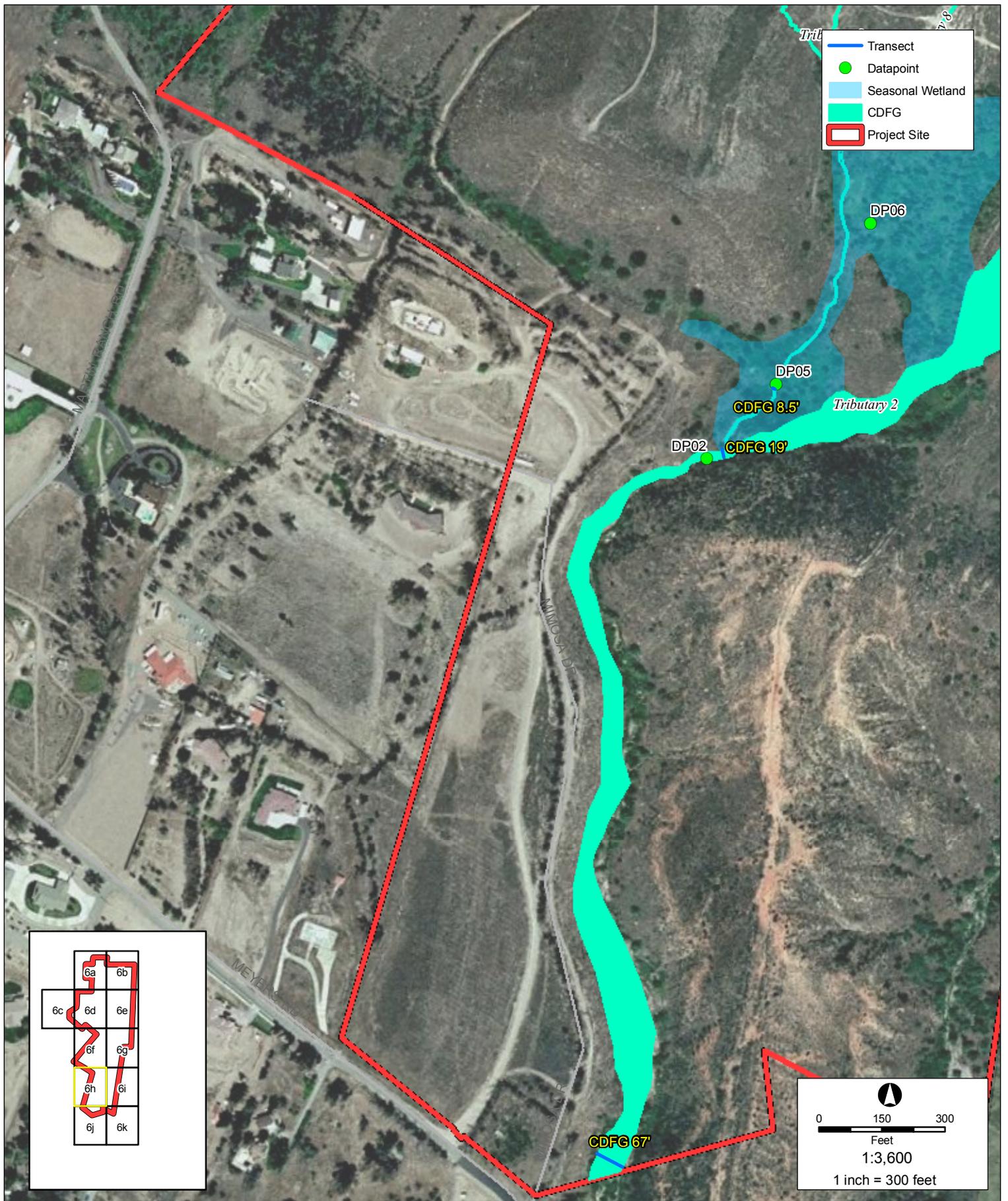


Figure 6h
**Potential CDFG Jurisdictional Areas
 within Project Site**



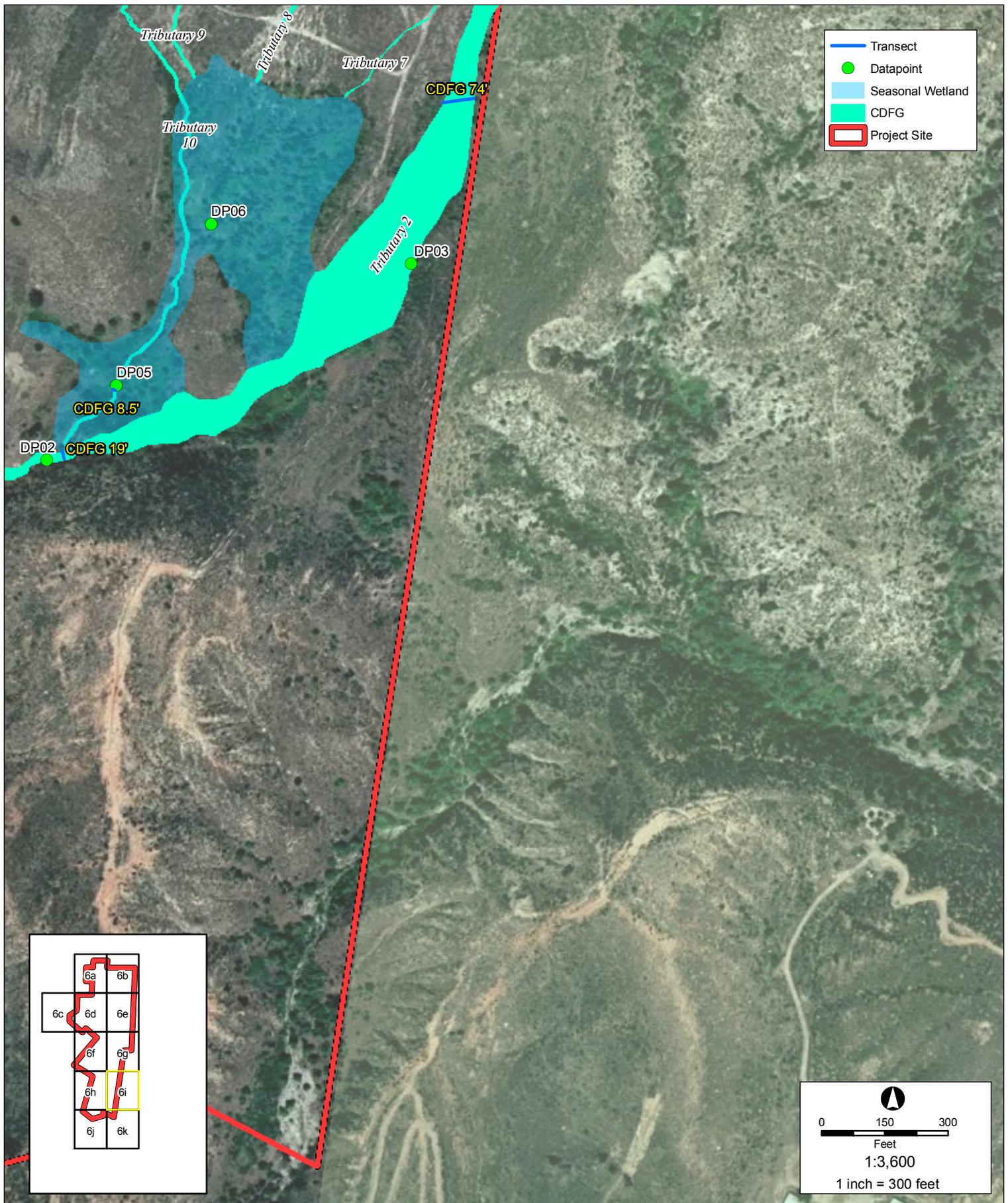


Figure 6i
**Potential CDFG Jurisdictional Areas
 within Project Site**





Figure 6j
**Potential CDFG Jurisdictional Areas
 within Project Site**



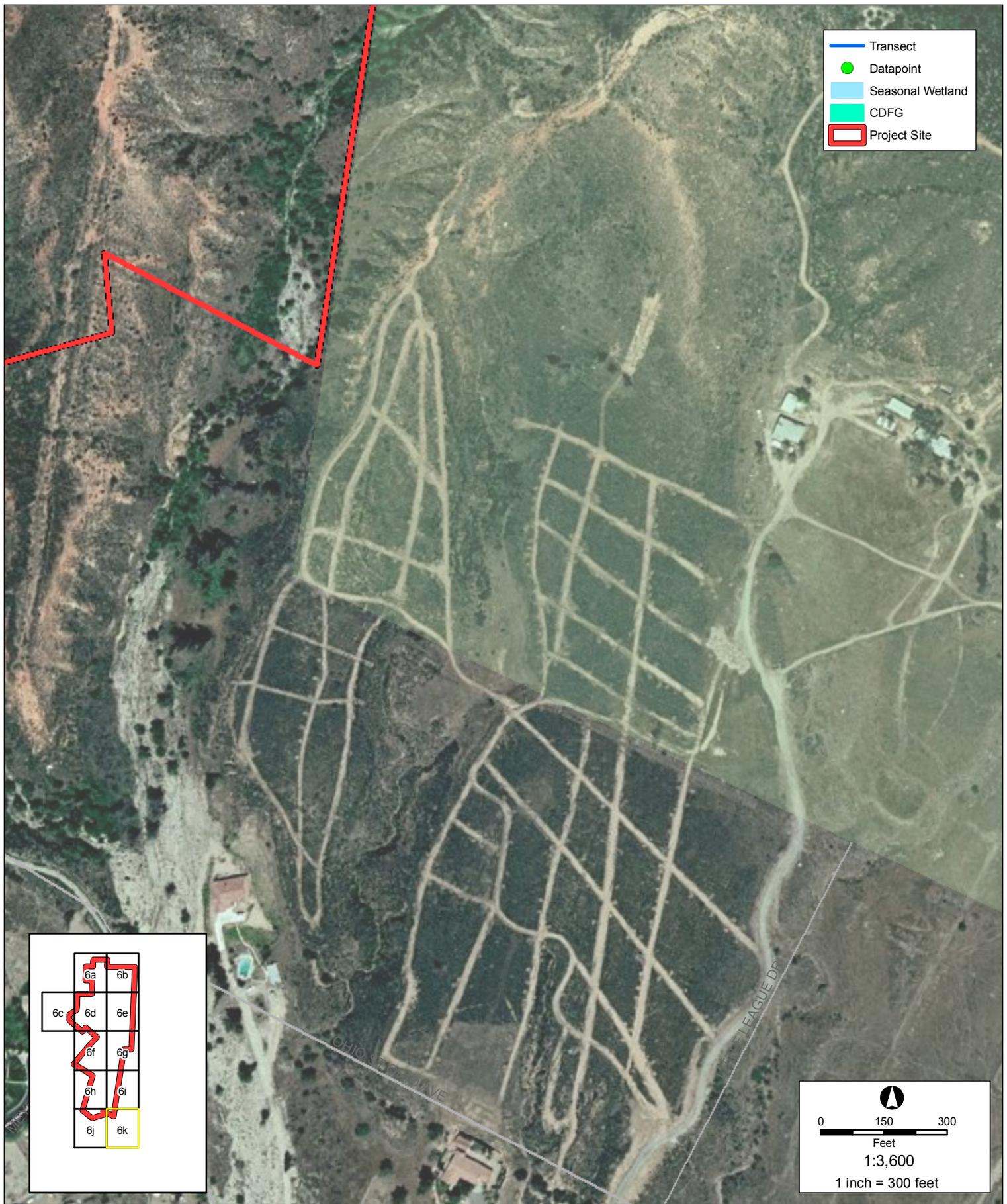


Figure 6k
**Potential CDFG Jurisdictional Areas
 within Project Site**



San Bernardino
National Forest

Spring Trails Development

Legend

-  Project Site
-  Footprint
-  Wetlands Adjacent to Other Waters of US - 0.191 Acre
- Waters of the US**
-  Seasonal Wetland - 6.222 Acres
-  Cable Canyon - 0.002 Acre
-  Cable Canyon (East Fork) - 0.009 Acre
-  Cable Canyon (West Fork) - 0.001 Acre
-  Tributary 2 - .225 Acre
-  Tributary 6 - 0.052 Acre
-  Tributary 7 - 0.105 Acre
-  Tributary 8 - 0.166 Acre
-  Tributary 9 - 0.035 Acre
-  Tributary 10 - 0.085 Acre
-  Tributary 13 - 0.001 Acre
-  Tributary 14 - 0.031 Acre
-  Tributary 15 - 0.046 Acre
-  Tributary 16 - 0.018 Acre
-  Tributary 17 - 0.154 Acre
-  Tributary 18 - 0.027 Acre

MARTIN RANCHED
MIMOSA
METERS

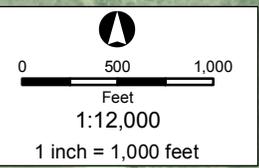


FIGURE 7
**Impacts to Potential Corps and RWQCB Jurisdictional Areas
within Project Site**



San Bernardino
National Forest

Spring Trails Development

Legend

-  Project Site
-  Footprint
-  Cable Canyon - 0.230 Acre
-  Cable Canyon (East Fork) - 0.081 Acre
-  Cable Canyon (West Fork) - 0.062 Acre
-  Tributary 2 - 6.132 Acres
-  Tributary 6 - 0.357 Acre
-  Tributary 7 - 0.105 Acre
-  Tributary 8 - 0.476 Acre
-  Tributary 9 - 0.114 Acre
-  Tributary 10 - 0.278 Acre
-  Tributary 13 - 0.001 Acre
-  Tributary 14 - 0.137 Acre
-  Tributary 15 - 0.160 Acre
-  Tributary 16 - 0.091 Acre
-  Tributary 17 - 0.947 Acre
-  Tributary 18 - 0.201 Acre
-  Seasonal Wetland - 6.222 Acres

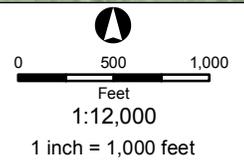


FIGURE 8
Impacts to Potential CDFG Jurisdictional Areas
within Project Site



Seasonal Wetland

A potential seasonal wetland is present in an upland area adjacent to Tributary 2 and Tributary 10 in the south-central portion of the project site (Figures 5i and 6i). Two data points (DPO5 and DP06) were taken within this potential wetland, including one within the active channel of Tributary T10 (DP05) to determine the presence/absence of similar conditions within the thalweg of the drainage versus the surrounding upland areas supporting the potential seasonal wetland. This feature is a problem area because while hydrophytic vegetation and wetland hydrology were present, no apparent hydric soil indicators were present during the delineation. Hydrophytic vegetation was dominated by cattails (*Typha latifolia*) and sedges, oxidized rhizospheres along living roots were the primary hydrology indicator. While soils that occur on this feature are not listed as hydric by NRCS, soils bordering Tributary 10 to the west are listed as hydric soils. In addition, a slightly gleyed matrix within the second stratified layer (although it does not meet the definition of a loamy gleyed matrix) indicates prolonged soil saturation. Nonetheless, since this feature resembles hydric soil indicators and exhibits wetland conditions, it could be considered a potential seasonal wetland. The approximate boundary of this seasonal wetland area was therefore delineated based primarily on vegetation and hydrology criterion, with the potential jurisdictional limits being defined by an overall dominance of hydrophytic vegetation, and hydrology indicators such as potential saturation visible on aerial imagery. Approximately 6.222 acres of this seasonal wetland could fall under the jurisdiction of the Corps, RWQCB, and CDFG.

Of the 6.222 total acres of potential Corps, RWQCB, and CDFG jurisdiction delineated for the seasonal wetland within the project site, the entire 6.222 acres could be impacted by the proposed project (Figure 7 and Figure 8).

Tributary 6 (T6)

Tributary 6 is a drainage feature that is an ephemeral, non-RPW tributary to Tributary 2, and thus to Cable Creek. A portion of its reach traverses the eastern portions of the project site and near the eastern boundary (Figures 5g and 6g). This tributary is not identified on the USGS map as a blue-line stream. The source of water into Tributary 6 appears to be the upstream watershed directly north of the tributary within Meyers Canyon. The active channel is primarily unvegetated, and vegetation along the banks consists of an upland sage scrub community.

No potential wetland features were apparent, namely, hydrophytic vegetation; therefore, no data points were taken. No surface flows were observed within Tributary 6 during the delineation. Transect data for Tributary 6 reveals the OHWM for the active channel measuring at approximately two to four feet wide, with an average width of approximately 3.0 feet. Approximately 0.056 acre of this tributary feature that occurs within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 11 to 14 feet wide, with an average width of approximately 12.3 feet. Approximately 0.380 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.056 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 6 within the project site, approximately 0.053 acre could be impacted by the proposed project (Figure 7). Additionally, of the 0.380 total acre of potential CDFG jurisdiction delineated for Tributary 6 within the project site, approximately 0.357 acre could be impacted by the proposed project (Figure 8).

Tributary 7 (T7)

Tributary 7 is an ephemeral, non-RPW erosional feature that is a tributary to Tributary 2, and thus to Cable Creek. Its entire reach is located within the eastern portion of the project site west of Tributary 6 (Figures 5e, 5g, 5i, 6e, 6g, and 6i). This feature flows southerly towards the seasonal wetland, where its discernable OHWM falls out just north of the seasonal wetland area, where surface flows appear to slow, percolate, and go subsurface. Underground flows enter the seasonal wetland area, thereby establishing a hydrological connection with Tributary 2. This tributary is not identified on the USGS map as a blue-line stream. The source of water into Tributary 7 appears to be the upstream watershed directly north of the tributary within Meyers Canyon. The active channel is primarily unvegetated, and vegetation along the banks consists of an upland sage scrub community.

No potential wetland features were apparent, namely, hydrophytic vegetation; therefore, no data points were taken. No surface flows were observed within Tributary 7 during the delineation. Transect data for Tributary 7 reveals both the OHWM for the active channel and CDFG jurisdiction measuring at approximately two feet. Approximately 0.110 acre of Tributary 7 occurs within the project site that could fall under the jurisdiction of the Corps, RWQCB, and CDFG.

Of the 0.110 total acre of potential Corps, RWQCB, and CDFG jurisdiction delineated for Tributary 7 within the project site, approximately 0.105 acre could be impacted by the proposed project (Figure 7 and Figure 8).

Tributary 8 (T8)

Tributary 8 is an ephemeral, non-RPW erosional feature that is a tributary to Tributary 2, and thus to Cable Creek. The near entirety of its reach is encompassed within the eastern portion of the project site, west of Tributary 7 (Figures 5e, 5g, 6e, and 6g). This tributary is not identified on the USGS map as a blue-line stream. The source of water into Tributary 8 appears to be the upstream watershed directly north of the tributary within Meyers Canyon. The active channel is primarily unvegetated, and vegetation along the banks consists of an upland sage scrub community.

No potential wetland features were apparent, namely, hydrophytic vegetation; therefore, no data points were taken. No surface flows were observed within Tributary 8 during the delineation. Transect data for Tributary 8 reveals the OHWM for the active channel measuring at approximately two to eight feet wide, with an average width of approximately 5.0 feet. Approximately 0.193 acre of Tributary 8 that occurs within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 8.5 feet. Approximately 0.592 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.193 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 8 within the project site, approximately 0.166 acre could be impacted by the proposed project (Figure 7). Additionally, of the 0.592 total acre of potential CDFG jurisdiction delineated for Tributary 8 within the project site, approximately 0.476 acre could be impacted by the proposed project (Figure 8).

Tributary 9 (T9)

Tributary 9 is an ephemeral, non-RPW erosional feature that is a tributary to Tributary 10 (discussed below) and thus Cable Creek. This feature is located between Tributary 8 and Tributary 10 in the central portion of the project site (Figures 5f and 6f). This tributary is not identified on the USGS map as a blue-

line stream. The entirety of this feature is contained within the project site. The source of water into Tributary 9 is runoff that sheet flows over the shallow-sloping fan through the central portion of the project site.

No potential wetland features were apparent, namely, hydrophytic vegetation; therefore, no data points were taken. No surface flows were observed within Tributary 8 during the delineation. An average OHWM of two feet and CDFG streambed jurisdiction of 6.5 feet was estimated for this tributary. The entire approximately 0.035 acre of Tributary 9 could fall under the jurisdiction of the Corps and RWQCB, and 0.114 acre could fall under CDFG jurisdiction.

Of the 0.035 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 9 within the project site, the entire 0.035 acre could be impacted by the proposed project (Figure 7). Similarly, of the 0.114 total acre of potential CDFG jurisdiction delineated for Tributary 9 within the project site, the entire 0.114 acre could be impacted by the proposed project (Figure 8).

Tributary 10 (T10)

Tributary 10 is an ephemeral, non-RPW erosional feature that is a tributary to Tributary 2 and thus Cable Creek, and is located in the central portion of the project site (Figures 5f, 5i, 6f, and 6i). This tributary is not identified on the USGS map as a blue-line stream. Similar to Tributary 9, the source of water into Tributary 10 appears to be runoff that sheet flows over the central portion of the project site. The active channel is primarily unvegetated, and vegetation along the banks consists of southern willow scrub and California walnut woodland communities. No surface flows were observed within Tributary 10 during the delineation.

One data point (DP05) was taken within this feature. Results reveal that wetland conditions are present within and adjacent to the active channel at DP05, where Tributary 10 flows in a southerly direction through the seasonal wetland towards Tributary 2. This confirmed wetland area occurs within the larger unconfirmed seasonal wetland problem area. Hydrophytic vegetation was dominated by California blackberry and wild grape and sediment deposition was the primary wetland hydrology indicator. While no observed hydric soil indicators were present, the soils that occur along this drainage (Tujunga Gravelly Loamy Sand; TvC) are listed as hydric by NRCS.

Transect data for Tributary 10 reveals the OHWM for the active channel measuring at approximately two to six feet wide, with an average width of approximately 4.0 feet. Approximately 0.085 acre of Tributary 10 that occurs within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 6.5 to 12.5 feet wide, with an average width of approximately 9.5 feet. Approximately 0.278 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.085 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 10 within the project site, the entire 0.085 acre could be impacted by the proposed project (Figure 7). Similarly, of the 0.278 total acre of potential CDFG jurisdiction delineated for Tributary 10 within the project site, the entire 0.278 acre could be impacted by the proposed project (Figure 8).

Cable Canyon

Cable Canyon is identified on the USGS map as a blue-line intermittent stream that originates from the San Bernardino Mountains, and becomes Cable Creek where it emerges from the canyon. Specifically, Cable Canyon headwaters emerge from the West and East Forks, and flow in a southerly direction

through the northwestern corner of the project site, where they converge with a tributary (T17), flowing from the east (Figures 5d and 6d). Cable Canyon is an intermittent RPW tributary to Cable Creek, Cajon Creek, Lytle Creek, and the Santa Ana River, a perennial RPW that flows to the Pacific Ocean, a traditional navigable water (TNW).

Cable Canyon is an earthen-bottom feature comprised of rocky alluvium and steep banks. The majority of this drainage is unvegetated within the active channel, with riparian vegetation along the banks. Dominant vegetation observed along the banks includes species associated with the southern sycamore-alder riparian woodland community previously described.

A data point (DP07) was taken immediately southwest of the project boundary along Cable Canyon due to limited access to this area (Figure 5c). This data point is considered a representative sample of the portion of Cable Canyon that flows through the westernmost portion of the project site. The data sheet for this soil pit (available in Appendix A) concludes that while hydrophytic vegetation and wetland hydrology were present, the soils do not meet the hydric criteria. Surface flows were present at the time of the delineation. The OHWM for the active channel measures approximately 11.5 feet wide. Jurisdiction under the CDFG measures at approximately 105 feet. Approximately 0.107 acre within the proposed project could fall under the jurisdiction of the Corps and RWQCB, and approximately 1.886 acres of this tributary could fall under CDFG jurisdiction.

Of the 0.107 total acre of potential Corps and RWQCB jurisdiction delineated for Cable Canyon within the project site, approximately 0.002 acre could be impacted by the proposed project (Figure 7). Additionally, of the 1.886 total acres of potential CDFG jurisdiction delineated for Cable Canyon within the project site, approximately 0.230 acre could be impacted by the proposed project (Figure 8).

West Fork

The West Fork of Cable Canyon is identified on the USGS map as a blue-line perennial stream, and would therefore be considered a RPW under Corps jurisdiction. In comparison to the main channel of Cable Canyon, the OHWM narrows farther upstream where the canyon splits into the West Fork and East Fork. One transect and one soil pit (DP09) was taken at the West Fork (Figures 5a, 5d, 6a, and 6d). This fork measures an average of 5.5 feet at the OHWM, and 84 feet at CDFG jurisdiction. The soil pit was taken approximately 14 feet west of the active channel, along the west bank, and surface flows were observed at the time of the delineation. Results of this sample reveal that wetland conditions are present adjacent to the active channel of the West Fork. These wetlands comprise approximately 2.597 acres along this fork. An estimated 2.674 acres within the proposed project could fall under the jurisdiction of the Corps, RWQCB, and CDFG.

Of the 2.674 total acres of potential Corps, RWQCB, and CDFG jurisdiction delineated for the West Fork within the project site, approximately 0.061 acre could be impacted by the proposed project (Figures 7 and 8).

East Fork

The East Fork of Cable Canyon is identified on the USGS map as a blue-line perennial stream, and would therefore be considered a RPW under Corps jurisdiction. Two soil pits (DP08 and DP10) were taken at the East Fork (Figures 5a, 5d, 6a, and 6d). Surface flows were observed at the time of the delineation. This fork measures an average of 3.3 feet at the OHWM, and 44 feet at CDFG jurisdiction. Results of the

sample at DP10 reveal that wetland conditions are present adjacent to the active channel of the East Fork. These wetlands comprise approximately 2.135 acres along this fork.

The upstream areas of the East Fork as well as a small tributary to this fork (Tributary 14) were inaccessible during the field delineation. Therefore, estimated jurisdictional acreages for these upstream areas have been calculated based on aerial imagery, visual observation (from upland vantage points), and previous vegetation mapping. Based on previous vegetation mapping, the vegetation along the East Fork and Tributary 14 consists of an expansive southern sycamore-alder riparian woodland riparian canopy (MBA 2007).

An estimated 2.333 acres within the East Fork could fall under the jurisdiction of the Corps, RWQCB, and CDFG. Approximately 0.081 acre of the East Fork within potential Corps, RWQCB, and CDFG jurisdiction could be impacted by the proposed project (Figures 7 and 8).

An estimated 0.078 acre of Tributary 14 could fall under the jurisdiction of the Corps and RWQCB, and 0.374 acre could fall under the jurisdiction of the CDFG. Approximately 0.031 acre of Tributary 14 within potential Corps and RWQCB jurisdiction could be impacted by the proposed project (Figure 7), and approximately 0.137 acre of Tributary 14 within potential CDFG jurisdiction could be impacted by the proposed project (Figure 8).

Tributary 11

Tributary 11 is a drainage feature that is an ephemeral, non-RPW tributary to the West Fork of Cable Canyon and thus Cable Creek. It is located in the western portion of the project site where it converges with the West Fork along its west bank (Figures 5d and 6d). This tributary is not identified on the USGS map as a blue-line stream. The source of water into Tributary 11 appears to be from a small watershed directly north of the tributary stemming from a canyon. The active channel is primarily unvegetated, and vegetation along the banks consists of an upland chaparral community.

No potential wetland features were present; therefore, no data points were taken. No surface flows were observed within Tributary 10 during the delineation. Transect data for Tributary 11 reveals the OHWM for the active channel measuring at approximately three to 3.5 feet wide, with an average width of approximately 3.3 feet. Approximately 0.065 acre within the proposed project could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately five to 12.5 feet wide, with an average width of approximately 8.8 feet. Approximately 0.072 acre of this tributary could fall under CDFG jurisdiction. However, Tributary 11 would not be impacted by the proposed project.

Tributary 12

Tributary 12 is a drainage feature that is an ephemeral, non-RPW tributary to the West Fork of Cable Canyon and thus Cable Creek. It is located in the northwestern portion of the project site converges with the West Fork along its west bank (Figures 5a and 6a). This tributary is not identified on the USGS map as a blue-line stream and the source of water into Tributary 12 is unknown. Vegetation along this drainage has been previously mapped to be canyon live oak woodland (MBA 2007).

Access to this tributary was not available at the time of the delineation; therefore, field data was not obtained. An estimation of jurisdictional acreages were obtained based on aerial imagery, which identified approximately 0.023 acre of potential Corps and RWQCB jurisdictional areas within the project

site, and 0.035 acre of potential CDFG jurisdictional areas. However, Tributary 12 would not be impacted by the proposed project.

Tributary 13

Tributary 13 is a drainage feature that is an ephemeral, non-RPW tributary to the West Fork of Cable Canyon and thus Cable Creek. It is located in the northwestern portion of the project site converges with the West Fork along its west bank (Figures 5a and 6a). This tributary is not identified on the USGS map as a blue-line stream and the source of water into Tributary 13 is unknown. Vegetation along this drainage has been previously mapped to be northern mixed chaparral (MBA 2007).

Access to this tributary was not available at the time of the delineation; therefore, field data was not obtained and quantifying acreages is based on aerial imagery and closest data points/transects taken. An estimated 0.022 acre within this feature could fall under the jurisdiction of the Corps and RWQCB, and an estimated 0.033 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.022 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 13 within the project site, approximately 0.001 acre could be impacted by the proposed project (Figure 7). Additionally, of the 0.033 total acre of potential CDFG jurisdiction delineated for Tributary 13 within the project site, approximately 0.001 acre could be impacted by the proposed project (Figure 8).

Tributary 15

Tributary 15 is a drainage feature that is an ephemeral, non-RPW tributary to Tributary 17 (T17) and thus Cable Creek, and it is located in the northern central portion of the project site (Figures 5b, 5e, 6b, and 6e). This tributary is not identified on the USGS map as a blue-line stream and the source of water into Tributary 15 is unknown. The active channel is primarily unvegetated, and vegetation along the banks consists of southern sycamore-alder riparian woodland species.

No potential wetland features were present; therefore, no data points were taken. No surface flows were observed during the delineation. Transect data for Tributary 15 reveals the OHWM for the active channel measuring at approximately one to two feet wide, with an average width of approximately 1.3 feet. Approximately 0.067 acre within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 3.5 to 6.5 feet wide, with an average width of approximately 4.5 feet. Approximately 0.236 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.067 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 15 within the project site, approximately 0.046 acre could be impacted by the proposed project (Figure 7). Additionally, of the 0.236 total acre of potential CDFG jurisdiction delineated for Tributary 15 within the project site, approximately 0.160 acre could be impacted by the proposed project (Figure 8).

Tributary 16

Tributary 16 is an ephemeral, non-RPW feature that is a tributary to Tributary 17 and thus Cable Creek, and it is located in the northern eastern portion of the project site (Figures 5e and 6e). This tributary is not identified on the USGS map as a blue-line stream, and the source of water into Tributary 16 is from the Cable Canyon watershed. The active channel is primarily unvegetated, and vegetation along the banks consists of southern willow scrub and California walnut woodland communities.

No potential wetland features were present; therefore, no data points were taken. No surface flows were observed during the delineation. Transect data for Tributary 16 reveals the OHWM for the active channel measuring approximately two feet wide. An estimated 0.042 acre within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 10 feet wide. An estimated 0.213 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.042 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 16 within the project site, approximately 0.018 acre could be impacted by the proposed project (Figure 7). Additionally, of the 0.213 total acre of potential CDFG jurisdiction delineated for Tributary 16 within the project site, approximately 0.091 acre could be impacted by the proposed project (Figure 8).

Tributary 17

Tributary 17 is an intermittent non-RPW feature that is a direct tributary to Cable Canyon, and it is located in the northern eastern portion of the project site between Tributary 16 and Tributary 18 (Figures 5d, 5e, 6d, and 6e). This tributary is identified on the USGS map as an intermittent blue-line stream, and the source of water into Tributary 17 is from the Cable Canyon watershed. The active channel is primarily unvegetated, and vegetation along the banks consists of southern willow scrub and California walnut woodland communities.

No potential wetland features were present; therefore, no data points were taken. No surface flows were observed during the delineation. Transect data for Tributary 17 reveals the OHWM for the active channel measuring at approximately two to 12 feet wide, with an average width of approximately 4.8 feet. Approximately 0.186 acre within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 16.5 to 35 feet wide, with an average width of approximately 23.1 feet. Approximately 1.156 acres of this tributary could fall under CDFG jurisdiction.

Of the 0.186 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 17 within the project site, approximately 0.154 acre could be impacted by the proposed project (Figure 7). Additionally, of the 1.156 total acres of potential CDFG jurisdiction delineated for Tributary 17 within the project site, approximately 0.947 acre could be impacted by the proposed project (Figure 8).

Tributary 18

Tributary 18 is an ephemeral, non-RPW feature that is a direct tributary to Tributary 17 and thus Cable Creek, and it is located in the northern eastern portion of the project site immediately south of Tributary 17 (Figures 5e and 6e). This tributary is not identified on the USGS map as a blue-line stream, and the source of water into Tributary 18 is from the Cable Canyon watershed. This feature would be considered an ephemeral drainage and a non-RPW. The active channel is primarily unvegetated, and vegetation along the banks consists of eucalyptus and non-native grassland communities.

No potential wetland features were present; therefore, no data points were taken. No surface flows were observed during the delineation. Transect data for Tributary 18 reveals the OHWM for the active channel measuring at approximately two feet wide. An estimated 0.053 acre within the project site could fall under the jurisdiction of the Corps and RWQCB. Jurisdiction under the CDFG measures at approximately 15 feet wide, and an estimated 0.397 acre of this tributary could fall under CDFG jurisdiction.

Of the 0.053 total acre of potential Corps and RWQCB jurisdiction delineated for Tributary 18 within the project site, approximately 0.027 acre could be impacted by the proposed project (Figure 7). Additionally, of the 0.397 total acre of potential CDFG jurisdiction delineated for Tributary 18 within the project site, approximately 0.201 acre could be impacted by the proposed project (Figure 8).

6.0 SUMMARY OF FINDINGS AND PROPOSED IMPACTS

The jurisdictional delineation field survey results conclude that approximately 12.659 acres within the project site could be under the jurisdiction of the Corps and RWQCB. These results are summarized in Table 1 and identified as existing non-wetland and wetland acreages. The project site could also support approximately 23.256 acres of streambed and banks, and associated riparian vegetation that could fall under the regulatory authority of CDFG. These results are also shown in Table 2.

Potential impacts to each feature resulting from the proposed project have also been quantified and incorporated into Table 1 and Table 2 and identified in Figure 7 and Figure 8. As shown in Table 1, potential impacts to Corps and RWQCB jurisdictional areas as a result of the proposed project total approximately 7.37 acres. As shown in Table 2, potential impacts to CDFG jurisdictional areas as a result of the proposed project total 9.372 acres. Based on the most recent site plans prepared for the Spring Trails Specific Plan, Tributary 11 and Tributary 12 will not be impacted by the proposed project. All other hydrogeomorphic features within the project site, or portions thereof, will be impacted by the proposed project.

Table 1 Existing Acreages and Potential Impacts to Corps and RWQCB Jurisdictional Areas

Hydrogeomorphic Feature	Corps Jurisdiction				RWQCB Jurisdiction			
	EXISTING	IMPACTS	EXISTING	IMPACTS	EXISTING	IMPACTS	EXISTING	IMPACTS
	Non-Wetland Acres	Non-Wetland Acres	Wetland Acres	Wetland Acres	Non-Wetland Acres	Non-Wetland Acres	Wetland Acres	Wetland Acres
Tributary 2	0.250	0.225	0.058	0.058	0.250	0.225	0.058	0.058
Tributary 6	0.056	0.052	0.000	0.000	0.056	0.052	0.000	0.000
Tributary 7	0.110	0.105	0.000	0.000	0.110	0.105	0.000	0.000
Tributary 8	0.193	0.166	0.000	0.000	0.193	0.166	0.000	0.000
Tributary 9	0.035	0.035	0.000	0.000	0.035	0.035	0.000	0.000
Tributary 10	0.085	0.085	0.000	0.000	0.085	0.085	0.000	0.000
Tributary 11	0.065	0.000	0.000	0.000	0.065	0.000	0.000	0.000
Tributary 12	0.023	0.000	0.000	0.000	0.023	0.000	0.000	0.000
Tributary 13	0.022	0.001	0.000	0.000	0.022	0.001	0.000	0.000
Tributary 14	0.078	0.031	0.000	0.000	0.078	0.031	0.000	0.000

Table 1 (Cont.) Existing Acreages and Potential Impacts to Corps and RWQCB Jurisdictional Areas

Hydrogeomorphic Feature	Corps Jurisdiction				RWQCB Jurisdiction			
	EXISTING	IMPACTS	EXISTING	IMPACTS	EXISTING	IMPACTS	EXISTING	IMPACTS
	Non-Wetland Acres	Non-Wetland Acres	Wetland Acres	Wetland Acres	Non-Wetland Acres	Non-Wetland Acres	Wetland Acres	Wetland Acres
Tributary 15	0.067	0.046	0.000	0.000	0.067	0.046	0.000	0.000
Tributary 16	0.042	0.018	0.000	0.000	0.042	0.018	0.000	0.000
Tributary 17	0.186	0.154	0.000	0.000	0.186	0.154	0.000	0.000
Tributary 18	0.053	0.027	0.000	0.000	0.053	0.027	0.000	0.000
Cable Canyon	0.107	0.002	0.000	0.000	0.107	0.002	0.000	0.000
Cable Canyon, West Fork	0.077	0.001	2.597	0.061	0.077	0.001	2.597	0.061
Cable Canyon, East Fork	0.198	0.009	2.135	0.072	0.198	0.009	2.135	0.072
Seasonal Wetland	0.000	0.000	6.222	6.222	0.000	0.000	6.222	6.222
Total	1.647	<u>0.957</u>	11.012	<u>6.413</u>	1.647	<u>0.957</u>	11.012	<u>6.413</u>

Table 2 Existing Acreages and Potential Impacts to CDFG Jurisdictional Areas

Hydrogeomorphic Feature	Existing CDFG Jurisdictional Acres	Impacts to CDFG Jurisdictional Acres
Tributary 2	6.150	6.132
Tributary 6	0.380	0.357
Tributary 7	0.110	0.105
Tributary 8	0.592	0.476
Tributary 9	0.114	0.114
Tributary 10	0.278	0.278
Tributary 11	0.072	0.000
Tributary 12	0.035	0.000
Tributary 13	0.033	0.001
Tributary 14	0.374	0.137
Tributary 15	0.236	0.160

Table 2 (Cont.) Existing Acreages and Potential Impacts to CDFG Jurisdictional Areas

Hydrogeomorphic Feature	Existing CDFG Jurisdictional Acres	Impacts to CDFG Jurisdictional Acres
Tributary 16	0.213	0.091
Tributary 17	1.156	0.947
Tributary 18	0.397	0.201
Cable Canyon	1.886	0.230
Cable Canyon, West Fork	2.674	0.062
Cable Canyon, East Fork	2.333	0.081
Wetland (Southern Willow Scrub/California Walnut Woodland)	6.222	6.222
Total	23.256	<u>9.372</u>

7.0 SUPPLEMENTAL INFORMATION

Directions to the Spring Trails Project Site

Regional access to the project site is via the I-215 freeway, exiting at the Palm Avenue interchange. Local access is currently provided by Little League Drive, north to Meyers Road, which is taken westerly to Martin Ranch Road, then northerly into the Spring Trails project site.

Contact Information

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Wetland Delineation:	May Lau PBS&J 12301 Wilshire Blvd., Suite 430 Los Angeles, CA 90025 (310) 268-8132	Karl Osmundson PBS&J 9275 Sky Park Court, Suite 200 San Diego, CA 92123 (858) 674-1810
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Appendix A

Data Sheet

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-06-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP01
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.12.794 (N) Long: 117.22.312 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Tributary 2 (T2) OHWM = 2' CDFG = 67'	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Platanus racemosa</u>	10		FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Salix lasiolepis</u>	20	Y	FACW	
3. _____				
4. _____				
<u>30</u> = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Baccharis salicifolia</u>	50	Y	FACW	
2. <u>Sambucus mexicana</u>	5		FACU	
3. _____				
4. _____				
5. _____				
<u>55</u> = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Bromus diandrus</u>	15	Y	UPL	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>15</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____				
2. _____				
<u>100</u> = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-06-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP02
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.13.092 (N) Long: 117.22.260 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
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Remarks: Tributary 2 (T2)
 OHWM = 4'
 CDFG = 19'

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>60</u> (A) <u>110</u> (B) Prevalence Index = B/A = <u>1.8</u>
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>Baccharis salicifolia</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)				
1. <u>Helianthus californicus</u>	<u>10</u>	_____	<u>OBL</u>	
2. <u>Unidentified fern</u>	<u>40</u>	<u>Y</u>	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <u>X</u> 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.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-06-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP03
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.13.168 (N) Long: 117.22.088 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: By Tributary 2 (T2).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species _____ x 3 = _____ FACU species <u>75</u> x 4 = <u>300</u> UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>3.4</u>
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>Juncus mexicanus</u>	<u>15</u>	_____	<u>FACW</u>	
2. <u>Pteridium aquilinum</u>	<u>75</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)				
1. <u>Helianthus californicus</u>	<u>10</u>	_____	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
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.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-06-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP04
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.13.296 (N) Long: 117.22.032 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Tributary 2 (T2) OHWM = 3.5' CDFG = 19.5'	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Platanus racemosa</u>	10		FACW	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)	
2. _____					
3. _____					
4. _____					
5. _____					
10 = Total Cover				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 = _____	
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)					
1. <u>Mimulus auranticus</u>	20	Y	UPL		
2. <u>Eriogonum fasciculatum</u>	20	Y	UPL		
3. _____					
4. _____					
5. _____					
40 = Total Cover					
Herb Stratum (Plot size: <u>1m x 1m</u>)					
1. <u>Artemisia dracunculus</u>	10		UPL	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.	
2. <u>Ericameria sp.</u>	10		UPL		
3. <u>Salvia apiana</u>	10		UPL		
4. <u>Lotus scoparius</u>	10		UPL		
5. <u>Hirschfeldia incana</u>	10		UPL		
6. _____					
7. _____					
8. _____					
50 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
2. _____					
100 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks:					

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-06-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP05
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.13.121 (N) Long: 117.22.227 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Tributary 10 (T10) OHWM = 6' CDFG = 8.5'	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	5		FACW	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)
2. _____				
3. _____				
4. _____				
5 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>95</u> (A) <u>230</u> (B) Prevalence Index = B/A = <u>2.4</u>
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Baccharis salicifolia</u>	10	Y	FACW	
2. <u>Mimulus auranticus</u>	5		UPL	
3. _____				
4. _____				
5. _____				
15 = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				<input type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present.
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Vitis californica</u>	40	Y	FACW	
2. <u>Rubus ursinus</u>	40	Y	FAC+	
80 = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-06-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP06
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 34.13.184 (N) Long: 117.22.182 (W) Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil , or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: See problematic soil remarks. Wetland conditions present.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix lasiolepis</u>	5		FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>50</u> (A) <u>60</u> (B) Prevalence Index = B/A = <u>1.2</u>
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>Baccharis salicifolia</u>	5		FACW	
2. _____				
3. _____				
4. _____				
5. _____				
<u>5</u> = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)				
1. <u>Typha latifolia</u>	40	Y	OBL	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <input checked="" type="checkbox"/> 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.
2. <u>Oenothera biennis</u>	20			
3. <u>Unidentified sedge</u>	30	Y		
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks:				

SOIL

Sampling Point: DP06

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 2/1	100	N/A				silty loam	very dark
6-19	10 YR 2/1	100	N/A				silty	matrix color is close to 2.5/10Y gley

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: 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 Soils³:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No distinct hydric soil indicators present. Soil type is not listed as hydric on NRCS Hydric Soils List. However, soils border hydric soils on project site, and slightly gleyed matrix (although does not meet definition of loamy gleyed matrix) indicates prolonged saturation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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 Plowed Soils (C6)
- 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): 0
 Water Table Present? Yes _____ No X Depth (inches): 0
 Saturation Present? Yes _____ No X Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Moist at 6" +.
 No drainage patterns.
 Data point taken within seasonal wetland adjacent to T2 and T10.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-07-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP07
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 34.13.611 (N) Long: 117.22.572 (W) Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Cable Canyon – data point taken immediately south of southern boundary of Cable Creek. OHWM = 11.5' CDFG = 105'	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix lasiolepis</u>	10		FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Alnus rhombifolia</u>	10		FACW	
3. <u>Salix exigua</u>	10		FACW	
4. _____				
30 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>85</u> x 2 = <u>170</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>100</u> (A) <u>245</u> (B) Prevalence Index = B/A = <u>2.5</u>
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Baccharis salicifolia</u>	55	Y	FACW	
2. <u>Mimulus auranticus</u>	5		UPL	
3. <u>Tamarix sp.</u>	5		UPL	
4. _____				
5. _____				
65 = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Melilotus alba</u>	5		UPL	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
5 = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No _____

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-07-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP08
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.13.742 (N) Long: 117.22.327 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Cable Canyon (East Fork) OHWM = 2.5' CDFG = 44'	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Platanus racemosa</u>	5		FACW	
2. <u>Juglans californica</u>	5		FAC	
3. _____				
4. _____				
	10	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		= Total Cover		
Herb Stratum (Plot size: <u>1m x 1m</u>)				
1. <u>Hirschfeldia incana</u>	20		UPL	
2. <u>Urtica dioica</u>	65	Y	FACW	
3. <u>Wyethia mollis</u>	5			
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
	90	= 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: 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:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No _____

Remarks:

SOIL

Sampling Point: DP08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 2/2	100	N/A				silty loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Vernal Pools (F9)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
--	--

Remarks:
No soil indicators present, and soil type is not map as hydric by NRCS Hydric Soils List.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
---	--

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

Remarks:
Surface water present. Artificial hydrology – conveyance and frequency of flows appear to be controlled through pipes.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-07-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP09
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 34.13.882 (N) Long: 117.22.369 (W) Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Adjacent wetland 14 feet from west bank of active Cable Canyon (West Fork) OHWM = 4 ft. CDFG = from aerial	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Alnus rhombifolia</u>	10		FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____					
3. _____					
4. _____					

<u>10</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>1.5</u>	
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Baccharis salicifolia</u>	10		FACW		Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____					
3. _____					
4. _____					
5. _____					
<u>10</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present.	
Herb Stratum (Plot size: <u>1m x 1m</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Typha latifolia</u>	50	Y	OBL		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. <u>Urtica dioica</u>	30	Y	FACW		
3. _____					
4. _____					
5. _____					
<u>80</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks:					

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Spring Trails (Project Site) City/County: San Bernardino Sampling Date: 07-07-2009
 Applicant/Owner: Montecito Equities, Ltd State: CA Sampling Point: DP10
 Investigator(s): May Lau; Karl Osmundson Section, Township, Range _____

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

Subregion (LRR): _____ Lat: 34.13.909 (N) Long: 117.22.281 (W) Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks: Pit immediately adjacent to Cable Canyon (East Fork) on east bank.
 OHWM = 4'
 CDFG = GIS

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	20		FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>20</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>80</u> x 2 = <u>160</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.0</u>
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Baccharis salicifolia</u>	60	Y	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
<u>60</u> = Total Cover				
Herb Stratum (Plot size: <u>1m x 1m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <u>X</u> 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.
1. <u>Oenothera biennis</u>	20			
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>20</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

Appendix B

Photographs

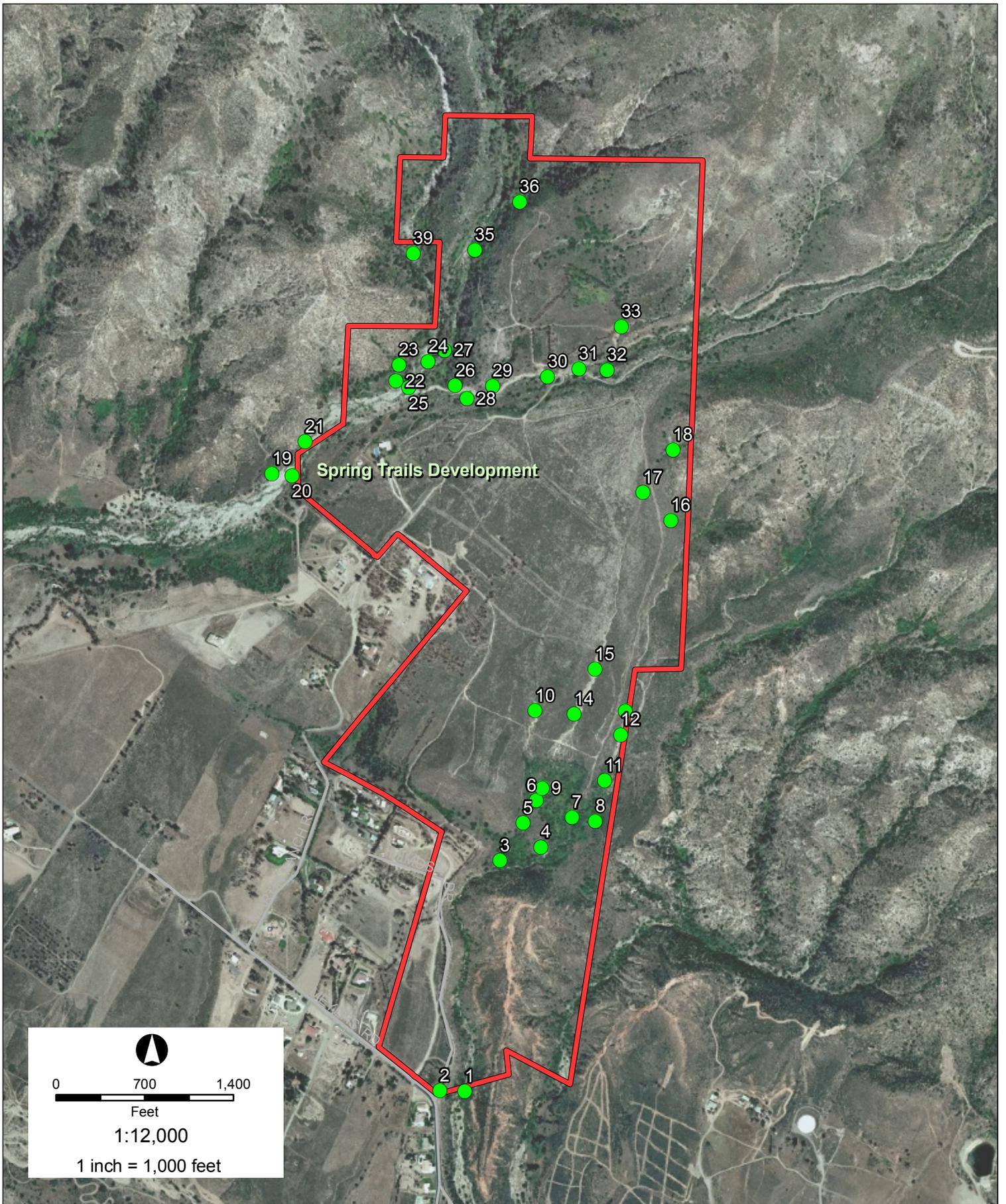


Photo Locations

● Photo Location



Photo 1: Upstream view of sample pit taken at DP01 within lower reach of Tributary 2, facing north. Field data confirmed the absence of wetlands within this area.



Photo 2: Downstream overview of lower reach of Tributary 2 within the project site, facing southwest.



Photo 3: Upstream view of DP02 within middle reach of Tributary 2, facing northeast. Surface flows were observed and field data determined the presence of wetland conditions within this area.



Photo 4: Upstream view of middle reach of Tributary 2, facing east. A steep grade and narrow channel was observed within this section of Tributary 2.



Photo 5: Cross-sectional view of DP05 taken within the lower reach of Tributary 10, facing northeast. Wetland conditions were confirmed at this location.



Photo 6: Overview of western portions of seasonal wetland area in southern-central portions of the site, facing north. The seasonal wetland is depicted in the mid-ground and adjacent uplands in the foreground.



Photo 7: Overview of eastern portions of seasonal wetland area in southern-central portions of the site, facing north.



Photo 8: North-facing view of DP03 taken at the riparian drip-line within the middle reach of Tributary 2. No wetland conditions were determined to exist at this location.

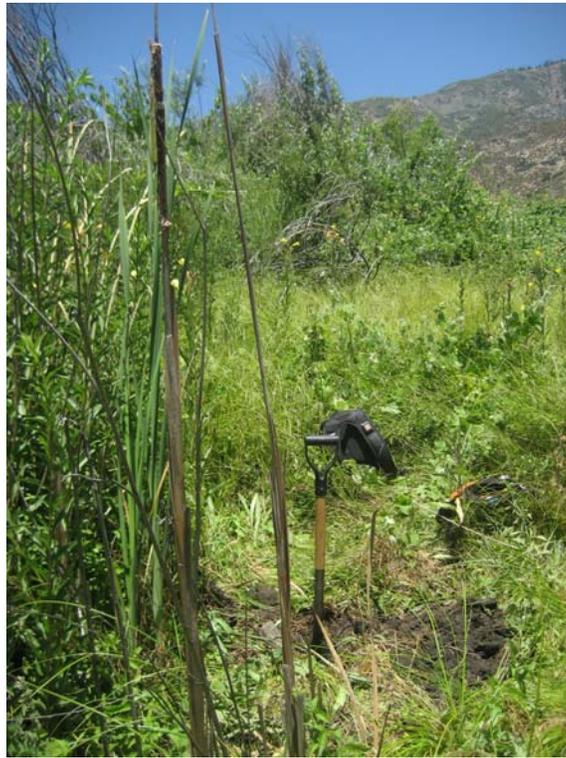


Photo 9: View of sample pit taken at DP06 within seasonal wetland area, facing north. This area was determined a potential problem area due to the lack of obvious hydric soil indicators, but dominance of hydrophytic vegetation and presence of hydrology indicators.

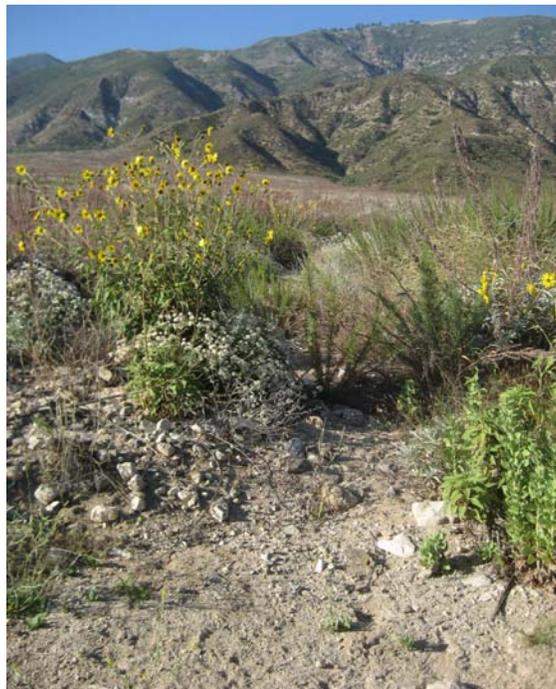


Photo 10: Upstream view of Tributary 9 taken upstream of seasonal wetland area, facing north. This feature is one of four ephemeral erosional features that occur in the central portions of the site.



Photo 11: Downstream overview of upper reach of Tributary 2, facing south.



Photo 12: View of sample pit taken at DP04, facing north and upstream. No wetland conditions were determined to exist at this location.



Photo 13: Upstream overview of upper reach of Tributary 2, facing northeast.



Photo 14: Downstream view of lower reach of Tributary 8, facing south. Tributary 8 is one of four ephemeral erosional features that traverse the central portions of the site.



Photo 15: Upstream view of middle reach of Tributary 8, facing north. Note incised banks and dominance of homogeneous, upland alluvial fan sage scrub.



Photo 16: Downstream view of upper reach and origin of Tributary 7, facing southwest. This feature runs parallel to an existing dirt access road (depicted on right side of photo) throughout its entire reach. Tributary 7 is one of four ephemeral erosional features that drain the alluvial fan in the central portions of the site.



Photo 17: Downstream view looking across the alluvial fan at the middle reach of Tributary 8, facing southwest.



Photo 18: Upstream view of upper reach of Tributary 8, facing northeast. The headwaters and watershed for Tributary 8 are depicted in the background.



Photo 19: Downstream overview of lower reach of Cable Creek floodplain as it discharges from the site, facing southwest. Note broad bench and terrace in foreground and riparian canopy along main channel in background.



Photo 20: View of sample pit taken at DP07 within lower reach of Cable (Canyon) Creek, facing southeast. This sample point was taken at an access point immediately downstream and west of the project site. Perennial flows and wetland conditions were observed within the active channel at this location.



Photo 21: Upstream view of lower reach of Cable (Canyon) Creek, facing northeast. Photo taken from upland bench. Note sycamore-alder-willow riparian canopy associated within active channel in mid-ground.



Photo 22: Upstream view of lower reach of Tributary 11, facing north.



Photo 23: Downstream view of lower reach of Tributary 11, facing north. Cable (Canyon) Creek is depicted in background.

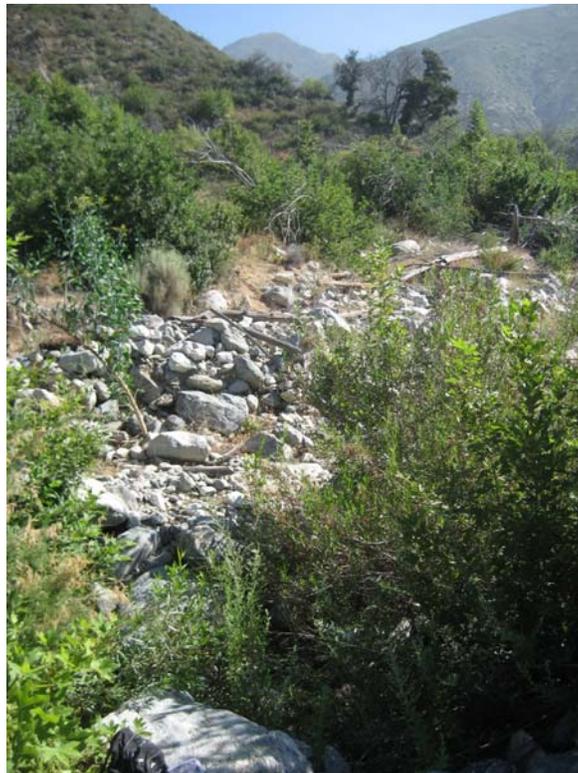


Photo 24: Upstream view of middle reach of Cable Canyon, facing north.



Photo 25: Downstream view of lower reach of Tributary 17 and confluence with Cable Canyon, facing west.



Photo 26: Upstream view of lower reach of Tributary 17, facing east.



Photo 27: View sample pit taken at DP08, facing north. Normal conditions are not present at this location as it occurs below the outfall drain and valve switch for a plastic water pipe. The area is occasionally subjected to artificial inundation when the valve is open.



Photo 28: Downstream view of lower reach of Tributary 17, facing west.



Photo 29: Upstream view of middle reach of Tributary 17 (foreground and right) where Tributary 15 (background left) converges, facing northeast.



Photo 30: Downstream view of middle reach of Tributary 17, facing west. Photo taken from existing dirt access road that intersects the drainage feature.



Photo 31: Upstream view of upper reach of Tributary 17, facing northeast. Photo taken from existing dirt access road that intersects the drainage feature.



Photo 32: Downstream view of lower reach of Tributary 18, facing west. This feature converges with Tributary 17 approximately 300 feet downstream as depicted in mid-ground of the photo.

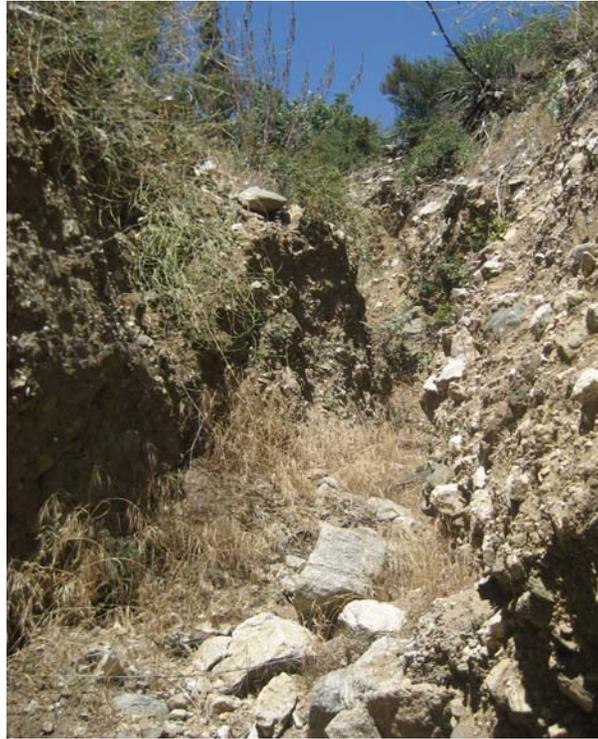


Photo 33: Upstream view of lower reach of Tributary 16, facing northeast. Photo taken immediately upstream of confluence with Tributary 17.



Photo 34: View of typical abutting wetland area at DP09 within upper reach of Cable Canyon (West Fork). Sample taken immediately outside of active channel.



Photo 35: Upstream view of sample pit taken at DP10 within Cable Canyon (East Fork), facing northeast. Wetland conditions were confirmed abutting the active channel.



Photo 36: Overview of upper reaches of East Fork (foreground) and West Fork (background) of Cable Canyon, facing northwest. These areas were inaccessible by foot due to steep terrain and extremely dense vegetation.