

APPENDIX E: JURISDICTIONAL DELINEATION LETTER

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GLENN LUKOS ASSOCIATES

Regulatory Services



August 1, 2019

Konnie Dobрева
EPD Solutions, Inc.
2030 Main Street
Suite 1200
Irvine, California 92614

SUBJECT: Jurisdictional Delineation for the Approximately 116-Acre Palomino Business Park Project, Located in Norco, Riverside County, California.

Dear Ms. Dobрева:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) jurisdiction for the above-referenced property.¹

The Palomino Business Park Project (Project) site in Norco, Riverside County [Exhibit 1], comprises approximately 116 acres and contains one blue-line drainages (as depicted on the U.S. Geological Survey (USGS) topographic map Corona North, California [dated 2018]) [Exhibit 2]. On April 5, 2019, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the project site to determine the limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act, (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. Enclosed is a 175-scale map [Exhibit 3] that depicts the areas of Corps, Regional Board, and CDFW jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4. A soils map is attached as Exhibit 5. Wetland data sheets are attached as Appendix A.

Potential Corps jurisdiction at the site totals approximately 0.71 acre, none of which consists of jurisdictional wetlands. A total of 2,992 linear feet of streambed is present.

¹ This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the regulatory agencies. Only the regulatory agencies can make a final determination of jurisdictional boundaries. If a final jurisdictional determination is required, GLA can assist in getting written confirmation of jurisdictional boundaries from the agencies.

Potential Regional Board jurisdiction at the site totals approximately 0.71 acre, none of which consists of jurisdictional wetlands. A total of 2,992 linear feet of streambed is present.

CDFW jurisdiction at the site totals approximately 1.03 acres, of which approximately 0.02 acre consist of vegetated riparian habitat. A total of 2,992 linear feet of streambed is present.

I. METHODOLOGY

Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the property, and the previously cited USGS topographic map were examined to determine the locations of potential areas of Corps/Regional Board/CDFW jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Suspected wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual² (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement)³. While in the field the limits of CDFW jurisdiction were recorded onto a color aerial photograph using visible landmarks. Other data were recorded onto wetland data sheets.

The Soil Conservation Service (SCS)⁴ has mapped the following soil types as occurring in the general vicinity of the project site:

Buchenau Loam, Slightly Saline-Alkali, 0 to 2 Percent Slopes (BhA)

The Buchenau series occur on small alluvia fans formed from metasedimentary rocks. They occur at elevations of less than 300 feet to 1,500 feet. Buchenau soils are well to moderately well drained, have medium to very slow runoff, and moderately slow permeability to the hardpan, then very slow. These soils are used for annual grass pasture and dry farmed grain. Vegetation consists of saltgrass and annual grasses, forbs and weeds. Buchenau soils occur on the east side of the San Joaquin Valley and intermountain valleys of southern California. The soils are inextensive, comprising approximately 6,000 acres.

² Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

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

⁴ SCS is now known as the National Resource Conservation Service or NRCS.

Fallbrook Sandy Loam, 8 to 15 Percent Slopes, Eroded (FaD2)
Fallbrook Fine Sandy Loam, 2 to 8 Percent Slopes, Eroded (FfC2)

The Fallbrook series consist of gently rolling to very steep soils on round hills at elevations of 200 to 3,000 feet or as high as 3,500 feet on south facing slopes that formed in material weathered from granite and closely related granitic rocks. Usually the rock is deeply weathered and rock outcrops are common in some areas. Fallbrook soils are well drained, have medium to very rapid runoff, and moderately slow permeability. Extensive areas are used for grazing, but there is important production of irrigated avocados, citrus, truck crops and non-irrigated small grain and hay. Uncultivated areas are mainly annual grasses and forbs with considerable chaparral, chamise, flattop buckwheat and other shrubs. Fallbrook soils occur in the foothills on the east side of the San Joaquin Valley and foothills in the west part of southern California and are extensive.

Hanford Coarse Sandy Loam, 2 to 8 Percent Slopes (HcC)

The Hanford series are found on stream bottoms, floodplains and alluvial fans at elevations of 150 to 3,500 feet with slopes ranging from 0 to 15 percent. The soils formed in deep, moderately coarse textured alluvium dominantly from granite and other quartz bearing rocks of similar texture. Hanford soils are well drained, have negligible to low runoff, and moderately rapid permeability. These soils are used for growing a wide range of fruits, vegetables, and general farm crops. They are also used for urban development and dairies. Vegetation in uncultivated areas is mainly annual grasses and associated herbaceous plants. Hanford soils are widely distributed in the San Joaquin Valley and in the valleys of central and southern California and are extensive.

Placentia Fine Sandy Loam, 0 to 5 Percent Slopes (PIB)
Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PID)

The Placentia series consist of nearly level to moderately sloping soils on fans and terraces at elevations of 50 to 2,500 feet that formed in alluvium from granite and other rocks of similar composition and texture. Placentia soils are well or moderately drained, have slow to rapid runoff, and very slow permeability. These soils are used for the production of citrus, truck crops, small grain, hay, and forage. Most uncultivated areas have annual grasses and forbs. Placentia soils occur mostly in Salinas Valley and coastal parts of southern California and are extensive.

Placentia Fine Sandy Loam, 0 to 5 Percent Slopes (PIB) and Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PID) are identified in the July 2019 hydric soils list for Western Riverside Area,

California⁵. It is important to note that under the Arid West Region Supplement, the presence of mapped hydric soils is no longer dispositive for the presence of hydric soils. Rather, the presence of hydric soils must now be confirmed in the field.

II. JURISDICTION

A. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a)⁶ as:

- (1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
- (2) All interstate waters, including interstate wetlands;*
- (3) The territorial seas;*
- (4) All impoundments of waters otherwise identified as waters of the United States under this section;*
- (5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;*
- (6) All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;*
- (7) All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified in each of paragraphs (a)(7)(i) through (v) of this section are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If water identified in this paragraph are also an adjacent water under paragraph*

⁵ U.S. Department of Agriculture, Natural Resources Conservation Service. State of California Hydric Soils List. Available: < <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>>. Accessed: July 1, 2019.

⁶ U.S. Army Corps of Engineers. Environmental Protection Agency. 2015. *Clean Water Rule: Definition of "Waters of the United States"; Final Rule*.

- (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.*
- (i) Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.*
- (ii) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.*
- (iii) Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.*
- (iv) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.*
- (v) Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.*
- (8) All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.*

The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.

- (1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.*
- (2) Prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other Federal agency, for the purposes of the Clean*

Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

(3) The following ditches:

(i) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(ii) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(iii) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.

(4) The following features:

(i) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(ii) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(iii) Artificial reflecting pools or swimming pools created in dry land;

(iv) Small ornamental waters created in dry land;

(v) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(vi) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(vii) Puddles.

(5) Groundwater, including groundwater drained through subsurface drainage systems.

(6) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and 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, or other appropriate means that consider the characteristics of the surrounding areas.

1. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term “wetlands” (a subset of “waters of the United States”) is defined at 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions.” In 1987 the Corps published a manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the 1987 Wetland Delineation Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual and Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the Arid West 2016 Regional Wetland Plant List^{7, 8});
- soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the 1987 Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with “problematic hydrophytic vegetation”, which require a minimum of 14 days of ponding to be considered a wetland.

B. Regional Water Quality Control Board

Section 401 of the Clean Water Act requires any applicant for a Section 404 permit to obtain certification from the State that the discharge (and the operation of the facility being constructed) will comply with the applicable effluent limitation and water quality standards. In California, this 401 certification is obtained from the Regional Water Quality Control Board. The Corps, by law, cannot issue a Section 404 permit until a 401 certification is issued or waived.

⁷ Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Arid West 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17. Published 28 April 2016.

⁸ Note the Corps also publishes a National List of Plant Species that Occur in Wetlands (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016.); however, the Regional Wetland Plant List should be used for wetland delineations within the Arid West Region.

When a project impacts non-federal waters in addition to federal waters, the Regional Board will issue a single 401 Certification for the entire project that includes water quality certification for all waters of the State impacted as part of the project.

C. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

III. RESULTS

A. Corps Jurisdiction

Corps jurisdiction within the Project site totals approximately 0.71 acre (2,992 linear feet) associated with two drainage features, none of which consists of wetland waters [Exhibit 3A – Corps/RWQCB Jurisdictional Delineation Map].

Upon leaving the site, flows from the confluence of Drainages 1 and 2 continue southwesterly for approximately 0.75 miles and enter the Santa Ana River briefly before discharging into the Prado Flood Control Basin.

1. Drainage 1

Drainage 1 originates within the Project site and extends west for approximately 250 linear feet before turning south for approximately 648 linear feet and entering a reinforced concrete pipe. Drainage 1 re-emerges approximately 415 feet south of the pipe and continues south for approximately 200 linear feet before its confluence with Drainage 2 at which point both drainages enter three large pipe culverts and exit the south just north of First Street. The total length of Drainage 1 is 1,098 linear feet.

Drainage 1 is an ephemeral stream with an earthen bottom and supports an OHWM of 1 to 5 feet. OHWM indicators observed in association with Drainage 1 within the Project site include sediment deposition, presence of litter and debris, and destruction of terrestrial vegetation. The drainage is largely unvegetated; however, the banks and occasionally the channel are vegetated with non-native grasses, predominantly wall barley (*Hordeum murinum ssp. leporinum*, FACU), ripgut brome (*Bromus diandrus*, NI), and little seed canary grass (*Phalaris minor*, NI).

Corps jurisdiction associated with Drainage 1 totals approximately 0.08 acre, all of which consists of non-wetland waters (see Table 1, below).

2. Drainage 2

Drainage 2 originates to the east of Mountain Avenue and flows under the road via three large pipe culverts, flows through the Project site, and confluences with Drainage 2 prior to entering three large pipe culverts under First Street and continuing within offsite Project improvement areas for a total of 2,992 linear feet.

Drainage 2 is an incised, ephemeral stream with a sandy earthen bottom and supports an OHWM of 5 to 23 feet. OHWM indicators observed in association with Drainage 2 within the Project site include shelving, changes in the character of the soil, water staining, presence of litter and debris, and destruction of terrestrial vegetation. The drainage is largely unvegetated; however, approximately two mulefat (*Baccharis salicifolia*, FAC) individuals are present in the channel. The banks and are vegetated with non-native grasses, predominantly wall barley and ripgut brome. Wetland data sheets are attached as Appendix A.

Corps jurisdiction associated with Drainage 2 totals approximately 0.71 acre, all of which consists of non-wetland waters (see Table 1, below).

B. Regional Water Quality Control Board Jurisdiction

All waters within the Project site that were determined to be waters of the United States pursuant to Section 404 of the Clean Water Act are subject to Regional Board jurisdiction pursuant to Section 401 of the Clean Water Act. None of the features at the site were determined to be non-federal waters that would require separate analysis. A summary of Regional Board jurisdiction within the Project site is provided below in Table 1.

Table 1 - Total Corps/Regional Board Jurisdiction within the Project Site

Drainage/ Tributary	Total Non-Wetland Waters	Total Wetland	Total Corps/Regional Board Jurisdiction (acres)	Linear Feet
1	0.08	0	0.08	1,098
2	0.63	0	0.63	1,894
Total	0.71	0	0.71	2,992

C. CDFW Jurisdiction

CDFW jurisdiction within the Project site totals approximately 1.03 acre (2,992 linear feet) associated with two drainage features, of which 0.02 acre consists of riparian vegetation [Exhibit 3B – CDFW Jurisdictional Delineation Map].

1. Drainage 1

Drainage 1 originates within the Project site and extends west for approximately 250 linear feet before turning south for approximately 648 linear feet and entering a reinforced concrete pipe. Drainage 1 re-emerges approximately 415 feet south of the pipe and continues south for approximately 200 linear feet before its confluence with Drainage 2 at which point both drainages enter three large pipe culverts and exit the south just north of First Street. The total length of Drainage 1 is 1,098 linear feet.

Drainage 1 is an ephemeral stream with an earthen bottom. The drainage is largely unvegetated; however, the banks and occasionally the channel are vegetated with non-native grasses, predominantly wall barley, ripgut brome, and little seed canary grass.

CDFW jurisdiction associated with Drainage 1 totals approximately 0.14 acre, none of which consists of riparian vegetation (see Table 2, below).

2. Drainage 2

Drainage 2 originates to the east of Mountain Avenue and flows under the road via three large pipe culverts, flows through the Project site, and confluences with Drainage 2 prior to entering three large pipe culverts under First Street and continuing within offsite Project improvement areas for a total of 2,992 linear feet.

Drainage 2 is an incised, ephemeral stream with a sandy earthen bottom. The drainage is largely unvegetated; however, approximately two mulefat individuals are present in the channel. The banks and are vegetated with non-native grasses, predominantly wall barley and ripgut brome.

CDFW jurisdiction associated with Drainage 2 totals approximately 0.87 acre, of which 0.02 acre consists of riparian vegetation (see Table 2, below).

Table 2 - Total CDFW Jurisdiction within the Project Site

Drainage/ Tributary	Total Non-Riparian Streambed	Riparian Streambed	Total CDFW Jurisdiction (acres)	Linear Feet
1	0.14	0	0.14	1,098
2	0.87	0.02	0.89	1,894
Total	1.01	0.02	1.03	2,992

If you have any questions about this letter report, please contact Lexi Kessans at (949) 340-3942.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.



Lexi Kessans
Senior Regulatory Specialist

Source: ESRI World Street Map



0
2
4
8
Miles



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

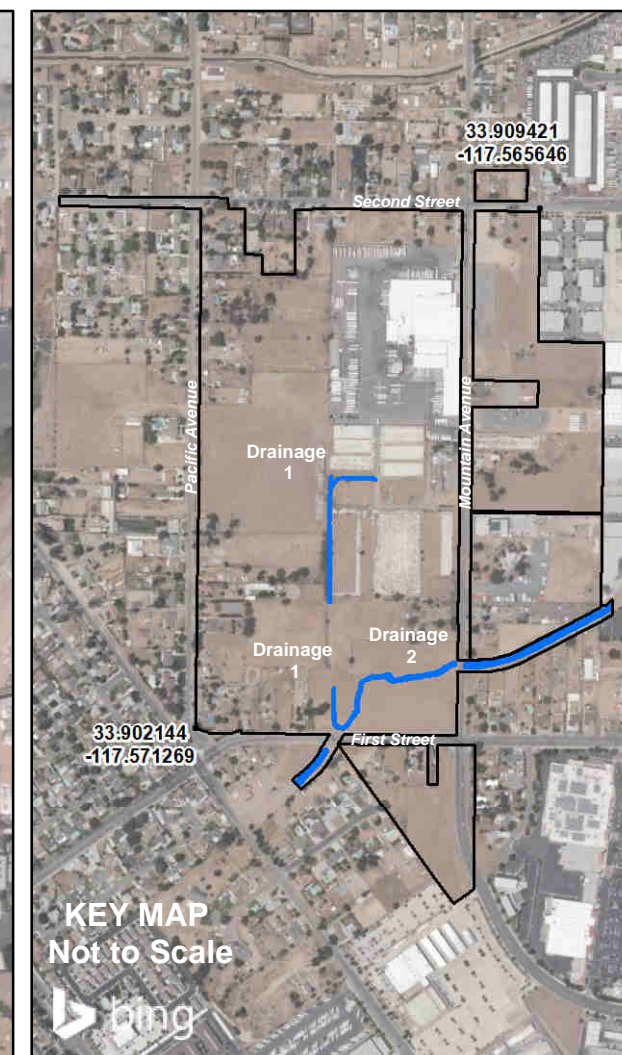
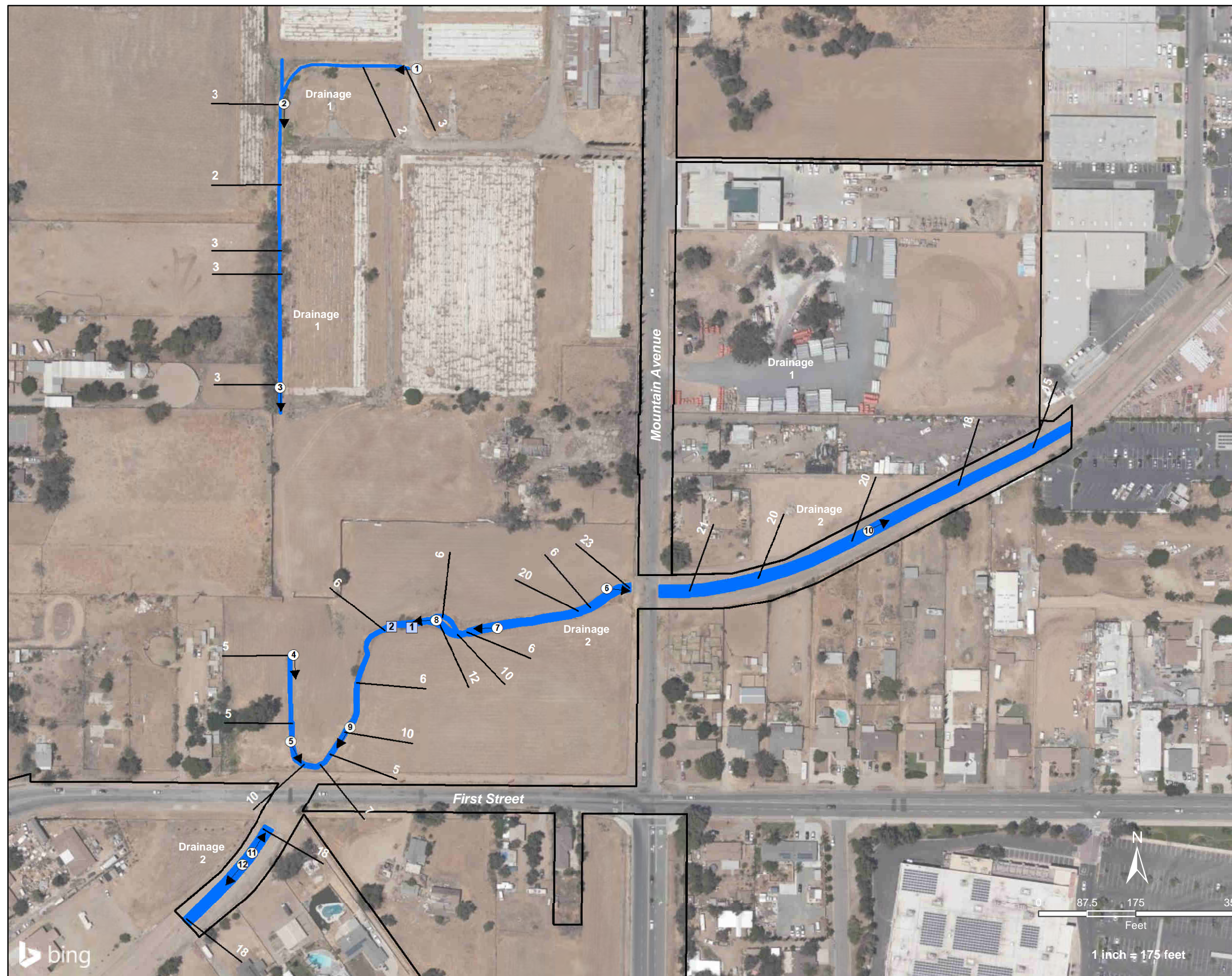
PALOMINO BUSINESS PARK PROJECT

Regional Map

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Exhibit 1



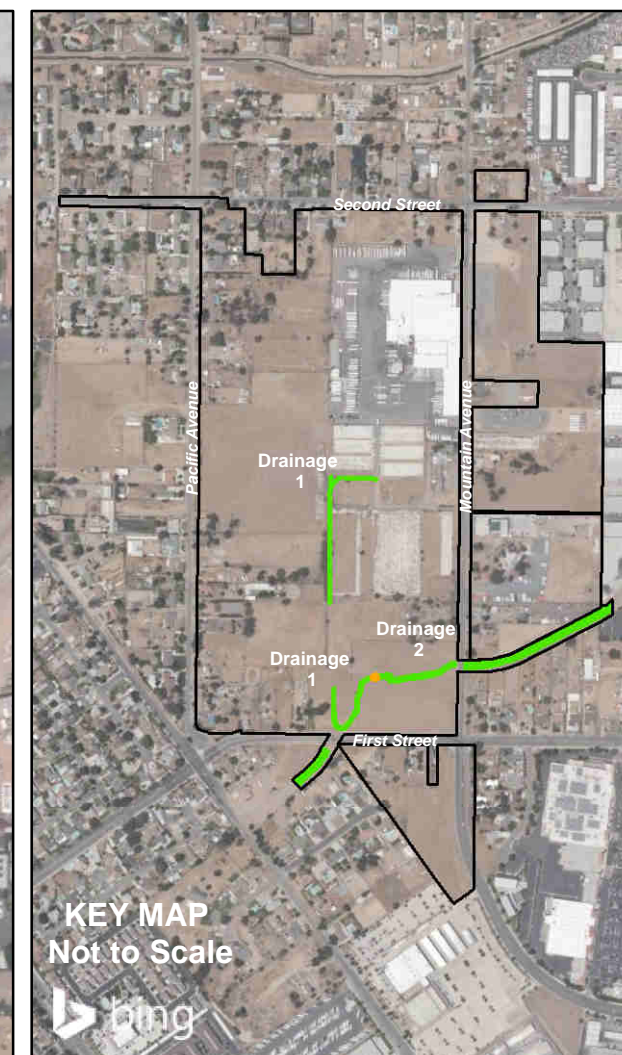
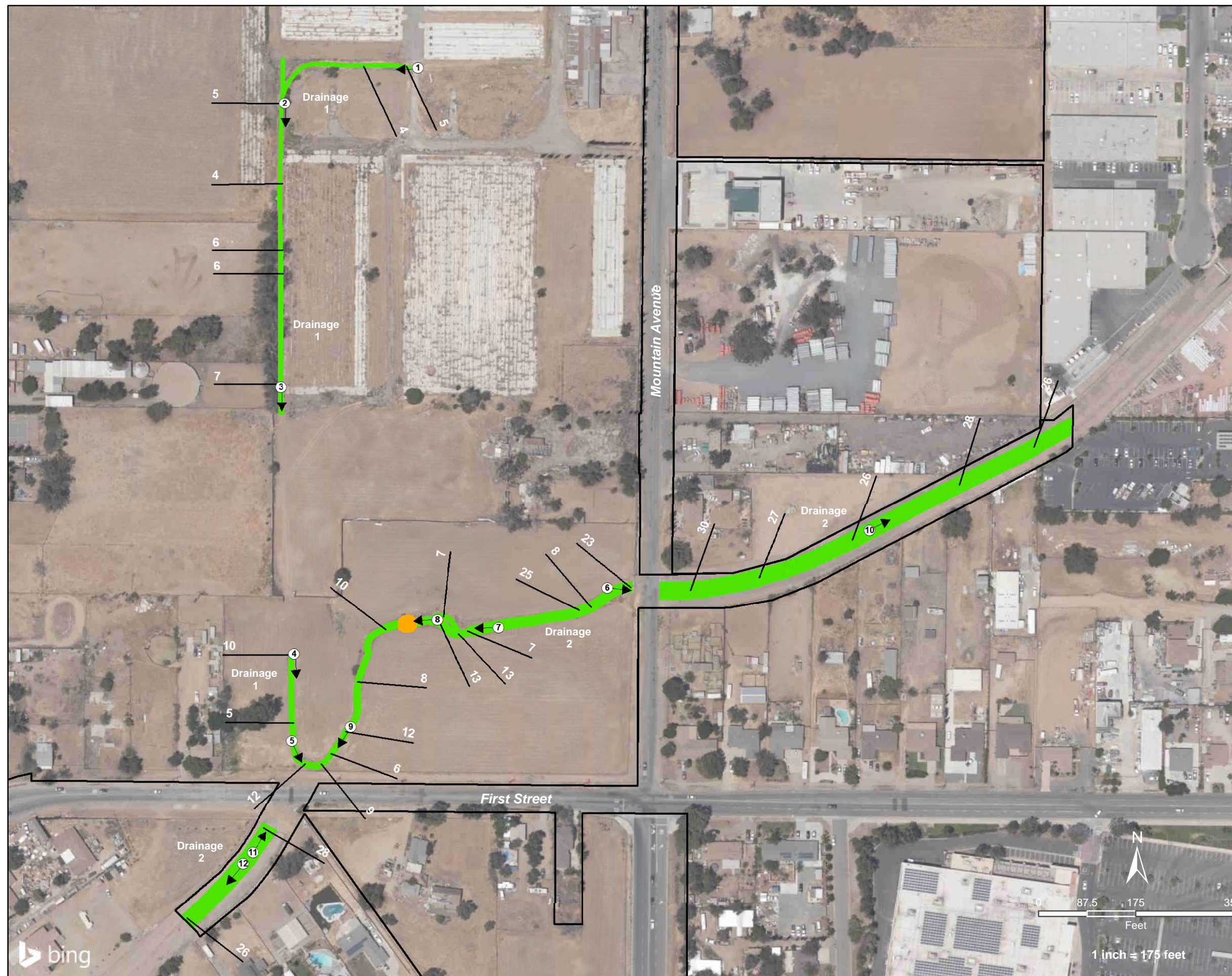
- Project Boundary
- Corps/RWQCB Non-Wetland Waters
- Width in Feet
- Data Pit Location
- Photo Location

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: July 2, 2019

**PALOMINO
BUSINESS PARK PROJECT**

Corps/RWQCB Jurisdictional Delineation Map

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 Exhibit 3A



- Project Boundary
- CDFW Non-Riparian Streambed
- CDFW Riparian
- 5
— Width in Feet
- ①
— Photo Location

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: July 2, 2019

PALOMINO BUSINESS PARK PROJECT

CDFW Jurisdictional Delineation Map





Photograph 1: View of ephemeral Drainage 1 facing west/downstream. Feature is dominated by non-native herbs. Photo date: 4/5/19.



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Exhibit 4



Photograph 2: View of ephemeral Drainage 1 facing south/downstream. Feature is dominated by non-native herbs. Photo date: 4/5/19.

**PALOMINO BUSINESS PARK
PROJECT**

Site Photographs



Photograph 3: View of ephemeral Drainage 1 entering an underground pipe facing south/downstream.
Photo date: 4/5/19.



Photograph 4: View of continuation of ephemeral Drainage 1 facing south/downstream. Feature is dominated by non-native herbs.
Photo date: 4/5/19.



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Exhibit 4

**PALOMINO BUSINESS PARK
PROJECT**

Site Photographs



Photograph 5: View facing south/downstream of confluence of Drainage 1 and 2 where they enter three large pipe culverts and exit the site just north of First Street. Photo date: 4/5/19.



Photograph 6: View facing east/upstream of Drainage 2 entering the site via three pipe culverts. Feature is dominated by non-native herbs. Photo date: 4/5/19.



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Exhibit 4

**PALOMINO BUSINESS PARK
PROJECT**

Site Photographs



Photograph 7: View of Drainage 2 facing west/downstream. Drainage has a sandy bottom and the banks are vegetated with non-native herbs. Photo date: 4/5/19.



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Exhibit 4



Photograph 8: View of Drainage 2 facing west/downstream. Note mulefat (*Baccharis salicifolia*) in the channel. Photo date: 4/5/19.

**PALOMINO BUSINESS PARK
PROJECT**

Site Photographs



Photograph 9: View of Drainage 2 facing south/downstream. Drainage has a sandy bottom and the banks are vegetated with non-native herbs. Photo date: 4/5/19.



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Exhibit 4



Photograph 10: View of Drainage 2 east of Mountain Avenue facing northeast/upstream. Drainage has sandy bottom and is unvegetated. Photo date: 5/13/19.

**PALOMINO BUSINESS PARK
PROJECT**

Site Photographs



Photograph 11: View of Drainage 2 south of 1st Street facing northeast/upstream. Drainage has a sandy bottom and is unvegetated. Photo date: 5/13/19.



Photograph 12: View of Drainage 2 south of 1st Street facing southwest/downstream. Drainage has a sandy bottom and is unvegetated. Photo date: 5/13/19.

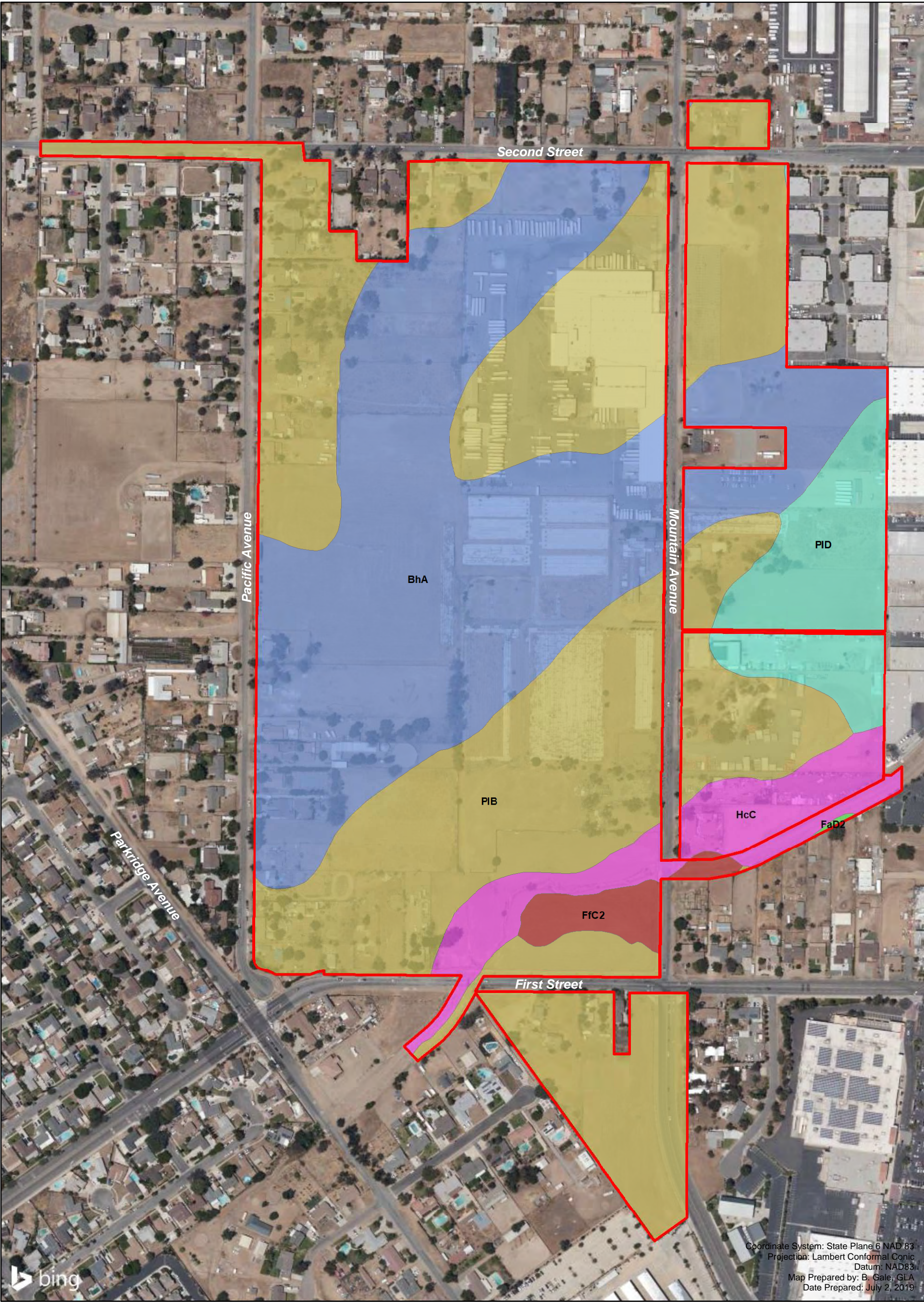


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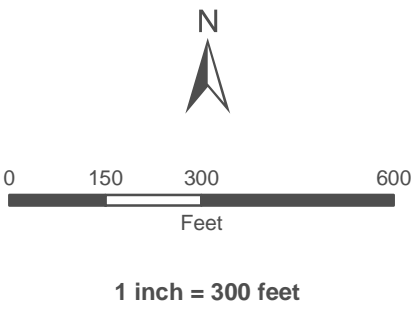
Exhibit 4

**PALOMINO BUSINESS PARK
PROJECT**

Site Photographs



- Project Boundary
- BhA - Buchenau loam, slightly saline-alkali, 0 to 2 percent slopes
- FaD2 - Fallbrook sandy loam, 8 to 15 percent slopes, eroded
- FfC2 - Fallbrook fine sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- PIB - Placentia fine sandy loam, 0 to 5 percent slopes
- PID - Placentia fine sandy loam, 5 to 15 percent slopes



**PALOMINO
BUSINESS PARK PROJECT**

Soils Map

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Exhibit 5



APPENDIX A

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: _____ City/County: _____ Sampling Date: _____
Applicant/Owner: _____ State: _____ Sampling Point: _____
Investigator(s): _____ Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Lat: _____ Long: _____ 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 _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = 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: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: _____

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		
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

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

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ 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 _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = 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: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: _____

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		