

**Delineation of Wetlands and Other
Waters of the United States for Panattoni
Development Company's South Kelly
Road Project Site**

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Contents

	Page
Introduction.....	1
Project Location and Description.....	1
Environmental Setting.....	1
Vegetation.....	1
Soils.....	2
Hydrologic Conditions.....	2
Methods.....	2
Results.....	2
Wetlands.....	3
Nonwetlands.....	4
Jurisdictional Assessment.....	4
References Cited.....	5
Printed References.....	5
Personal Communications.....	5

Appendix A: Data Forms

Appendix B. List of Plant Species Observed at Panattoni Development Company's South Kelly Road Project Site

Tables and Figures

Table	Follows Page
1 Characteristics of Wetlands at Panattoni Development Company's South Kelly Road Project Site.....	2

Figure	Follows Page
1 Project Location.....	1
2 Delineation of Waters of the United States, Including Wetlands	2

Delineation of Wetlands and Other Waters of the United States for Panattoni Development Company's South Kelly Road Project Site

Introduction

Jones & Stokes delineated waters of the United States, including wetlands, for Panattoni Development Company's 50-acre South Kelly Road site, as more fully described below.

Project Location and Description

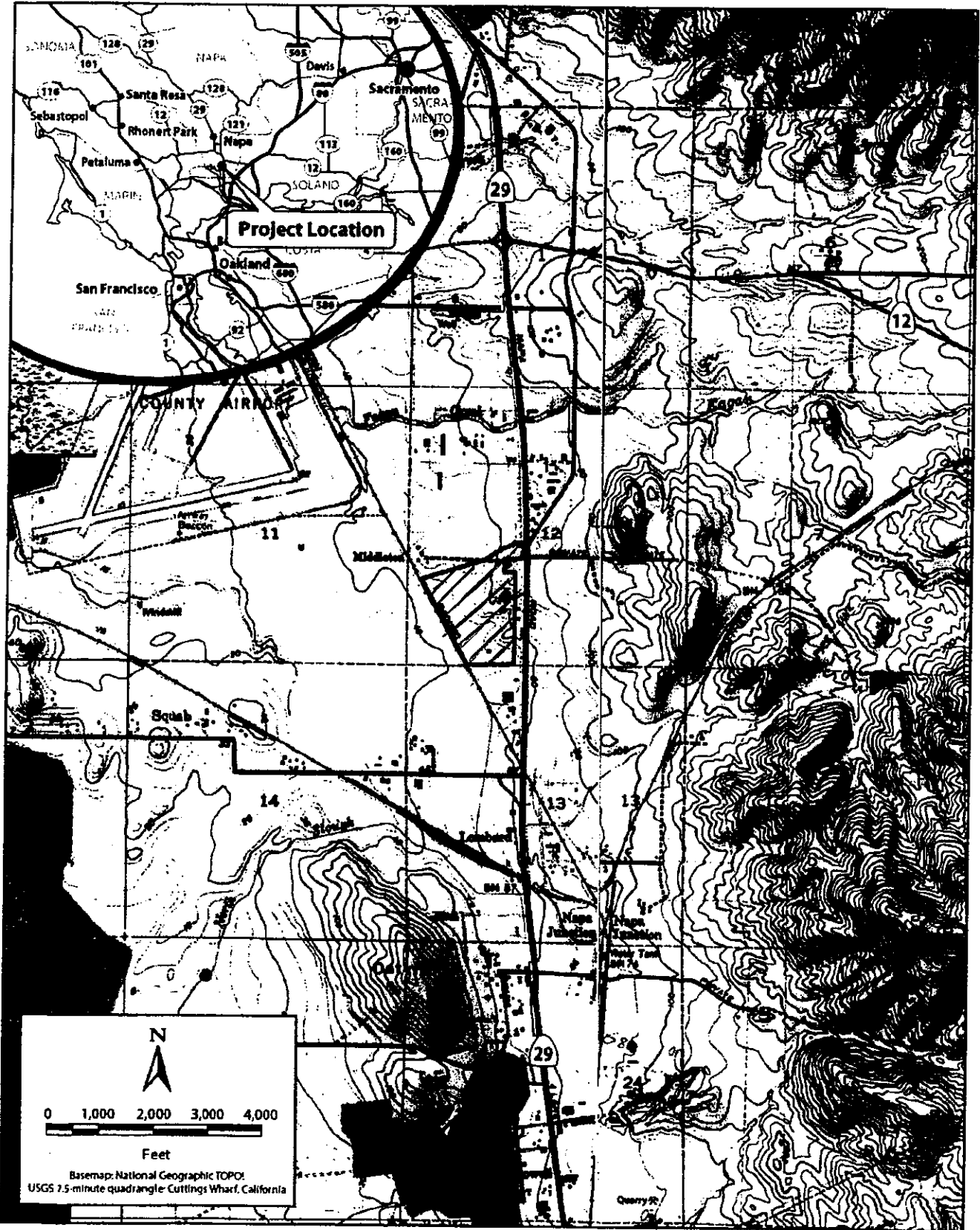
The project site is located in Napa County, California, in an unincorporated area on the west side of State Highway 29, midway between Napa and Vallejo (Figure 1). The site is bordered to the east by an auto dismantling yard, to the south by a lumber mill, to the north by Kelly Road, and to the west by railroad tracks. It is located in Township 4 North, Range 4 West, in the southwest quarter of Section 12, on the Cuttings Wharf U.S. Geological Survey 7.5-minute quadrangle.

Environmental Setting

The project site lies within the Suisun Hills and Valleys subsection of the Central California Coast ecological section (Miles and Goudey 1997). This subsection is characterized by a warm Mediterranean climate with a mean annual rainfall between 15 and 20 inches and a mean frost-free period of 250 to 275 days. The project site is located at the west base of the low hills north of Carquinez Straights, between the hills and the Napa River floodplain. The project site slopes from east to west, from about 75 feet above mean sea level (msl) to about 43 feet above msl. Although the site has been cultivated for grain and hay, it has not been cultivated for over a decade (Kjeldsen pers. comm.). Cattle are currently grazed on the site.

Vegetation

Vegetation on the site consists almost entirely of grazed annual grassland.



US550015 (000 US)

Figure 1
Project Location

Soils

The soil survey map of Napa County (Lambert and Kashiwagi 1978) indicates that three soil map units occur on the site. Soils along the west side of the site are mapped as Clear Lake clay, drained. These soils formed in basins and on old alluvial fans from alluvium derived from sedimentary rock. Because it is classified as drained, it is not included on the Napa County hydric soils list. Soils along the east side of the property are classified as Haire loam, 2 to 9% slopes. These soils formed on old terraces and alluvial fans from alluvium derived from sedimentary rock. Haire series soils are moderately well drained and are not classified as hydric soils. Soils at the north end of the site are classified as Fagan clay loam, 5 to 15% slopes. The Fagan series consists of well-drained soils on uplands.

Hydrologic Conditions

The primary source of wetland hydrology on the site appears to be precipitation and runoff. No streams are present.

Methods

Jones & Stokes performed a wetland delineation on the site on August 17, 2005. Wetlands were delineated using the procedures for wetland determination in problem areas, described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The site was considered a problem area because the survey was done in August, when direct observation of wetland hydrology is normally not possible in seasonal wetlands, and because soil characteristics were not consistently different between upland and wetland sample points. Vegetation was the primary factor for determining wetland boundaries. At the site, the wetland/upland boundary was marked by a transition from vegetation dominated primarily by hydrophytes to vegetation dominated primarily by upland species.

Representative data points were sampled for each wetland type. Paired data points were used, with one point on the wetland side of the boundary and the other on the upland side of the boundary. A shallow pit was excavated by hand to compare soil characteristics with the mapped units. Data from each sample point were recorded on standard data forms, which are included as Appendix A. A Global Positioning System (GPS) data recorder was used to map the wetland boundaries and sample point locations.

Results

Seventeen wetlands were identified during the delineation, with a total area of 3.64 acres. Table 1 lists the wetlands and provides an individual measure of the area for each. The delineation is shown in Figure 2. A brief discussion of the wetlands present on the project site appears below. A checklist of the plants

Table 1. Characteristics of Wetlands at Panattoni Development Company's South Kelly Road Project Site

Wetland ID	Wetland Type	Sample Points	Total Acreage	Acreage Subject to Corps Jurisdiction
W-1	Cattail marsh		0.51	0
W-2	Cattail marsh		0.08	0
W-3	Seasonal wetland	DP-1, DP-3	0.27	0
W-4	Seasonal wetland	DP-5, DP-7, DP-8	1.74	1.74
W-5	Seasonal wetland		0.02	0
W-6	Seasonal wetland		0.04	0
W-7	Seasonal wetland		0.01	0
W-8	Seasonal wetland		0.03	0
W-9	Seasonal wetland		0.01	0
W-10	Seasonal wetland	DP-10	0.08	0
W-11	Seasonal wetland		0.18	0.18
W-12	Seasonal wetland	DP-12	0.18	0
W-13	Seasonal wetland		0.02	0
W-14	Seasonal wetland		0.03	0
W-15	Seasonal wetland	DP-14	0.09	0
W-16	Seasonal wetland	DP-16	0.2	0
W-17	Seasonal wetland	DP-19	0.15	0
Total			3.64	1.92

observed on the site, with scientific names and wetland indicator status of plants mentioned in the text, is provided in Appendix B.

Wetlands

Cattail Marsh

Two wetlands (W-1, W-2) on the site were classified as cattail marsh. No sample points were taken in these wetlands. W-1 is a small pond with stands of narrow-leaf cattail along the north, south, and east margins. At the time of the delineation, the pond was inundated. W-2 is also dominated by narrow-leaved cattail. It was not inundated at the time of the delineation. The source of water in the marsh is not apparent.

Seasonal Wetlands

The rest of the wetlands on the site were classified as seasonal wetlands. Seasonal wetlands on the site are dominated by a mix of perennial and annual, native and nonnative, herbaceous species. The prevalent species included salt grass (FACW), iris-leaved rush (OBL), bird's-foot trefoil (FAC), bristly ox-tongue (FAC), annual rabbit's-foot grass (FACW+), strawberry clover (NI), annual ryegrass (FAC), and California coyote thistle (OBL). The vegetation in these wetlands meets the hydrophytic vegetation criterion.

All soils on the site, in both upland and wetland locations, exhibited hydric soil indicators. Soils mapped as Haire loam had a low chroma (10YR 3/2) and abundant orange mottles (close to 5YR 4/6 or 2.5YR 4/6) indicative of iron concentrations. Soils mapped as Clear Lake clay had very low chroma (10 YR 2/1). That these hydric soil indicators were ubiquitous suggests that they are relict features and not indicative of current conditions. Therefore, soil characteristics were not useful for determining wetland boundaries.

Direct evidence of wetland hydrology, either inundation or soil saturation, was not evident in the seasonal wetlands. The hydrology of these wetlands appears to be seasonal and precipitation-based, at least in part. Wetland hydrology was inferred by the presence of oxidized rhizospheres and by topographic position. Some of the wetlands were in small basins or in swales, and some were at the toe of the slope, where seeps are likely to occur at the interface between the Haire loam and Clear Lake clay soils. Wetlands along the south and east fence lines are also likely to receive irrigation runoff from adjacent properties. Vegetation in wetlands W-3, W-4, W-15, and W-16 was still green and growing despite the lateness of the season. Because large patches of Himalaya blackberry are present along the fence line where these wetlands are located, off-site sources of water were not apparent.

Nonwetlands

Annual Grassland

Most of the project site is vegetated by nonnative annual grassland. Annual grassland is an upland plant community dominated by nonnative annual grasses but containing a diverse assemblage of native and nonnative forbs. Characteristic grasses on the site include Italian ryegrass, Mediterranean barley, foxtail fescue, soft chess, and medusa-head. Hayfield tarweed is abundant in the areas mapped with Clear Lake clay. Common weedy forbs across the site include bristly ox-tongue, chicory, English plantain, and curly dock. Ten data points were taken at upland sites adjacent to the wetland sample points. In all cases, at least one wetland indicator species, either Italian ryegrass or salt grass, was present at each point. However, the prevalent vegetation at these points was usually not characteristic of wetland vegetation.

As stated above, soils at all upland sample points exhibited hydric soil characteristics. The presence of hydric soil indicators is at odds with both the vegetation and topography of these uplands sites, suggesting that these soil indicators are relict and do not reflect current soil conditions.

No evidence of wetland hydrology is evident at the upland sample points. Most of these points are on slopes and are not expected to be inundated or saturated for long periods.

Jurisdictional Assessment

Wetlands W-4 and W-11 appear to be hydrologically connected to other waters of the United States. These wetlands are connected via a channel under the railroad tracks to a small stream on the property southwest of the project site. Based on recent satellite images of the project site (Google Maps 2005), this stream is tributary to Fagan Slough and, ultimately, the Napa River. Thus Wetlands W-4 and W-11 appear to be subject to U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404.

The remaining wetlands on the project site appear to lack a physical or hydrologic connection with waters of the United States. There are no human-made dikes, channels, or other barriers separating them from other waters of the United States. Consequently, these wetlands appear to be hydrologically isolated from other waters of the United States and therefore do not appear to be subject to Corps jurisdiction under Section 404.

References Cited

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