Vernal Pools, Wetlands, Fairy Shrimp and the unpermitted Newport Mesa Unified School District fence

Vernal Pool K on NMUSD property, looking towards west

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Introduction

The newly contructed, unpermitted fence on the Newport Mesa Unified School District (NMUSD) property is located in critical habitat for the San Diego Fairy Shrimp. The newly constructed fence is located in the immediate vicinity (less than 100 feet) of 7 vernal pools and one potential vernal pool. Three of the seven vernal pools are known to be occupied by the San Diego Fairy Shrimp. The other four vernal pools, and the potential vernal pool, have not been adequately excluded for being occupied by the San Diego Fairy Shrimp. All seven of the vernal pools, and the potential vernal pool, likely qualify as either wetlands or Environmentally Sensitive Habiat Areas (ESHAs) under the Coastal Act. The fence directly traverses one of these vernal pools. All of the vernal pools, and their watersheds, need to be proteced with 100 foot buffers.

Critical Habitat

According to the Federal Registry (Vol. 72, No. 238 /Wednesday, December 12, 2007 /Rules and Regulations) the NMUSD property is located in the only designated critical habitat area (Subunit 1C) for the San Diego Fairy Shrimp (***Branchinecta sandiegonensis***) in all of Orange County. Furthermore, according to this Federal Registry entry, the vernal pool complex on the Banning Ranch mesa (which includes the NMUSD property) along with the vernal pool complex at Fairveiw Park in Costa Mesa *"represent the only remaining examples of coastal vernal pools in Orange County."*

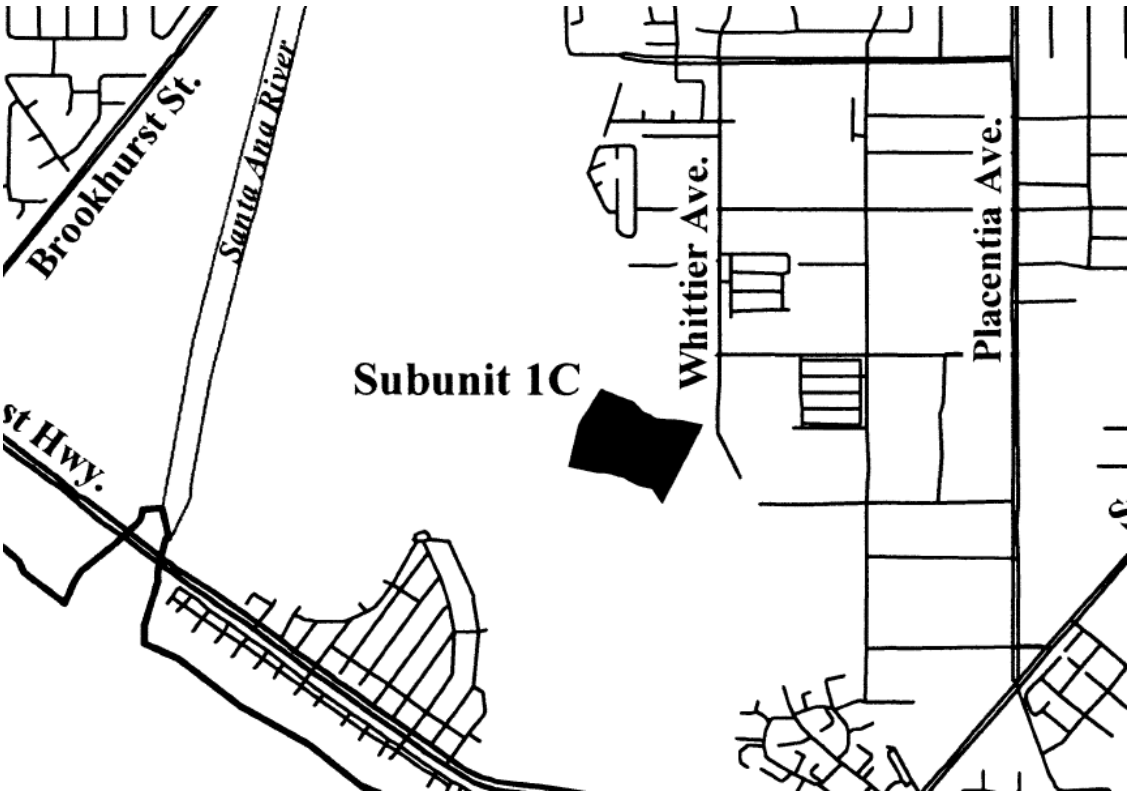

Figure 1 Map of critical habitat (Subunit 1C)

The vernal pool complex on the Banning Ranch mesa may well have existed for thousands of years, and continues to this day despite the disturbances that have occurred for the last several decades. Nearly all the vernal pools on the Banning Ranch mesa exhibit some degree of disturbance.

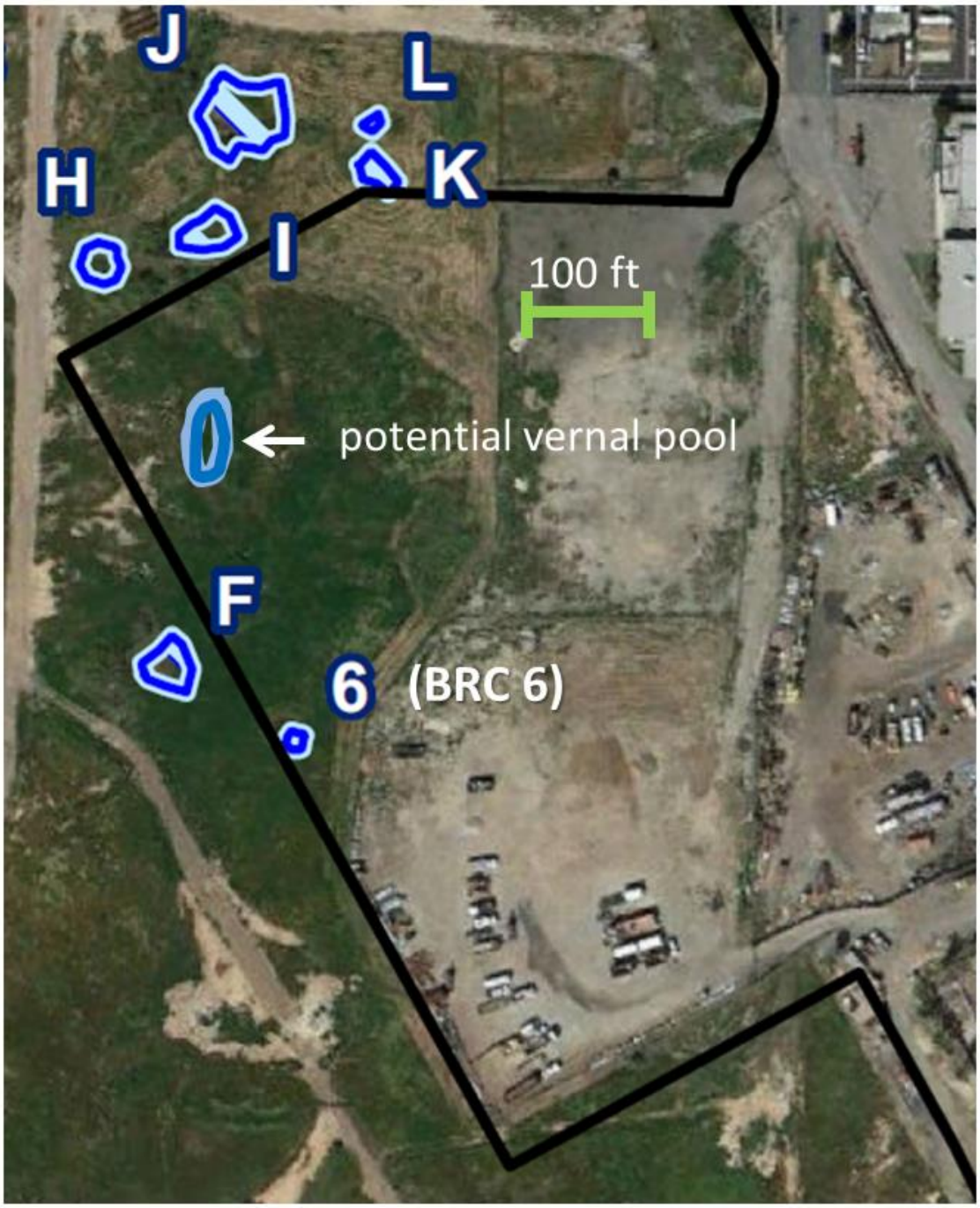

Figure 2 Vernal pools on the NMUSD property (and on the immediately adjacent NBR property).

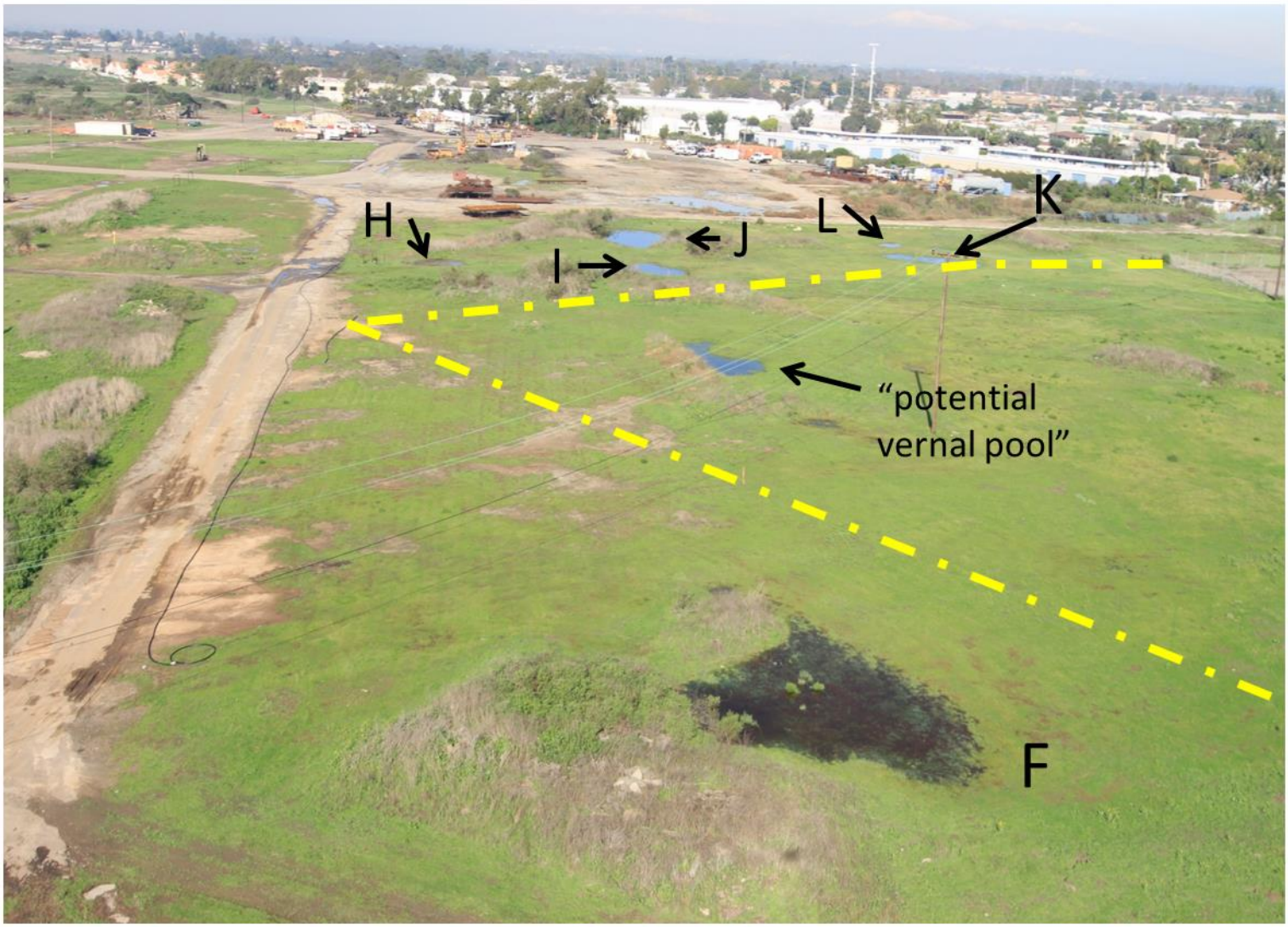

Figure 3 12/24/10 Looking towards north

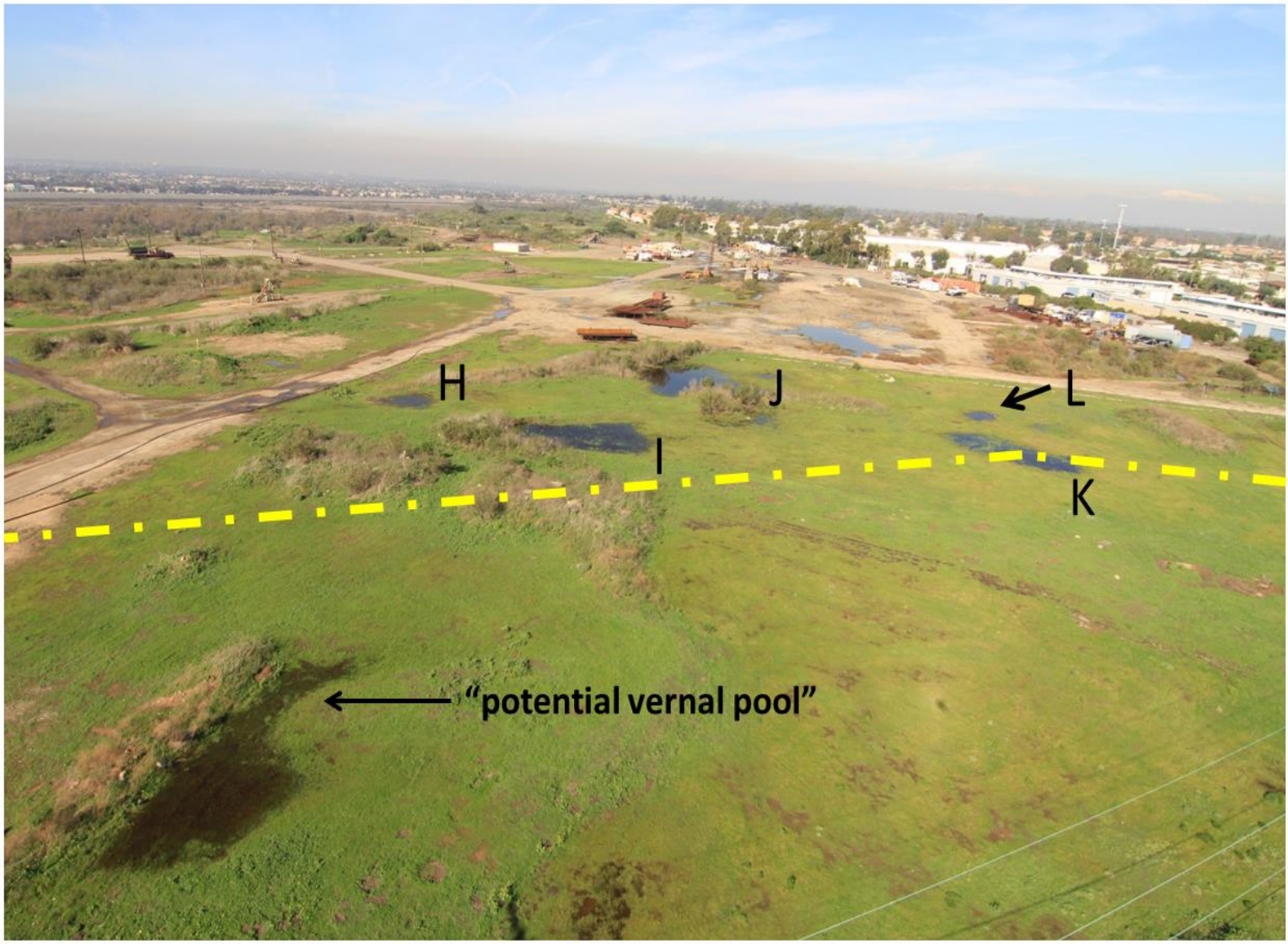

Figure 4 12/24/10 Looking towards northwest

Figure 5 12/24/10 Looking towards west

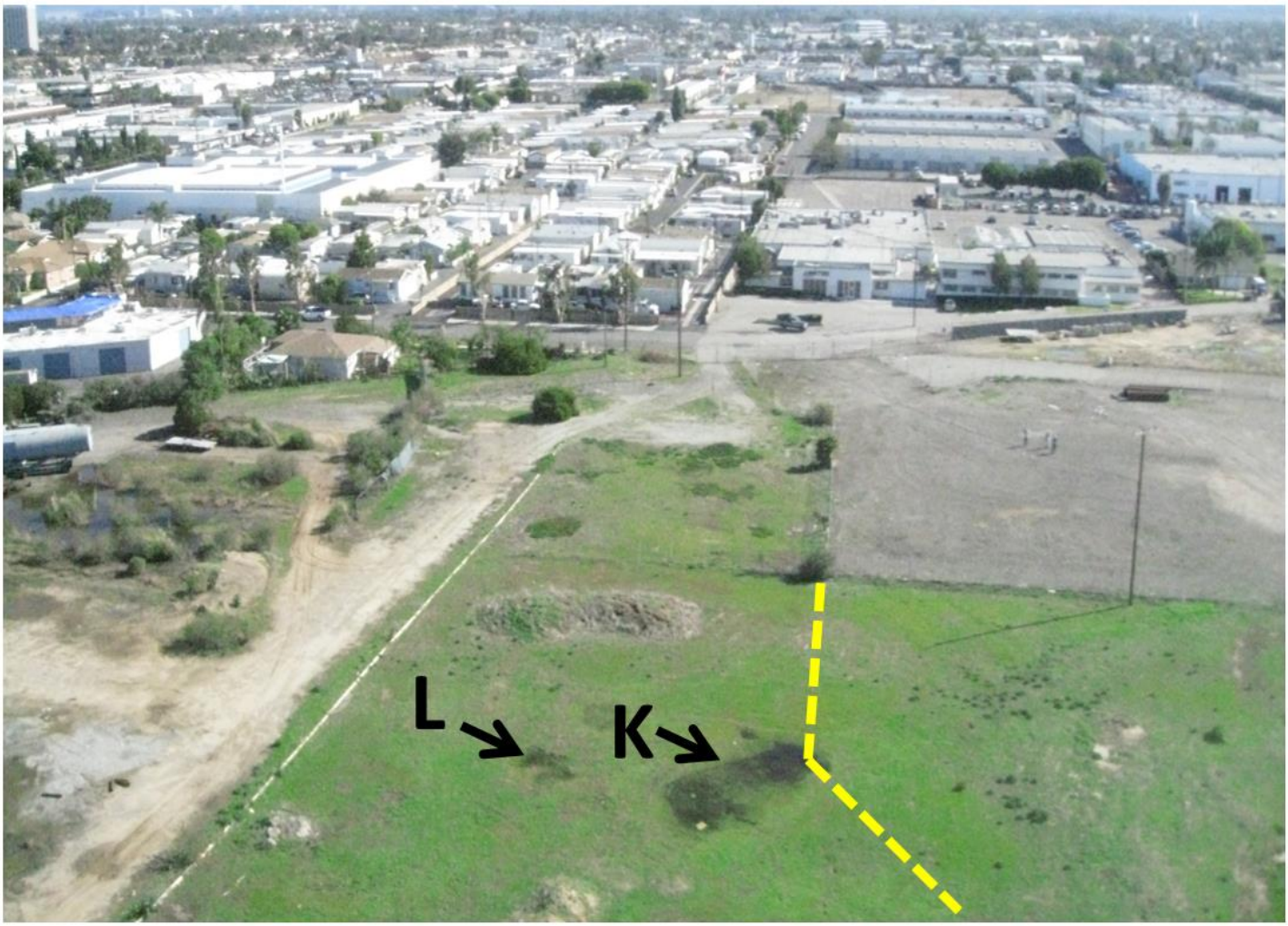

Figure 6 1/28/10 Looking towards east

Vernal Pools must have protocol fairy shrimp studies to exclude occupation by the San Diego Fairy Shrimp

The NMUSD property contains two documented vernal pools (BRC 6, and K) as well as another likely candidate for a vernal pool ("potential vernal pool"). Neither vernal pool K, nor BRC 6, nor "potential vernal pool" have had the full protocol surveys, as described by the USFWS guidelines, required for excluding occupation by listed fairy shrimp (guidelines published 4/19/96) .

These guidelines dictate that:

A complete survey consists of sampling for either:

1. two full wet season surveys done within a 5-year period; or

2. two consecutive seasons of one full wet season survey and one dry season survey (or one dry season survey and one full wet season survey).

In the case of BRC 6 and "potential vernal pool", there have neither dry season nor wet season surveys. It should be added that BRC 6 has been documented by an amateur naturalist as containing ostracod species (see Figures 7 and 8). In the case of vernal pool K, there has been a dry season survey that demostrated Versatile Fairy Shrimp (Dudek 2013). There has also been a wet season survey during the 2010/2011 wet season (Glenn Lukos) but vernal pool K was only sampled once during this wet season (1/20/11), making this an inadequate wet season survey.

In conclusion, the vernal pools on the NMUSD property need full protocol surveys to exclude occupation by listed fairy shrimp, specifically occupation by the San Diego Faiy Shrimp.

On the adjacent NBR LLC property, there are five vernal pools in the immediate area, less than 100 feet from the newly constructed fence (F, H, I, J, L). Of the five NBR LLC vernal pools, three (H, I and J) have been documented to be occupied by the San Diego Fairy Shrimp (Dudek 2013). The other two vernal pools on the NBR LLC property (F, and L) have had incomplete wet season surveys, only subjected to one single sampling during the 2010/2011 wet season (1/6/11) and therefore occupation by the San Diego Fairy Shrimp has not been adequately ruled-out. Despite substandard fairy shrimp surveys, vernal pool L has been documented to be occupied by the Versatile Fairy Shrimp.

Any vernal pool containing acquatic invertibrates such as fairy shrimp (listed or otherwise), or ostracods, meets the Hydrology criteria of the "three criteria method" used for deliniating wetlands and should be considered a coastal wetland under the Coastal Act.

Based on *the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* the presence of aquatic invertebrates satisfies Wetland Hydrology Criteria B13. Under the Coastal Act, meeting one of the three major criteria (Hydrology, Hydrophytic Vegetation, or Hydric Soils) is sufficient for determining the presence of a coastal wetland.

On the NMUSD property, vernal pool K has been documented to contain Versatile Fairy Shrimp. Vernal Pool BRC 6 has been documented by an amateur naturalist to contain ostracod species (see Figures 7

and 8). Despite the documentation of ostracods in vernal pool BRC 6, full protocol wet season and dry season surveys have not been done on either BRC 6 nor “potential vernal pool.”

In conclusion, the NMUSD property contains at least two coastal wetlands.

On the NBR property, in the area immediately adjacent to the newly constructed fence, there are, by virture of the presense of either San Diego or Versatile Fairy Shrimp, four documented coastal wetlands (H, I, J, and L). Vernal Pool F still needs to have full wet season surveys.

In conlcusion, the newly constructed fence traverses one documented coastal wetland (K) and is very close to at least five other documented coastal wetlands (H, I, J, L, BRC 6) and two other possible coastal wetlands (F and “potential vernal pool”).

Figure 7 2/23/10 BRC 6 Looking towards north

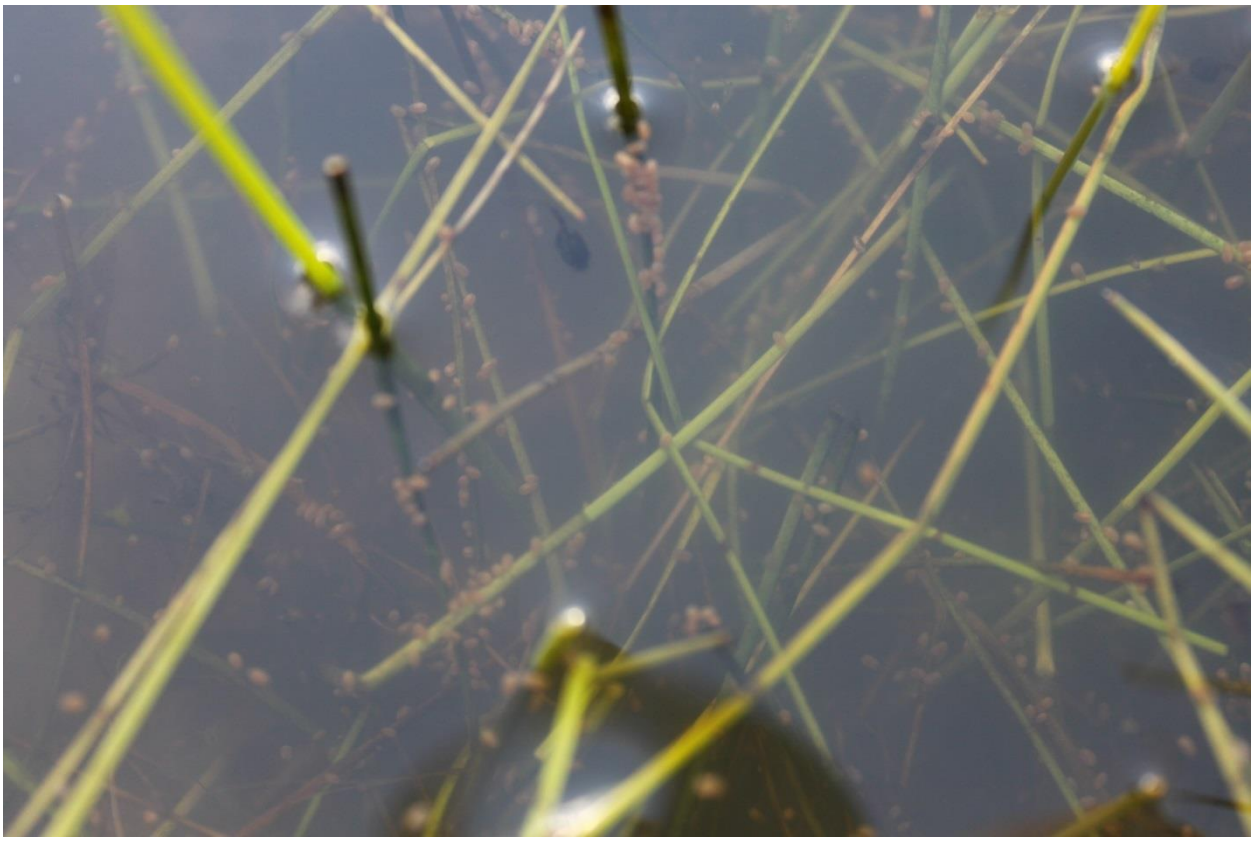

Figure 8 1/30/11 BRC 6 Ostracods and polliwog

Vernal Pool K, a documented coastal wetland, is directly traversed by the fence.

Figure 9 1/15/11 Vernal pool K. Looking towards west. Note the property line marker

Versatile fairy shrimp were found in K (Figure 9) during the 2012 dry season surveys. According to the 2013 Dudek wetland delineation report, K qualifies as a coastal wetland. The following is directly from their report:

5.4.14 Feature K

Feature K is a depression created by anthropogenic excavation of material to create adjacent berms. This feature is located within non-native grassland and covers approximately 621 square feet (0.014 acre).

Vegetation

Feature K supports as dominant native clustered tarweed (FACU) and non-native annual yellow sweetclover (FACU). Non-dominant species within the feature include non-native shortpod mustard (UPL), soft brome (FACU) and native salt heliotrope (FACU). The feature sample point

failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature K soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp and ostracods shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature K Characteristics

Feature K meets one of the three wetland criteria (wetland hydrology).

Watersheds need to be determined for all vernal pools. These watersheds need to be protected.

Watersheds have been determined for vernal pools H, I, and J on the immediately adjacent NBR property (Figure 10). These watersheds extend onto the NMUSD property. Watersheds need to be determined in a similar manner for vernal pools F, L, K, BRC 6 and "potential vernal pool." These watersheds need to be protected. The Coastal Commission has tradtionally required 100 foot buffers for coastal wetlands.

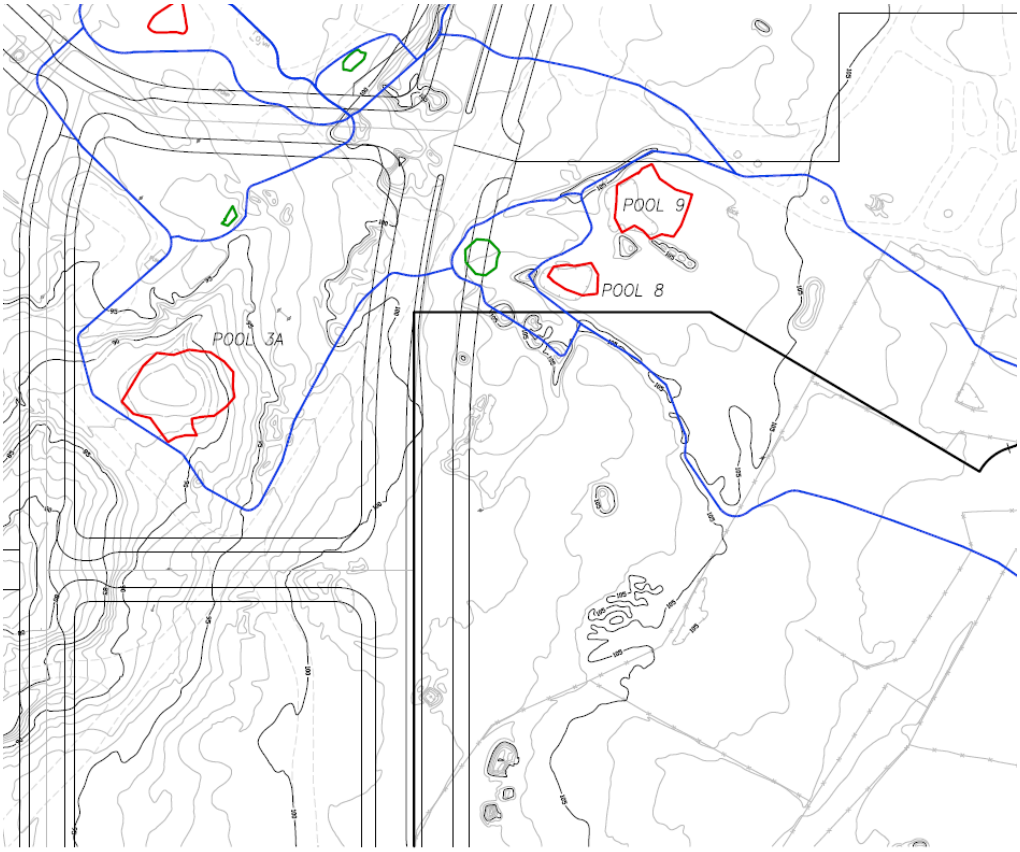

Figure 10 Watersheds (indicated by blue lines) for vernal pools H, I and J (I and J are called "pool 8" and "pool 9" respectively, while H is indicated by a green circular shape). Source is Fuscoe engineering, 5/15/13

Conclusion

The newly contructed, unpermitted fence on the Newport Mesa Unified School District (NMUSD) property is located in critical habitat for the San Diego Fairy Shrimp. The newly constructed fence is located in the immediate vicinity (less than 100 feet) of 7 vernal pools and one potential vernal pool. Three of the seven vernal pools are known to be occupied by the San Diego Fairy Shrimp. The other four vernal pools, and the potential vernal pool, have not been adequately excluded for being occupied by the San Diego Fairy Shrimp. All seven of the vernal pools, and the potential vernal pool, likely qualify as either wetlands or Environmentally Sensitive Habiat Areas (ESHAs) under the Coastal Act. The fence directly traverses one of these vernal pools. All of the vernal pools, and their watersheds, need to be proteced with 100 foot buffers.