August 9, 2015

Marc Brown
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Subject: Incomplete Jurisdictional Delineations for the Newport Banning Ranch

Dear Mr. Brown:

ICF International regulatory and vernal pool specialists have reviewed *the Jurisdictional Delineation for the Newport Banning Ranch Property* (Glenn Lukos Associates [GLA] 2008) and the *Jurisdictional Determination of Seasonal Features for the Newport Banning Ranch* (Dudek 2013a). Both reports have procedural and specific errors that underreport and misrepresent jurisdictional features on Newport Banning Ranch (NBR).

2008 Jurisdictional Delineation

Seventy-one wetland determination data forms are attached to the 2008 GLA report but no map showing the locations of the sample points was provided and no sample point coordinates were provided (beyond the "project center"). Without being able to link sample points to physical locations, it is impossible to assess the GLA jurisdictional delineation relative to any of this data. No photographs of sample points are provided in the report to assist with evaluating the jurisdictional determinations.

The locations of the representative site photos are vaguely described, with no map showing the photo locations, so the photos provide limited data on the jurisdictional determinations.

Northern portions of drainage C were delineated in the National Wetland Inventory (NWI; USFWS 2015), and were not included as jurisdictional in the GLA report. As the sample points cannot be linked to any physical locations, the report does provide any evidence that these previously delineated drainages are not jurisdictional.

2013 Jurisdictional Determination of Seasonal Basin

The 2013 Dudek/GLA JD report completely disregarded almost all vernal pools on NBR. The 2013 Dudek report provides some information of the status of these pools, but does not properly assess the jurisdictional status of these pools. Problems exist in this report from conducting the delineation at a time of year when hydrophytic pool vegetation would not be expected to be dominant, from failing to report on the presence of vernal pool indicator plants, from underreporting wetland hydrology, and from failing to assess vernal pool soils as "problematic" under US Army Corps of Engineers (USACE) guidance.

Vernal Pool Vegetation

The USACE published guidance on determining vernal pools and provided a list of Indicator Species for Vernal Pools (USACE 1997). This list contains species from the southern California that are typically restricted to vernal pools. Presence of any of these plant species is typically used to determine that a seasonal basin is a jurisdictional vernal pool in the San Diego and western Riverside areas (areas with vast majority of pool complexes in Southern California). GLA does not report on the presence of vernal pool indicator plant species, only on plant species dominant too-late in the season. While public data on pool plants NBR is limited, there are several known examples of vernal pool indicators being present in pools on NBR but not being mentioned in the report (e.g. Attachment A; Feature K).

In the USACE 1997 guidance, a letter from Mr. Bomkamp of GLA is referenced, which "reiterated concerns voiced by others that vernal pool descriptions are extremely varied, but that specialized vegetation is a distinguishing characteristic of vernal pool habitats.", showing that GLA should be aware of the importance of identifying and documenting specialized vegetation (such as that identified by Zedler 1987).

Vegetation data collected for NBR, by GLA primarily on June 9, 2012 and "verified" by Dudek on October 9, 2012, were both conducted far too late in the season to determine absence of hydrophytic vegetation. Many vernal pool plant species desiccate soon after pools dry (typically in Feb-Mar), and upland grasses and herbs such as *Deinandra*, *Centaurea*, and *Bromus* spp. annually colonize the dry pools, shifting the vegetative composition toward upland indicators that are not representative of the ephemeral wetland conditions. The USACE Arid West Regional Supplement (2008) specifically describes problematic vegetation determinations resulting from temporal shifts in vegetation communities. Vegetation assessments conducted at the appropriate time of year, in accordance with standard practice and the USACE protocol, would have yielded significantly different assessments of the vegetation communities. In Attachment A, I describe obvious problems with the wetland/non-wetland and vernal pool/non-pool determinations presented by Dudek/GLA for each pool.

Vernal Pool Hydrology

GLA discounts most pools as lacking hydrology because of a lack of observed-duration of surface water in a below-average rainfall year. For ponding features to exhibit surface water, they must first develop a saturated soil, either by hydrating the clay soils or impounding up from a hardpan restrictive layer. Vernal pools do not usually surface pond after the first one or two large winter storms of the season (pers obs). For vernal pools, there is a longer period of sub-surface saturation than of surface water; only saturation within 12-inches of the surface is needed to show wetland hydrology. The GLA hydrology monitoring entirely ignores this fact.

The dry season surveys found *Branchinecta* fairy shrimp cysts (aquatic invertebrates) in most basins, which Dudek correctly uses to show the presence of ephemeral wetland hydrology in most basins. Basins with ephemeral wetland hydrology should be considered Regional Water Quality Control Board (RWQCB) surface waters and California Coastal Commission (CCC) coastal wetlands. These pools almost universally support both plants and animals adapted and restricted to life in ephemeral wetlands, and their presence demonstrates the presence of ephemeral wetland hydrology.

Vernal Pool Soils

In both the 1987 USACE Wetland Delineation Manual and the 2008 USACE Arid West Regional Supplement, vernal pools are identified as problem areas because one or more of the wetland parameters may be periodically lacking due to normal seasonal or annual variation. Section 5 of the Arid West Regional Supplement contains guidance on how to delineate vernal pools, including the following relevant excerpts:

- ". . .some soils that meet the hydric soil definition may not exhibit any of the [hydric indicators]".
- "Examples of problematic soils in the Arid West include … seasonally ponded soils. Seasonally ponded, depressional wetlands occur in basins and valleys throughout the Arid West. Most are perched systems, with water ponding above a restrictive soil layer."
- "Some of these wetlands lack hydric soil indicators due to limited saturation depth, saline conditions, or other factors".

Procedures for delineating seasonal wetlands include determining that indicators of hydrophytic vegetation are present and that indicators of wetland hydrology are present; if those indicators are present, and if the feature is in a landscape position that is likely to collect water, it would be described as a hydric seasonally ponded soil.

The pools on NBR are situated on Myford soils (USDA 2015), which are described as potentially hydric soils (USDA 2014) where appropriate topographic features exist (e.g. depressions), and have very slow permeability. There are vernal pools in the nearby Fairview Park vernal pool complex situated on Myford soils, showing that NBR also has appropriate soils for vernal pools.

USACE Jurisdiction

The Dudek/GLA 2013 report states that "Features VP1 and VP2 met three wetland parameters, thus under joint jurisdiction of USACE and CCC", and that USACE has previously accepted jurisdiction over these features in 2009. Pools VP1 and VP2 are in similar landform positions as most pools on in the pool complex on NBR (i.e., they are not unique), and any basin that meets the criteria of a USACE wetland has the potential to be regulated by USACE. The pool-by-pool discussion in Attachment A identifies additional basins that should have been delineated as USACE wetlands but were not, because of incorrectly conducted hydrophytic vegetation and hydrophytic soil assessments. Moreover, as the delineation was conducted at the wrong time of year, there are likely more basins that would also meet the hydrophytic vegetation dominance criteria, or have presence of vernal pool indicator species (USACE 1997). **The *Jurisdictional Determination of Seasonal Features for the Newport Banning Ranch* is incomplete and should be rejected as incomplete. This delineation must be conducted at the appropriate time of year to properly delineate seasonal wetlands and vernal pools.**

Table 1 on the following page presents the jurisdictional status of each pool as regulated by the USACE, RWQCB, CCC, and USFWS. Table 1 also calls out incomplete assessments for the jurisdictional status of pools for regulation by USACE and USFWS. Attachment A analyzes the delineation of all the pools presented in the Dudek/GLA report.

Table 1. Results of Assessment of Seasonal Basins

Abbreviations: CCC California Coastal Commission
JD Jurisdictional Delineation
SDFS San Diego Fairy Shrimp (listed species; vernal pool indicator)
VFS Versatile Fairy Shrimp (non-listed species; vernal pool indicator)
VP Vernal Pool

	Jurisdiction			
Pool	**USACE**	**RWQCB**	**CCC**	**USFWS**
VP1	Previously accepted by USACE as VP	RWQCB wetland	CCC wetland	SDFS
VP2	Previously accepted by USACE as VP	RWQCB wetland	CCC wetland	SDFS
VP3	Change to USACE wetland	RWQCB surface water	CCC wetland	SDFS
A	Change to USACE wetland	RWQCB wetland	CCC wetland	VFS
B	Redo JD and VP assessment	RWQCB surface water	CCC wetland	VFS
C	Change to USACE wetland	RWQCB wetland	CCC wetland	VFS
D	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
E	Redo JD and VP assessment	RWQCB surface water	CCC wetland	SDFS
F	Redo JD and VP assessment	RWQCB surface water	CCC wetland	No fairy shrimp
G	Redo JD and VP assessment	RWQCB surface water	CCC wetland	SDFS
H	Redo JD and VP assessment	RWQCB surface water	CCC wetland	SDFS
I	Redo JD and VP assessment	RWQCB surface water	CCC wetland	SDFS
J	Redo JD and VP assessment	RWQCB surface water	CCC wetland	SDFS
K	Redo JD and VP assessment	RWQCB surface water	CCC wetland	SDFS
L	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
M	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
N	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
O	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
P	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
Q	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
R	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
S	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
T	uncertain condition	RWQCB surface water	CCC wetland	VFS
U	uncertain condition	RWQCB surface water	CCC wetland	Undetermined
V	Change to USACE wetland	RWQCB wetland	CCC wetland	VFS
W	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
X	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
Y	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
Z	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
AA	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
BB	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
CC	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
DD	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined

Pool	Jurisdiction			
	USACE	**RWQCB**	**CCC**	**USFWS**
EE	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
FF	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
GG	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
HH	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
II	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
JJ	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
KK	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
LL	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
MM	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
NN	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
OO	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
PP	Change to USACE wetland	RWQCB wetland	CCC wetland	Undetermined
QQ	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
RR	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
SS	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined
TT	Redo JD and VP assessment	RWQCB surface water	CCC wetland	Undetermined

USFWS Jurisdiction

Protocol fairy shrimp surveys are incomplete on a large portion of pools and absence of San Diego fairy shrimp (*Branchinecta sandiegonensis*; SDFS) has not been established (Table 1). SDFS have been documented in eight basins on the site (VP1, VP2, VP3, E, G, H, I, J) and most other basins have presence of *Branchinecta* cysts (Dudek 2013b). While all known basins either have known populations of SDFS or have had a dry season survey, a large portion lack observations of sufficient ponding during the wet season to sample *Branchinecta in situ*. While hatching studies can provide information about a species' presence, *it cannot be used to determine the absence* of listed *Branchinecta* sp. (USFWS 2015b). Either wet season observations of *Branchinecta* (USFWS 1997) or genetic testing of the *Branchinecta* cysts (USFWS 2015b) are necessary to determine the species.

The following pools are known to contain *Branchinecta* and must be assumed to have reasonable potential for SDFS until complete sampling can be conducted: D, L, K, M, N, P, Q, W, X, Y, Z, BB, CC, DD, EE, FF, GG, HH, II, KK, LL, MM, OO, and PP.

The following pools did not have *Branchinecta* cysts in the soil samples provided by Dudek to ERS, but also have not had complete wet season sampling and must be considered potential SDFS habitat: R, S, U, AA, JJ, NN, and QQ.

The following pools were not assessed in dry season sampling, being dismissed as being unsuitable as fairy shrimp habitat: O, RR, SS, and TT. However, almost all basins were originally dismissed by GLA as having no potential to support fairy shrimp (GLA 2000), and most have now been shown to support *Branchinecta* spp. These discounted basins have had observed ponding and have potential to support listed fairy shrimp.

Protocol fairy shrimp surveys are valid for 5-years (USFWS 1996). Observations of versatile fairy shrimp (*Branchinecta lindahli*; VFS) from Pool D and MM are far too old to be used to show lack of occupancy of these basins by San Diego fairy shrimp. Both of these basins had extremely high levels of cysts recovered from the

dry season sampling (Dudek 2013b) and must still be considered potential habitat for SDFS until a second protocol survey or genetic cyst identification is completed.

As Dudek and GLA have regularly discounted seasonal features (GLA 2000, GLA 2008, Dudek 2013a &b, etc.) as not being potential habitat for listed species, it is unknown whether additional potential features are present on NBR mesas that were discounted without the required surveys.

Other Jurisdictions

RWQCB: The Dudek/GLA report (2013a) correctly states that the RWQCB may assert jurisdiction over all basins on the project site under the State Porter-Cologne Water Quality Control Act. The report markedly fails to display this data in Figure 6, Jurisdictional Determination. While all basins are potentially jurisdictional RWQCB surface waters, many more are also RWQCB wetlands which are not reflected in the 2013 report.

CCC: The Dudek/GLA report claims that pools within the oil abandonment and remediation footprint are exempt from CCC jurisdiction even if they satisfy the one-parameter wetland definition of the CCC. Such pools are normally regarded as coastal wetlands that fall under CCC jurisdiction and that satisfy the criteria for Environmentally Sensitive Habitat Areas (ESHA) identified in Section 30107.5 of the Coastal Act.

As the Dudek/GLA report is incomplete and inaccurate in the delineation of seasonal basins, it should be considered incomplete and rejected by all agencies.

Special Aquatic Site

Banning Mesa is a unique vernal pool complex that supports large areas of listed San Diego fairy shrimp and vernal pool endemic versatile fairy shrimp and even more expansive pool areas with *Branchinecta* cysts have yet to be properly identified. The mesa's pools also support a variety of wetland plants largely or completely restricted to vernal pools. The role of these specialized plants in the local ecosystem has been downplayed because vegetative sampling has been conducted during the driest part of the year, after many annual wetland species become virtually undetectable. Although this area has received heavy anthropogenic modifications in the last 100 years, the site has appropriate soils for vernal pools and exhibits historical evidence of vernal pools and vernal pool topography. It is remarkable that this site has weathered several decades of oil operations and associated land alterations, yet continues to support a widespread and varied assemblage of vernal pool flora and fauna. Banning Mesa represents not only one of the last vernal pool complexes in Orange County, but it appears to be one of the most significant vernal pool complexes remaining in the coastal zone of southern California.

Sincerely,

Dale Ritenour
Vernal Pool Biologist

Attachment: A Jurisdictional Delineation Analyses

cc: Terry Welsh, Banning Ranch Conservancy
Stephen M. Estes, US Army Corps of Engineers
Kevin Hupf, California Department of Fish and Wildlife
Chrisinte Medak, US Fish and Wildlife Service
Jonna Engel, California Coastal Comission

References

Dudek. 2013a. Jurisdictional Determination of Seasonal Features on the Newport Banning Ranch. (based on data from Glenn Lukos Associates).

2013b. 90-Day Dry-Season Protocol Survey Report for Federally-Listed Vernal Pool Branchiopods on the Newport Banning Ranch.

Glenn Lukos Associates (GLA). 2000. Results of Wet Season Surveys for Federally Listed Endangered San Diego Fairy Shrimp, Newport Banning Ranch, Orange County, California. October 18.

2008. Jurisdictional Delineation for the Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, California. August 29.

US Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y087-1, Environmental Laboratory, Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi.

1997. Indicator Species for Vernal Pools. In Special Public Notice Regional General Conditions to the Nationwide Permits. November 25.

2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. edited by J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

2012. The National Wetland Plant List. ERDC/CRREL TR-12/11. U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire.

2014. National Wetland Plant List. Version 3.2. http://wetland_plants.usace.army.mil/

U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 2014. National List of Hydric Soils. Available: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/

2015. Web Soil Survey. Available: http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

US Fish and Wildlife Service (USFWS). 1988. National List of Plant Species that Occur in Wetlands: 1988 National Summary. Biological Report 88(24). September. Available: http://www.fws.gov/pacific/ecoservices/habcon/pdf/National%20List%20of%20Plant%20Species%201988.pdf

1996. Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods. April 19.

2015a. National Wetlands Inventory. Available: http://www.fws.gov/wetlands/

2015b. Survey Guidelines for the Listed Large Branchiopods. May 31.

Zedler, P. 1987. The Ecology of Southern California Vernal Pools: a Community Profile. USFWS Biol. Rep. 87 (7.11), 136pp.,

Attachment A
Jurisdictional Determination Analyses

Feature VP1

Feature VP1 was identified as having a predominance of hydrophytic vegetation, presence of wetland hydrology (surface water & aquatic invertebrates), and hydric soils.

This basin was reported as a being accepted by the USACE as a jurisdictional wetland, and would also be regarded as a RWQCB and CCC wetland.

Vernal pool indicator plant species (USACE 1997) previously reported from this pool included *Psilocarphus brevissimus, Crassula aquatica,* and *Marselia vestida*. These species are not reported in the determination, which is critically important as these species typically demonstrate that a seasonal basin is a jurisdictional vernal pool. Other wetland plants "largely restricted to vernal pools", as described in *The Ecology of Southern California Vernal Pools (*Zedler 1987*)* include *Eleocharis macrostachya, Polypogon monspeliensis,* and *Lythrum hyssopifolia*.

At the time the original delineation was conducted, hydrophytic vegetation rankings were based on the 1988 National Wetland Plant List. By the time the Dudek/GlA report was released, the new 2012 National Wetland Plant List had been released, changing some plant rankings, such as altering *Isocoma menziesii* from FACW to FAC (it was never ranked as UPL, as repeatedly presented in the report's data forms). The current version, released in 2015, should be used for future jurisdictional delineations on the project site.

Feature VP2

Feature VP2 was identified as having a predominance of hydrophytic vegetation, including a predominance of wetland plants largely restricted to vernal pools (Zedler 1987), including *Polypogon monspeliensis, Lythrum hyssopifolia,* and *Rumex crispus*. This pool was also identified as having presence of wetland hydrology (surface water & San Diego fairy shrimp), and hydric soils.

This basin was reported as a being accepted by the USACE as a jurisdictional wetland, and would also be regarded as a RWQCB and CCC wetland.

Feature VP3

Feature VP3 was identified as having a predominance of hydrophytic vegetation of wetland plants largely restricted to vernal pools (Zedler 1987), including *Spergularia salina* and *Rumex crispus*, but was discounted by Dudek/GLA because of a high cover of annual upland grass, *Bromus rubens*, which would be expected to move into the basin of a seasonally ponded feature after the pool has dried, and therefore is not representative of the seasonal wetland (Section 5 of the USCAE Arid West Regional Supplement discusses methods to address "temporal shifts in vegetation," direction that was not followed by Dudek/GLA and left unmentioned in their report).

This pool had presence of wetland hydrology, as shown by the presence of aquatic invertebrates (San Diego fairy shrimp; *Branchinecta sandiegonensis*).

A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland. To avoid the possibility of impacting listed plant or wildlife species, either through direct take or puncturing the clay layer that creates the proper vernal pool hydrology, vernal pool delineators normally do not dig soil pits in pools that have potential to support listed species. It should be noted that GLA dug soil pits in this basin, which supports listed species.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature A

Feature A was identified as having a predominance of hydrophytic vegetation, including a predominance of vernal pool indicator (USACE 1997) woolly marbles (*Psilocarphus brevissimus*), and presence of wetland hydrology (surface water & aquatic invertebrates). A seasonal basin with hydrophytic vegetation and wetland hydrology can be recognized as having problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature B

Feature B was identified as having wetland hydrology in 2010-2011 and produced dry season results of *Branchinecta* cysts. The data form had presence of a wetland weed largely restricted to vernal pools (*Rumex crispus*) and higher covers of upland weeds that colonize annually after pools dry (*Deinandra fasciculata, Heterotheca grandiflora)*. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination.

Feature C

Feature C was identified as having a predominance of hydrophytic vegetation, consisting of obligate (OBL) wetland weeds largely restricted to vernal pools (*Cotula coronipifolia, Lythrum hyssopifolia;* Zedler 1987). This pool also had presence of wetland hydrology (surface water & aquatic invertebrates), and should have been identified as an USACE jurisdictional wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature D

Feature D had a predominance of hydrophytic vegetation, consisting of wetland weeds largely restricted to vernal pools (*Cotula coronipifolia, Polypogon monspeliensis;* Zedler 1987*)*, but was discounted as having wetland hydrology because of high cover of late-season annual FACU herb *Deinandra fasciculata.* This species normally does not have high cover until late in the season (May-June), months after the wetland determination should have been conducted.

Wetland hydrology was shown by the presence of aquatic invertebrates. The dry season survey identified *Branchinecta* cysts, and results of the cyst hatching study produced only the non-listed *Branchinecta lindahli*. A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature E

Feature E had observations of San Diego fairy shrimp in 2010-2011, displaying wetland hydrology. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination.

Feature F

Feature F had a predominance of hydrophytic vegetation, including wetland plants largely restricted to vernal pools (*Spergularia marina;* Zedler 1987*)* and other wetland plants (*Baccharis salicina*), but was discounted by Dudek/GLA from having hydrophytic vegetation because of high cover of late-season annual FACU herb *Deinandra fasciculata. Deinandra fasciculata* normally does not have high cover until late in the season (May-June), months after the wetland determination should have been conducted. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination.

Feature G

Feature G had observations of San Diego fairy shrimp in 2010-2011, displaying wetland hydrology. The basin had presence of vernal pool weed *Cotula coronipifolia (*Zedler 1987*)*. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination.

Feature H

Feature H had observations of San Diego fairy shrimp in 2010-2011, displaying wetland hydrology. The basin had presence of vernal pool plant *Spergularia marina (*Zedler 1987*)*, but the reported dominant species are all upland annuals that move into pools later in the season. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature I

Feature I had observations of San Diego fairy shrimp in 2010-2011, displaying wetland hydrology. The basin had presence of vernal pool grass *Polypogon monspeliensis (*Zedler 1987*)*, but the reported dominant species are upland annuals that move into pools later in the season. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature J

Feature J had observations of San Diego fairy shrimp in 2010-2011, displaying wetland hydrology. The basin had presence of vernal pool grass *Polypogon monspeliensis (*Zedler 1987*)*, but the reported dominant species are upland annuals that move into pools later in the season. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal

pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature K

Feature K had observations of versatile fairy shrimp from the 2012 dry season cyst hatching, displaying wetland hydrology. The reported dominant species are upland annuals that move into pools later in the season. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year.

No vernal pool indicator plant species were reported in this basin in the Dudek/GLA report. Surveys of Feature K conducted in 2014 (a drought year) for the adjacent landowner by botanist David Bramlet yielded observations of native endemic vernal pool indicator *Psilocarphus brevissimus* (USACE 1997). The presence of vernal pool indicator species is highly relevant for vernal pool determinations, as discussed by Mr. Bomkamp in 1997 (USACE 1997). It is highly questionable why this conspicuous vernal pool indicator plant species was not reported in the Dudek/GLA report.

This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature L

Feature L had observations of versatile fairy shrimp from the 2012 dry season cyst hatching, displaying wetland hydrology. The reported dominant species are upland annuals that move into pools later in the season. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year. This pool is adjacent to Feature K, which was reported to contain native vernal pool indicator plants (USACE 1997), and it is uncertain whether vernal pool indicator plant species are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature M

Feature M had observations of versatile fairy shrimp from the 2010/2011 wet season survey and *Branchinecta* cysts from the 2012 dry season cyst identification, displaying wetland hydrology. The basin had presence of the vernal pool grass *Polypogon monspeliensis (*Zedler 1987*)*, but the reported dominant species include upland annuals that move into pools later in the season. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature N

Feature N produced observations of versatile fairy shrimp from the 2010/2011 wet season survey and the 2012 dry season cyst hatching, displaying wetland hydrology. The basin had presence of vernal pool weed *Lythrum hyssopifolia (*Zedler 1987*)*, but the reported dominant species include wetland shrub *Baccharis*

salicifolia and upland annuals that move into pools later in the season. This pool has been highly disturbed by vehicular traffic and may also be considered to have disturbed vegetation within the areas most likely to support hydrophytic vegetation. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination.

Feature O

Feature O did not have reports of fairy shrimp cysts from the dry season survey, but is extremely close (potentially connected) to Feature N. This pool has been highly disturbed by vehicular traffic and may also be considered to have disturbed vegetation within the areas most likely to support hydrophytic vegetation. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Result: Reconduct jurisdictional determination

Feature P

Feature P had a predominance of hydrophytic vegetation, primarily consisting of wetland weeds largely restricted to vernal pools (*Cotula coronipifolia, Polypogon monspeliensis, Lythrum hyssopifolia;* Zedler 1987*)*, but was discounted as having wetland hydrology because of high cover of late season facultative upland (FACU) herb *Deinandra fasciculata.* This species normally does not have high cover until late in the season (May-June), months after the wetland determination should have been conducted.

Wetland hydrology was shown by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature Q

Feature Q has been highly disturbed by vehicular traffic and may also be considered to have disturbed vegetation within the areas most likely to support hydrophytic vegetation. Wetland hydrology was verified by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature has wetland hydrology and should be considered a CCC wetland and RWQCB surface water

Result: Reconduct jurisdictional determination for USACE.

Feature R

Feature R had a predominance of hydrophytic vegetation, primarily consisting of wetland weed largely restricted to vernal pools (*Cotula coronipifolia)* as well having presence of other vernal pool wetland weeds (*Polypogon monspeliensis, Lythrum hyssopifolia;* Zedler 1987*)*.

Wetland hydrology was verified by the presence of aquatic invertebrates. Feature R had observations of versatile fairy shrimp from the 2010/2011 wet season survey. A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature S

Feature S had a predominance of hydrophytic vegetation, of wetland weeds largely restricted to vernal pools (*Cotula coronipifolia)* as well as presence of vernal pool weeds *Polypogon monspeliensis* and *Lythrum hyssopifolia (*Zedler 1987*)*, but was discounted from having wetland hydrology because of high cover of late-season annual FACU herb *Deinandra fasciculata.* This late-blooming species normally does not have high cover until late in the season (May-June), months after the wetland determination should have been conducted.

Wetland hydrology was verified by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature T

Feature T was reported as an unvegetated ponding area on asphalt. Versatile fairy shrimp (*Branchinecta lindahli*) were observed in this basin. This basin may not be USACE jurisdictional, but widespread problems throughout the Dudek/GLA JD report put even this basic assertion into question. This basin should be verified to be on asphalt and not an earthen shoulder of an asphalt road. This pool may still be considered a RWQCB surface water and a CCC wetland.

Result: Verify condition of feature

Feature U

Feature U was reported as an unvegetated ponding area on asphalt. This basin may not be USACE jurisdictional, but widespread problems throughout the Dudek/GLA JD report put even this basic assertion into question. This basin should be verified to be on asphalt and not an earthen shoulder of an asphalt road. This pool may still be considered a RWQCB surface water and a CCC wetland.

Result: Verify condition of feature

Feature V

Feature V had a predominance of hydrophytic vegetation, consisting of *Baccharis salicifolia* and wetland weeds largely restricted to vernal pools (*Rumex crispus;* Zedler 1987*).* Wetland hydrology was discounted by GLA, but was shown by Dudek by the presence of aquatic invertebrates. The 2009-10 wet season survey identified the non-listed versatile fairy shrimp. A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature W

Feature W had a large assemblage of weedy upland species, but also had presence of wetland plants largely restricted to vernal pools (*Eleocharis macrostachya*, *Rumex crispus, Lythrum hyssopifolia;* Zedler 1987*)*. Wetland hydrology was discounted by GLA, but was verified by Dudek by the presence of aquatic

invertebrates; the 2012 dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature W has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature X

Feature X had a predominance of hydrophytic vegetation, of wetland weeds largely restricted to vernal pools (*Cotula coronipifolia, Polypogon monspeliensis;* Zedler 1987*)*, but was discounted as having wetland hydrology because of high cover of late season annual FACU herb *Deinandra fasciculata.* This species normally does not have high cover until late in the season (May-June), months after the wetland determination should have been conducted.

Wetland hydrology was verified by surface ponding and the presence of aquatic invertebrates. Versatile fairy shrimp were observed in the 2011-2012 wet season survey; the dry season survey identified *Branchinecta* cysts and results of the cyst hatching study produced the non-listed versatile fairy shrimp. A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature Y

Feature Y had a predominance of hydrophytic vegetation, including *Baccharis salicifolia* and a wetland grass largely restricted to vernal pools (*Polypogon monspeliensis;* Zedler 1987*)*, but was discounted as having wetland hydrology because of high cover of a late-season annual upland herb *Centaurea melitensis.* This species normally does not have high cover until late in the season, months after the wetland determination should have been conducted.

Wetland hydrology was verified by surface ponding and the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be considered to have problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature Z

Feature Z had a dominance of wetland shrub *Baccharis salicifolia* and presence of wetland weeds largely restricted to vernal pools (*Polypogon monspeliensis; Rumex crispus;* Zedler 1987*)*, but was discounted as having wetland hydrology because of a low cover of late-season annual upland plants *Hirschfeldia incana and Deinandra fasciculata.* Wetland hydrology was discounted by GLA but verified by Dudek by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature Z has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature AA

Feature AA had a large assemblage of weedy upland species, but also had presence of a wetland grass largely restricted to vernal pools (*Polypogon monspeliensis;* Zedler 1987*)*. Wetland hydrology was discounted by GLA, but was shown by the presence of aquatic invertebrates. The dry season survey identified *Branchinecta* cysts and results of the cyst hatching study produced only the non-listed versatile fairy shrimp. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature AA has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature BB

Feature BB had no reported wetland species and had a high cover of annual grasses. Wetland hydrology was discounted by GLA, but was verified by Dudek by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature BB has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature CC

Feature Y had a predominance of hydrophytic vegetation, of a wetland weed largely restricted to vernal pools (*Lythrum hyssopifolia;* Zedler 1987*)*. Wetland hydrology was shown by the presence of surface ponding and aquatic invertebrates. A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland.

USFWS. Protocol fairy shrimp surveys are incomplete in many pools, including Feature CC. This pool has the highest *Branchinecta* cyst density ever observed by this author, in surveys of scores of pool complexes over 15 years.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature DD

Feature DD had no reported wetland species and had a high cover of annual grasses. Wetland hydrology was discounted by GLA, but was verified by Dudek by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature DD has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature EE

Feature EE had a predominance of hydrophytic vegetation, of a wetland grass largely restricted to vernal pools (*Polypogon monspeliensis;* Zedler 1987*)*, as well as presence of *Rumex crispus* and FAC wetland shrub *Isocoma menziesii* (miscategorized as UPL in report), but was discounted as having wetland hydrology because of high cover of late-season annual upland plants *Deinandra fasciculata* and *Centaurea melitensis.* These species normally does not have high cover until late in the season, months after the wetland determination should have been conducted.

Wetland hydrology was discounted by GLA but verified by Dudek by presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature FF

Feature FF had a large assemblage of late-season annual upland species, but also had presence of FAC wetland plants *Isocoma menziesii* and *Bassia hyssopifolia*. Wetland hydrology was discounted by GLA, but was verified by Dudek by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature W has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature GG

Feature GG has been highly disturbed by vehicular traffic and may also be considered to have disturbed vegetation within the areas most likely to support hydrophytic vegetation. It is uncertain if vernal pool indicator plant species (USACE 1997) are present during the wet season but not observed during the sampling or if vernal pools plants are present but not reported. Wetland hydrology was shown by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature has wetland hydrology and should be considered a CCC wetland and RWQCB surface water

Result: Reconduct jurisdictional determination for USACE.

Feature HH

Feature HH had a presence of wetland shrubs *Baccharis salicifolia* and *Baccharis salicina* (FACW, miscategorized by Dudek as UPL), but was discounted as having hydrophytic vegetation because of high cover of late-season annual FACU herb *Deinandra fasciculata. Deinandra fasciculata* normally does not have high cover until late in the season (May-June), months after the wetland determination should have been conducted. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination

Feature II

Feature II had observations of versatile fairy shrimp the 2012 dry season cyst hatching, displaying wetland hydrology. The basin had presence of vernal pool weeds *Lythrum hyssopifolia* and *Polypogon monspeliensis (*Zedler 1987*)*, but the reported dominant species was perennial herbaceous salt heliotrope (*Heliotropium curassavicum*; FACU). It is uncertain if this FACU species would be co-dominant with other wetland plants if the jurisdictional determination were conducted at the appropriate time of year, and therefore, what the hydrophytic status of this pool would be. This pool is also in the vicinity of a pool dominated by vernal pool indicator *Psilocarphus brevissimus*, and it is uncertain whether vernal pool indicator species (USACE 1997) are present in this basin but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination

Feature JJ

Wetland hydrology was verified in Feature JJ by the presence of aquatic invertebrates. The dry season survey identified *Branchinecta* cysts and results of the cyst hatching study produced only the non-listed versatile fairy shrimp. Feature JJ has been disturbed by vehicular traffic and can be considered to have problematic vegetation (USACE 2008). This pool was reportedly dominated by upland and FACU species, but an assessment conducted at the appropriate time of year would yield different results. This pool is in the vicinity of Pool A dominated by vernal pool indicator *Psilocarphus brevissimus* and it is uncertain if vernal pool indicator species (USACE 1997) are present in this basin but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature KK

Feature KK had a dominance of hydrophytic vegetation, of plants largely restricted to vernal pools (*Eleocharis palustris* [=*E. macrostachya*]; *Polypogon monspeliensis;* Zedler 1987*)*, as well as presence of *Rumex crispus*, but was discounted by GLA as having wetland hydrology because of a cover of late-season annual upland herbs *Hirschfeldia incana* and *Centaurea melitensis.* Wetland hydrology was verified by Dudek by the presence of aquatic invertebrates; the dry season survey identified *Branchinecta* cysts. Hydric soils were recorded in this pool. This pool is in the vicinity of Pool A dominated by vernal pool indicator *Psilocarphus brevissimus* and it is uncertain if vernal pool indicator species (USACE 1997) are present in this basin but not reported. This basin should be assessed for vernal pool flora throughout the growing season.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature LL

Feature LL had vernal pool indicator (USACE 1997) prairie plantain (*Plantago elongata*) as one of the two dominant plant species, but GLA discounted wetland vegetation because of high cover of annual upland grass *Bromus hordeaceus*. If the delineation had been conducted at the appropriate time of year, before the development of upland plants, this feature would be determined to have hydrophytic vegetation (Per Section 5. “Temporal shifts in Vegetation” in USACE 2008). Wetland hydrology was verified by the presence of aquatic

invertebrates; the 2012 dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland. Additionally, a restrictive layer was recorded at 4-inches depth.

Result: Should be considered a USACE/RWQCB and CCC wetland.

Feature MM

Feature MM was identified as having a predominance of hydrophytic vegetation, of wetland plants largely restricted to vernal pools (*Cotula coronipifolia*; *Polypogon monspeliensis;* Zedler 1987*)*, as well as presence of *Eleocharis macrostachya* and *Rumex crispus*. Wetland hydrology was verified by the presence of aquatic invertebrates (*Branchinecta* cysts). A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland. This pool is in the vicinity of Pool LL, which is dominated by vernal pool indicator *Plantago elongata,* and it is uncertain whether vernal pool indicator species (USACE 1997) are present in Feature MM but not reported.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature NN

Feature NN had a dominance of a wetland plant largely restricted to vernal pools (*Rumex crispus;* Zedler 1987*)*, but was discounted by GLA as having wetland vegetation because of a cover of annual upland grass *Hordeum murinum,* which could be expected to move in after the pool was dry or inhabit the higher ridges in the basin. The jurisdictional determination states that wetland hydrology indicators were not observed, and that this basin is unsuitable as fairy shrimp habitat, but ponding can be observed on aerial imagery from March 7, 2011, one week after rains in an above average rainfall year, as well as on April 16, 2003, on the day of a storm (Google Earth 2015). It is also noteworthy that this pool appears to receive disturbance from mowing and/or discing, as evidenced from aerial photography. This pool is in the vicinity of Pool LL, which is dominated by vernal pool indicator *Plantago elongata,* and it is uncertain whether vernal pool indicator species (USACE 1997) are present in Feature NN but not reported.

Feature has wetland hydrology and should be considered a CCC wetland and RWQCB surface water.

Result: Reassess for vernal pool indicator species.

Feature OO

Feature OO was identified as having a predominance of hydrophytic vegetation, of wetland plants largely restricted to vernal pools (*Spergularia marina;* Zedler 1987*)*, as well as presence of *Cotula coronipifolia* and *Rumex crispus*. Wetland hydrology was verified by the presence of aquatic invertebrates; the 2012 dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland. This pool is in the vicinity of Pool LL, which is dominated by vernal pool indicator *Plantago elongata,* and it is uncertain whether vernal pool indicator species (USACE 1997) are present in Feature OO but not reported.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature PP

Feature PP was identified as having a predominance of hydrophytic vegetation, of wetland plants largely restricted to vernal pools (*Cotula coronipifolia, Rumex crispus, Polypogon monspeliensis;* Zedler 1987*)*. Wetland hydrology was verified by the presence of aquatic invertebrates. The 2012 dry season survey identified *Branchinecta* cysts. A seasonal basin with hydrophytic vegetation and wetland hydrology can be identified as having problematic hydric soils and be considered a USACE wetland. This pool is in the vicinity of Pool LL, which

is dominated by vernal pool indicator *Plantago elongata,* and it is uncertain whether vernal pool indicator species (USACE 1997) are present in Feature PP but not reported.

Result: Should be considered a USACE/RWQCB and CCC wetland

Feature QQ

Feature QQ had a large assemblage of late-season annual upland species, but also had presence of FAC wetland plants *Isocoma menziesii* and *Rumex crispus*. Fairy shrimp surveys have not been completed for this deep basin, so wetland hydrology cannot be ruled out. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature QQ is a depressional feature that has had observed surface ponding and wetland plants, and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature RR

Feature RR had a large assemblage of late-season annual upland species, but also had presence of FAC wetland plant *Rumex crispus*. Fairy shrimp surveys have not been completed for these deep ruts, so wetland hydrology cannot be ruled out. GLA claims that this feature consists of two deep ruts (data sheet from 6-9-2012) but more extensive ponding has been observed as this location. Dry season sampling was not conducted on this feature. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature RR is a depressional feature that has had observed surface ponding and wetland plants, and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature SS

Feature SS is a shallow depression with significant rutting. It had an assemblage of upland species, but also had presence of FAC wetland plants *Isocoma menziesii* and *Rumex crispus*. Dry season surveys were not conducted for this basin and wet season surveys were not completed at a time to observe ponding, so fairy shrimp surveys are incomplete and wetland hydrology cannot be ruled out. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature RR is a depressional feature that has had observed surface ponding and wetland plants, and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.

Feature TT

Feature TT had a dominance of FAC wetland plants (*Rumex crispus; Isocoma menziesii*), but was discounted by GLA as having wetland vegetation because of a cover of late-season annual FACU herbs *Melilotus indicus* and *Bromus hordeaceus* (as well as mis-categorization *of Isocoma menziesii* as an UPL species.) Dry season surveys were not conducted for this basin and wet season surveys were not completed at a time to observe ponding, so fairy shrimp surveys are incomplete and wetland hydrology cannot be ruled out. It is uncertain what the jurisdictional determination of this pool would be if conducted at the appropriate time of year, and also whether vernal pool indicator plant species (USACE 1997) are present but not reported. This basin should be assessed for vernal pool flora throughout the growing season and have a hydrophytic vegetation assessment conducted at the appropriate time of year.

Feature RR is a depressional feature that has had observed surface ponding and wetland plants, and should be considered a CCC wetland and RWQCB surface water.

Result: Reconduct jurisdictional determination for USACE.