

Memo

To Demian Hardman, Planner, Contra Costa
County Department of Conservation &
Development

From Angie Harbin-Ireland, Senior Biologist, AMEC

Date 15 October 2012

**Subject Clarifications Regarding Special-Status Aquatic Invertebrates for the
Proposed Creekside Memorial Park, Corrie Development Corp., Contra
Costa County, California.**

INTRODUCTION

Creekside Memorial Park, a proposed new cemetery to be developed by Corrie Development Corp., encompasses a total area of approximately 221 acres located in the Tassajara Valley in unincorporated Contra Costa County, California. The proposed project site is located along Camino Tassajara about 1 mile south of the intersection with Highland Road. Elevation of the site ranges from about 540 to 950 feet above mean sea level. Current usage is rural residential and grazing, with the majority of site being non-native grassland with scattered valley oaks, and with ephemeral riparian drainages along Camino Tassajara (including a section of Tassjara Creek), the south side of the property, and along the northern boundary.

Contra Costa County circulated a Draft Environmental Impact Report (DEIR) for the proposed project in September 2011. Comment letters from resource agencies including the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game were received in October 2011. The County is currently preparing the Final EIR document for the project. In order to assist them in responding to resource agency comments on the DEIR, the County recently requested that we clarify information regarding federally listed aquatic invertebrate species.

Fairy and tadpole shrimp (as a class, these are referred to as branchiopods) are small aquatic crustaceans that inhabit seasonally- inundated temporary bodies of water, such as vernal pools and grassy swales. Several species are known from the region of the project, and among these, four are listed by the USFWS as Threatened or Endangered under the authority of the federal Endangered Species Act. These are *Branchinecta conservatio* (Conservancy fairy shrimp – Endangered), *Branchinecta lynchi* (vernal pool fairy shrimp – Threatened), *Branchinecta longiantenna* (longhorn fairy shrimp – Endangered), and *Lepidurus packardii* (vernal pool tadpole shrimp – Endangered). California linderiella (*Linderiella occidentalis*) is also known from the area, but is not a federally or state listed species, though it is tracked in the California Natural Diversity Database (CNDDB). The project lies outside of designated Critical Habitat for all species.

A habitat assessment of the site for special-status aquatic invertebrates was conducted by permitted fairy shrimp biologist Wendy Dexter of Condor Country Consulting in 2006. She identified the two stock ponds on site and two seasonal depressions (noted as freshwater marsh/seeps) as marginally suitable habitat for vernal pool and longhorn fairy shrimp and vernal pool tadpole shrimp. Potential habitat was rated as marginal primarily because the seeps occur in situations in which at least a minimal stream flow is anticipated and the ponds retain a small amount of water year round, as opposed to ephemeral ponding that is more suitable for branchiopods. A copy of the habitat assessment by Condor Country was provided to the USFWS at an on-site meeting on 12 June 2008. According to observations recorded in the CNDDDB (re-verified on 3 October 2012), the nearest known localities for vernal pool tadpole shrimp and Conservancy fairy shrimp are more than 30 miles distant, those for longhorn and vernal pool fairy shrimp are about 6 miles distant, and for California linderiella just over 2 miles (Figure 1). Given that known populations for listed species were generally at some distance from the site and the poor quality of habitat, the potential for any listed branchiopod to occur onsite was considered low.

In response to the Draft Environmental Impact Report (DEIR) submitted by Contra Costa County for the project, the USFWS issued a letter (08ESMF00-20110TA-0878-1) commenting on the proposed development and its impact on biological resources. Comments related to special-status aquatic invertebrates are summarized below.

USFWS COMMENTS ON DEIR

Comments related specifically to federally listed aquatic invertebrates were limited to comment 8, concerning content found on page 3.4-32 lines 22-31 of the DEIR, and are summarized below:

- 1) It is unclear how the suitable habitat for listed crustaceans will be avoided.
- 2) A low potential for listed crustaceans to occur is asserted without supporting documentation. Surveys were not conducted.
- 3) The distance of construction from aquatic features is not stated.
- 4) Irrigation runoff may affect water quality, an indirect effect that may result in take of listed species.

RESPONSE

Points 1 and 3 of the Service comments are somewhat related. As discussed during an on-site meeting on 12 June 2008 with Service biologists Kim Squires and Michelle Havens, the site planners P/A Design Resources, Inc. worked closely with the project biologist to minimize impacts to aquatic features. No construction is planned for the immediate areas containing the two seasonal depressions or the ponds, although some maintenance is planned for the ponds. As discussed in the meeting of 12 June 2008, a breached weir on Pond 1 on the southwest side of the property will be reinforced with rock and compacted soil, which avoids excavation and reconstruction of the pond. This is desirable in order to avoid downstream sedimentation. Pond 1 is over 900 feet from proposed lawn entombment areas, and about 500 feet from grading for the upper garden access road. Pond 2 on the northwest side of the property is experiencing some erosion at its outflow, and this would be stabilized by planting suitable native riparian vegetation. Pond 2 is located about 450 feet from proposed lawn entombment areas in the upper garden. No direct action is planned for the areas around the two seasonal depressions, and each of

these will be 100 feet from proposed grading for the lower garden based on the setback requirements of Mitigation Measure 3.4-2d in the DEIR (page 3.4-45). This measure (provided below) requires a 100 foot grading setback from the seasonal depressions that provide potential habitat along the northern property boundary:

Mitigation Measure 3.4-2d Revisions to Project Master Site Plan and Conceptual Landscape Plan (page 3.4-45): To maintain opportunities for dispersal by special-status amphibians and other wildlife between Tassajara Creek and the protected western portion of the Project Site, the Master Site Plan shall be revised to provide a minimum 100-foot setback for grading and cemetery related improvements from the northern tributary drainage and/or northern property line, whichever is greater. Proposed fills, ornamental landscaping, an artificial drainage, and lawn entombment areas all extend within this minimum setback zone and greatly compromise opportunities for movement along the natural corridor the tributary drainage provides wildlife. Native riparian and upland plantings shall be provided within this setback zone to increase protective cover and provide for habitat enhancement.

Figure 2 depicts the permanent and temporary impact area in relation to potential special-status invertebrate habitat. Also, as stated in DEIR Mitigation Measure 3.4-2c (p. 3.4-43-45) the limits of construction will be clearly delineated in the field prior to construction activities, with exclusion fencing to be utilized to demarcate the potential habitat areas. The contractor will also be prohibited from placing or storing equipment, from dumping, burning or burying any rubbish, waste or fill materials, and from using pesticides or other toxic chemicals in the potential habitat.

The determination of low potential for the occurrence of listed branchiopods was based upon the lack of physical proximity for known populations in the area and the marginal quality of habitat. In the meeting of 12 June 2008, USFWS biologist Kim Squires agreed that if the areas identified as potential habitat were not being affected, there would be no need for protocol surveys (see attached site visit notes).

The upper garden area is proposed to be maintained as a natural area, with no additional irrigation. Riparian enhancements (vegetation plantings; mostly in the lower ephemeral drainages not close to potential habitat) will be of native vegetation, which should also require no additional irrigation. Thus irrigation run-off from the upper garden and riparian enhancements will not be a water quality issue for potential branchiopod habitat. Irrigation is planned for the more formal lower gardens as noted in the DEIR, and this has the potential to affect the lower of the two seasonal depressions/seeps. However, grading in this landscaped area has been designed to direct overground flow away from the seep area. As described in DEIR Mitigation Measure 3.4-2b (pg. 3.4-42-43) a Long Term Management and Operations Plan (LTMOP) will be prepared to avoid possible conflicts with habitat protection and enhancement measures intended to benefit special-status species. As required by this mitigation measure, surface runoff from irrigated turf areas in the Lower Gardens will be directed to water quality treatment areas to prevent the introduction of fertilizers and other urban pollutants into the nearby tributary drainages. Final drainage improvement and water quality treatment plans must be reviewed by a qualified biologist to ensure that potential conflicts over long term management are minimized.

In addition, a Stormwater Control Plan with Best Management Practices and Integrated Management Practices (BMPs/IMPs) has been drafted for the project and will be implemented in accordance with DEIR Mitigation Measure 3.9-2b (page 3.9-27). Relevant measures in the Stormwater Control Plan include design and source control measures to prevent or limit pollutants being released to the tributaries from stormwater runoff. These include minimizing

pesticide and fertilizer use, using pest resistant plants, and compliance with Contra Costa County Hazardous Materials Program requirements in the maintenance yard area. The Stormwater Control Plan includes the following treatment controls to remove or reduce pollutants that have been mobilized in stormwater:

- Vegetated swales designed to treat parking lot and roadway runoff;
- Infiltration and flow through planters designed to treat roof runoff; and
- Bioretention areas designed to treat stormwater from the upper garden of the Project Site via storm drain pipe prior to entering the storm drain detention basin

Therefore, it is not anticipated that water quality will affect the areas identified as potential habitat for special-status aquatic invertebrates.

In summary, there are no known populations of listed branchiopods in proximity to the project, and since the sites on the project identified as potential suitable habitat are of low quality, will be avoided by construction activities, will be clearly marked as being off-limits to construction or related activities, are 100 feet or more from proposed construction, and will not be subject to altered hydrological circumstances caused by onsite landscape irrigation, a finding of less-than-significant impact to listed crustaceans is supported.

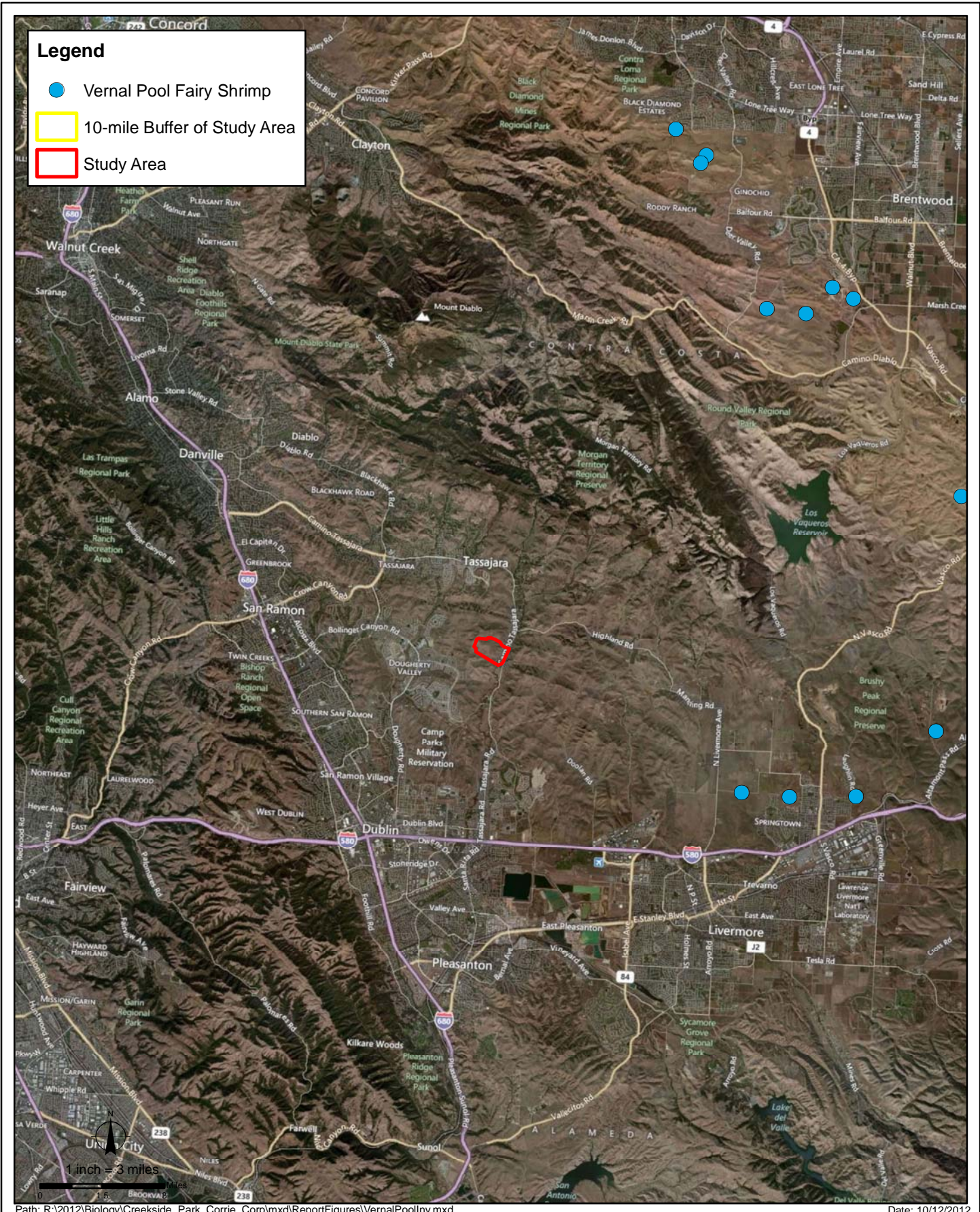
ATTACHMENTS

Figure 1. Vernal Pool Invertebrate Occurrences in the Region

Figure 2. Potential Aquatic Invertebrate Habitat On Site

Final USFWS Site Visit Notes (July 8, 2008)

cc: Jim Parsons, PA Design Resources
Pete Klein, Corrie Development Corp.

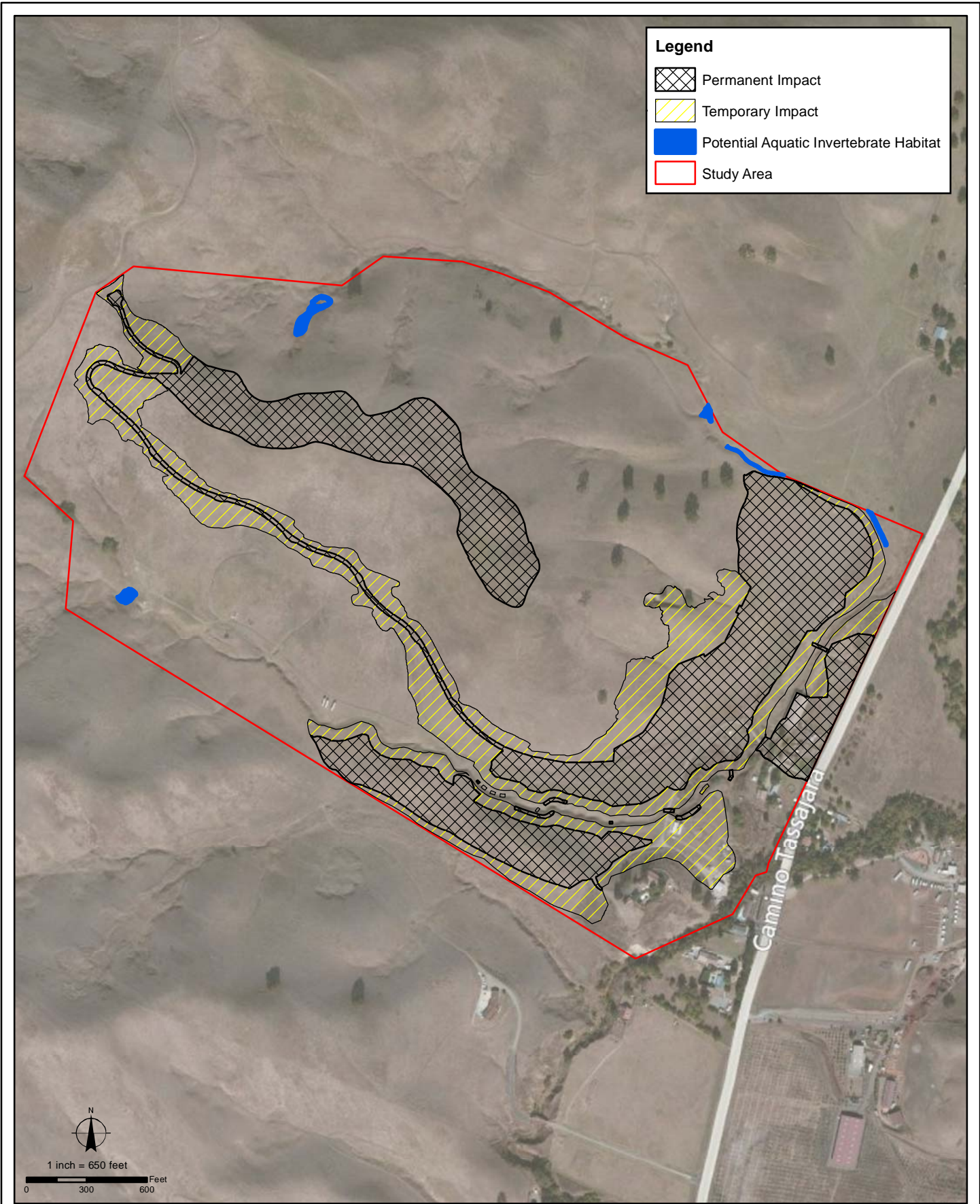


Vernal Pool Invertebrate Occurrences in the Region
 Creekside Memorial Park
 Corrie Development Corporation
 Tasajara Valley, Contra Costa County, California

FIGURE

1





**Potential Aquatic Invertebrate Habitat On Site
 Creekside Memorial Park
 Corrie Development Corporation
 Tasajara Valley, Contra Costa County, California**

FIGURE

2



**Creekside Memorial Park Site Visit Meeting Notes
Final Version with USFWS Comments Incorporated
July 8, 2008**

Location: Tassajara Valley, Contra Costa County

Date: June 12, 2008

Time: 10 am - noon

Attending: Kim Squires – USFWS
Michelle Havens – USFWS
Sid Corrie – Owner
Jim Parsons – P/A Design Resources, Planners and Engineers
Marylee Guinon – EDAW, Biological Consultant
Angie Harbin-Ireland – EDAW, Biological Consultant

A site visit outline and two figures entitled, *On-Site Special-Status Species Occurrences and Habitats* and *Action Area*, were provided to the 6 participants.

1. Jim Parsons provided an overview of the proposed constraints-based site plan
 - a) There has been a substantial reduction from the original site plan (consisting primarily of cemetery plots) which extended across the hills, into stock ponds and the main north/south drainage (creek)
 - i) Revised plan proposes Lower Gardens (cemetery plots) concentrated near Tassajara Road and a large area preserved adjacent to open space off site to the southwest and north; EDAW will provide a map of preserved open space and biological corridor connections in the revised Biological Assessment (Hidden Valley, Brown Ranch, among others).
 - (1) Kim asked about the maintenance regime, lawn mowers and compatibility with CRF and CTS movement on site.
 - (2) Angie and Marylee recognized there is potential for take due to on-going cemetery maintenance; however, maintenance activities will only occur during the daytime and likely on warm days when the amphibians are less likely to move into uplands. The road will experience minimal traffic, and “take” from autos although possible, is highly unlikely.
 - ii) Jim emphasized that a cemetery is a very different type of development as opposed to commercial or residential, thus there will be low noise levels, low light levels, and very light vehicle traffic - maintenance workers will drive golf carts; there will be no vertical curbs on the access road to the Upper Gardens and no lighting on the road or in the Gardens (cemetery plots).
 - b) Kim asked about the status of the other approval processes
 - i) Marylee explained that no permit applications have been submitted to USACE, CDFG, or RWQCB as hydrology studies are in progress by Balance Hydrologics and the plans for outfalls and bank stabilization are dependent on these studies, but we are confident that the impacts will fall under a

S:\Projects\Corrie Property\Corrie 2d\Project Management\USFWS Site Visit 061208 Final Notes.doc

Nationwide Permit. Contra Costa County Flood Control will review and approve improvements in the Creek and tributaries. All such improvements will be designed to maintain wildlife movement corridors.

- ii) Marylee and Jim explained that the County is working on the Admin Draft EIR and the County wanted USFWS's input early on in the CEQA process given that there are ESA issues at the site.
 - iii) Jim and Sid discussed the unanimous support in the form of City Council Resolutions received from surrounding municipalities (Pleasanton, San Ramon, Dublin, and Danville) for the project given the shortage of cemeteries in the region. However, other developers in the area do not view the development of a cemetery adjacent to their land favorably. A ground-water supply analysis has been completed and will be included in ADEIR.
- c) Biological Movements
- i) We discussed biological movement corridors: under the proposed site plan amphibians will have uninterrupted access between the sites two stock ponds, along drainages to Tassajara Creek, and from the two on-site stock ponds to known breeding sites in the contiguous Hidden Valley.
- d) Riparian enhancement
- i) Kim asked about the proposed riparian enhancement along the tributaries to Tassajara Creek that will bisect the cemetery and their potential to become an attractive nuisance for California red-legged frog.
 - ii) EDAW explained that the site is very xeric and we envision native plantings sustainable without permanent irrigation. California red-legged frogs may move into the enhanced riparian corridor as they have been observed in the more vegetated stock pond and dense Tassajara Creek riparian corridor, but the enhanced riparian area will be "hands off" from cemetery maintenance crews and visitors. There will be a worker education program as part of the long-term management plan. If California red-legged frogs use this corridor, they will be uninterrupted in reaching Tassajara Creek, which currently functions as a movement corridor for the species. It is not be desirable to attract California red-legged frog to the lake at the project's entrance. This lake cannot be emptied every fall as bull frog predator control, because it serves as irrigation water storage. Predator control in the lake will include regular monitoring and bull frog eradication, if they are detected. Under the proposed project, amphibians will be able to disperse and migrate through the site, helping to sustain regional populations. Furthermore, these populations will benefit from the conservation easement and site improvements to the stock ponds.

1. Stopping Point 1 – Entry area after tributary crossing

- a) Angie provided an overview of biological resource studies and surveys
 - i) Federally jurisdictional aquatic features total approximately 1.4 acre: 2 ponds, a few seeps on north boundary, unvegetated tributaries draining easterly to Tassajara Creek with patchy riparian vegetation, Tassajara Creek dense riparian vegetation.

- ii) Federally-listed species surveys were conducted from 2002-2004
 - (1) CRF focused surveys were conducted with positive findings in Tassajara Creek and Pond 2
 - (2) CTS dip netting was conducted with larvae found in Pond 1
- iii) EDAW (Sycamore) worked with P/A Design in the development of a constraints-based site plan to avoid aquatic features to the maximum extent
 - (1) Three road bridges will free span the tributaries maintaining wildlife movement opportunities.
 - (2) Stormwater outfalls will require some bank protection
 - (3) A Conservation Easement is proposed on ~150 acres of habitat to be preserved and managed for CRF, CTS, and SJKF; the permanently developed and maintained cemetery area will total ~50 acres; ~30 acres of remedial grading may be needed along the road to the Upper Gardens and at the base of the hillside, but will be restored to a natural condition (temporary impact).
- b) Based on our discussions we understood, provided that the Service could review an updated biological assessment including more project detail as discussed below, the proposed 150-acre conservation easement habitat area would be adequate compensation for project impacts to federally listed species. Kim agreed that it is acceptable to exclude the road from the Conservation Easement but include remedial grading and restored areas in the easement. The conservation easement and associated management plan document would need to be worded accordingly. The management plan will include but not be limited to contractor and cemetery maintenance worker training, grazing management, a fencing plan, and a predator control plan.

3. Stopping Point 3 – Pond 1

- a) Angie explained that California tiger salamander breeding is successful this year as evidenced by metamorphs at the surface; suitable upland habitat is adjacent to the pond; permanent lawn entombment areas would be located over 900 feet from the pond.
- b) Proposed enhancements were described by EDAW
 - i) Reinforce breached berm. Rock and compacted soil can be used to construct a durable berm and would result in less impact than over excavating the soil, stock piling it to the side, and then building berm in a series of layers.
 - ii) Emergent marsh plantings are being considered.
 - iii) Partial fencing from cattle grazing may be necessary if planting implemented
 - (1) Angie asked Kim about her opinion on enhancing the pond given that is currently a successful breeding site. Reinforcement of the berm is desirable to avoid downstream sedimentation. Kim stated that plantings are desirable if the pond is to be enhanced for California red-legged frog but not necessary for California tiger salamander.
- c) Angie reviewed the kit fox early evaluation findings. Potential dens were identified based on size of some ground squirrel burrows. Although tracking and camera stations resulted in negative findings for kit fox. The USFWS considers

the site within the kit fox's range so mitigation is necessary. Mitigation lands suitable for California red-legged frog are also suitable for kit fox habitat.

4. Stopping Point 4 – Ridgeline

- a) Reviewed water tanks and Upper Gardens (cemetery plots) locations
- b) Visited Pond 2 and northern seeps
- c) Less emergent vegetation around pond than in past years. Some erosion at overflow site can be stabilized as part of enhancement efforts.
- d) EDAW and Jim explained that dispersal corridors and habitat connectivity will not be disrupted by the project as vehicles will infrequently travel up the hill for either services or maintenance activities. There will be no lighting or traffic at night within the conservation easement.
- e) Kim would prefer that the Upper Gardens be left as natural grassland as opposed to developed into manicured lawn entombment areas. This would alleviate concerns about potential run off and maintenance activities.

5. Questions and next steps

- a) Angie explained that we plan to conduct dry season fairy shrimp surveys in the stock ponds and two seeps that provide potential habitat although there are no recorded sightings in 5 miles. These areas will be directly and indirectly avoided by the current site plan as confirmed by Jim in the field. Kim therefore agreed that if the project will not affect the potential habitat then no protocol surveys for listed branchiopod species are necessary. EDAW will provide to the Service an analysis of the potential invertebrate habitat and document that these areas will not be impacted either directly or indirectly. If the situation is as described, the Service will concur that no surveys are necessary. Kim explained that non-protocol surveys will not be considered valid.
- b) EDAW and Jim explained that Jim Martin, the EIR biologist for the County, may call Kim to discuss the site visit and her impressions of the site plan since he could not be in attendance.
- c) In the revised version of the Biological Assessment Kim would like to see more construction and design details and drawings (outfall plans, pond enhancement plans) as well as detailed construction phasing information.

EDAW provided Kim with copies of the following reports:

- Condor Country Consulting. 2006. *Results of Corrie Property Branchiopod Habitat Assessment*. March 10, 2006.
- Sycamore Associates. 2006a. *Biological Assessment for the Creekside Memorial Park, Tassajara Valley, Contra Costa County, California*. July 22, 2004, revised March 14, 2006.

- Sycamore Associates. 2006c. *California Red-legged Frog Focused Survey for the Creekside Memorial Park, Tassajara Valley, Contra Costa County, California*. August 5, 2004, revised March 14, 2006.
- Sycamore Associates. 2006d. *Early Evaluation for the San Joaquin Kit Fox, Corrie Property, Contra Costa County, California*. September 10, 2004, revised March 14, 2006.