

**Pio Pico Energy Center
Application for Certification
11-AFC-1**

Data Adequacy Requirements and Staff's Related Information Requests

ATTACHMENT C

2011 QUINO CHECKERSPOT BUTTERFLY SITE ASSESSMENT REPORT

PIO PICO ENERGY CENTER PROJECT

SAN DIEGO, CALIFORNIA

March 2011

Prepared for:

Pio Pico Energy Center, LLC.

Prepared by:

URS

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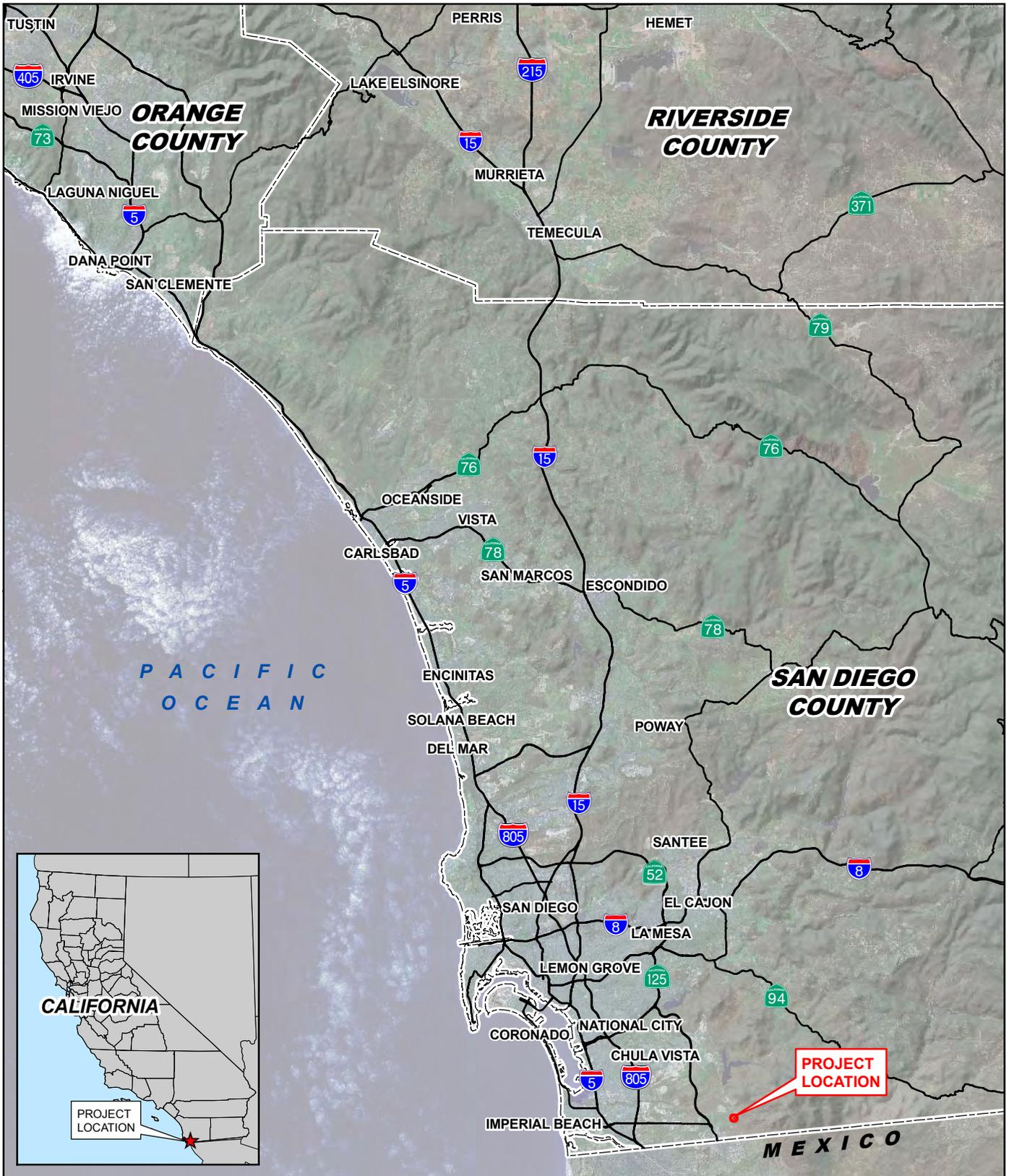
Appendix A: Butterfly Species observed

1.0 INTRODUCTION

The intended use of this document is to disclose and evaluate site conditions and determine the potential for occurrence of the Quino Checkerspot Butterfly (QCB, [*Euphydryas editha quino*]) for the proposed Pio Pico Energy Center project (hereafter referred to as the project). The project is located within a United States Fish and Wildlife Service (USFWS) recommended site assessment area. Accordingly, a site assessment survey for QCB was conducted following USFWS protocols (USFWS 2002). For the purposes of this report, the “study area” includes the project’s proposed ground disturbance footprint (project footprint) and a 500-ft buffer, to the maximum extent practical¹ (Figures 1 and 2). The project is located within a predominately anthropogenically-disturbed area (e.g., adjacent power plant) in an unincorporated area of San Diego County, California. The project occurs at an approximate elevation of 635 feet above mean sea level (msl). The project also occurs within the California, San Bernardino Meridian, Section 30, Township 18 South, and Range 1 East of the Otay Mesa United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map (USGS, 1975). The majority of the study area is currently disturbed and/or bifurcated with existing dirt roads and bare ground of open graded fields, and is absent of native habitat. Land use in the surrounding vicinity of the study area includes ruderal, non-native grasslands, developed areas, commercial, and public infrastructure.

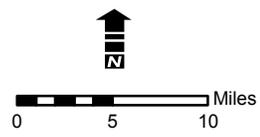
¹ Where 100% pedestrian coverage of the study area was not possible due to limited access (e.g., fenced areas where access to private property or other physical barriers [vegetative cover, health and safety concerns, etc.]), field observations were made from the nearest appropriate vantage points via public right-of-ways with binoculars and/or via aerial photographic interpretation.

FIGURE 1 REGIONAL LOCATION



**FIGURE 1
REGIONAL LOCATION**

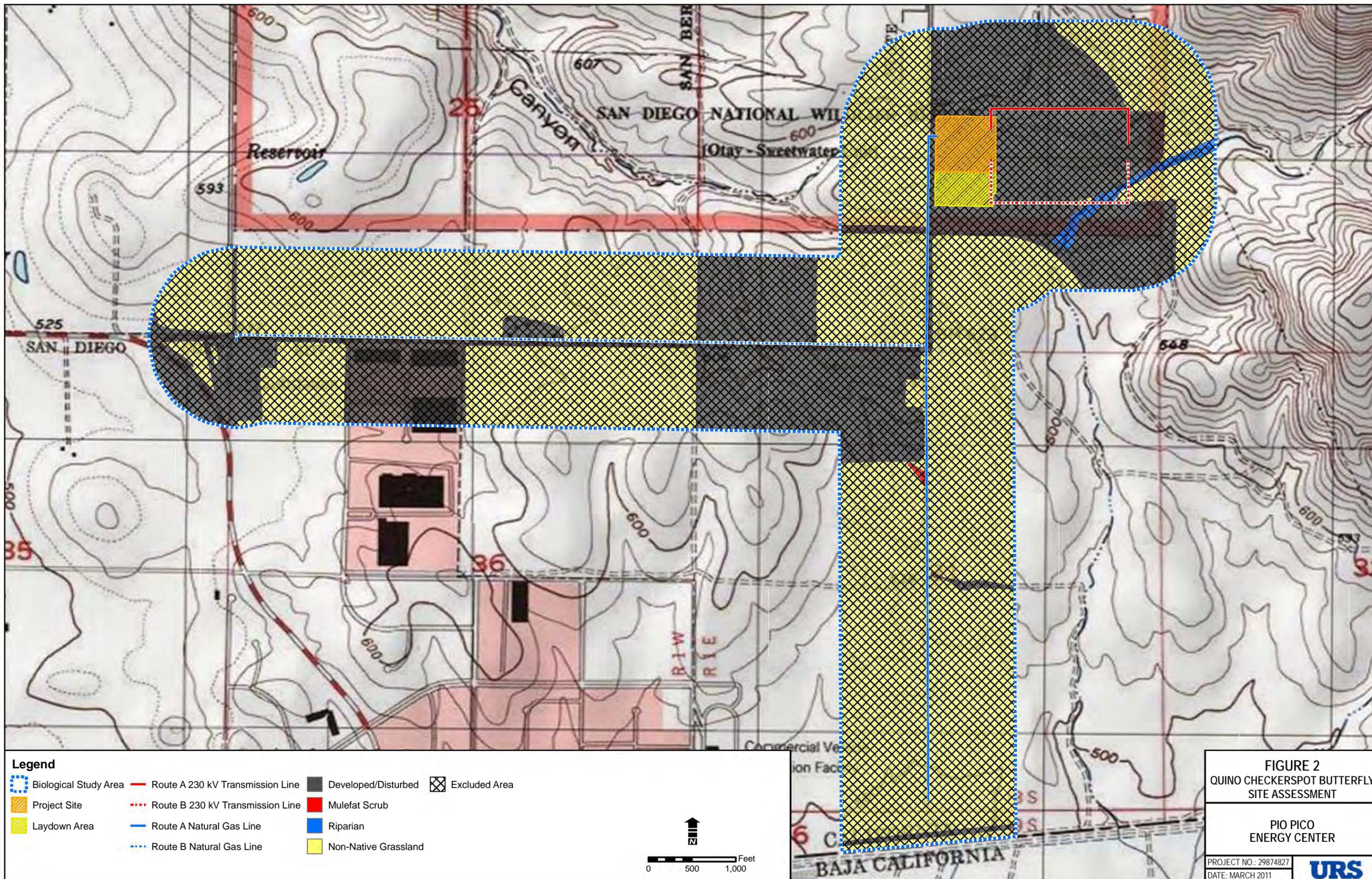
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PROJECT NO.: 29874827
DATE: DECEMBER 2010



FIGURE 2 SITE ASSESSMENT



Legend

Biological Study Area	Route A 230 kV Transmission Line	Developed/Disturbed	Excluded Area
Project Site	Route B 230 kV Transmission Line	Mulefat Scrub	
Laydown Area	Route A Natural Gas Line	Riparian	
	Route B Natural Gas Line	Non-Native Grassland	

FIGURE 2
QUINO CHECKERSPOT BUTTERFLY
SITE ASSESSMENT

PIO PICO
ENERGY CENTER

PROJECT NO.: 29874827
 DATE: MARCH 2011

Source: USGS 7.5' Topographic Quadrangle, Otay Mesa (1975) from http://goto.arcgisonline.com/maps/USA_Topo_Maps

2.0 METHODS

Prior to beginning field surveys, URS Corporation (URS) consulted resource specialists and reviewed available information from resource management plans and relevant documents to determine the types of biological resources that have the potential to exist within and adjacent to the Project.

The materials reviewed included the following:

- USFWS, 2010 season QCB monitoring reference site information website (<http://www.fws.gov/carlsbad/TEspecies/Documents/QuinoDocs/web-map20052.pdf>);
- USFWS Carlsbad Field Office Species List for San Diego County;
- California Native Plant Society Electronic Inventory (CNPS, 2010);
- Aerial Photographs (Digital Globe 2009); and
- California Natural Diversity Database (CDFG 2009 and 2010) was also queried for records of occurrence of special-status species and their habitats within the Otay Mesa and Jamul Mountains USGS 7.5-minute Quadrangle Maps (USGS 1978).

Survey methodology followed the USFWS QCB protocol (2002), and was conducted on March 11, 2011 by URS biologist Travis Cooper (Table 1). Travis Cooper (TE-1703789-1) holds a federal permit to conduct USFWS protocol surveys for the QCB. During the habitat assessment any butterfly species noted was recorded based on direct observation. Field data compiled included the species scientific name and common name. Butterfly species were identified from specialized field guides and related literature (Glassberg 2001).

TABLE 1. PROJECT STUDY AREA QCB SURVEY DATES AND WEATHER CONDITIONS

Survey type	Date	Personnel ²	Temperature (Fahrenheit)	Wind (miles per hour)	Sky
Site Assessment	15 March 2011	TC ¹	68-76°	3-5	Clear

¹ TC = Travis Cooper

3.0 RESULTS

The study area includes a mosaic of disturbed and non-native vegetation communities. Five vegetation communities/land cover types were observed within the study area which includes: Non-Native Grassland, Mule Fat/Tamarisk Scrub, Riparian, and Disturbed/Developed (URS 2010). Vegetation community types are described below and depicted on Figure 2.

Non-Native Grassland

Non-Native Grassland generally occurs on fine-textured loam or clay soils that are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. This habitat is a disturbance-related community most often found in old fields or openings in native scrub habitats and is characterized by a dominant cover (greater than 50% cover) of annual grasses and occasionally native and nonnative annual forbs (Holland, 1986). Non-native grasses have replaced native grassland and coastal sage scrub at many localities throughout Southern California.

Mule Fat / Tamarisk Scrub

Mule Fat/Tamarisk Scrub is a depauperate, tall, riparian scrub strongly dominated by mule fat (*Baccharis salicifolia*) and salt cedar (*Tamarix ramosissima*). This early seral community is maintained by frequent ephemeral flooding. Absent frequent flooding, most stands would succeed to cottonwood or sycamore dominated riparian forests or woodlands.

Riparian

Dominant riparian species within the study area include southern cattail (*Typha domingensis*), tall umbrella sedge (*Cyperus eragrostis*), and arroyo willow (*Salix lasiolepis*). This vegetation is present for most, or all, of the growing season in most years and is dominated by perennial species.

Disturbed / Developed

Disturbed vegetation has developed within portions of the study area having varying levels of anthropogenic disturbance. Disturbed areas are dominated by broad-leaf herbaceous species such as mustards (*Brassica* spp.; *Hirshfeldia incana*), horseweed (*Conyza canadensis*), and thistles (*Centaurea* spp., *Silybum* spp., *Carduus* spp.) and often have a subdominant cover (less than 50% cover) of annual non-native grasses. Developed lands within the study area include a power plant, roadways, parking lots, vacant lots, and other private/public infrastructure with ornamental plantings. Species composition in developed communities within the study area varied and dominated by non-native cultivar species. Disturbed and developed vegetation communities are found throughout the study area.

QCB Site Assessment

The QCB is a medium-sized butterfly which is a federally-listed endangered species. It is closely associated with sparsely vegetated open habitats including open soils lacking shrub over story and hilltops which contain the butterflies' primary larval host plant (plantain [*Plantago erecta*]). No patches of the QCB larval host plant plantain were discovered during the site assessment within the project footprint or study area. The closest primary larval host plant was found approximately 1,600 feet to the northeast from the project footprint and was found to be in healthy condition (flowering). Figure 2 depicts the excluded areas

for QCB. Appendix A provides the list of all butterfly species observed during the March 11, 2011 site assessment.

4.0 CONCLUSIONS

The QCB site assessment determined that the study area does not contain habitat suitable for QCB and no QCB larval host plants were identified.

5.0 REFERENCES

Digital Globe. 2009. Aerial photography.

Glassberg, Jeffrey. 2001. Butterflies through Binoculars: A Field, Finding and Gardening Guide to Butterflies, the West Oxford University Press (2001

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California (California Department of Fish and Game, The Resources Agency, ed), p. 156. Sacramento, CA.

Sawyer and Keeler-Wolf. 1995. A Manual of California Vegetation. Sacramento, CA: California Native Plant Society.

United States Fish and Wildlife Service (USFWS).2002. US Fish and Wildlife Service, Quino Checkerspot Butterfly (*Euphydryas editha quino*) Survey Guidelines. Carlsbad, CA.

USFWS, 2010 season QCB monitoring reference site information website;
http://www.fws.gov/carlsbad/TEspecies/Documents/QuinoDocs/Quino2010MonRef/Quino_2010_Ref_Info.htm

USGS (United States Geological Service). 1978. 7.5-Minute Quadrangle Otay Mesa, California

APPENDIX A

BUTTERFLY SPECIES OBSERVED

PROJECT STUDY AREA	
SCIENTIFIC NAME	COMMON NAME
Family: Pieradae	Whites and Yellows
<i>Anthocharis sara</i>	Sara Orangetip
Nymphalinae	True Brushfoots
<i>Coenonympha californica</i>	California Ringlet
<i>Junonia coenia</i>	Buckeye
Family: Lycaenidae	Gossamer Wings
<i>Glaucopsyche lygdamus</i>	Silvery Blue
<i>Callophrys rubi</i>	Green Hairstreak
Family: Riodinadae	Metalmarks
<i>Apodemia mormo</i>	Mormon Metalmark
Family: Hesperidae	True Skippers
<i>Pyrgus communis</i>	Common Checkered Skipper