Determination of Biologically Equivalent or Superior Preservation (DBESP) Analysis

For Impacts to MSHCP Riparian/Riverine Areas and Vernal Pools, and Narrow Endemic/Criteria Area Plants

Baker Industrial Project

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Contents

TABLES

EXHIBITS

APPENDICES

1.0 EXECUTIVE SUMMARY

This document provides an analysis in support of a Determination of Biologically Equivalent or Superior Preservation (DBESP) for the Baker Industrial Project (the Project) located in the City of Lake Elsinore, Riverside County, California, in regard to the Multiple Species Habitat Conservation Plan (MSHCP) requirements for *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (MSHCP Volume I, Section 6.1.2)*.

This document has been prepared following the MSHCP DBESP Report Template created by the Regional Conservation Authority (RCA), to demonstrate that with the appropriate mitigation, the Project will represent a "biologically equivalent or superior" alternative to avoidance. This document summarizes the findings of general biological surveys, habitat assessments, and vegetation mapping, as they relate to riparian and vernal pool resources, and species with MSHCP survey requirements.

2.0 INTRODUCTION

2.1 Project Area

The Project site comprises approximately 136.01 acres in the City of Lake Elsinore, Riverside California [Exhibit 1 – Regional Map] and is located within an un-sectioned portion of Township 5 South, Range 5 West, of the U.S. Geological Survey (USGS) 7.5-minute quadrangle map Lake Elsinore, California [Exhibit 2 – Vicinity Map]. The Project site is located southwest of Interstate-15, the Lake Elsinore Outlet Center and Temescal Creek/Collier Marsh. The Project site includes the following Assessor's Parcel Numbers (APNs):

Onsite

378-020-014
378-020-015
378-020-016
378-020-028
378-020-029
378-020-030
378-020-031
378-020-036
378-020-037
378-020-048

Offsite

378-020-012
378-020-038
378-020-039
378-020-042
378-020-043
378-114-064
389-080-058
389-110-010

RCA Conserved Lands

378-020-024
378-020-033
378-020-034
378-020-040
378-020-041
378-020-054

2.2 Project Description

2.2.1 General Description

The overall Project site totals 136.01 acres and is presented here in five distinct components:

1. The Industrial Project development footprint (referred to as the "onsite" portion of the Project)
2. Baker Street Improvements (offsite)
3. A proposed City Maintenance Area (offsite) – to be located along the edge of Baker Street
4. Additional Street Improvements (offsite) – includes improvements to Pierce Street and Nichols Road, the installation of utilities in Terra Cotta Road and the installation of a force main in Collier Avenue from Nichols Road to Riverside Drive
5. RCA Conserved Lands – includes 33.66 acres of lands that have been conserved by the Project located northeast of the proposed City Maintenance Area and southeast of Pierce Street/Nichols Road

All impacts will be permanent. There will be no temporary impacts. All construction staging will occur within the development footprint and/or the offsite improvements areas. The Project will not require additional impacts outside of the development footprint for staging. All fuel modification/weed abatement zones will be contained within the impact limits for both the onsite and offsite project components. The five

Project components are depicted on Exhibit 3 [Project Components Map]. Table 2-1 summarizes the acreages of these five components, broken out for portions inside versus outside of Criteria Cells.

Table 2-1. Summary of Project Components

Project Component	Inside Criteria Cells (Acres)	Outside Criteria Cells (Acres)	Total (Acres)
Industrial Project	34.25	31.56	**65.81**
Baker Street Improvements	4.45	1.66	**6.11**
City Maintenance Area	2.44	0.29	**2.73**
Additional Street Improvements	16.30	11.40	**27.70**
RCA Conserved Lands	32.00	1.66	**33.66**
Total	**89.44**	**46.57**	**136.01**

2.2.2 Industrial Project (Onsite)

The Baker Industrial Project (Project) is proposing two industrial buildings for a total of approximately 1,002,000 square feet of industrial space. The proposed site plan provides adequate standard vehicle parking fields and an additional trailer parking field along the southern end of the property.

The Project grading consists of a development pad graded to convey onsite and offsite stormwater northerly while maintaining the hydrologic regime of the property and surrounding tributaries. Larger slopes and associated retaining walls are located along the southerly property line.

The Project will accept offsite flows from the southern tributaries (developed) through two flow-by basins also located along the southerly property line. Storm flows are then conveyed through the Project storm system and discharged in flow and quantity at their historical locations along the northern side of Baker Street. Onsite flows are collected through inlets/catch basins and conveyed through the proposed storm drain system to one of three underground storm chambers. With limited opportunities to infiltrate onsite storm flows, each chamber system will treat the pollutants of concern and discharge all treated flows consistent with historical quantities and flow characteristics along the northerly right-of-way of Baker Street.

The Project includes the preparation of a Preliminary Hydrology Study to analyze the existing condition storm flows across the property as well as the proposed condition conveyances to existing discharge locations. The hydrology study will confirm flow values based on standard storm intensities and discharge volumes, flow rates, and velocities. The Project also includes a Preliminary Water Quality Management Plan (WQMP) that identifies the Best Management Practices (BMPs) proposed to be implemented to treat project related pollutants for onsite and offsite impervious improvements. The WQMP will identify the post-construction treatment control and site design BMPs to treat specific pollutants from onsite impervious areas as well as the public right-of-way prior to discharge at historical locations on the northern side of the proposed Baker Street corridor improvements. BMPs located within the public right-of-way of Baker Street and Nichols Road will treat roadway specific pollutants within bio-retention/modular wetland facilities upstream of the specified discharge locations. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented prior to onsite and offsite project construction disturbance. The SWPPP will focus on the design, installation, and treatment of construction related pollutants. The SWPPP document will be approved through the State of California and the Project will be registered as required by the Construction General Permit. The Project will be monitored before, during and after rain events to ensure BMP implementation and effectiveness in protecting downstream habitats and receiving water bodies.

The Project proposes to construct an 8-inch sewer pipeline within Baker Street to convey wastewater flows north westerly to the existing Nichols Road Lift Station. The pipeline is proposed at standard depth and will connect to the existing Elsinore Valley Municipal Water District (EVMWD) 15-inch sewer line constructed within the Pierce and Baker intersection. The Nichols Lift Station will require an upgrade to its ultimate build-out capacity. The lift station upgrades will occur within the existing EVMWD parcel and will also require an upsized force main between the lift station and the discharge manhole within the Nichols and Collier intersection. EVMWD has master planned a new force main from the permanent lift station to convey flow south in Baker Street to Turnbull Avenue. From there a new gravity sewer line is identified in Turnbull Avenue and south to the Regional Wastewater Treatment Plant. The gravity sewer alignment would require construction of many sections of the gravity sewer line in private streets and private property where easements would need to be acquired. The EVMWD Master Plan exhibit in Attachment 2 provides the proposed alignment of the force main and downstream gravity sewer.

An alternative sewer force main alignment was studied by KWC Engineers in 2015 that would route the force main in Collier Avenue. The force main and downstream gravity sewer improvements under the revised alignment would keep all improvements within existing public right-of-way. The Collier Avenue alignment would also allow the improvements to be phased by constructing a force main with the first phase of the permanent lift station and then constructing a parallel or replacement force main when the lift station is expanded to its ultimate capacity. The Collier Avenue alignment alternative was reviewed with EVMWD staff recently and they take no objection to

proceeding with that alignment. EVMWD did, however, note that they will need to evaluate the downstream impacts of flows routed down Collier Avenue and that depending on the extent of required downstream improvements, not all the improvements may be eligible for fee credits. Once the capacity study currently being reviewed by EVMWD is approved, KWC will initiate the PDR for the lift station and coordinate with EVMWD on the downstream sewer system analysis.

For water service, an EVMWD 36-inch 1434 Zone CIP line is proposed to be installed in Nichols Road from Terra Cotta Road to Baker Street and in Baker Street to the existing 20-inch line that supplies the Baker Reservoir. The Project proposes to receive water service by making two connections to the proposed transmission line in Baker Street and constructing a looped piping system onsite between the two connections. EVMWD does not allow fire hydrants to be served off private systems so the onsite loop will need to be public. The onsite line will be located in an easement and be located in accordance with EVMWD requirements which includes not locating the line beneath landscaped medians or parking stalls. The 1434 Zone has a large surplus of reservoir storage capacity and additional storage is not required to provide service to the Project. The 1434 Zone has a large surplus of reservoir storage capacity and additional storage is not required to provide service to the Project.

2.2.3 Baker Street (Offsite)

Existing Baker Street is an unimproved dirt road with a 60-foot-wide right-of-way. The Project proposes to dedicate four feet on each side of Baker Street to the ultimate 68 feet right-of-way required by the City of Lake Elsinore's (City) Collector roadway designation and as listed within the City's circulation element. The Project will also be realigning Baker Street for a direct connection and new intersection with Nichols Road, which is discussed below under "Additional Street Improvements". The Baker Street Collector section consists of a six-inch curb and gutter, a five-foot-wide sidewalk within a 10-foot parkway and 22 feet of pavement from centerline to lip of gutter on each side of the street. Baker Street is proposed to be elevated an average of five feet above its existing elevations to support drainage conveyance and flood protection of the public right-of-way. The northeast parkway of Baker Street will slope down from the proposed five-foot sidewalk to daylight within the northerly properties.

The Project proposes to elevate the road surface of Baker Street to support drainage protection and conveyance. Along the northern edge of Baker Street, a graded and landscaped slope will daylight to existing ground within the parcels north of existing Baker Street right-of-way. The proposed slope will provide areas to safely construct storm drain outlets that will convey historical storm flows to existing flow lines and environmentally sensitive areas identified within the Project studies of these properties. The storm outlets will include energy dissipation improvements to control the storm water outlet depth and velocity to mimic existing conditions.

2.2.4 City Maintenance Area (Offsite)

As noted above, the Project proposes to elevate the road surface of Baker Street to support drainage protection and conveyance. Along the northern edge of Baker Street, a graded and landscaped slope will daylight to existing ground within the parcels north of existing Baker Street right-of-way. The proposed slope will provide areas to safely construct storm drain outlets that will convey historical storm flows to existing flow lines and environmentally sensitive areas identified within the Project studies of these properties. The storm outlets will include energy dissipation improvements to control the storm water outlet depth and velocity to mimic existing conditions. Specifically, the Project proposes to construct three water spreading structures that are designed to mimic the existing sheet flow conditions into the adjacent open space [Sheets 1 and 2 of Appendix E]. The spreading structures will be constructed on the northeastern side of Baker Street adjacent to each of the three vernal pools described below. The pre- and post-Project hydrology relative to the three vernal pools are summarized below in the impact analysis as well as being presented in Appendix E.

A maintenance access road is proposed along the toe-of-slope for ongoing maintenance of the slope, the associated landscaping, any required fencing, and the outlet structures. Where sensitive environmental areas exist (vernal pools identified within the Project environmental studies), the improvements are proposed to be scaled back to minimize or eliminate impacts in and adjacent to the defined zones. Construction buffers will be implemented to reduce accidental disturbance and the areas will be clearly delineated and recognizable to construction crews/personnel.

2.2.5 Additional Street Improvements (Offsite)

In addition to the Baker Street improvements described above, the Project will also improve Pierce Street and Nichols Road. The Project will realign Baker Street for a direct connection and new intersection with Nichols Road. The intersection design will likely consist of signal pole placement consistent with the ultimate build-out of Nichols Road (Urban Arterial Highway – 120' right-of-way). Nichols Road improvements will likely consist of an interim intersect with appropriate pavement tapering to the east and west leading away from the new intersection with Baker Street. Minor roadway resurfacing may be required along the existing Nichols Road segment between the Baker Street intersection and the Collier Avenue intersection. The Nichols and Collier intersection may also include minor surface improvements, revised lane striping and potential traffic control/signage improvements.

Pierce Street would be improved to its ultimate 60-foot full-width right-of-way per the City's General Plan Circulation Element standard for a Collector Street with a 6-inch curb, standard gutter, 5-foot-wide sidewalk within an overall 10-foot parkway, and 18 feet of pavement from centerline to lip-of-gutter on each side of the street from Nichols Road southwest past the project frontage to connect to Hoff Avenue, creating a second means of emergency access. The section of Pierce Street from the project frontage to

Hoff Road would be paved within the existing right-of-way, creating a 24-foot-wide roadway along this segment. All street improvements would be constructed consistent with City standards and regulations.

In addition to the specific street improvements, the Project will construct approximately 7,650 feet of 16-inch force main in Nichols Road and Collier Avenue to a discharge manhole at the intersection of Collier Avenue and Riverside Drive. Lastly, the Project will include utility improvements consisting of a Southern California Edison (SCE) line extension that will be installed underground from a lift station to be constructed at Baker Street and Nichols Road. The SCE line extension would go from the lift station along Nichols Road and then along Terra Cotta Road. All work for the line extension would be conducted within the existing right-of-way/pavement.

2.2.6 RCA Conserved Lands

The proposed Project has already conserved approximately 33.66 acres of land to contribute to the MSHCP Reserve (RCA Conserved Lands). The Conserved Lands are bordered by the Baker Street, Pierce Street and Nichols Road improvements. The Project Applicant (Ecosystem Investment Partners [EIP]) placed the lands, depicted in the JPR boundary, into conservation with the RCA prior to completion of the JPR. This is a unique circumstance but one that is allowed by the MSHCP. As described below, the Project is proposing several types of mitigation within the Conserved Lands, including San Diego ambrosia (*Ambrosia pumila*) translocation, vernal pool expansion/restoration, and mitigation for other MSHCP plants, including Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*). If the long-term management of these mitigation areas will exceed that which the RCA receives funding for through the MSHCP, it is acknowledged that the Project would provide an endowment to fund supplemental management.

2.3 Existing Conditions

The overall Project site varies in topography from slightly hilly to flat, sloping from southwest to northeast. The onsite portion of the Project site (industrial component) consist of several small hills and ridges sloping from the southwest down to the existing dirt road of Baker Street, with the site being flatter on the northern end near the Baker Street/Pierce Street intersection. Northeast of Baker Street, the landscape is flat with a very gradual change in elevation to the northeast towards Alberhill Creek/Collier Marsh. Elevations at the Project site range from approximately 1,400 feet above mean sea level (AMSL) at the southwestern boundary of the development footprint to 1,250 feet AMSL at the northeastern limits of the RCA Conserved Lands.

Soils within the onsite portion of the Project site consist mainly Lodo Rocky Loam and Willows Silty Clay (saline-alkali). The Willows soils occur in the lower portions of site, with the rocky loam soil occurring in the higher elevation areas. The Willows soils extend into the site from the adjacent Collier Marsh area. These alkaline soils are

strongly associated with the plant species that occur occurring in the vernal pools immediately northeast of Baker Street. The offsite (undeveloped) portions of the Project site predominantly consist of fine sandy loam soils. The RCA Conserved Lands consist of Willows silty clay soils as well as the fine sandy loam soils.

GLA mapped nine distinct vegetation/land use types for the Project site, including Akali Grassland, Akali Playa, Disturbed/Developed, Open Water, Riversidean Sage Scrub, Semi-Natural Herbaceous Grassland, Disturbed Semi-Natural Herbaceous Grassland, Southern Willow Scrub and Vernal Pool. Table 2-2 provides a summary of the vegetation types and their corresponding acreage. A Vegetation Map is attached as Exhibit 6. Photographs depicting the Project site are shown in Exhibit 11.

Table 2-2. Summary of Vegetation/Land Use Types for the Project Site

Vegetation/Land Use Type	Inside Criteria Cells (acres)	Outside Criteria Cells (acres)	Total (acres)
Alkali Grassland	3.59	0	**3.59**
Alkali Playa	0.73	0	**0.73**
Disturbed/Developed	20.08	10.62	**30.70**
Open Water	0.09	0	**0.09**
Riversidean Sage Scrub	2.49	0.52	**3.01**
Semi-Natural Herbaceous Grassland	38.88	30.84	**69.72**
Disturbed Semi-Natural Herbaceous Grassland	20.72	4.59	**25.31**
Southern Willow Riparian Scrub	1.14	0	**1.14**
Vernal Pool	1.72	0	**1.72**
Total	**89.44**	**46.57**	**136.01**

3.0 RIPARIAN/RIVERINE MITIGATION (SECTION 6.1.2)

3.1 Methods

3.1.1 Riparian/Riverine Areas

The MSHCP defines riparian areas as “lands which contain habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to, or which depend upon soils moisture from a nearby fresh water source. In the absence of riparian habitat, the MSHCP defines riverine areas as areas with fresh water flow during all or a portion of the year.”

GLA surveyed the Project site for riparian/riverine areas. GLA biologists Jillian Stephens and David Moskovitz initially evaluated the site in April 2020, with follow-up

visits conducted by GLA regulatory specialists Chris Waterston and Lesley Lokovic-Gamber on February 9, 2021, and April 20 and July 29, 2022.

3.1.2 Vernal Pools

The MSHCP defines vernal pools as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season."

GLA surveyed the Project site for vernal pools as part of the jurisdictional delineation to identify seasonal wetlands. GLA biologists evaluated the topography of the site, including whether the site contained depressional features/topography with the potential to become inundated; whether the site contained soils associated with vernal/seasonal pools; and whether the site supported plants that suggested areas of localized ponding. The site was evaluated on multiple occasions during the rainfall season, including in 2020, 2021, and 2022 and 2024. GLA biologists Jillian Stephens and David Moskovitz initially evaluated the site in April 2020, with follow-up visits conducted on February 9, 2021, and April 20, 2022. The 2024 monitoring corresponded with the wet season fairy shrimp surveys, and represented the wettest year of the four years that GLA monitored the vernal pools.

3.1.3 Fairy Shrimp

The Project site contains four seasonally ponding features with a potential to support listed fairy shrimp, including one stock pond feature (Pool 4) within the Industrial portion of the Project, and three vernal pools that either overlap with the offsite improvements and maintenance area associated with Baker Street or are immediately adjacent in the RCA Conserved Lands. All four features require protocol surveys (dry season and wet season) to determine the presence or absence of listed fairy shrimp. To complete the survey protocol for all four features, dry season surveys were completed in 2023 [Appendix B – 2023 Dry Season Fairy Shrimp Report] and wet season surveys were completed for the 2023-2024 rainfall season [Appendix C – 2023/2024 Wet Season Fairy Shrimp Report].

<u>Dry Season Surveys</u>

Soil sample collection followed the USFWS *Survey Guidelines for the Listed Large Branchiopods* (Survey Guidelines).[1] GLA biologist David Moskovitz (PER0010680-0) supervised the collection of soil samples along with GLA biologists Stephanie Cashin and Chris Waterston in October and November 2023. Soil samples were collected when the pools were dry using a hand trowel to collect intact chunks of soil from the top

[1] USFWS. *Survey Guidelines for the Listed Large Branchiopods*, Revised: November 13, 2017.

1–3 cm of pool sediment. The number of soil samples collected from each of features was based on feature size according to the Survey Guidelines. Starting at the edge of each depression, samples were taken from equidistant points along the longest transect and widest transect of each depression. Additional samples were taken at the deepest part of each feature.

Soil samples of approximately 100 milliliters (ml) each were removed at each sub-sample location using a hand trowel and were combined into a labeled bag for each feature with the collection date, location and feature ID, and name of collector for future processing. Samples were stored in a dry location out of direct sunlight until delivery for processing.

The soil samples were processed by D. Christopher Rogers (TE796284-7). Soil samples were labelled with the numbers on their respective bags and prepared for examination by dissolving the clumps of soil in water and sieving the material through 300- and 150- µm pore size screens. The small size of these screens ensures that the eggs from the shrimp species will be retained. The portion of each sample retained in the screens was dissolved in a brine solution to separate the organic material from the inorganic material. The organic fraction was then examined under a microscope. Counts were made by estimating the number of eggs per 100ml of soil, because not all samples had the same volume of soil collected originally.

Isolated eggs from each sample were cultured separately. Adult shrimp were reared from the recovered eggs using methods following Martin, Rogers & Olesen (2016). Hatched shrimp were fed a standard Daphnia food that includes; fish food, fish oil, baker's yeast, and the alga *Selenastrum capricornutum*. The shrimp were reared to maturity. Adult *Branchinecta* reared from culture were killed in 90% ethyl alcohol and examined under a stereo dissection microscope. Identifications were made based upon comparisons with specimens in our collections, the original species descriptions, and professional experience.

Wet Season Surveys

Wet season fairy shrimp surveys were performed for the four seasonal pond features for the 2023-2024 rainfall season, as a follow up to the pending dry season surveys. The surveys were performed by GLA biologists Stephanie Cashin (TE-20280D-0) and Chris Waterston (ESPER-2380694). In accordance with the USFWS Survey Guidelines for the Listed Large Branchiopods (Survey Guidelines) dated November 13, 2017, site visits were conducted following measurable rainfall events to determine whether any of the features contained a minimum of three centimeters (cm) of ponding after 24 hours from the rainfall event. Storms in late December 2023 and early January 2024 initiated hydrologic monitoring of the pools. Pool 3 began to sustain ponding after storms between January 19 - 23, 2024, with sampling in Pool 3 initiated beginning January 26, 2024. Pools 1 and 4 began to sustain ponding beginning February 2, 2024. After a multiple day storm in early February 2024, all pools reached the maximum extent of

ponding. Pool 1 remained ponded until May 9, 2024. Pool 3 remained ponded until May 14, 2024. Pool 2 and 4 remained ponded until May 22, 2024.

Sampling for the presence of fairy shrimp was performed using a dip net within representative portions of the depression bottom, edges, and vertical water column when there was adequate ponding. Specimens were placed into vials, with unique depression information, containing 95% ethanol solution. Specimens were identified through microscopy and using the "Key to California Fairy Shrimps" found in Eriksen and Belk (1999, Revised 2016).

3.1.4 Riparian Birds

The MSHCP requires habitat assessments and focused surveys (if suitable habitat) for least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). The proposed development areas of the Project do not contain suitable habitat for these species, i.e., the Project will not remove habitat with the potential to support these species; however, Alberhill Creek contains suitable habitat for the vireo and flycatcher, and because the proposed improvements to Nichols Road and Collier Avenue are adjacent to the creek, focused surveys were conducted for both species. GLA performed protocol surveys for least Bell's vireo (LBV) and southwestern willow flycatcher (SWFL) in 2020. The survey methods and results are summarized here. A separate survey report is included as Appendix D.

At the time that the focused surveys were conducted, the offsite improvement areas were identified to include Nichols Road at the crossing of Alberhill Creek, and the intersection of Nichols Road and Collier Avenue, which is adjacent to the creek. As such, the sections of Alberhill Creek adjacent to the Nichols Road crossing and the intersection was the focal area for the surveys. However, as the offsite improvements have been expanded to include the installation of a force main in Collier Avenue from Nichols Road to Riverside Drive, most of that work area is also adjacent to Alberhill Creek. Although the entirety of Alberhill Creek along Collier Avenue was not surveyed for LBV or SWFL, because of the likelihood of at least LBV occurring in other parts of Alberhill Creek, monitoring measures that are proposed below will apply to all offsite improvements that are adjacent to where LBV was detected or where suitable habitat is present, i.e., the measures will apply to Nichols Road from the Alberhill Creek crossing to the Nichols Roads/Collier Avenue intersection, and along Collier Avenue from the intersection to Riverside Drive.

Least Bell's Vireo

GLA biologists Stephanie Cashin, Jeff Ahrens and April Nakagawa conducted focused surveys for the least Bell's vireo (LBV) within the portions of Alberhill Creek at the existing Nichols Road crossing of Alberhill Creek and around the intersection of Nichols Road and Collier Avenue. Surveys were conducted in accordance with the 2001

USFWS survey guidelines, which stipulate that eight surveys should be conducted between April 10 and July 31, with a minimum of ten days separating each survey visit. The survey guidelines state that surveyors should not survey more than three linear kilometers or more than 50 hectares (about 120 acres) of habitat on any given survey day. There is no suitable habitat for LBV within the onsite portion of the Project. The only suitable habitat relative to the Project is the portion of Alberhill Creek that is adjacent to a portion of Nichols to be improved and coincides with the northern portion of the proposed conservation lands. As such, GLA's survey area for LBV comprised less then 1,000 linear feet and less than five acres, representing a small fraction of the maximum area allowed for a single survey visit.

Focused surveys were conducted on April 13, May 5, 18 and 28, June 8 and 19, and July 15 and 28, 2020. As is described below, a single LBV was first detected during the May 5 survey by Jeff Ahrens and confirmed again during subsequent visits. Mr. Ahrens performed the first survey for the southwestern willow flycatcher on May 18, 2020, with the first half of the morning dedicated to the flycatcher, walking upstream through Alberhill Creek, and then surveying for LBV walking downstream through the creek. Furthermore, because LBV had already been confirmed present on May 5, the May 18 visit re-confirmed LBV presence.

Pursuant to the survey guidelines, the surveys were conducted between sunrise and 11:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 3-1 summarizes the vireo survey visits.

Table 3-1. Summary of Least Bell's Vireo Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover
4/13/20	SC	0620/1000	60/68	0-1/0-1	100/100
5/5/20	JA	0550/0920	56/75	1-2/0-2	0/0
5/18/20	JA	0550/1100	57/69	1-2/1-2	80/50
5/28/20	AN	0600/1100	62/84	0-1/0-1	0/0
6/8/20	AN	0645/1100	58/75	8-10/8-10	0/0
6/19/20	SC	0615/1015	59/67	0-2/0-1	100/50
7/15/20	AN	0645/1100	62/77	0-1/0-1	100/0
7/28/20	AN	0700/1100	62/88	0-1/4-5	0/0
SC = Stephanie Cashin; JA = Jeff Ahrens; AN = April Nakagawa					

Southwestern Willow Flycatcher

GLA biologist Jeff Ahrens conducted focused surveys for the SWFL for all suitable habitat areas within Alberhill Creek in proximity to the existing Nichols Road Crossing of Alberhill Creek and around the intersection of Nichols Road and Collier Avenue. Surveys were conducted in accordance with the 2010 USFWS survey guidelines, which stipulate five survey visits between May 15 and July 17, divided into three survey periods. The southwestern willow flycatcher is one of three subspecies of willow flycatcher that occur within southern California but is the only subspecies that breeds in southern California. The other subspecies may occur in southern California as they migrate through the area onwards to northern breeding areas but will not breed in southern California. If present, these subspecies may be detected during the first and/or second survey periods. The presence of the southwestern willow flycatcher is determined by willow flycatchers that remain in southern California during the third survey period.

Focused surveys were conducted on May 18, June 9 and 23, and July 1 and 16, 2020. As noted above, Mr. Ahrens' visit on May 18 was also counted as a LBV survey visit, but the survey efforts were divided, first surveying for the flycatcher while walking upstream through Alberhill Creek and then surveying for LBV while walking downstream through the creek. Pursuant to the survey guidelines, the surveys were conducted between one hour prior to sunrise and 10:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 3-2 summarizes the flycatcher survey visits.

Table 3-2. Summary of Southwestern Willow Flycatcher Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover
5/18/20	JA	0550/1100	57/69	1-2/1-2	80/50
6/9/20	JA	0600/0940	53/73	1-2/1-2	0/0
6/23/20	JA	0555/1000	58/68	0-1/0-1	100/0
7/1/20	JA	0555/0930	60/66	1-2/1-2	100/100
7/16/20	JA	0550/0930	59/72	1-2/0-1	30/0
JA = Jeff Ahrens					

3.2 Results/Impacts

3.2.1 Riparian/Riverine Areas

The Project site contains approximately 3.03 acres of MSHCP riparian/riverine areas, including 2.36 acres of riparian habitats associated with Alberhill Creek, and 0.67 acre of non-riparian riverine areas associated with six drainage features (Drainage A through F) [Exhibit 7 – MSHCP Riparian/Riverine Areas and Vernal Pools]. Approximately 2.58 acres of riparian/riverine areas are inside Criteria Cells and 0.45 acre of riverine areas are outside Criteria Cells. The 2.36 acres associated with Alberhill Creek includes 1.14 acres of Southern Willow Riparian Scrub, 0.73 acre of Alkali Playa, 0.09 acre of Open Water, and 0.40 acre of Semi-Natural Herbaceous Grassland. Of the 2.36 acres, 2.30 acres are within the RCA Conserved Lands, with 0.06 acre of riparian areas (southern willow scrub) consisting of willow canopy overhanging a portion of Nichols Road proposed for re-surfacing. Table 3-3 below summarizes the riparian/riverine areas at the Project site, presented by the drainage features and whether the resources are inside or outside of Criteria Cells, and separated out between resources within the Project's development footprint and resources within the RCA Conserved Lands.

Table 3-3. MSHCP Riparian/Riverine Areas at the Project site

	Inside Criteria Cells		Outside Criteria Cells		
Drainage	**Riverine (acres)**	**Riparian (acres)**	**Riverine (acres)**	**Riparian (acres)**	**Total (acres)**
Within Development Footprint					
Alberhill Creek	0	0.06	0	0	**0.06**
Drainage A	0.02	0	0.03	0	**0.05**
Drainage B	0	0	0.13	0	**0.13**
Drainage C	0.03	0	0	0	**0.03**
Drainage D	0	0	0.09	0	**0.09**
Drainage F	0	0	0.20	0	**0.20**
Subtotal	**0.05**	**0.06**	**0.45**	**0**	**0.56**
Within RCA Conserved Lands					
Alberhill Creek	0	2.30	0	0	**2.30**
Drainage A	0.13	0	0	0	**0.13**
Drainage E	0.04	0	0	0	**0.04**
Subtotal	**0.17**	**2.30**	**0**	**0**	**2.47**
Total	**0.22**	**2.36**	**0.45**	**0**	**3.03**

Alberhill Creek

Approximately 2.36 acres of riparian/riverine areas are associated with Drainage A, all of which is within the MSHCP Criteria Area (2.30 acres within the RCA Conserved Lands). Alberhill Creek enters the Project's RCA Conserved Land from the southeast and extends in a northwesterly direction before exiting the conserved parcels just before the Nichols Road crossing.

Alberhill Creek is dominated by southern willow scrub riparian habitat with an alkali playa component occurring in the abutting floodplain. A majority of the alkali playa component in the northeastern portion of the site exhibits at least some degree of soil disturbance and alterations to the hydrologic regime as evidenced by the presence of tire tracks, road ruts, and unauthorized dumping.

Most of the southern willow scrub (1.08 acres) associated with Alberhill Creek identified for the Project site is within the RCA Conserved Lands. Approximately 0.06 acre of riparian habitat is mapped within the footprint for Nichols Road, consisting of willow limbs overhanging the roadway. As is described below, improvements to Nichols Road consisting of re-surfacing the existing roadway will not require the trimming of the overhanging willow limbs.

Dominant riparian/wetland vegetation associated with Alberhill Creek includes salt cedar (*Tamarix ramosissima*), black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and mulefat (*Baccharis salicifolia*), with alkali bulrush (*Bolboschoenus maritimus*), common toad rush (*Juncus bufonius*), and cattail (*Typha* spp.). Other common plants include common nettle (*Urtica dioica*), shortpod mustard (*Hirschfeldia incana*), silverscale saltbush (*Atriplex argentea*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), western ragweed (*Ambrosia psilostachya*), saltgrass (*Distichlis spicata*), and annual rabbitsfoot grass (*Polypogon monspeliensis*).

Drainage A

Approximately 0.18 acre of non-riparian riverine areas are associated with Drainage A, of which 0.15 acre is within the MSHCP Criteria Area (0.13 acre within the RCA Conserved Lands) and 0.03 acre is outside the Criteria Area. Drainage A originates offsite to the southwest, extending through the onsite portion of the Project to Baker Street where it crosses under Baker Street through a pipe culvert continuing in a northeasterly direction before its confluence with Alberhill Creek. The lower portion of Drainage A in the parcel boundary drains into one of three vernal pools (described separately below) before continuing its course towards Alberhill Creek. Drainage A ranges from two to six feet in width as evidenced by water marks, changes in soil characteristics, and bent vegetation.

Vegetation associated with Drainage A includes foxtail barley (*Hordeum murinum*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), red brome (*Bromus*

madritensis ssp. *rubens*), rattail fescue (*Festuca myuros*), common Mediterranean grass (*Schismus barbatus*), cheeseweed (*Marva parviflora*), wild oats (*Avena fatua*), common fiddleneck (*Amsinckia intermedia*), stinknet (*Oncosiphon piluliferum*), annual mustard (*Brassica* ssp.), shortpod mustard, goldenbush (*Isocoma menziesii*), London rocket (*Sisybrium irio*), alkali heliotrope (*Heliotropium curassavicum*), and a single tamarisk. Additional species observed in the downstream reach include salt grass, alkali weed, ragweed, and a single tamarisk. This feature flows only in direct response to precipitation and was completely dry during the field investigations.

Drainage B

Approximately 0.13 acre of non-riparian riverine areas are associated with Drainage B, all of which is outside the MSHCP Criteria Area (none within the RCA Conserved Lands). Drainage B is an earthen ephemeral drainage that enters the Baker parcel from the west along the edge of a former residential property and extends in a northeasterly direction towards Baker Street. Drainage B conveys storm water flows and receives irrigation runoff from the adjacent rural residence. The drainage extends up to ten feet in width as evidenced by changes in soil characteristics and bent vegetation.

Vegetation associated with Drainage B consists primarily of semi-natural herbaceous grassland that includes foxtail barley, soft chess, ripgut brome, red brome, rattail fescue, common Mediterranean grass, cheeseweed, wild oats, common fiddleneck, stinknet, annual mustard, summer mustard, goldenbush, heliotrope, and London rocket.

Drainage C

Approximately 0.03 acre of non-riparian riverine areas are associated with Drainage C, all of which is inside the MSHCP Criteria Area (none within the RCA Conserved Lands). Drainage C is an erosional ephemeral drainage that originates offsite from the adjacent hillsides and extends in a northerly direction towards Baker Street. Drainage C averages two feet in width as evidenced by changes in soil characteristics and eroded channel banks in the upstream reach. The drainage bottom contains cobbles and was completely dry during the field investigations.

Vegetation associated with Drainage C consists primarily of semi-natural herbaceous grassland that includes foxtail barley, soft chess, ripgut brome, red brome, rattail fescue, common Mediterranean grass, cheeseweed, wild oats, common fiddleneck, stinknet, annual mustard, summer mustard, goldenbush, heliotrope, and London rocket. Areas adjacent to the drainage contain patches of California buckwheat (*Eriogonum fasciculatum*), bush sunflower (*Encelia californica*), and California sagebrush (*Artemisia californica*).

Drainage D

Approximately 0.09 acre of non-riparian riverine areas are associated with Drainage D, all of which is outside the MSHCP Criteria Area (none within the RCA Conserved Lands). Drainage D is an erosional drainage that occurs in the southwestern portion of the Baker parcel. The drainage originates offsite from the southwest and meanders in a northeasterly direction before exiting the parcel boundary at an existing rural residence. Drainage D ranges between two and six feet in width and contains eroded banks and cobbles. This feature conveys flow only in direct response to precipitation and was completely dry during the field investigation.

Vegetation associated with Drainage D consists primarily of semi-natural herbaceous grassland that includes foxtail barley, soft chess, ripgut brome, red brome, rattail fescue, common Mediterranean grass, cheeseweed, wild oats, common fiddleneck, stinknet, annual mustard, summer mustard, goldenbush, heliotrope, and London rocket. Areas adjacent to the drainage contain patches of California buckwheat, bush sunflower, and California sagebrush.

Drainage E

Approximately 0.04 acre of non-riparian riverine areas are associated with Drainage E, all of which is inside the MSHCP Criteria Area (all within the RCA Conserved Lands). Drainage E is an earthen ephemeral drainage that originates as run-off from Nichols Road. This feature extends in an easterly direction before dissipating as sheet flow. The drainage averages three feet in width, and depending on rainfall amounts, conveys a surficial connection to Alberhill Creek. Vegetation associated with the drainage is limited to non-native upland grasses and weeds including foxtail barley, soft chess, ripgut brome, red brome, rattail fescue, common Mediterranean grass, cheeseweed, wild oats, common fiddleneck, stinknet, annual mustard, summer mustard, heliotrope, and London rocket. This drainage lacks hydrophytic vegetation and was completely dry during the field investigations.

Vegetation associated with Drainage E consists primarily of semi-natural herbaceous grassland that includes foxtail barley, soft chess, ripgut brome, red brome, rattail fescue, common Mediterranean grass, cheeseweed, wild oats, common fiddleneck, stinknet, annual mustard, summer mustard, goldenbush, heliotrope, and London rocket.

Drainage F

Approximately 0.20 acre of non-riparian riverine areas are associated with Drainage F, none of which is inside the MSHCP Criteria Area (none within the RCA Conserved Lands). Drainage F consists of a roadside drainage channel along the northern edge of Nichols Road. This feature extends in an easterly direction. The drainage averages six feet in width and is generally unvegetated.

The proposed Project will permanently (directly) impact approximately 0.50 acre of MSHCP riverine areas but will not impact any riparian habitat. Impacts will occur to five drainage features (A, B, C, D and F). Table 3-4 summarizes impacts to riverine features.

Table 3-4. Impacts to MSHCP Riverine Areas

Drainage	Inside Criteria Cells (acres)	Outside Criteria Cells (acres)	Total Impacts (acres)
Drainage A	0.02	0.03	0.05
Drainage B	0	0.13	0.13
Drainage C	0.03	0	0.03
Drainage D	0	0.09	0.09
Drainage F	0	0.20	0.20
Total	**0.05**	**0.45**	**0.50**

The drainage features to be impacted by the Project are vegetated with semi-natural herbaceous grassland, which is dominated by a mix of non-native grasses and native and non-native forbs. As such, the drainages to not support biological functions for the MSHCP *Section 6.1.2* species. The functions of the drainage features are limited to hydrologic functions, specifically conveyance downstream towards the Alberhill Creek floodplain. The drainage features collect runoff from the southwest and generally convey flows to the northeast. As documented in the Project's Vernal Pool Hydrology Memorandum (Appendix E), the Project is designed to collect the runoff and mimic the existing hydrologic conditions to the three vernal pools and the downstream Alberhill Creek resources to the maximum extent feasible, such that the Project is not expected to adversely affect the hydrologic functions of the vernal pool and riparian/riverine resources.

The Project will not impact riparian habitat associated with Alberhill Creek. Most of the riparian habitat is within the proposed open space. Approximately 0.06 acre of riparian habitat is mapped within the footprint for Nichols Road, consisting of willow limbs overhanging the roadway. Improvements to Nichols Road consisting of re-surfacing the existing roadway will not require the trimming of the overhanging willow limbs.

3.2.2 Vernal Pools

The Project site contains three areas on the northeastern side of Baker Street that pond seasonally and exhibit the three wetland parameters to meet the definition of MSHCP Vernal Pools. These areas are referenced herein as Vernal Pools 1, 2, and 3, all of

which are inside Criteria Cells. Vernal Pools 1 and 2 are in proximity to, but do not directly abut, Alberhill Creek. Vernal Pool 3 is connected to Drainage A, which connects with Alberhill Creek. All three vernal pools are in areas mapped as containing Willows Silty Clay soils [Exhibit 7 – Soils Map]. Each of the vernal pools, as described below, are unique in terms of their hydrology, soils appearance, relationship to the ecosystem and vegetation assemblage. Table 3-5 summarizes vernal pools at the Project site and impacts to those pools.

Vernal Pool 1

Based on hydrology data collected during the 2024 rainfall season and a review of aerial imagery for the Project site, Vernal Pool 1 had a maximum ponding surface area of approximately 0.45 acre (1,820 m2). The maximum depth at peak inundation was measured as 18 inches (45 cm), with an average depth estimated as 8 inches (20 cm), and with an estimated maximum volume of approximately 0.30-acre-foot (364 m3). The total ponding duration, i.e., the hydroperiod for Vernal Pool 1 in 2024 was approximately 90 days. Table 3-5 below summarizes the existing ponding data for the vernal pools.

The vernal pool is in an area mapped as containing Willow Silty Clay soils (saline-alkali) and the strong alkaline component is evident in the white color of the soils. The main ponding area is generally unvegetated due to the alkalinity; however, the areas surrounding the ponding basin supports species such as salt grass, Coulter's goldfields, vernal barley, and San Jacinto Valley crownscale.

Adjacent to the area of Vernal Pool 1, the floodplain of the Alberhill Creek/Collier Marsh bows out and is proximal to the vernal pool, such that it appears that the creek more directly influenced the formation of the vernal pool. Hydrologically, Vernal Pool 1 is supported by direct rainfall supplemented by surface sheet flows (and presumably subsurface flows) from an approximately 6.40-acre watershed (referred to as Watershed C in Appendix E). Appendix E modelled the existing 2-year, 5-year and 10-year storm flows as 4.56 cfs, 6.83 cfs and 9.64 cfs, respectively, and the corresponding 1-hour storm event volumes as 0.11-acre-foot, 0.19-acre-foot and 0.32-acre-foot, respectively. Table 3-6 below summarizes the existing hydrology data.

Vernal Pool 2

In 2024, Vernal Pool 2 had a maximum ponding surface area of approximately 0.41 acre (1,660 m2). The maximum depth at peak inundation was measured as 22 inches (55 cm), with an average depth estimated as 10 inches (25.4 cm), and with an estimated maximum volume of approximately 0.34-acre-foot (422 m3). The hydroperiod for Vernal Pool 2 in 2024 was approximately 95 days. Table 3-5 below summarizes the existing ponding data for the vernal pools.

As with Vernal Pool 1, this vernal pool is in an area mapped as containing Willow Silty Clay soils (saline-alkali). However, Vernal Pool 2 has a different appearance than

Vernal Pool 1 in the soils and the resulting vegetative makeup. All three vernal pools at the Project site have been disturbed in the past and it is possible that soils underlying Vernal Pool 2 have been modified, possibly with in-fill soils. Regardless, the vernal pool contains a strong alkaline component. A few individuals of Coulter's goldfields were observed on the edge of the pool; however, the other species associated with Vernal Pools 1 and 3 were not detected in Vernal Pool 2.

Hydrologically, Vernal Pool 2 is supported by direct rainfall supplemented by surface sheet flows (and presumably subsurface flows) from an approximately 27.79-acre watershed (referred to as Watershed B in Appendix E). Appendix E modelled the existing 2-year, 5-year and 10-year storm flows as 31.05 cfs, 31.91 cfs and 45.19 cfs, respectively, and the corresponding 1-hour storm event volumes as 0.48-acre-foot, 0.86-acre-foot and 1.44-acre-foot, respectively. Table 3-6 below summarizes the existing hydrology data.

Vernal Pool 3

In 2024, Vernal Pool 3 had a maximum ponding surface area of approximately 0.86 acre (3,480 m2). The maximum depth at peak inundation was measured as 22 inches (55 cm), with an average depth estimated as 10 inches (25.4 cm), and with an estimate maximum volume of approximately 0.72-acre-foot (884 m3). The hydroperiod for Vernal Pool 3 in 2024 was approximately 110 days. Table 3-5 below summarizes the existing ponding data for the vernal pools.

As with Vernal Pools 1 and 2, this vernal pool is in an area mapped as containing Willow Silty Clay soils (saline-alkali). However, the appearance (color) of the soils associated with Vernal Pool 3 suggests a lesser alkaline component than with Vernal Pool 1, which is also reflected in the denser vegetation within Vernal Pool 3, including a sizeable population of Coulter's goldfields. Additional vernal pool plant species noted in Vernal Pool 3 includes vernal barley and woolly marbles (Psilocarphus brevissimus var. brevissimus) and alkali popcorn flower (Plagiobothrys leptocladus).

Hydrologically, Vernal Pool 3 is different than the other two vernal pools. Drainage A, which itself is supported by a much larger watershed (Watershed D = 217.79 acres), flows into and through the downslope end of the pool. At the downslope end of the pool, the drainage channel takes a sharp turn and the pinch results in the prolonged inundation where the vernal pool and Drainage A overlap. Runoff from Drainage A helps to feed the pool along with runoff from Baker Street, and vertical rainfall falling on the pool and from the immediate watershed. Appendix E modelled the existing 2-year, 5-year and 10-year storm flows as 142.94 cfs, 217.36 cfs and 284.45 cfs, respectively, and the corresponding 1-hour storm event volumes as 9.16-acre-foot, 13.86-acre-foot and 18.09-acre-foot, respectively. Table 3-6 below summarizes the existing hydrology data. As the approximate maximum volume of Vernal Pool 3, based on 2024 inundation, was estimated at 0.72-acre-foot, the much larger volume of water entering the vernal pool system (9.16-acre-foot for a 2-year, 1-hour event) supports the vernal

pool. However, most of the water flows out of the pool during relatively larger storm events and as the water in the drainage draws down beyond the pool, the vernal pool itself remains inundated. As such there is an excess of water flowing through the Drainage A system that Vernal Pool 3 is not dependent on.

Table 3-5. MSHCP Vernal Pool Ponding Data

Vernal Pool	Ponding Surface Area (acres)	Maximum Observed Depth (inches)	Estimated Average Depth (inches)	Pool Volume (acre-foot)
1	0.45	18	8	0.30
2	0.41	22	10	0.34
3	0.86	22	10	0.72
Total	**1.72**			

Table 3-6. Existing Watershed Hydrology Data for the Vernal Pools

Vernal Pool	Flow Rate (cfs)			Volume (acre-foot)		
	Q2	Q5	Q10	Q2	Q5	Q10
1	4.56	6.83	9.64	0.11	0.19	0.32
2	31.05	31.91	45.19	0.48	0.86	1.44
3	142.94	217.36	284.45	9.16	13.86	18.09

3.2.3 Fairy Shrimp

Dry Season Surveys

Cysts belonging to the genus *Branchinecta* were isolated from soil samples in Pools 1, 2 and 3, but not from Pool 4. Adult *B. lindahli* were reared from cultures in Pools 1, 2 and 3. No suspected hybrids between *B. lindahli* and the federally listed *B. sandiegonensis* were identified.

Wet Season Surveys

The versatile fairy shrimp (*B. lindahli*) was detected in Pools 1, 2 and 3, but not in Pool 4. These results are consistent with the findings of the preceding dry season surveys. No listed fairy shrimp species were detected. The western spadefoot (*Spea hammondii*) was also detected in Pools 1, 2 and 3.

3.2.4 Riparian Birds

GLA biologists did not detect the southwestern willow flycatcher during the focused surveys. A male LBV (presumed nesting based on behavior) was detected within Alberhill Creek during multiple visits within close proximity to Nichols Road and the Project's proposed conservation, with the LBV first detected during the May 5, 2020, survey visit. All subsequent visits were used to confirm the extent of use of the presumed nesting pair. Based on the detections, the habitat within Alberhill Creek between Nichols Road and the RCA Conserved Lands was considered occupied and to have long-term conservation value for least Bell's vireo., Of the general area that GLA identified in Alberhill Creek as having long-term conservation value [Exhibit 13 – LBV Habitat with LTCV], approximately 1.08 acres of the habitat occurs within the RCA Conserved Lands, and approximately 0.06 acre of habitat overhangs into the Nichols Road right-of-way, consisting of willow limbs from the adjacent canopy. Although the remaining offsite portions of Alberhill Creek adjacent to Collier Avenue were not surveyed, much of the creek extending upstream towards Riverside Drive contains suitable habitat for LBV and will be subject to pre-construction surveys as described below.

The Project will not directly impact riparian birds, including LBV. The Project will not remove any riparian habitat, including habitat with long-term conservation value. Riparian habitat is located adjacent to portions of the proposed offsite improvements, including at the existing creek crossing at Nichols Road and along Collier Avenue from the Nichols Road/Collier Avenue intersection extending about 5,000 linear feet towards Riverside Drive. Approximately 0.06 acre of riparian canopy overhangs into the right-of-way of Nichols Road at the existing creek crossing. However, proposed improvements adjacent to Nichols Road will be limited to road re-surfacing and re-striping, with no additional widening. Furthermore, the road improvements will not require the removal of the overhanging willow limbs. The riparian habitat within the Project site is included in the proposed RCA Conserved Land. The Industrial (onsite) component of the Project is not expected to indirectly impact riparian birds. The onsite portion of the Project is nearly one-quarter mile from Alberhill Creek and therefore construction and operation of the industrial facility will not have edge effects on habitat within the Creek, including from noise and lighting.

3.3 Mitigation and Equivalency

3.3.1 Direct Effects

Riparian/Riverine Areas

The Project will mitigate impacts to 0.50 acre of riverine areas offsite through a combination of avoiding existing riparian/riverine resources within the Project site and purchasing of mitigation credits from the Riverpark Mitigation Bank. The Project will not impact approximately 2.53 acres of riparian/riverine areas. As summarized above in

Table 3-3, nearly all of those resources (2.47 acres) are within the Project's RCA Conserved Lands, including 2.30 acres of riparian areas associated with Alberhill Creek, 0.13 acre of non-riparian riverine associated with Drainage A, and 0.04 acre of non-riparian riverine associated with Drainage E. The remaining 0.06 acre of MSHCP riparian that will not be impacted consists of southern willow scrub canopy that overhangs Nichols Road within the Project footprint, but as noted above will not require trimming by the Project. The 0.06 acre of habitat associated with the Nichols Road right-of-way is not associated with the RCA Conserved Lands.

The Riverpark Mitigation Bank credits will include a minimum 1:1 of re-establishment and 2:1 of re-establishment and/or re-habilitation. Since the Riverpark Mitigation Bank involves the restoration of areas adjacent to the San Jacinto River, the mitigation bank lands provide hydrologic functions to the San Jacinto River floodplain similar to the functions provided by drainage features to be impacted at the Project site that are tributary to the Alberhill Creek floodplain. As a matter of habitat replacement, the purchase of 1.50 acres of mitigation credits (1:1 of re-establishment and 2:1 of re-establishment and/or re-habilitation) will be biologically superior compared with the impacts. Should Riverpark Mitigation Bank become unavailable in the future, an alternative mitigation strategy through another mitigation bank within the MSHCP Plan Boundary shall be reviewed and approved by the RCA and Wildlife Agencies (CDFW and USFWS) prior to issuance of a grading permit.

Vernal Pools

The Project will directly impact portions of Vernal Pool 2 and Vernal Pool 3, with a total of 0.17 acre of impacts to the ponding basins of those two pools. In both cases, the impact will consist of disturbance along the southern edges of the vernal pools to construct facilities within the City Maintenance Area, including the proposed drainage facilities and the maintenance access road, with the remainder of the Vernal Pool 2 and 3 ponding basins to be avoided within the RCA Conserved Lands. There will be no direct impacts to the ponding basin of Vernal Pool 1, as the limits of the City Maintenance Area will be set back approximately 75 feet from the edge of the ponding basin [Exhibit 8A]. Impacts to Vernal Pool 2 will consist of 0.01 acre along the southern edge of the pool basin, consisting of approximately three feet of edge relative to the 80-foot-wide pool [Exhibit 8B], with the remaining 0.44 acre to be avoided. Impacts to Vernal Pool 3 will consist of 0.16 acre along the southern edge of the pool basin, averaging about 50 feet of pool width along 350 feet of edge [Exhibit 8C], with the

remaining 0.70 acre to be avoided. Impacts to the vernal pools are summarized below in Table 3-7.

Table 3-7. Impacts to Vernal Pools

Vernal Pool	Vernal Pool Impacts (acres)
1	0
2	0.01
3	0.16
Total	**0.17**

Permanent impacts to Vernal Pool 2 and Vernal Pool 3 will be mitigated by expanding the remainder of each ponding basin. The southern edge of Vernal Pool 2 will be recontoured, and the pool basin will be expanded along the northern edge by 0.03 acre, consisting of approximately nine feet of edge added to the northern side of the pool basin. The southern edge of Vernal Pool 3 will be recontoured, and the pool basin will be expanded by 0.48 acre on the northern and southwestern sides of the existing pool basin. Upland areas adjacent to the existing basins will be graded and the basins will be recontoured to achieve the additional ponding acreage. The expanded areas of each pool will be seeded with a mixture of plant species known from the three vernal pools, with potentially additional plant species to be determined. Vernal Pool 2 will be expanded by 0.03 acre [Exhibit 8B] along the northern edge of the pool and Vernal Pool 3 will be expanded by 0.48 acre [Exhibit 8C] along the northern and western edges, resulting in a 3:1 replacement ratio for each pool. All three vernal pools will be protected within the RCA Conserved Lands.

The Project will develop a Habitat Mitigation and Monitoring Plan (HMMP) to address the mitigation efforts. The HMMP will, at a minimum, include details about the type of mitigation, acreages, when the mitigation would be implemented, plant palettes, site preparation, weeding plan, success criteria, monitoring plan (e.g., years/duration, frequency, etc.), reporting, the proposed management entity, and contingency measures in the event the mitigation is not successful. The monitoring will include hydrologic monitoring to confirm that the recontoured areas inundate sufficiently to support seasonal ponding/wetland conditions. The type of contingency measures would depend on which success criteria have not been met. If the vernal pools are not meeting plant coverage and/or non-native criteria, then additional plant remediation/maintenance efforts would be implemented, and the monitoring period would be extended. If the expanded vernal pools do not meet inundation criteria, then possibly the pools would be regraded, or the soils remediated to address hydrology. Additional details will be provided in the HMMP. The HMMP will be provided to the RCA, the Wildlife Agencies, and the California Natural Resources Agency (CNRA for

review and approval. The disturbance of the site will not commence until the HMMP has been approved.

Fairy Shrimp

The Project will not impact listed fairy shrimp, although it will impact populations of the non-listed versatile fairy shrimp. Mitigation is not required for impacts to the non-listed versatile fairy shrimp.

Riparian Birds

The Project will not impact habitat for riparian birds, including habitat with LTCV for least Bell's vireo. Therefore, mitigation for habitat loss will not be required for riparian birds.

Because the offsite improvement footprint within Nichols Road and Collier Avenue is adjacent to riparian habitat that supports (or might support) LBV, there is a potential for indirect effects due to construction noise, if LBV were to be present during construction activities. If feasible, construction activities will avoid the LBV breeding season (March 15 to September 30). However, if the Nichols Road improvements adjacent to Alberhill Creek cannot avoid the LBV breeding season, then the following measures are proposed to address noise effects:

- **Avoidance Buffer** – If Nichols Road and Collier Avenue improvements adjacent to the Alberhill Creek riparian habitat will occur during the LBV breeding season (March 15 to September 30), then applicable measures will be implemented for any work within 300 feet of the habitat to avoid indirect impacts to LBV. The measures may include the installation of sound barriers, pre-construction surveys and/or clearance surveys. The Project proponent will implement an Environmental Awareness Training program prior to the start of construction to advise workers of sensitive biological areas within Alberhill Creek adjacent to the Project.

- **Sound Barriers** – The Project proponent may install sound barriers along the Nichols Road and Collier Avenue rights-of-way adjacent Alberhill Creek to prevent any adverse noise effects to LBV during construction. If utilized, the sound barriers will be installed prior to any work conducted after March 15 and will remain in place until August 31, unless it is first determined through surveys that LBV are not occupying habitat in the adjacent creek. To confirm the effectiveness of the sound barriers, a qualified biological monitor will measure noise levels within the creek on the opposite side of the sound barriers from Nichols Road and Collier Avenue. The monitor will determine the existing ambient noise level, and then whether noise levels exceed 60 dB (or the ambient noise levels) due to construction activities. For areas where pre-construction ambient noise levels exceed 60 dB, pre-construction, ambient noise measurements can be taken by a qualified entity during the full daylight period

(sunrise to sunset), and subsequently, the median average ambient noise level can be used as the baseline in lieu of 60 dB. For any nighttime construction activities, the same would be done as above but with measurements taken during the full nighttime period (sunset to sunrise). If construction noise levels exceed 60 dB or the ambient noise level, whichever is greater, then the sound barrier will be adjusted, and measurements will be re-taken. If construction noise levels are determined to be under 60 dB or the ambient noise level, whichever is greater, then construction activities will continue without any additional noise monitoring.

- **Pre-Construction and Clearance Surveys** – At least three pre-construction surveys and/or clearance surveys will be conducted for LBV in riparian habitat within Alberhill Creek that is within 300 feet of construction activities. The number of surveys will depend on when the surveys commence and whether LBV individuals are detected during the surveys. The survey visits will be conducted by a qualified biologist familiar with songs, whisper songs, calls, scolds, and plumage characteristics of adult and juvenile vireos. Surveys will be conducted between sunrise and 11:00 am. Surveys will not be conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather that individually or collectively may reduce the likelihood of detection. Any detections of LBV are to be mapped with behavior tracked across detections/sightings. The qualified biologist must have experience with nesting ecology and behavior of LBV to determine pre-nesting/nesting behavior.

    - If construction activities within the 300-foot buffer begin prior to March 15, then weekly surveys will be conducted by a qualified biologist starting on March 15 (or on the following Monday, if the 15th occurs during a weekend) and will continue until one or more individuals are detected, or until May 1 if no LBV are detected.
    - If construction activities within the 300-foot buffer begin after March 15 but before May 1, then at least three weekly surveys will be conducted starting one week prior to the initiation of activities and will continue until May 1, or later to complete the minimum three surveys, unless one or more LBV individuals are detected.
    - If sound barriers are installed prior to the initiation of construction activities, and one or more LBV individuals are detected within the 300-foot buffer, then noise monitoring will be conducted as described in the Sound Barrier measure. If the sound barriers are demonstrated to be effective at reducing noise below the stated thresholds, then additional noise monitoring will not be required. However, the monitoring biologist will inspect the sound barriers weekly to ensure the barriers are intact and

will advise the Project proponent if repairs are needed to the sound barriers.

- **Noise Monitoring** – If sound barriers are not installed prior to the start of construction activities, then daily noise monitoring will be conducted between March 15 and September 30 if LBV are detected at any point during the pre-construction/clearance surveys. A qualified biological monitor will measure noise levels at the edge of the occupied habitat and work shall cease if, at any time, noise levels exceed 60 dB due to construction activities, or the existing ambient level if that is over 60 dB. Work will re-start if sound barriers are installed and are demonstrated to effectively reduce monitoring. If it is determined that the sound barriers are not sufficiently reducing noise levels, then the work will remain halted, and the Project proponent will contact CDFW and USFWS to discuss if other methods are available to reduce noise levels below the stated threshold.

- **Lighting** – Any night lighting needed during construction within 300 feet of occupied vireo habitat will be down shielded or directed away from the vireo habitat to prevent the illumination of the adjacent habitat.

- **Dust Emissions** – The Project, as a part of standard best management practices (BMPs) pursuant to South Coast Air Quality Management District Rule 403, will introduce dust control measures for the duration of construction activities to minimize any dust-related effect on adjacent vireos.

Western Spadefoot

Because the Project will impact portions of Vernal Pool 2 and Vernal Pool 3, and construction activities will occur in proximity to Vernal Pool 1, there is a potential for western spadefoot individuals to be affected during construction. This could include spadefoot individuals present in the portions of the pools to be directly impacted, but as adult spadefoots reside in burrows in upland areas for most of the year when not breeding, the Project could impact spadefoot individuals residing within portions of the Project site that are a considerable distance away from the vernal pools. Although the western spadefoot is a MSHCP Covered Species without project-specific requirements, as the vernal pools are in the RCA Conserved Lands adjacent to the Project site, the RCA has indicated that measures are needed to avoid/minimize impacts to western spadefoot, accounting for those spadefoot individuals that might be residing within the Project boundaries, but that migrate to the vernal pools to breed. The measures also would address impacts to spadefoots within the portions of vernal pools to be impacted, depending on the timing of construction activities relative to the breeding season, i.e., if grading, etc., might occur immediately following the breeding season.

The following measures will be implemented by the Project, including an exclusionary effort to fence specific areas of the Project site [Exhibit 14 – Western Spadefoot – Fencing and Exclusion Survey Areas] and to perform clearance surveys of the

designated areas to capture and relocate any detected spadefoots to the vernal pools within the RCA Conserved Lands. As described in the measures below, the clearance surveys will include multiple survey visits, with follow-up monitoring, but the clearance efforts will be conducted one time prior to any disturbance of the Project site, i.e., the clearance surveys will not be repeated for multiple seasons if the construction activities do not immediately follow the clearance surveys. Following the completion of the exclusion/clearance efforts, exclusionary fencing will remain in place along the development limits with the RCA Conserved Lands until construction activities have concluded to prevent spadefoots from returning to the development footprint, even if multiple seasons will separate the exclusion/clearance surveys from the timing of construction activities. However, the exclusionary fencing will be monitored at least weekly during every breeding season to move any spadefoots into the RCA Conserved Lands that might be trapped on the opposite side of the fence. This monitoring will continue until construction has been completed, or unless monitoring can be terminated (or suspended) with the concurrence of the RCA, USFWS, CDFW and CNRA. These measures overlap with minimization measures that will apply to the vernal pools themselves, which will be addressed in the HMMP to be reviewed and approved by the RCA, USFWS, CDFW and CNRA. The disturbance of the site will not commence until the HMMP has been approved.

- **Timing of disturbance –** No disturbance work, including project grading and mitigation activities (vernal pool expansion), will occur within western spadefoot breeding habitat associated with Vernal Pools 2 and 3 or upland habitat within 1,500 feet of vernal pools until those areas have been exclusion fenced and cleared of western spadefoot during the appropriate winter survey period.

- **Fencing**

    - **Construction fencing –** Construction fencing, not to be confused with exclusion fencing, will be installed along all project components to demarcate the project boundaries. No disturbance will occur outside of the construction fencing. The fencing will be installed prior to the start of any disturbance, to be verified (including photographed) by the monitoring biologist and will remain in place until construction has been completed. Fencing shall include small animal jump outs in the fencing (e.g., gradually sloped, smooth, flat-topped mounds of dirt on the upland side of the fence with small slits placed in the fencing at the top of the mounds). Placement of cover, ideally weathered wood, shall be placed along the inside of the fencing approximately every 50 feet. This cover shall be checked during clearance and monitoring surveys. All animals encountered under the cover shall be placed outside the fencing, with the western spadefoots being moved to the pools as described below. In general, the fencing will be checked periodically and replaced as necessary if it becomes worn or damaged.

- **Exclusionary Silt Fencing –** Exclusionary fencing will be installed around areas that will be disturbed and include the entirety of the Industrial (Onsite), Baker Street (Offsite), City Maintenance Area (Offsite) areas as and other Additional Street Improvements (Offsite) areas within 1,500 feet of the vernal pools [Exhibit 14 – Western Spadefoot – Fencing and Exclusion Survey Areas]. Exhibit 14 identifies three distinct areas that will be surrounded by exclusionary fencing, including the entirety of the onsite portion of the Project, the portion of the Baker Street improvements not within the existing road right-of-way and the City Maintenance Area, and a small area adjacent to Nichols Road and Pierce Street. Fencing will be installed and maintained prior to the onset of winter rain events. The purpose of the exclusionary fencing will be to enclose clearance areas for western spadefoot relocation prior to the onset of site disturbance. As with the construction fencing, the exclusionary fencing will be installed prior to the start of any disturbance, to be verified (including photographed) by the monitoring biologist and will remain in place until construction has been completed. In general, the fencing will be checked periodically and replaced as necessary if it becomes worn or damaged. After the clearance surveys are completed (as described below), exclusionary fencing will remain along the disturbance boundary with the RCA Conserved Lands until the conclusion of construction activities, to prevent any spadefoots from returning into the development footprint following the breeding season. It is acknowledged that construction activities might not immediately follow the breeding season in which the clearance surveys are conducted. If so, exclusionary fencing will remain along the boundary between the RCA Conserved Lands and the development footprint until construction activities are concluded, even if multiple breeding seasons separate the clearance surveys from the start of the construction activities. The exclusionary fencing will be monitored at least weekly during each breeding season to move any spadefoots into the RCA Conserved Lands that might be trapped on the opposite side of the fence. This monitoring will continue annually until construction has been completed, unless the monitoring can be terminated (or suspended) with the concurrence of the RCA, USFWS, CDFW and CNRA.

- **Protection and Avoidance –** In addition to the above measures addressing timing of disturbance and fencing, additional measures will be implemented to minimize impacts to western spadefoot individuals.

    - **Hydrology monitoring –** If construction activities are intended to occur within the Baker Street alignment or the City Maintenance Area during the western spadefoot breeding season, a biologist will monitor the hydrology of the vernal pools after the first measurable rains to determine the earliest timeframe that western spadefoot individuals could initiate breeding.

- **Western spadefoot clearance prior to pool inundation –** After installation of construction fencing and exclusionary fencing, qualified biologists will perform clearance surveys and relocations during the first four large (0.25-inch or greater) rain events of the winter. The clearance surveys will be conducted for each of the three areas described above. In addition, although the existing Baker Street and Pierce Street will not be surrounded by fencing since they have existing rights-of-way, the surfaces of the dirt roads will be surveyed along with the three exclusion zones, and any spadefoots detected on the road surfaces will be captured and relocated. These are nocturnal surveys and should be performed during each of the four rain events or the next night following a rain event. Clearance surveys will involve walking 30-meter or less pedestrian transects within the exclusion fenced areas, while looking for western spadefoot eyeshine and individuals. The biologist will perform 360-degree scans at least every 100 meters to look for eyeshine behind them. Dense vegetation may require that transects be more closely spaced such that 100% visual coverage is provided. Once a western spadefoot is detected, the biologist will go to the location, GPS the location, collect basic data (e.g., sex, size, behavior [e.g., emerging, walking/direction, foraging], etc.) as feasible, quickly scan 360 degrees to see if there are other individuals emerging nearby, collect the individual in a bucket for relocation, then continue along the transect route. Biologists will employ safe handling techniques to prevent directly harming individual spadefoots and prevent introducing pathogens to individual spadefoots. This will include wearing a clean pair of disposable gloves when handling each spadefoot collected and keeping the collected spadefoots in a sterilized bucket until they are transferred to the vernal pools. Additional methods may be employed, as applicable, according to The Declining Amphibian Task Force Fieldwork Code of Practice[2]. After completion of the clearance survey, all collected western spadefoot will be evenly distributed around Vernal Pools 1 through 3. If the pools are inundated, then western spadefoots should be placed at the water's edge of the pools. If the pools have yet to inundate, then western spadefoots should be placed within the entrance of rodent burrows above, but within 10 meters, of the high-water line of the pools. Released individuals will be monitored long enough to verify that they are moving and apparently healthy.

- **Western spadefoot monitoring during construction (and during the interim between clearance survey areas and construction) –** After the clearance surveys are complete and until construction activities are concluded, during the western spadefoot breeding season(s) the biologist

[2] Available at https://www.fws.gov/sites/default/files/documents/declining-amphibian-task-force-fieldwork-code-of-practice.PDF

will monitor the exclusionary fencing separating the RCA Conserved Lands from the development footprint. The biologist will inspect the side of the exclusion fencing facing the construction site at least once per week to search for western spadefoot individuals that might be trapped inside of the exclusionary fencing. If individuals are detected inside of the fence, then they will be relocated to the opposite side of the fencing and placed just outside of the inundation limits of the pools. The biologist will inspect the surface of the pools to be impacted within disturbance limits, i.e., in the area separated from the avoided pools by the exclusion fence as well as within any deep cracks that have formed in substrate. If spadefoots are detected within cracks, the biologist will carefully attempt to remove spadefoots by hand and relocate them to inside the fencing demarcating the disturbance limits. If multiple breeding seasons will separate the clearance surveys from the start of construction activities, then the exclusionary fencing will remain in place and the monitoring will be performed for each breeding season until the start of construction, unless monitoring can be terminated (or suspended) with the concurrence of the RCA, USFWS, CDFW and CNRA.

- **Monitoring during initial disturbance –** A biologist will monitor the initial disturbance to Vernal Pools 2 and 3 for any spadefoot metamorphs that might escape soil cracks while equipment initially disturbs the soil. The initial disturbance of the pools will be conducted using small equipment such as backhoe. The disturbance will be directed by the monitoring biologist to commence slowly from the outer edge of the pools towards the disturbance limits. If the biologist observes a metamorph escaping a crack, then the biologist will halt the equipment and attempt to relocate the toad to the opposite side of the silt fencing.

3.3.2 Indirect Effects

The Project is designed to avoid or otherwise minimize indirect effects to sensitive MSHCP resources. The focus of the analysis is on hydrologic effects to the vernal pools located in the adjacent proposed RCA Conserved Land, and downstream aquatic resources in Alberhill Creek/Temescal Wash, as well as the effects of noise and lighting on adjacent RCA Conserved Land.

Hydrology Effects

The Project has been designed so that the post-Project hydrology relative to the offsite RCA Conserved Lands will mimic the existing conditions. This section summarizes data from the Project's Hydrology Memorandum [Appendix E] and presents that the Project will maintain the hydrology needed to support Vernal Pools 1, 2 and 3, including the proposed expansion of Vernal Pools 2 and 3. The Project will retain all dry weather nuisance flows such that no water will be released to the vernal pools outside of storm

flows and beyond the rainy season. As such, the Project will not extend the hydroperiod of the vernal pools beyond the that which is the result of natural hydrology. As discussed below, the Project will result in a hydrologic increase to the watersheds of all three vernal pools for individual storm events, but the increases are small relative to the existing volumes of each vernal pool, and these increases will not extend the hydroperiod such that it would change the vernal pools to a wetter habitat type, such as marsh.

The Project is part of the overall watershed for Alberhill Creek/Temescal Wash. Appendix E describes the Project site as being part of four smaller drainage areas (Watersheds A, B, C and D) that each drain a specific area. Appendix B (Rational Method) and Appendix C (Unit Hydrograph) of the Hydrology Memorandum depicts the existing hydrology condition relative to the four watersheds, whereas Appendix D and Appendix E of the Hydrology Memorandum depicts the proposed condition.

Three of these watersheds each contain one of the three vernal pools that are described above. Each of these smaller watersheds are described below in detail, including the acreage of each watershed in the existing condition and proposed condition, the flows and volumes associated with each watershed for the 2-, 5-, and 10-year rainfall events, and the resources that each watershed drains towards. Table 3-8 below summarizes the hydrology data for the 2-, 5- and 10-year rainfall events. The Hydrology Memorandum evaluates the potential hydrologic effects of the Project on the vernal pools and associated plant resources, and Alberhill Creek by modelling the flow rates and volumes for the same rainfall events after Project implementation. The goal of the Project is to ensure that the same or similar amounts of water reach the adjacent RCA Conserved Lands to mimic the existing condition. However, through the modification of the site drainage, the four watersheds vary from the existing condition where the water is drawn from that feeds the different portions of the RCA Conserved Lands adjacent to the Project. For example, the sheet flows from Watershed C in the existing condition that originate from direct rainfall onto the site and flow towards Vernal Pool 1 will, in the post-Project condition, drain towards Vernal Pool 3. To mimic the existing hydrologic condition for Vernal Pool 1, the water draining into the modified Vernal Pool 1 watershed will come entirely from the improved sections of Pierce Street and Baker Street utilizing a trough system discussed below to disseminate flows and to re-create what came from the original Watershed C. The proposed condition is provided in Appendix D and E of the Hydrology Memorandum.

The individual watersheds are discussed below in order of the vernal pools supported by those watersheds, followed by Watershed A, which does not support a specific vernal pool but instead any concentrated drainage flows, or sheet flows extend offsite towards the Alberhill Creek floodplain. Table 5-7, which follows the discussions of each of the vernal pools and watersheds below, provides a comparison of existing and proposed hydrologic conditions for each area.

Vernal Pool 1 (Watershed C) – Watershed C is located north of Watershed B and south of Watershed D. Watershed C comprises 6.40 acres, nearly all of which is contained within the Project site. Vernal Pool 1 is within Watershed C. The watershed begins at the top of a hill and then flattens out as it approaches Baker Street. Sheet flows from the watershed slow down as the flows reach the flatter area, with some proportion of the flows reaching and crossing over Baker Street, some flows percolating into the ground and continuing subsurface under Baker Street towards the vernal pool, and perhaps some of the water not reaching the vernal pool. The amount and proportion of water reaching the vernal pool likely varies depending on the level of each storm event. As with the other two vernal pools, Vernal Pool 1 relies heavily on direct vertical rainfall for the pool to inundate; however, because Vernal Pool 1 does not receive the stream input that Vernal Pool 3 receives from Drainage A, Vernal Pool 1 takes longer to fill and reach its maximum inundation, at least during lesser rainfall events. During the 2024 monitoring/surveys, Vernal Pool 3 was already near maximum inundation during the first fairy shrimp sampling on January 26, 2024, whereas Vernal Pool 1 had no inundation. One week later, following additional rainfall, Vernal Pool 1 was inundated to approximately three percent of its maximum inundation, and then another week later (after more rainfall) Vernal Pool 1 reached maximum inundation.

The modified watershed supporting Vernal Pool 1 will be increased to 7.28 acres. As described above, the Project will create trough systems on the northern side of Baker Street that will release water from the Project's BMP structures as sheet flows towards the vernal pools. As concentrated flows leave each pipe from the BMP structures, the flows will hit the splash wall of the trough and spread out across the entire length of the trough system. The northern side of the trough system will have six-inch openings every five feet that will create the sheet flow condition towards the vernal pool. In the proposed condition, the flow rates at the outfall to the trough structure will increase for each of the three rainfall events modelled:

- 2-year event – 4.56 cfs to 5.42 cfs (19 percent increase)
- 5-year event – 6.83 cfs to 7.77 cfs (14 percent increase)
- 10-year event – 9.64 cfs to 10.04 cfs (4 percent increase)

Appendix E also modelled volumes as follows:

- 2-year event – 0.11 acre-foot to 0.17 acre-foot (55 percent increase)
- 5-year event – 0.19 acre-foot to 0.25 acre-foot (32 percent increase)
- 10-year event – 0.32 acre-foot to 0.35 acre-foot (9 percent increase)

The increase in flows and volumes per rainfall event is not expected to adversely affect Vernal Pool 1. Although the modeling for the post-Project condition reflects, in some cases, large percent increases, it is the relative hydrology numbers that are important. For example, the 55-percent increase in runoff volume for a 2-year event reflects just a 0.06-acre-foot increase. As noted above, the maximum volume of the pool was

estimated as 0.30 acre-foot in 2024. An increase in volume output as documented above might help the pool to fill up faster depending on the rainfall season and could result in a slight expansion of the ponded surface area. However, the topography around Vernal Pool 1 is very flat and the increase in the volume for any given event would not appreciably increase the ponding duration of the pool to the point at which habitat conversion could occur, e.g., converting from a seasonal pool to a marsh. As noted above, in 2024 the Vernal Pool 1 hydroperiod was approximately 90 days, with the pool drying up in early May. The Project will not decrease the hydrology to the vernal pool and therefore the Project will not reduce the hydroperiod for Vernal Pool 1. Furthermore, the Project will not release dry weather nuisance flows from the site. As such, the Project will not release water outside which would be generated by rainfall events and therefore will not increase the Vernal Pool 1 hydroperiod that could otherwise be caused by the release of non-seasonal flows. Lastly, water retained in the Project's BMP structures will be released within 24 hours, such that the Project will not increase the duration of sheet flows entering Vernal Pool 1.

Vernal Pool 2 (Watershed B) – Watershed B is located north of Watershed A and has an existing-condition tributary of approximately 27.79 acres. Watershed B originates offsite to the southwest although the majority of the watershed is onsite. Sheet flows from the watershed cross Baker Street and contribute to the hydrology of Vernal Pool 2. In the proposed condition, the Project will increase the total watershed acreage slightly to 28.54 acres. Once the sheet flows are collected and treated via BMPs, they will be discharged into the proposed trough system. As concentrated flows leave each pipe from the BMP structures, the flows will hit the splash wall of the trough and spread out across the entire length of the trough system. The northern side of the trough system will have six-inch openings every five feet that will help create a sheet flow condition towards Vernal Pool 2 that mimics existing conditions. In the proposed condition, the flow rates at the outfall to the trough structure will increase for each of the three rainfall events modelled:

- 2-year event – 21.05 cfs to 25.28 cfs (20 percent increase)
- 5-year event – 31.91 cfs to 36.50 cfs (14 percent increase)
- 10-year event – 45.19 cfs to 47.41 cfs (5 percent increase)

Appendix E also modelled volumes as follows:

- 2-year event – 0.48 acre-foot to 0.70 acre-foot (46 percent increase)
- 5-year event – 0.86 acre-foot to 1.04 acre-foot (21 percent increase)
- 10-year event – 1.44 acre-foot to 1.52 acre-foot (6 percent increase)

As was discussed above, the estimated maximum volume of Vernal Pool 2 as observed in 2024 was 0.34 acre-foot. Permanent impacts to 0.01 acre of the pool will remove approximately 0.01 acre-foot of pool volume. The proposed expansion of the pool by 0.03 acre will add approximately 0.03 acre-foot of volume, for a net increase of the total

volume from 0.34 acre-foot to 0.36 acre-foot. Under the existing condition in a 2-year event, Watershed B generates 0.48 acre-foot of volume on the northern side of Baker Street facing Vernal Pool 2, but the maximum capacity of the vernal pool is about 0.34 acre-foot such that the balance of water from the watershed does not contribute to the vernal pool. Although the 2-year-event volume would increase to 0.70-acre-foot post-Project, similarly any water more than the capacity of the pool would sheet flow offsite and would not contribute to the vernal pool. The increase might allow for the pool to fill faster but would not extend the vernal pool hydroperiod of a duration that would adversely affect the pool. As noted above, in 2024 Vernal Pool 2 was inundated for a duration of approximately 95 days, with the pool drying up in early May. The Project will not decrease the hydrology for Watershed B and therefore the Project will not reduce the duration of ponding for Vernal Pool 2. Furthermore, the Project will not release dry weather nuisance flows from the site. As such, the Project will not release water outside which would be generated by rainfall events and therefore will not increase the ponding duration of Vernal Pool 2 that could otherwise be caused by the release of non-seasonal flows. Lastly, water retained in the Project's BMP structures will be released within 24 hours, such that the Project will not increase the duration of sheet flows entering Vernal Pool 2.

Vernal Pool 3 (Watershed D) – Watershed D is located on the northwestern part of the Project and has an existing-condition tributary of approximately 217.79 acres, corresponding with Drainages A, B and C described above. The portion of the watershed feeding Drainage A originates offsite from a basin at the Terracina development tract that flows into an offsite portion of Drainage A, conveying flows towards and through the Project site before entering Vernal Pool 3 on the northern side of Baker Street. Flows feeding Drainage B onsite become sheet flows that cross Baker Street in the RCA Conserved Lands located west of Vernal Pool 3. Flows feeding Drainage C also enter Vernal Pool 3 after crossing Baker through a separate culvert pipe.

In the proposed condition, the Project will increase the total watershed acreage slightly to 219.64 acres. Flows originating offsite from the Terracina tract will enter a proposed debris basin at the western edge of the Project site and then flow through the Project site through a public storm drain that discharges into a separate trough system that is like what is described above for Watersheds C and B (Vernal Pools 1 and 2). The trough system will also accept onsite runoff generated within the watershed. This separate trough system will mimic the existing condition flows to Vernal Pool 3 by providing the supportive sheet flow. The trough system is designed to let larger flows during high storm events continue down the existing flowline that leads to Alberhill Creek/Temescal Wash, while still returning concentrated flows to sheet flow during smaller storm events. In the proposed condition, the flow rates at the outfall to the trough structure will increase for each of the three rainfall events modelled:

- 2-year event – 142.94 cfs to 148.75 cfs (1 percent increase)
- 5-year event – 217.36 cfs to 223.61 cfs (1 percent increase)

- 10-year event – 284.45 cfs to 287.20 cfs (1 percent increase)

Appendix E also modelled volumes as follows:

- 2-year event – 9.16 acre-foot to 9.25 acre-foot (1 percent increase)
- 5-year event – 13.86 acre-foot to 14.09 acre-foot (1 percent increase)
- 10-year event – 18.09 acre-foot to 18.18 acre-foot (1 percent increase)

The Project design will mimic the hydrology for the Vernal Pool 3 watershed very closely, with post-Project metrics of flow rates and volume demonstrating a one percent increase for all storm events modelled. As discussed above, the estimated maximum volume of Vernal Pool 3 as observed in 2024 was 0.72 acre-foot and the Project will permanently impact 0.16 acre of the pool along the southern edge. The sloping from the edge of the ponding basin to the middle of the pool is gradual and assuming an average depth of 5 inches (13 inches) within the 0.16-acre impact area, the impact will remove (fill) approximately 0.07 acre-foot of pool volume. As noted above, the Project would replace the 0.16 acre of lost ponding area by expanding the pool by an additional 0.48 acre, such that there would be 0.70 acre of additional pool surface area for a total of 1.18 acres of vernal pool area. In creating additional surface area, the goal is to at least replace the 0.07 acre-foot of lost volume within the proposed expansion areas. As the expansion areas would be around the edges of the existing ponding basin, the average depth of those areas would be shallower, perhaps three inches of depth on average. However, increasing the overall volume of the vernal pool would also be feasible with the post-Project hydrology, since the volume of water released at the spreading trough would still be significantly larger than the pool volume, i.e., increasing the size of Vernal Pool 3 would not cause the pool to be relatively drier. For example, the existing condition volume for a 2-year event is modeled as 9.16 acre-foot, which is more than 12 times the volume of pool, as estimated based on 2024 hydrology. Through adjustments to where Drainage A exits the vernal pool, the natural release of water could be set to accommodate the desired pool volume for the expanded pool. The hydroperiod for Vernal Pool 3 in 2024 was approximately 110 days, and as the post-Project hydrology is modeled at just a 1-percent increase compared with the existing, the post-Project hydrology would not adversely extend the vernal pool hydroperiod. Furthermore, as with the other vernal pools, the Project will not release dry weather nuisance flows to Vernal Pool 3.

Watershed A – Watershed A is located on the southeastern side of the Project and has an existing-condition tributary of approximately 165.20 acres, corresponding with Drainage D (described above). The tributary watershed originates offsite to the south and west, extending northeast to Baker Street and eventually to Alberhill Creek/ Temescal Wash. Watershed A does not contribute to either of the three vernal pools, but instead sheet flows directly to the offsite creek floodplain. Table 3-8 below summarizes the flow rates for the 2-, 5- and 10-year rainfall events. In the proposed condition, the Project will decrease the total watershed acreage slightly to 163.30 acres.

The flows that originate offsite will be directed towards a proposed flow-by basin along the edge of the Project site. Flows will then bypass the Project through a public storm drain that discharges on the northern side of Baker Street and continue down to Alberhill Creek/Temescal Wash as they have done historically. In the proposed condition, the flow rates will decrease slightly for each of the three rainfall events modeled:

- 2-year event – 81.29 cfs to 80.36 cfs (1.2 percent decrease)
- 5-year event – 127.72 cfs to 126.26 cfs (1.2 percent decrease)
- 10-year event – 191.55 cfs to 189.35 cfs (1.2 percent decrease)

These decreases are negligible from an engineering standpoint and are not expected to adversely affect downstream resources in Alberhill Creek/Temescal Wash.

Table 3-8. Comparison of Existing and Proposed Hydrologic Conditions

Watershed	Condition	Acreage	Flow Rate (cfs)			Volume (acre-foot)		
			Q2	Q5	Q10	Q2	Q5	Q10
A	Existing	165.20	81.29	127.72	191.55	N/A	N/A	N/A
	Proposed	163.30	80.36	126.26	189.35	N/A	N/A	N/A
	Change		**-1.2%**	**-1.2%**	**-1.2%**	**N/A**	**N/A**	**N/A**
B (VP 2)	Existing	27.79	21.05	31.91	45.19	0.48	0.86	1.44
	Proposed	28.54	25.28	36.50	47.41	0.70	1.04	1.52
	Change		**+20%**	**+14%**	**+5%**	**+46%**	**+21%**	**+6%**
C (VP 1)	Existing	6.40	4.56	6.83	9.64	0.11	0.19	0.32
	Proposed	7.28	5.42	7.77	10.04	0.17	0.25	0.35
	Change		**+19%**	**+14%**	**+4%**	**+55%**	**+32%**	**+9%**
D (VP 3)	Existing	217.79	142.94	217.36	284.45	9.16	13.86	18.09
	Proposed	219.64	148.75	223.61	287.20	9.25	14.09	18.18
	Change		**+1%**	**+1%**	**+1%**	**+1%**	**+1%**	**+1%**

Hydrology Analysis Conclusion

In addressing the depth and ponding duration (hydroperiod) of the vernal pools, there are a variety of factors that influence the duration, and ultimately the ponding duration is the key metric in defining the ecology of the vernal pools at Project site. Although the depth of the three vernal pools will contribute to their ponding duration, each vernal pool has a maximum depth and volume capacity based on the topography of each pool. The ponding observed during the 2024 rainfall season was at or very close to maximum

capacity of each vernal pool. Ultimately, the ponding duration of each vernal pool based on its capacity is influenced by the number of rainfall events, the amount of rainfall during each event, the frequency of the rainfall events, the timing of the last rainfall event, the air temperature, and the evaporation/evapotranspiration rates of each pool.

The only factor that the Project will alter is the volume of rainfall theoretically delivered to the vernal pools via the modified watersheds, but as noted below for Vernal Pools 2 and 3, the volumes of the modelled events exceed the maximum capacity estimated for the pools, so the increases modelled for those events post-project should have no effect on the maximum depths of the pools, nor on the total duration of inundation. Any significant increases in duration would have to be the result of non-seasonal release of dry weather flows, which would simulate additional rainfall events. However, as the proposed Project will retain all its non-seasonal dry weather flows, the Project will not release water to the vernal pools outside of the rainfall season. As such, the Project would not extend the ponding duration of the vernal pools beyond what is influenced by the occurrence of rainfall events.

The modelled 2-, 5- and 10-year events for the existing condition for Vernal Pools 2 and 3 all exceed the maximum volume capacity for the vernal pools. For example, the existing 2-year volume for the Vernal Pool 3 watershed (9.16-acre-feet) is more than nine times the volume capacity of Vernal Pool 3, with the excess water spilling off the pool. The proposed 2-year condition increases by 0.06-acre-foot to 9.25-acre-feet, but because of the excess, the increase is irrelevant, and the Project will not increase the depth of duration relative to a single rainfall event or cumulative rainfall events. The excess is even more profound with the 5-year and 10-year events. With 2024 having a rainfall season that was well above average, none of the pools were inundated past late May, and the Project will not increase those durations. In most years, the ponding duration will be less than that post-project, but certainly not more than that, unless the rainfall events themselves occur later in the season. Vernal Pool 1 is different in that the existing watershed is so much smaller compared with the other two vernal pools and proportionally relies much more on direct rainfall, and so it takes many rainfall events to bring the pool to its maximum. Although the volume percentage increases to Vernal Pool 1 are larger than the other two vernal pools, the actual volume amounts are small and although it could allow Vernal Pool 1 to pond relatively faster, the Project would not change the maximum depths of the vernal pool, nor would it change the duration of the vernal pool beyond that of the other vernal pools. In 2024, Vernal Pool 1 ponded later and dried up sooner than the other two vernal pools, and so the total duration for Vernal Pool 1 was three weeks less than Vernal Pool 3. Depending on conditions in any given year, the increase in hydrology could cause Vernal Pool 1 to inundate slightly faster in-line with Vernal Pool 3, and therefore the total duration for Vernal Pool 1 could therefore increase by a week or so but would not exceed the total duration of the other vernal pools.

In summary, the data demonstrates that the duration of Vernal Pools 2 and 3 is not expected to increase at all, with Vernal Pool 1 at most a slight increase relative to the other vernal pools, but that increase would not be considered significant. KWC Engineers can revise their hydrology analysis in this manner, which I will carry over to the Consistency Analysis and DBESP Analysis, but please let me know if the RCA concurs with these statements and whether it is just a matter of the data being presented and explained in this matter.

Water Quality

The Project will implement BMPs to prevent the degradation of water entering the vernal pools. The water quality BMPs will ensure the treatment of runoff within the Industrial Facility and from the portions Baker Street, Pierce Street and Nichols Road that will drain towards the RCA Conserved Lands. The Project will construct a Modular Subsurface Flow Wetland System (MSFWS) used for biofiltration of stormwater runoff including dry weather flows and other contaminated water sources. The MSFWS is a pre-engineered biofiltration system composed of a pretreatment chamber containing filtration cartridges, a horizontal flow biofiltration chamber with a peripheral void area and a centralized and vertically extending underdrain, the biofiltration chamber containing an absorptive media mix which does not contain any organic material and a layer of plant establishment media, and a discharge chamber containing an orifice control structure. The treated water flows horizontally in series through the pretreatment chamber cartridges, biofiltration chamber and orifice control structure.

During construction, the Project will implement erosion and sedimentation BMPs, to prevent excess sediments from entering the vernal pools. In addition, as noted above, the Project will contain all dry weather nuisance flows such that the non-seasonal water sources generated within the Project site will not enter the vernal pools. This will ensure that the water quality and chemistry of the vernal pools are not adversely affected by the Project.

Lighting

Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. If night lighting is required during construction, shielding shall be incorporated to ensure ambient lighting in the MSHCP Conservation Area is not increased.

The Project will incorporate an onsite lighting design that provides the required lighting levels for normal operation onsite. Exterior lighting can be designed as downward facing to prevent unnecessary foot candles outside of the Project boundary. The City of Lake Elsinore requires public streetlights every 200 feet on both sides of newly constructed public roadways per Lake Elsinore standards 503 and 508. The Project will work with the City to design a public roadway lighting design that is sensitive to neighboring sensitive receptors.

Noise

Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms, or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.

The Project is not expected to adversely affect wildlife in the adjacent/proximal Conservation Area due to noise. The onsite portion of the Project is buffered from the RCA Conserved Lands by the Baker Street improvements. Additionally, the Conserved Lands adjacent to the development footprint does not contain habitat that would support wildlife sensitive to noise effects. The portion of existing Nichols Road that crosses Alberhill Creek is adjacent to habitat occupied by least Bell's vireo and other riparian birds. The proposed re-surfacing will either be performed outside of the vireo season, or if work is performed during the vireo season, then noise attenuation measures will be implemented, if needed.

4.0 NARROW ENDEMIC PLANT SPECIES MITIGATION (SECTION 6.1.3)

4.1 Methods

Volume I, Section 6.1.3 of the MSHCP requires that within identified Narrow Endemic Plant Species Survey Areas (NEPSSA), site-specific focused surveys for Narrow Endemic Plants Species will be required for all public and private projects where appropriate soils and habitat are present. The Project site occurs within the NEPSSA for the following target species:

- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*)
- Slender-horned spineflower (*Dodecahema leptoceras*)
- Many-stemmed dudleya (*Dudleya multicaulis*)
- Spreading navarretia (*Navarretia fossalis*)
- California Orcutt grass (*Orcuttia californica*)
- San Miguel savory (*Clinopodium chandleri*)
- Hammitt's clay-cress (*Sibaropsis hammittii*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*).

GLA biologists performed general and focused plant surveys for the Project site in both 2020 and 2022. GLA biologists Jillian Stephens and David Moskovitz performed plant surveys for most of the onsite part of the Project on April 13, and 23, and May 5 and 20, 2020, as well as for the proposed RCA Conserved Land. In 2022, GLA biologists Jillian

Stephens and Wanisa Jaikwang repeated surveys for the onsite portion, including expanded areas that were not surveyed in 2020, as well as the offsite components. The 2022 surveys were conducted on March 14, April 4 and 6, and May 3, 2022. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFW 2018, CNPS 2001, Nelson 1984, USFWS 2000). As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines. Scientific nomenclature and common names used in this report follow Baldwin et al. (2012), and Munz (1974).

The physical study area for the Project was limited to the proposed disturbance footprint as well as the RCA Conserved Lands, i.e., the "Project site". In addition, to address potential indirect impacts outside of the study area, GLA reviewed species databases, including the California Natural Diversity Database (CNDDB) and the Consortium of California Herbaria, to identify prior records of Narrow Endemic Plants know from within and/or adjacent to the study area.

4.2 Results/Impacts

One Narrow Endemic Plant species (San Diego ambrosia) was detected at the Project site. San Diego ambrosia was detected in several locations within the development footprint, including two locations in the southern end of the site (most of the plants within the Project site), one location in the central portion of the site, three small locations adjacent to Pierce Street, and one small location adjacent to Nichols Road [Exhibit 7 – Rare Plants Map]. GLA biologists estimated 9,000 plants over 0.44 acre of habitat with long-term conservation value for the species. These locations of San Diego ambrosia within the Project site have been previously documented in the public record by other botanists, including by Steve Boyd (1997), Mitch Provance (2005), and A.C. Sanders (2014 and 2015). Three other prior records of San Diego ambrosia are within the RCA Conserved Land, including by F.M. Roberts (1997), D.E. Bramlet (1997), and Mitch Provance (2005). GLA surveyed the areas of these prior records but did not detect San Diego ambrosia at those locations. However, as these other locations are within the Project's Conserved Lands, these locations will be protected by the Project. Additional San Diego ambrosia known from outside of the development footprint but within the vicinity of the Project include one location northwest of the Project site on the northern side of Nichols Road (2011 A.C Sanders), plants located on the adjacent property northwest of Pierce Street (detected by GLA) and two locations to the southeast (2015) A.C. Sanders).

Besides the San Diego ambrosia, one other Narrow Endemic Plant species (Munz's onion) is known from the vicinity of the Project site based on prior records. Both

locations are southeast of the Project site, including one record by Scott D. White (2000) approximately 300 feet away from the site and another by S. Mashayehki (2010) about 1,000 feet from the site. Neither of these locations will be affected by Project grading. Additional locales of Munz's onion are located approximately ¾ mile to the northwest of the Project site. Locales of many-stemmed dudleya occur approximately ¾ mile to the northwest of the Project site. None of the other Narrow Endemic Plant target species are known to occur near the Project site.

4.2.1 Direct Impacts

The Project will directly impact one of the Narrow Endemic Plant target species (San Diego ambrosia). As noted above, San Diego ambrosia was detected in several locations at the Project site, including in the southern portion of the Industrial footprint (onsite) and within the proposed offsite road improvements along Pierce Street and Nichols Road. Because the Project site is within the NEPSSA for San Diego ambrosia and the species was detected, the Project is required by the MSHCP to identify habitat with long-term conservation value for the species and to avoid at least 90 percent of the habitat. GLA has identified 0.44 acre of habitat with long-term conservation value for the ambrosia within the Project footprint, all of which will be impacted by the Project. As such, a DBESP must be approved to authorize impacts to San Diego ambrosia.

None of the other Narrow Endemic Plant target species will be directly impacted by the Project. As noted above, there are two records of Munz's onion documented near the Project site, including two locations approximately 300 feet and 1000 feet, respectively, from the southern end of the Project site. However, neither of these locations will be directly impacted by the Project.

4.2.2 Indirect Impacts

Indirect effects on plants can generally occur due to several factors, including altered hydrology, increased erosion and/or increased sedimentation, pollution from chemicals, dust accumulation from construction-generated dust, and non-grading encroachment by construction personnel. The Project will implement BMPs that will avoid/minimize indirect effects to additional rare (NEPSSA) plants located near the development footprint, including down-watershed in the RCA Conserved Lands, and plants that are laterally adjacent to the Project site.

Hydrologic Effects

As noted, there are records of San Diego ambrosia from the RCA Conserved Lands on the northern end near Alberhill Creek. As presented in Section 5.2.4 of this Consistency Analysis, the Project is designed to mimic the pre-Project hydrology by releasing runoff into proposed trough systems along Baker Street that will mimic the pre-Project sheet flows into the open space. The hydrology supporting the areas with previous San Diego ambrosia records, and where the proposed ambrosia translocation would occur, is fed

by Watershed A as described in the Project's Hydrology Memorandum [Appendix E]. The Project design will result in slight increases (just over one percent) for flow rates and volumes across all storm events modeled, preserving the existing hydrology that supports the downstream ambrosia habitat. Additional offsite ambrosia locations to the northwest and southeast of the Project site would also not be affected by the Project, as these plants are located 400 to 800 feet away from the Project site and are upslope from or laterally away from the Project site and are not hydrologically supported by the Project site. Similarly, the nearest known offsite Munz's onion locations are 400 and 1,000 feet away from the southeastern end of the Project site and would not be indirectly affected by the Project because of the Project's hydrology.

Erosion/Sedimentation

The Project will implement sedimentation and erosion control BMPs to prevent the degradation of down-watershed habitat areas supporting San Diego ambrosia. Although the ambrosia and Munz's onion located laterally offsite from the Project are not expected to be affected by erosion or soil changes that might be caused by the Project, because the Project's watersheds do not drain to these areas, the Project's BMPs will nevertheless further ensure that no indirect impacts would occur.

To minimize erosion and control sediment during construction activities, a comprehensive set of BMPs will be implemented onsite. These measures include the installation of a stabilized construction entrance and exit to reduce the tracking of sediment onto public roads. Silt fences and gravel bag berms will be strategically placed to intercept and filter runoff, preventing sediment from leaving the site. Storm drain inlet protection will be installed to safeguard nearby drainage systems from sediment intrusion. Public streets adjacent to the site will be regularly swept and vacuumed to maintain cleanliness and prevent debris accumulation. Fiber rolls will be used along contours and slope breaks to slow runoff and capture sediment, while exposed slopes will be treated with hydroseeding to quickly establish vegetation and stabilize the soil. Together, these BMPs form a robust erosion and sediment control strategy to protect surrounding areas and comply with environmental regulations.

Invasive Species

The Project's landscaping areas shall not include any invasive plant species, including plant species identified in *Volume I, Table 6-2* of the MSHCP. Furthermore, work within or adjacent to the vernal pool areas, and otherwise within the RCA Conserved Lands, including for restoration activities, will be conducted using techniques to prevent the introduction of non-native plant propagules into sensitive areas. As such, the Project will not degrade down-watershed and laterally adjacent habitat areas through the introduction of non-native plant species.

Dust Control

The Project will minimize dust control through the implementation of BMPs. These will include stabilizing exposed surfaces, limiting vehicle speeds and traffic, and using dust suppression methods like watering.

Environmental Awareness Training

The Project will include an Environmental Awareness Training program where a qualified biologist will conduct a training session for project personnel prior to the initiation of grading activities. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. Based on the locations of the Narrow Endemic Plant species within the RCA Conserved Lands and laterally away from Project site, including locations on opposite side of the Project site from the construction ingress/egress, the plant locations would not be expected to be affected by construction-related encroachments and degradation, but the training program will add an extra layer of protection to educate construction staff.

4.3 Mitigation and Equivalency

4.3.1 Direct Effects

All impacts to San Diego ambrosia habitat with long-term conservation value will be mitigated within the RCA Conserved Lands. To mitigate the loss of 0.44 acre of habitat with long-term conservation value for San Diego ambrosia, the Project will develop and implement a San Diego Ambrosia Translocation Plan (Ambrosia Plan). The Ambrosia Plan will identify proposed receiver sites within the RCA Conserved Lands where ambrosia stems and soils will be translocated to. The receiver sites will be located within a minimum of 1.32 acres of contiguous degraded habitat in the Alberhill Creek floodplain to be restored by the Project [Exhibit 10 – Plant Restoration Map]. The proposed restoration area consists of an area dominated by non-native grasses and forbs where San Diego ambrosia was detected in the past (per public records), but due to overgrowth by invasive vegetation, San Diego ambrosia was not detected during plant surveys for the Project.

The general components of the Ambrosia Plan will include the salvage and collection of individual ambrosia stems from the donor sites. Approximately 10-percent of the stems would be salvaged and stored at a nursery facility for propagation, to be held as a contingency source. Another 20-percent of the stems would be translocated directly to the receiver sites, where the stems will be transplanted into study plots. The remaining

stems will be collected along with the soils, which will be bulk transferred to the receiver sites. The expectation is that through rhizome spread, both within the plots and between the plots, the number of stems will increase. The Ambrosia Plan will identify proposed salvage and translocation methods from the donor sites, site preparation methods of the receiver sites, plant palettes, success criteria, maintenance/long-term monitoring procedures, and contingency measures. The Ambrosia Plan will be submitted to the RCA and Wildlife Agencies for review and approval prior to implementation.

GLA met with the RCA and Wildlife Agencies on September 26, 2024, to discuss the ambrosia mitigation concept. The RCA and Wildlife Agencies addressed an expectation of restoring habitat with long-term conservation value at a minimum 3:1 ratio (1.32 acres) versus the impacts (0.44 acres) and that stem counts after a minimum of five years would be three times the number of stems salvaged and translocated to the receiver site. GLA proposes to translocate the 20-percent of stems to study plots that would be distributed throughout out the receiver habitat, with soil from the remaining impacted habitat to be spread in the areas surrounding the plots. The stems (and rhizomes) salvaged as part of the 20-percent collection would be planted in the study plots with some minimum spacing (to be determined) that would allow the rhizomes to spread in multiple directions from each source “stem”, theoretically allowing the rhizomes to fill in the spaces between the translocated stems over time, which in turn would produce a proportional number of new stems. Although this would theoretically provide the space to produce at least three times the number of stems compared with what is translocated, GLA is concerned how long it would take to achieve this performance standard, and whether it is reasonable to expect that the restoration site will produce at least three times the number of translocated stems. Provided that the receiver site soils are compatible, the site is prepared properly, the plots are established as approved, the stem counts are deemed accurate prior to salvage and the salvage is performed properly, and site maintenance is deemed successful, then everything will have been done to support the translocation efforts. Furthermore, as propagation through seed is not an option, then the efforts will be limited to the stems that can be translocated. The MSHCP requirement in mitigating the impacts to habitat and species is to result in preservation that is at least biologically equivalent, if not superior, to the existing condition. The proposed restoration area of 1.32 acres would replace the impacted 0.44 acre of existing habitat at a minimum 3:1 ratio. Furthermore, the proposed 1.32 acres of habitat would consist of one larger and contiguous block of habitat, compared with 0.44 acre of existing habitat consisting of six smaller patches of habitat scattered throughout the Project site. The restoration site will be managed to minimize invasive plant species at maximum levels of percent cover to be described in the Ambrosia Plan.

As noted above, the conditions will have been created with the restored receive habitat to theoretically achieve stem numbers at a ratio of 3:1 (or greater). However, if in a minimum timeframe of five years the stem numbers reach at least a 2:1 ratio versus the existing condition, then combined with a 3:1 increase in habitat with long-term conservation value, attaining stem numbers at least two times greater should be

considered at least biologically equivalent (if not superior). As such, this is the minimum standard that GLA proposes. If the mitigation achieves a minimum 2:1 ratio of stems in at least five years following translocation, then GLA proposes that the 10-percent stem collection that will have been propagated in a nursery will be translocated to the mitigation site, which would further increase the population within the mitigation site. However, the Ambrosia Plan will ultimately determine the full extent of success criteria and consistency measures through coordination, review, and approval with the RCA, Wildlife Agencies, and CNRA.

GLA recently collected soil samples from the donor and proposed receiver sites, and the soil samples were analyzed for compatibility to support the proposed translocation efforts. The locations of the soil samples are included on Exhibit 10. The Project proponent will provide the results of the soils analysis to the RCA and Wildlife Agencies as part of the review process for the Translocation Plan.

5.0 ADDITIONAL SURVEY NEEDS (SECTION 6.3.2)

5.1 Criteria Area Species Survey Area - Plants

Note that there are no survey areas for these designated plant species outside of the MSHCP Criteria Area.

5.1.1 Methods

The Project site occurs within the CAPSSA for the following target species:

- Thread-leaved brodiaea (*Brodiaea filifolia*)
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)
- Parish's brittlescale (*Atriplex parishii*)
- Smooth tarplant (*Centromadia pungens* spp. *laevis*)
- Round-leaved filaree (*California macrophylla*)
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- Little mousetail (*Myosurus minimus* ssp. *apus*)

GLA biologists performed general and focused plant surveys for the Project site in both 2020 and 2022. GLA biologists Jillian Stephens and David Moskovitz performed plant surveys for most of the onsite part of the Project on April 13, and 23, and May 5 and 20, 2020, as well as for the proposed RCA Conserved Land. In 2022, GLA biologists Jillian Stephens and Wanisa Jaikwang repeated surveys for the onsite portion, including expanded areas that were not surveyed in 2020, as well as the offsite components. The 2022 surveys were conducted on March 14, April 4 and 6, and May 3, 2022. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFW 2018, CNPS 2001, Nelson 1984, USFWS 2000). As applicable, surveys were conducted at

appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines. Scientific nomenclature and common names used in this report follow Baldwin et al. (2012), and Munz (1974).

The physical study area for the Project was limited to the proposed disturbance footprint as well as the RCA Conserved Lands, i.e., the "Project site". In addition, to address potential indirect impacts outside of the study area, GLA reviewed species databases, including the CNDDB and the Consortium of California Herbaria, to identify prior records of Criteria Area Plants know from within and/or adjacent to the study area.

5.1.2 Results

GLA biologists detected one Criteria Area Plant species (Coulter's goldfields) that is described for the CAPSSA associated with the Project site. GLA also detected the San Jacinto Valley crownscale, which is a Criteria Area Plant species, but not one that is described for the applicable CAPSSA. However, the crownscale is associated with Vernal Pool 1, and so the crownscale is relevant to the Project pursuant to the MSHCP Riparian/Riverine and Vernal Pool Policies (*Section 6.1.2*).

Coulter's goldfields was detected in several locations within the Project site, including the three vernal pools as well as locations within the RCA Conserved Lands nearer to Alberhill Creek. The majority of Coulter's goldfields are associated with Vernal Pool 1 and 3 [Exhibit 9 – Rare Plants Map]. GLA biologists mapped approximately 9,000 plants and based on those detections identified approximately 2.70 acres of total habitat with long-term conservation value, the majority of which will not be directly impacted by the Project. The locations of Coulter's goldfields within the Project site have been previously documented in the public record by other botanists, including by A.C. Sanders (2008), D.E. Bramlet, R.L. Allen and F.M. Roberts (2011), and Mitch Provance (2005 and 2017)[3].

As noted above, the San Jacinto Valley crownscale is associated with Vernal Pool 1. Crownscale individuals were most abundant in and around the vernal pool basin within the proposed Conservation Land, but a smaller number of individuals (approximately 10) were mapped outwards from the pool basin closer to Baker Street. These individuals occur in similar alkaline soils associated with the broader watershed of the vernal pool.

[3] CCH2 Portal. 2023. https://cch2.org/portal/index.php. Accessed on 12/11/23. University of California, Riverside Herbarium Record.

GLA did not detect any other Criteria Area Plants besides Coulter's goldfields and the San Jacinto Valley crownscale. However, the Consortium of California Herbaria has one University of California, Riverside (UCR) Herbarium record for little mousetail, which was documented by Mitch Provance in 2017. The UCR record describes mousetail occurring with other vernal pool indicator plants in a pool adjacent to Baker Street. Based on the associated species noted by the record, it was presumably associated with Vernal Pool 3, but again the presence of little mousetail was not confirmed during GLA's plant surveys.

The only other Criteria Area Plant species known from the vicinity of the Project site is round-leaved filaree. There are two records of the species located southeast of the Project site, although neither of these records are within the CAPSSA. One record is within about 150 feet of the Project site (A.C. Sanders 2011), while the second record (Mitch Provance 2017) is about 450 feet from the Project site.

5.1.3 Direct Impacts

The Project will impact Coulter's goldfields associated with Vernal Pool 3 due to the construction and maintenance of the adjacent spreading structure. Because the Project site is within the CAPSSA for Coulter's goldfields, the Project is required by the MSHCP to identify habitat with long-term conservation value for the species and to avoid at least 90-percent of the habitat. GLA has identified 2.70 acres of habitat with long-term conservation value for Coulter's goldfields, including 2.61 acres associated with the three vernal pools. The proposed Project will directly impact 0.50 acre of the habitat (20 percent) of the habitat at the edge of Vernal Pool 3. As such, a DBESP must be approved to authorize impacts to Coulter's goldfields.

The Project will directly impact approximately 10 individuals (based on GLA's plant surveys) of San Jacinto Valley crownscale outside of the Vernal Pool 1 ponding basin, but within the broader watershed of the pool. As noted above in Section 5.2.3, hydrologic modelling indicates an approximately 7 percent decrease in flows from the Vernal Pool 1 watershed over the 2-, 5, and 10-year rainfall events. However, when considering the nature of the existing condition, by constructing the trough system in closer proximity to the immediate vernal pool watershed, the relative amount of surface and subsurface flows reaching the pool basin is likely to increase. Therefore, what is modelled as a hydrologic decrease at Baker Street is likely to be closer to, if not slightly exceeding, the existing hydrologic condition that supports the vernal pool.

As part of the Project's mitigation activities, the hydrology of Vernal Pool 1 will be monitored post-project for at least five years to document the ponding metrics of the vernal pool compared with what was observed in 2024.

Although little mousetail was not detected within any of the vernal pools during GLA's plant surveys, based on the 2017 record of little mousetail at the property it is possible

that the record is associated with Vernal Pool 3 and that the partial impacts to Vernal Pool 3 might impact little mousetail. If present, impacts would be up to 0.16 acre of habitat with long-term conservation value, as that is the acreage of the vernal pool that would be impacted by the Project.

5.1.4 Indirect Impacts

The only two CAPSSA species that would be relevant to potential indirect effects from the Project would be Coulter's goldfields and little mousetail. Aside from the Coulter's goldfields to be directly impacted by the Project (0.50 acre of habitat with long-term conservation value), the Project will avoid another 2.20 acres of habitat associated with Vernal Pool 1, 2 and 3, and additional areas downstream within the RCA Conserved Lands. As discussed above in Section 3.3.2 and 4.2.2, the Project design and BMPs are designed to prevent/minimize adverse indirect effects to rare (NEPSSA) plants. This includes the Project being designed to mimic pre-Project hydrology. In addition, the Project will implement sedimentation and erosion control BMPs, will not include invasive plant species in its landscaping and will manage for invasive species during restoration activities, will implement dust control BMPs, and will implement an Environmental Awareness Training program to educate workers during construction about sensitive resources.

5.1.5 Mitigation and Equivalency

To mitigate the loss of 0.50 acre of habitat with long-term conservation value for Coulter's goldfields, the Project will restore/expand Coulter's goldfields habitat in two areas. The first area consists of the expansion of habitat associated with Vernal Pool 3 by approximately 0.75 acre [Exhibit 10 – Plant Restoration Map]. The second area consists of the expansion of another 0.75-acre area in the Alberhill Creek floodplain adjacent to an existing population of Coulter's goldfields and vernal barley. If little mousetail presently occurs in Vernal Pool 3, then the expansion of the vernal pool would mitigate those impacts, as it would address all vernal pool flora associated with Vernal Pool. However, because there was no confirmation of little mousetail during GLA's surveys, there will not be any performance standards specific to little mousetail, as there is no guarantee of little mousetail propagules being present in the edge portion of the vernal pool to be impacted where soil inoculum would be collected prior to impact.

The Project will develop a HMMP to address the mitigation efforts. The HMMP will, at a minimum, include details about the type of mitigation, acreages, when the mitigation would be implemented, plant palettes, site preparation, weeding plan, success criteria/performance standards, monitoring plan (e.g., years/duration, frequency, etc.), reporting, the proposed management entity, and contingency measures in the event the mitigation is not successful. The type of contingency measures would depend on which success criteria/performance standards have not been met. If the mitigation areas are not meeting plant coverage and/or non-native criteria, then additional plant remediation/maintenance efforts would be implemented, and the monitoring period

would be extended. The HMMP will be submitted to the RCA, the Wildlife Agencies, and the CNRA for review and approval. The disturbance of the site will not commence until the HMMP has been approved.

Although the Project is not subject to the Criteria Area Plant policies relative to the San Jacinto Valley crownscale, because the Project site is not in the CAPSSA for the crownscale the Project is subject to the Section 6.1.2 policies pertaining to vernal pools. Because the crownscale occurs within Vernal Pool 1 and its immediate watershed, impacts to the crownscale within the watershed will require mitigation. Specifically, seed will be collected from crownscale individuals prior to any disturbance of the site, and that seed will be transferred directly to Vernal Pool 1 to supplement the existing flora of the pool. This seed collection/transfer will also be addressed in the HMMP.

5.2 Burrowing Owl

5.2.1 Methods

The Project site is within the survey area for the burrowing owl (*Athene cunicularia*). As such, the MSHCP requires that the Project evaluate impacts to the burrowing owl through habitat assessments/focused surveys.

Focused surveys are required to be conducted pursuant to the 2006 MSHCP Burrowing Owl Survey Instructions. The Burrowing Owl Survey Instructions are divided into three components, including Step I (habitat assessment), Step II-A (focused burrow survey), and Step II-B (focused burrowing owl survey). The guidelines stipulate four focused survey visits (Step II-B) be conducted on separate dates between March 1 and August 31.

GLA initially evaluated most of the proposed development footprint for burrowing owls in 2020, including the Step I habitat assessment and preliminary burrow mapping (Step II-A). GLA biologist David Smith performed visits on April 16 and 28, 2020. The entire Project site was evaluated for burrowing owls in 2022, including approximately 75 acres of potentially suitable habitat that was subject to focused burrowing owl surveys (Step II-B). As described above in Section 2.1, the total area of proposed development is 90.94 acres, including 65.81 acres associated with the Industrial Facility (onsite), 6.11 acres of Baker Street improvements, 2.73 acres identified as the City Maintenance Area northeast of Baker Street, and Additional Street Improvements (27.70 acres). Initial transects were walked within the onsite portion of the Project and along the various offsite alignments to identify all suitable burrows. Burrows were limited to the onsite portion of the Project and within the City Maintenance Area; however, burrows were not detected within the alignments of the Additional Street Improvements, nor within the Baker Street alignment. As such, focused burrowing owl surveys were concentrated in the onsite portion of the Project, the City Maintenance Area, and immediately adjacent portions of the RCA Conserved Lands where burrows were also mapped. These collective areas account for the approximately 75 acres of lands surveyed for burrowing

owls. Step II-B of the Survey Instructions requires a minimum of four survey visits, indicating that a single biologist should not survey more than 100 acres per day. As the survey area for the Project consisted of 75 acres, the area could be covered by a single biologist in one day. GLA biologist Stephanie Cashin performed the focused owl surveys on March 9, April 4, May 2, and June 3, 2022.

The burrowing owl survey visits are to be conducted during a period from one hour prior to sunrise to two hours after sunrise or two hours before sunset to one hour after sunset. All survey visits were conducted in the morning within the allotted timeframe. The surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign, and not during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Table 5-1 summarizes the focused burrowing owl surveys conducted for the Project.

Table 5-1. Summary of Burrowing Owl Surveys

Survey Date	Biologist(s)	Survey Period Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
3/9/2022	SC	0600/0815	40/54	0-2	0
4/4/2022	SC	0600/0805	51/58	0-3	0
5/2/2022	SC	0600/0830	57/63	0-1	0
6/3/2022	SC	0600/0810	55/60	0-1	50
SC = Stephanie Cashin					

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Exhibit 12 identifies the burrowing owl survey areas at the Project site, including a 500-foot visual survey area around the Project site. Transects were spaced at a maximum of 30 meters (100 feet) apart from each other, adjusting for vegetation height and density, to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 100 meters along the transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) to identify potentially occupied burrows. The 500-foot visual survey area was at least inspected with binoculars but was also accessed on foot where feasible. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

5.2.2 Results/Impacts

No burrowing owls were detected within the Project site during focused surveys. Exhibit 12 provides the locations of areas surveyed, including approximate transect locations as well as the locations of suitable burrows that were mapped. Burrows were scattered

throughout the onsite portion of the Project, with many concentrated along a fence line within the proposed RCA Conserved Land. No burrowing owl sign was observed at any of the burrows within the disturbance limits, but a single owl pellet was observed at a burrow within the RCA Conserved Land along the fence line. It was not clear how old the pellet was but given the lack of other sign and that no owls were observed during the surveys, the pellet likely indicates a transient owl that was not occupying the site during the focused surveys.

Based on the absence of burrowing owls within the disturbance limits, the Project will not impact habitat with long-term conservation value.

5.2.3 Mitigation and Equivalency

Although burrowing owls were not detected during focused surveys, because the site has the potential to support burrowing owls, pre-construction surveys will be required to prevent harm to burrowing owls, should individuals occupy the site in the future. The following burrowing owl measure will apply to the Project:

- Pre-construction burrowing owl surveys will be conducted in areas of suitable habitat not more than 30 days prior to the initiation of ground disturbance (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure burrowing owl has not colonized the site since it was last disturbed. If burrowing owl is found, the same coordination described above will be necessary.

5.3 Mammals

The Project site is not located within a mammal survey area. As such, focused surveys are not required for designated mammal species and there are no other requirements applicable to the Project for mammals.

5.4 Amphibians

The Project site is not located within an amphibian survey area. As such, focused surveys are not required for designated amphibian species and there are no other requirements applicable to the Project for amphibians.

6.0 DELHI SANDS FLOWER-LOVING FLY

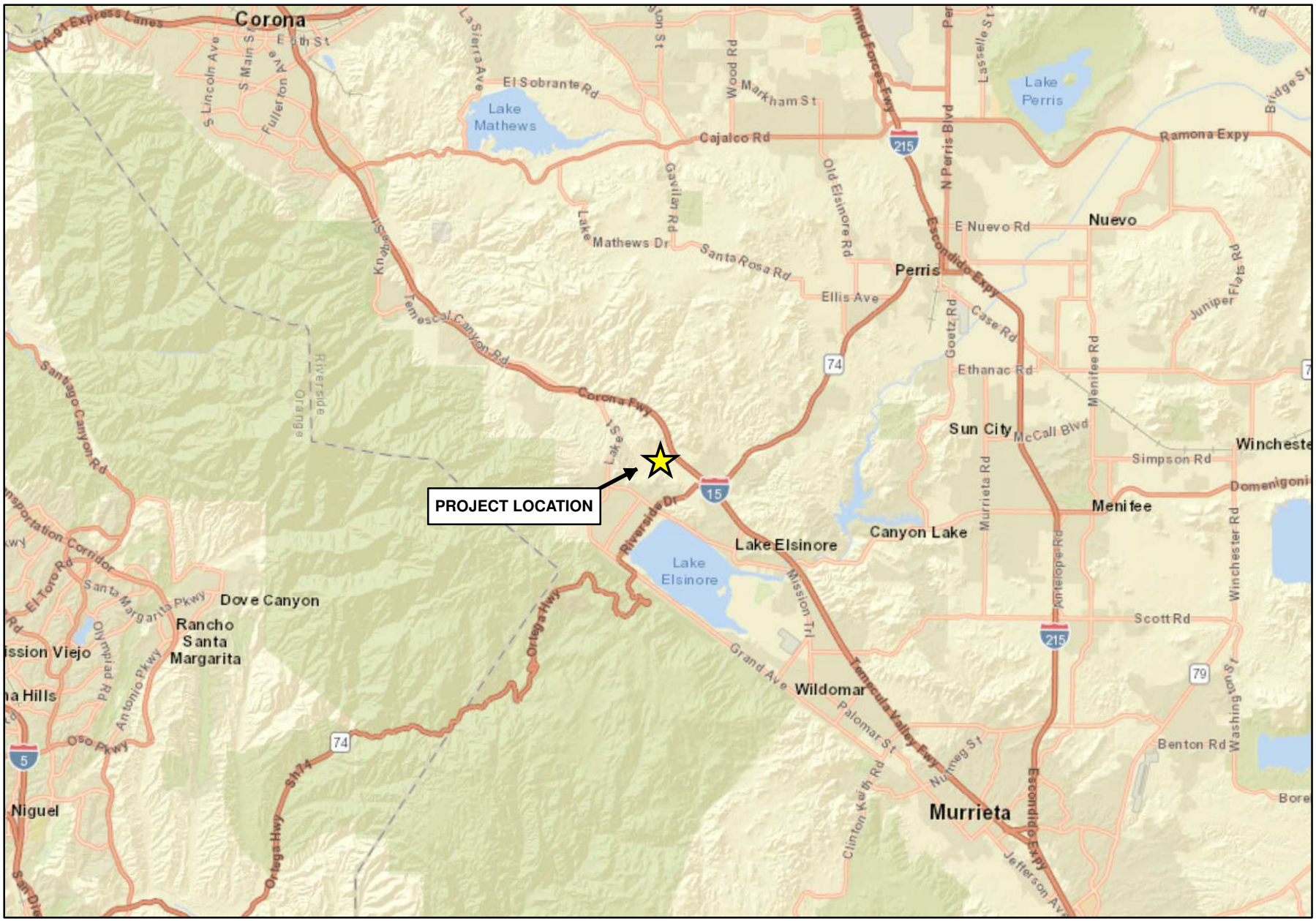
The Project site is not located within Delhi soils mapped within the MSHCP baseline data, and therefore habitat assessments/focused surveys are not required for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*).

7.0 REFERENCES

Sogge, M.K, Ahlers, D., and Sferra, S.J. 2010. A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher: U.S Geological Survey Techniques and Methods 2A-10, 39p. https://www.fws.gov/ventura/endangered/species/surveys-protocol.html

USFWS. 2001. Least Bell's Vireo Survey Guidelines. January 19, 2001. Sacramento, California: USFWS. https://www.fws.gov/cno/es/Recovery_Permitting/birds/least_bells_vireo/LeastBellsVireo_SurveyGuidelines_20010119.pdf

USFWS. 2016. A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-Billed Cuckoo. Prepared by M. Halterman, M.J. Johnson, J.A. Holmes, and S.A. Laymon. Sacramento, California: USFWS. May 2016. https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/YellowBilledCuckoo/YBCU%20Survey%20Protocol_%20DRAFT_2016.pdf



Source: ESRI World Street Map

N

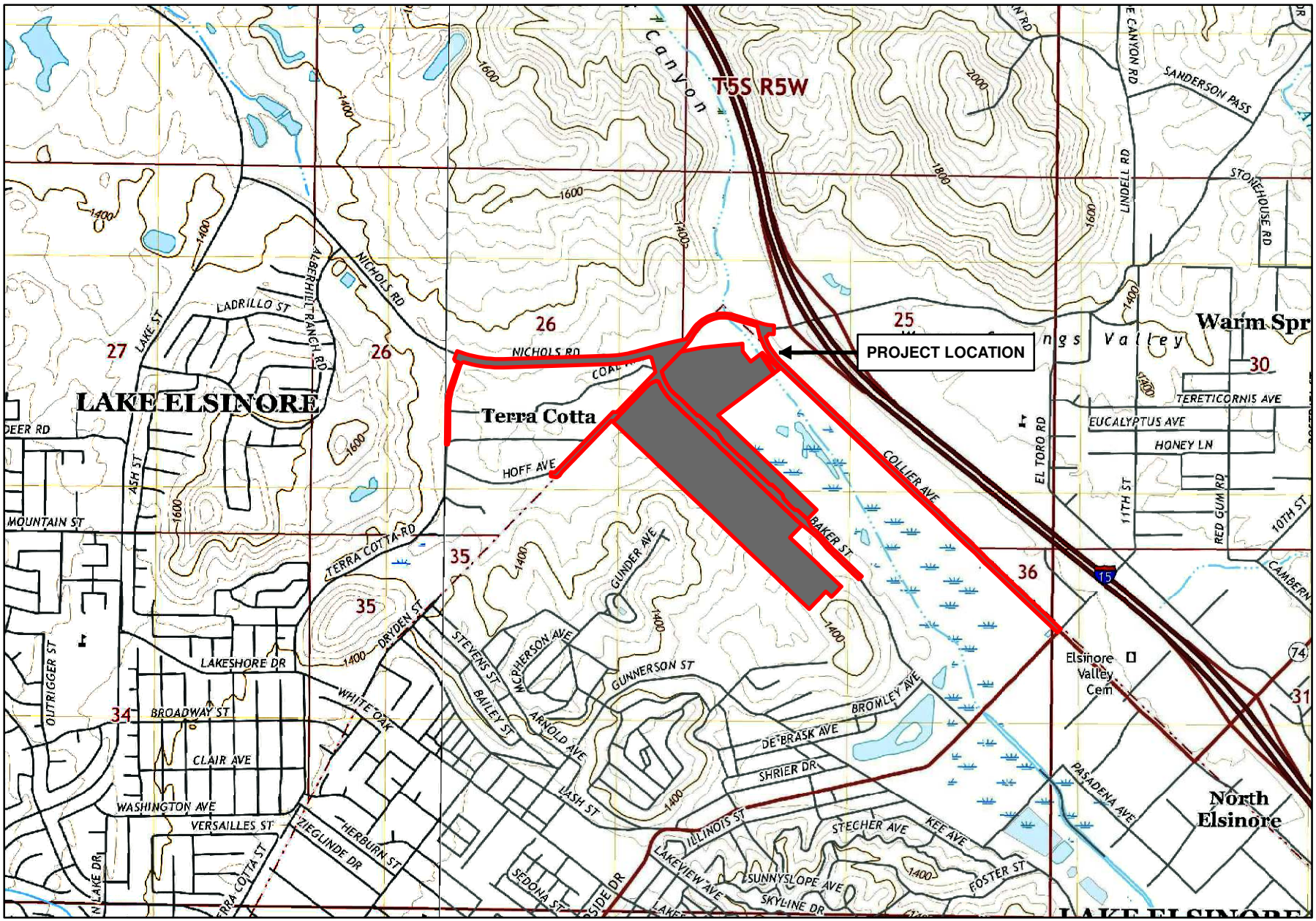
0 2 4 8 Miles

BAKER INDUSTRIAL PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Lake Elsinore, CA quadrangle

N

0 1,000 2,000 4,000 Feet

BAKER INDUSTRIAL PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: April 8, 2025

BAKER INDUSTRIAL PROJECT

Project Components Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\1100 AFTER THE REST\1514-05BKIN\GIS\1514-05_ProjectComponents.mxd

- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- Cell Group W

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: April 8, 2025

BAKER INDUSTRIAL PROJECT

MSHCP Overlay Map

GLENN LUKOS ASSOCIATES

Exhibit 4

X:\1100 AFTER THE REST\1514-05BKIN\GIS\MSHCPGIS\1514-05_MSHCPOverlay.mxd

- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- Akali Grassland
- Alkali Playa
- Disturbed Semi-Natural Herbaceous Grassland
- Disturbed/Developed
- Open Water
- Riversidean Sage Scrub
- Semi-Natural Herbaceous Grassland
- Southern Willow Riparian Scrub
- Vernal Pool

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: April 8, 2025

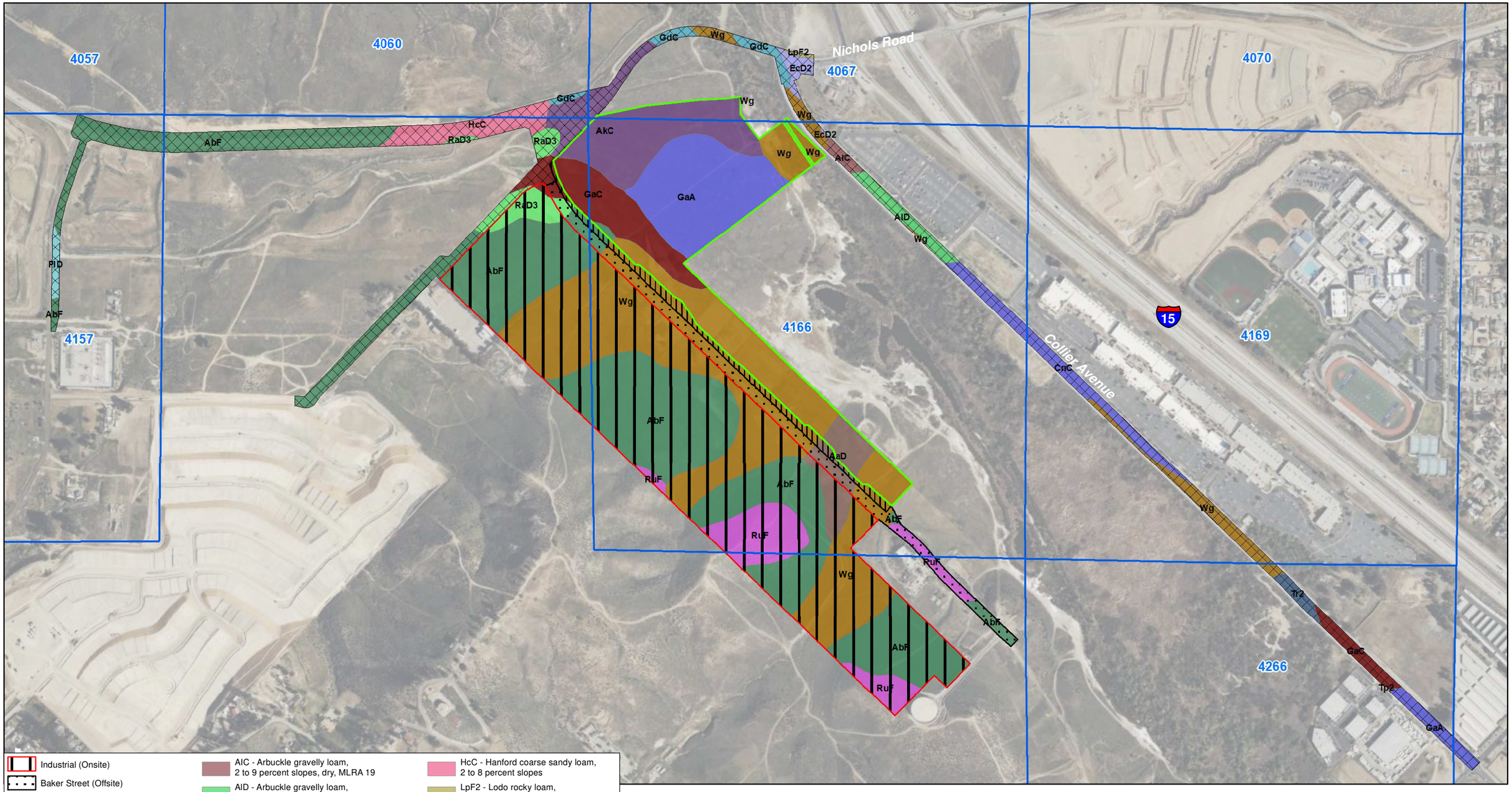
BAKER INDUSTRIAL PROJECT

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 5

X:\1100 AFTER THE REST\1514-05BKIN\GIS\VegetationGIS\1514-05_Vegetation.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- AaD - Altamont clay, 5 to 15 percent slopes
- AbF - Altamont cobbly clay, 8 to 35 percent slopes
- AkC - Arbuckle loam, 2 to 8 percent slopes
- AlC - Arbuckle gravelly loam, 2 to 9 percent slopes, dry, MLRA 19
- AlD - Arbuckle gravelly loam, 8 to 15 percent slopes
- CnC - Cortina gravelly coarse sandy loam, 2 to 8 percent slopes
- EcD2 - Escondido fine sandy loam, 8 to 15 percent slopes, erod ed
- GaA - Garretson very fine sandy loam, 0 to 2 percent slopes
- GaC - Garretson very fine sandy loam, 2 to 8 percent slopes
- GdC - Garretson gravelly very fine sandy loam, 2 to 8 percent slopes
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- LpF2 - Lodo rocky loam, 25 to 50 percent slopes, eroded
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RuF - Rough broken land
- Tp2 - Traver loamy fine sand, eroded
- Tr2 - Traver loamy fine sand, saline-alkali, eroded
- Wg - Willows silty clay, saline-alkali

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: April 8, 2025

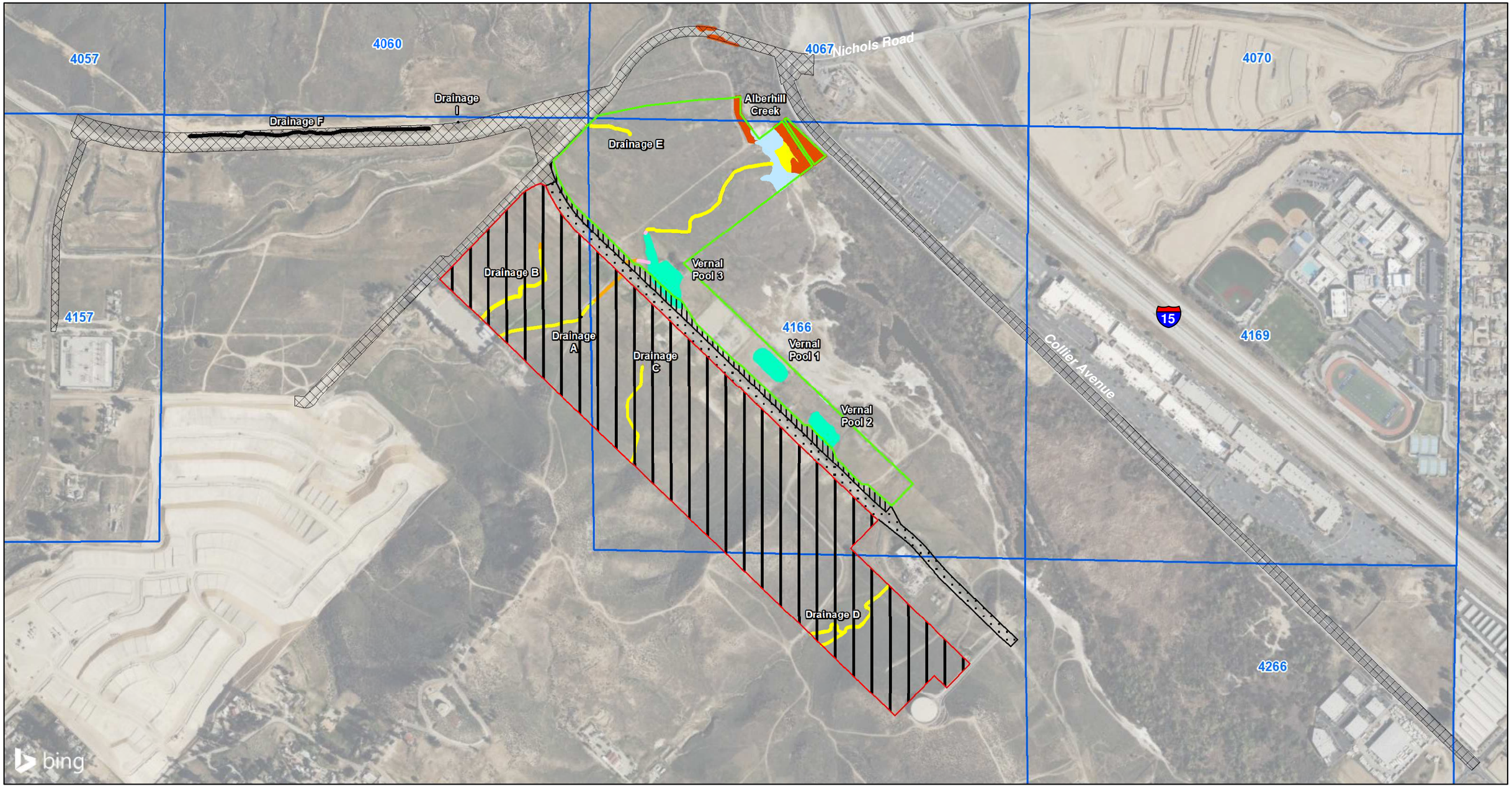
BAKER INDUSTRIAL PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 6

X:\1100 AFTER THE REST\1514-05BKIN\GIS\SoilsGIS\1514-05_Soils.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- Alkali Grassland
- Alkali Playa
- Disturbed Semi-Natural Herbaceous Grassland
- Disturbed/Developed
- Open Water
- Semi-Natural Herbaceous Grassland
- Southern Willow Riparian Scrub
- Vernal Pool

N

0 275 550 1,100
Feet

1 inch = 575 feet

Approximately 0.06 acre of riparian habitat consists of overhanging willow limbs within the existing right-of-way of Nichols Road. The Project will not remove the overhanging riparian vegetation.

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: April 28, 2025

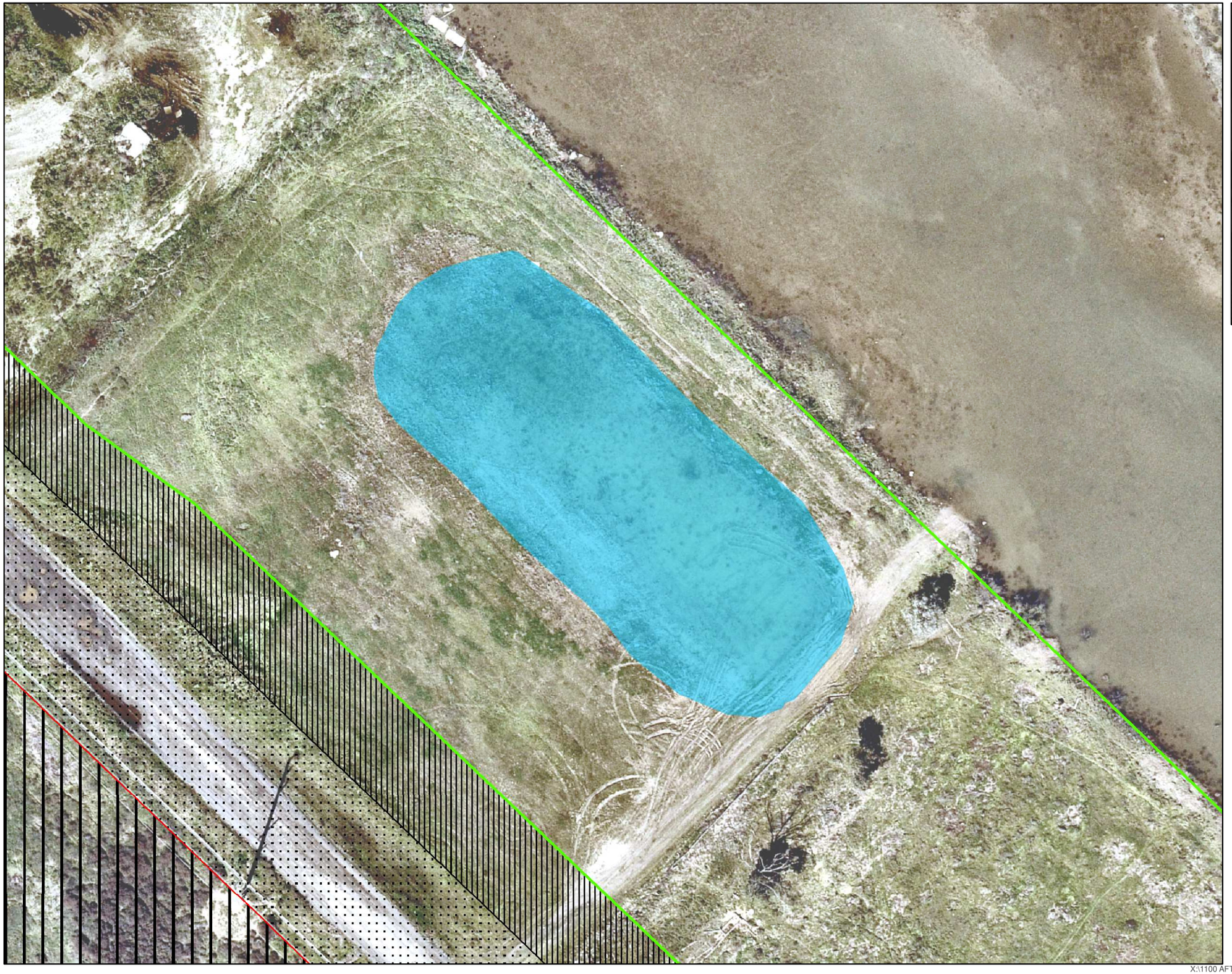
BAKER INDUSTRIAL PROJECT

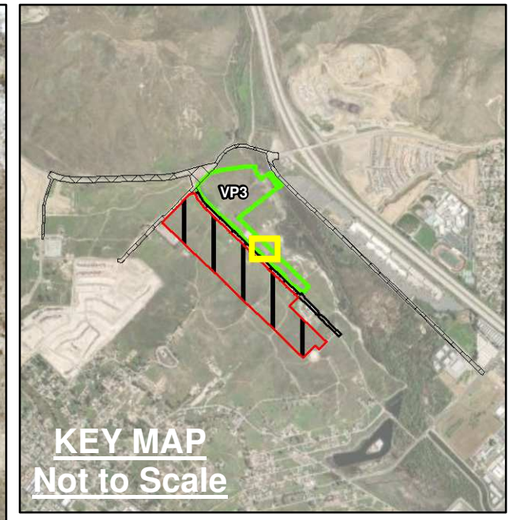
MSHCP Riparian/Riverine Areas and Vernal Pools

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\1100 AFTER THE REST\1514-05BKIN\GIS\ImpactsGIS\1514-05_RipRiv.mxd





- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Vernal Pool 1 (0.45 ac.)

N

0 20 40 80

Feet

1 inch = 40 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 7, 2025

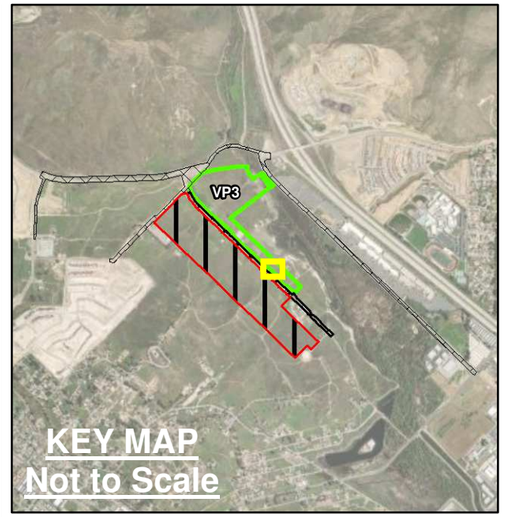
BAKER INDUSTRIAL PROJECT

Vernal Pool 1 Avoidance Map

GLENN LUKOS ASSOCIATES

Exhibit 8A

X:\1100 AFTER THE REST\1514-05BKIN\GIS\MitigationGIS\1514-05_VernalPool1_Mitigation.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Vernal Pool 2 - Impacted Area (0.01 ac.)
- Vernal Pool 2 - Avoided Area (0.39 ac.)
- Vernal Pool 2 - Expansion Area (0.03 ac.)

N

0 15 30 60

Feet

1 inch = 30 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 7, 2025

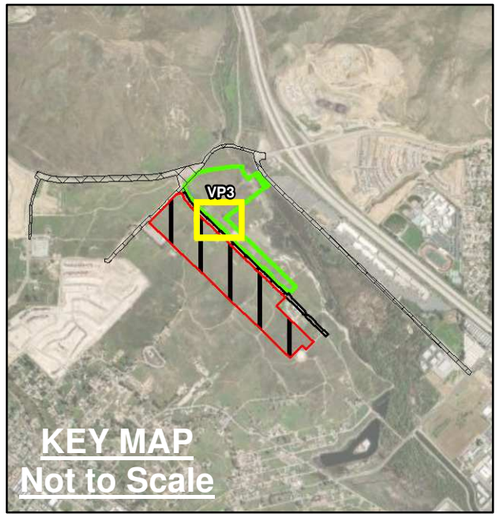
BAKER INDUSTRIAL PROJECT

Vernal Pool 2 Proposed Mitigation Map

GLENN LUKOS ASSOCIATES

Exhibit 8B

X:\1100 AFTER THE REST\1514-05BKIN\GIS\MitigationGIS\1514-05_VernalPool2_Mitigation.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Existing Drainage A
- Vernal Pool 3 - Impacted Area (0.16 ac.)
- Vernal Pool 3 - Avoided Area (0.71 ac.)
- Vernal Pool 3 - Expansion Area (0.48 ac.)

N

0 35 70 140

Feet

1 inch = 70 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 7, 2025

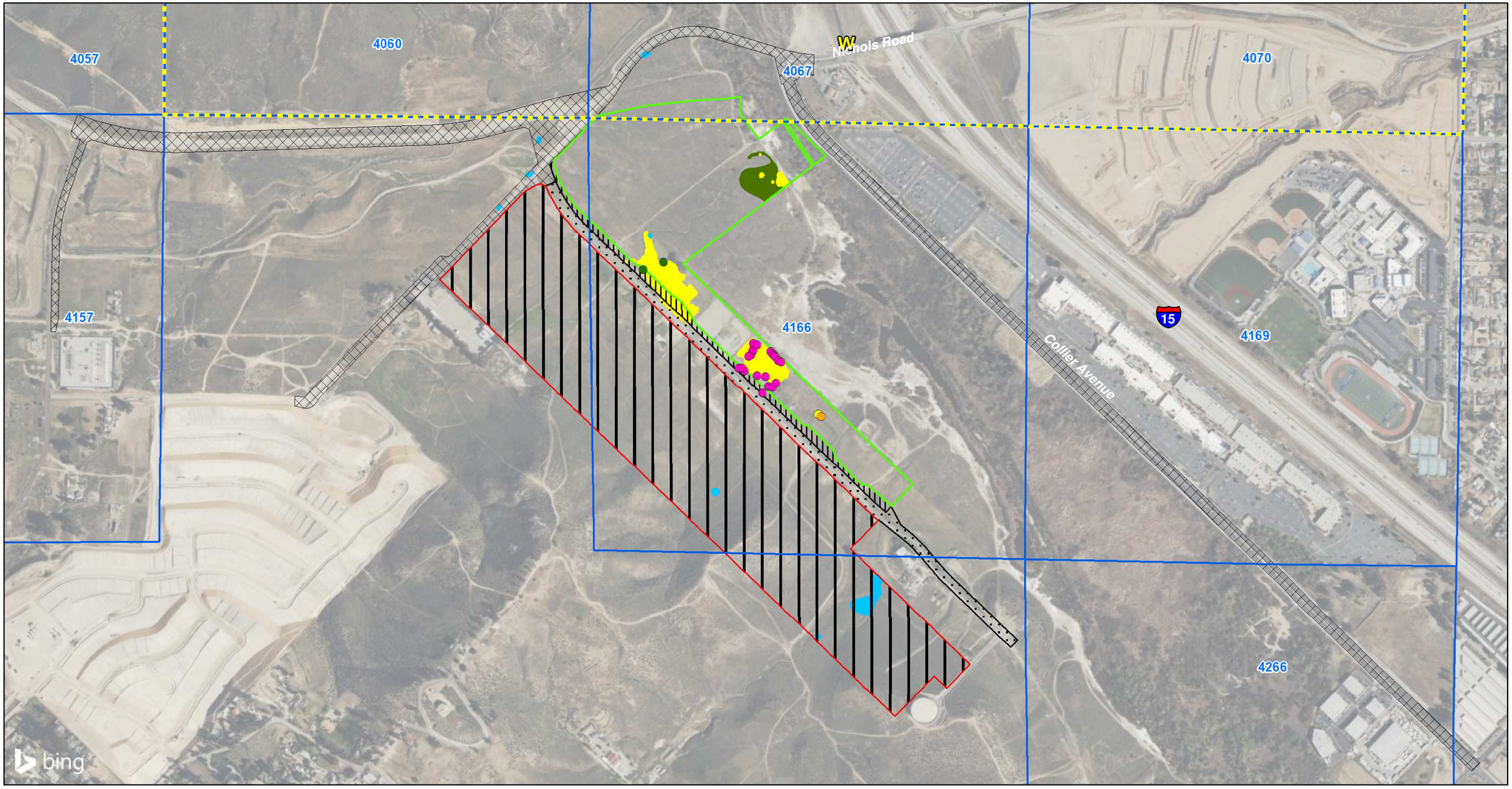
BAKER INDUSTRIAL PROJECT

Vernal Pool 3 Proposed Mitigation Map

GLENN LUKOS ASSOCIATES

Exhibit 8C

X:\1100 AFTER THE REST\1514-05BKIN\GIS\MitigationGIS\1514-05_VernalPool3_Mitigation.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- Cell Group W

- Coulter's Goldfields
- San Jacinto Valley Crownscale
- Vernal Barley
- Small-flowered Microseris

Habitat with Long-term Conservation Value

- Coutler's Goldfields (2.70 ac.)
- Vernal Barley (1.04 ac.)
- San Diego Ambrosia (0.44 ac.)

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 5, 2025

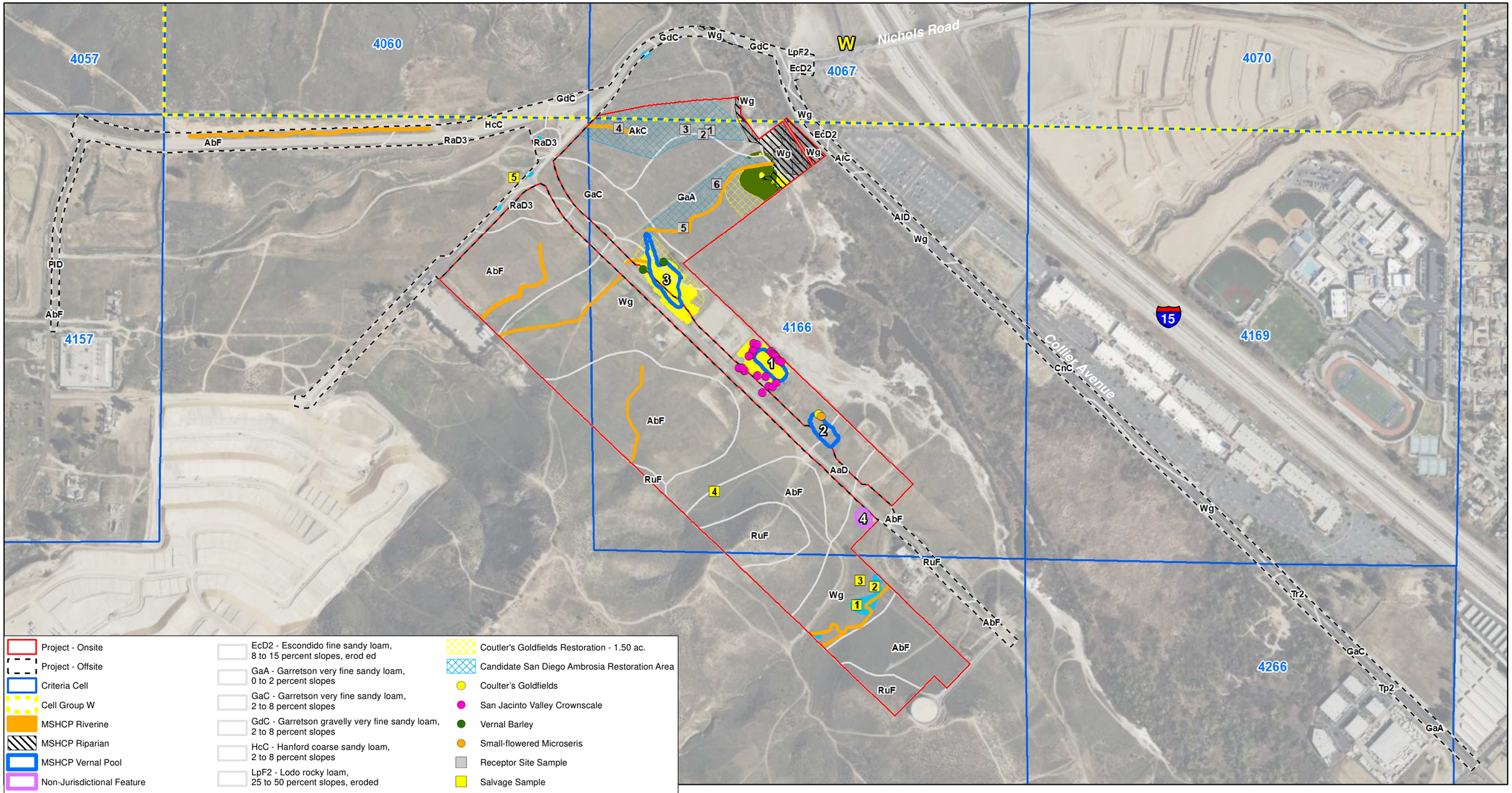
BAKER INDUSTRIAL PROJECT

Rare Plants Map

GLENN LUKOS ASSOCIATES

Exhibit 9

X:\1100 AFTER THE REST\1514-05BKIN\GIS\PlantsGIS\1514-05_Plants.mxd



- Project - Onsite
- Project - Offsite
- Criteria Cell
- Cell Group W
- MSHCP Riverine
- MSHCP Riparian
- MSHCP Vernal Pool
- Non-Jurisdictional Feature
- AaD - Altamont clay, 5 to 15 percent slopes
- AbF - Altamont cobbly clay, 8 to 35 percent slopes
- AkC - Arbuckle loam, 2 to 8 percent slopes
- AlC - Arbuckle gravelly loam, 2 to 9 percent slopes, dry, MLRA 19
- AlD - Arbuckle gravelly loam, 8 to 15 percent slopes
- CnC - Cortina gravelly coarse sandy loam, 2 to 8 percent slopes
- EcD2 - Escondido fine sandy loam, 8 to 15 percent slopes, erod ed
- GaA - Garretson very fine sandy loam, 0 to 2 percent slopes
- GaC - Garretson very fine sandy loam, 2 to 8 percent slopes
- GdC - Garretson gravelly very fine sandy loam, 2 to 8 percent slopes
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- LpF2 - Lodo rocky loam, 25 to 50 percent slopes, eroded
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RuF - Rough broken land
- Tp2 - Traver loamy fine sand, eroded
- Tr2 - Traver loamy fine sand, saline-alkali, eroded
- Wg - Willows silty clay, saline-alkali

- Coutler's Goldfields Restoration - 1.50 ac.
- Candidate San Diego Ambrosia Restoration Area
- Coulter's Goldfields
- San Jacinto Valley Crownscale
- Vernal Barley
- Small-flowered Microseris
- Receptor Site Sample
- Salvage Sample

Habitat with Long-term Conservation Value

- Coutler's Goldfields (2.70 ac.)
- Vernal Barley (1.04 ac.)
- San Diego Ambrosia (0.44 ac.)

N

0 287.5 575 1,150

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 5, 2025

BAKER INDUSTRIAL PROJECT

Plant Restoration Map

GLENN LUKOS ASSOCIATES

Exhibit 10

X:\1100 AFTER THE REST\1514-05BKIN\GIS\MitigationGIS\1514-05_Restoration.mxd

Photograph 1: Aerial view of the Project site looking north from the southern end. The photo depicts existing Baker Street with Vernal Pool 1 and 2 visible to the right of Baker Street. Vernal Pool 3 is farther north, past the developed compound. The onsite (Industrial) portion of the Project is left of Baker Street.

Photograph 2: Aerial view of the Project site looking south from northern end. The photo depicts the intersection of Baker Street and Pierce Street in the bottom of the photo with Baker Street extending to the south. The onsite (Industrial) portion of the Project is to the right of Baker Street.

Photograph 3: Aerial view depicting the proposed RCA Conserved Land. The Project will improve Baker Street and include the proposed City Maintenance Area to the left, with the remaining land to left proposed for conservation. Vernal Pool 3 is located in the right of the photo between Baker Street and the stand of eucalyptus trees.

Photograph 4: Aerial view depicting the portions of Alberhill Creek and the Collier Marsh that are not part of the Project's conservation. To the right of the creek floodplain are lands proposed as RCA Conserved Land by the Project. Vernal Pool 1 and 2 are visible in the right side of the photo, between the creek floodplain and Baker Street.

GLENN LUKOS ASSOCIATES

BAKER INDUSTRIAL PROJECT

Site Photographs

Photograph 5: View of Vernal Pool 1 looking west. The photo depicts Coulter's goldfields.

Photograph 6: View of Vernal Pool 1 looking south.

Photograph 7: View of San Jacinto Valley crownscale associated with Vernal Pool 1.

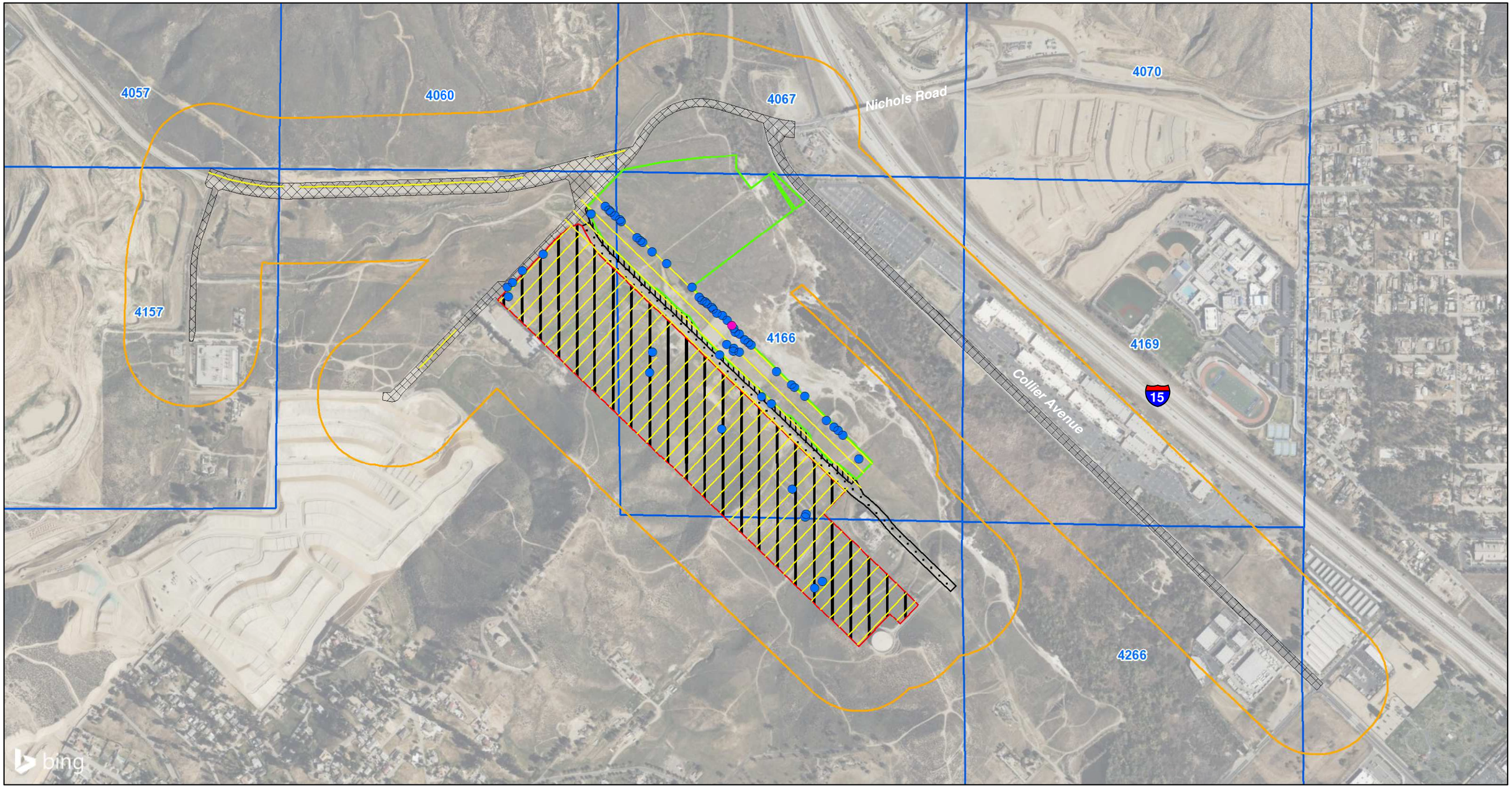
Photograph 8: View of Vernal Pool 2 looking south.

Photograph 9: View of Drainage A looking downstream (east).

Photograph 10: View of Drainage D looking downstream (southeast).

Photograph 11: View of San Diego ambrosia near Baker Street and Pierce Street.

Photograph 12: View of Coulter's goldfields near Vernal Pool 3.



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- 500' Visual Survey Area
- Transect
- Burrow
- Burrow with Fresh Pellet

N

0 362.5 725 1,450

Feet

1 inch = 725 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 5, 2025

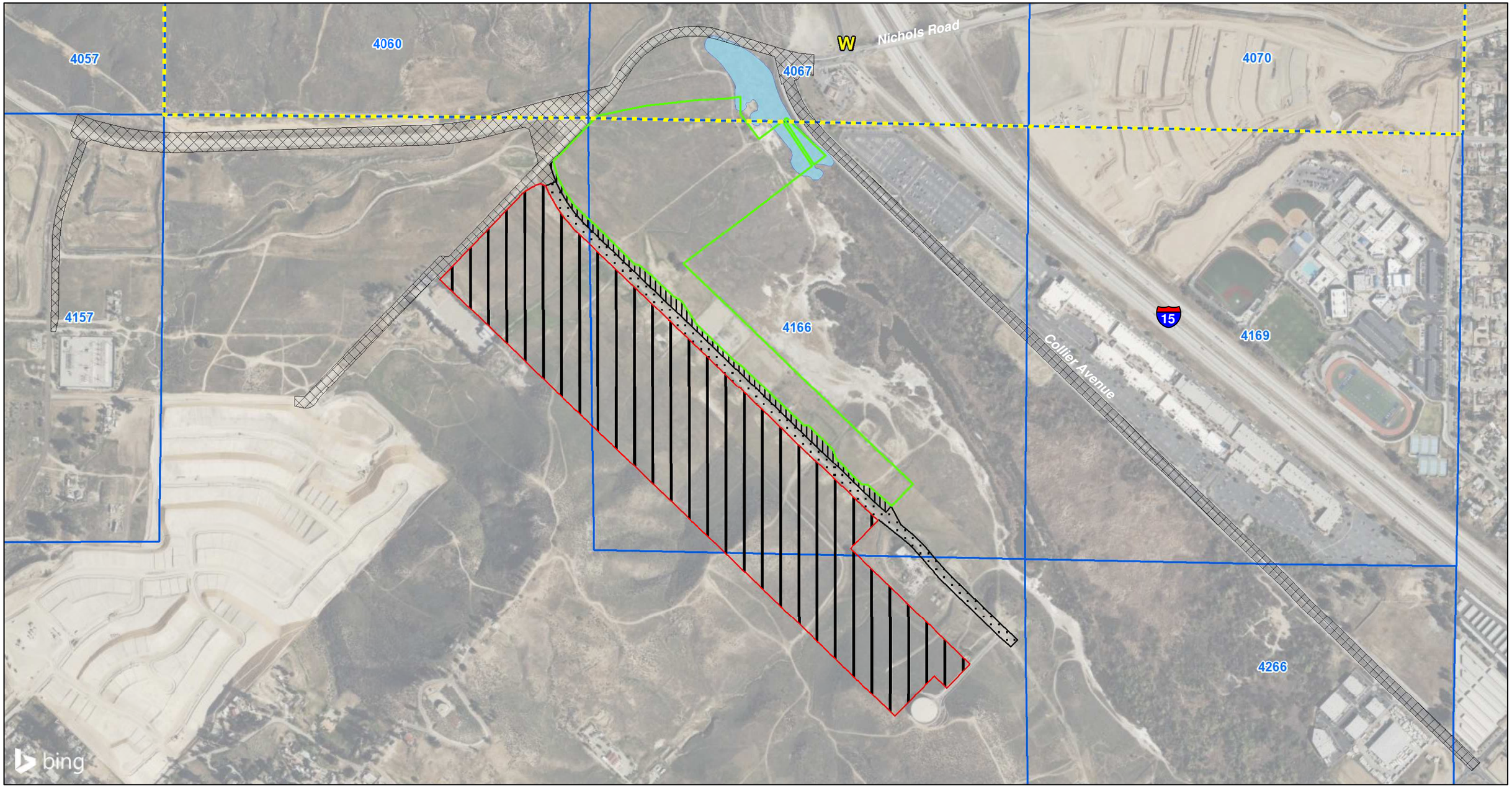
BAKER INDUSTRIAL PROJECT

Burrowing Owl Survey Map

GLENN LUKOS ASSOCIATES

Exhibit 12

X:\1100 AFTER THE REST\1514-05BKIN\GIS\BUOWGIS\1514-05_BUOW.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- Cell Group W
- LBV Habitat with LTCV

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: May 5, 2025

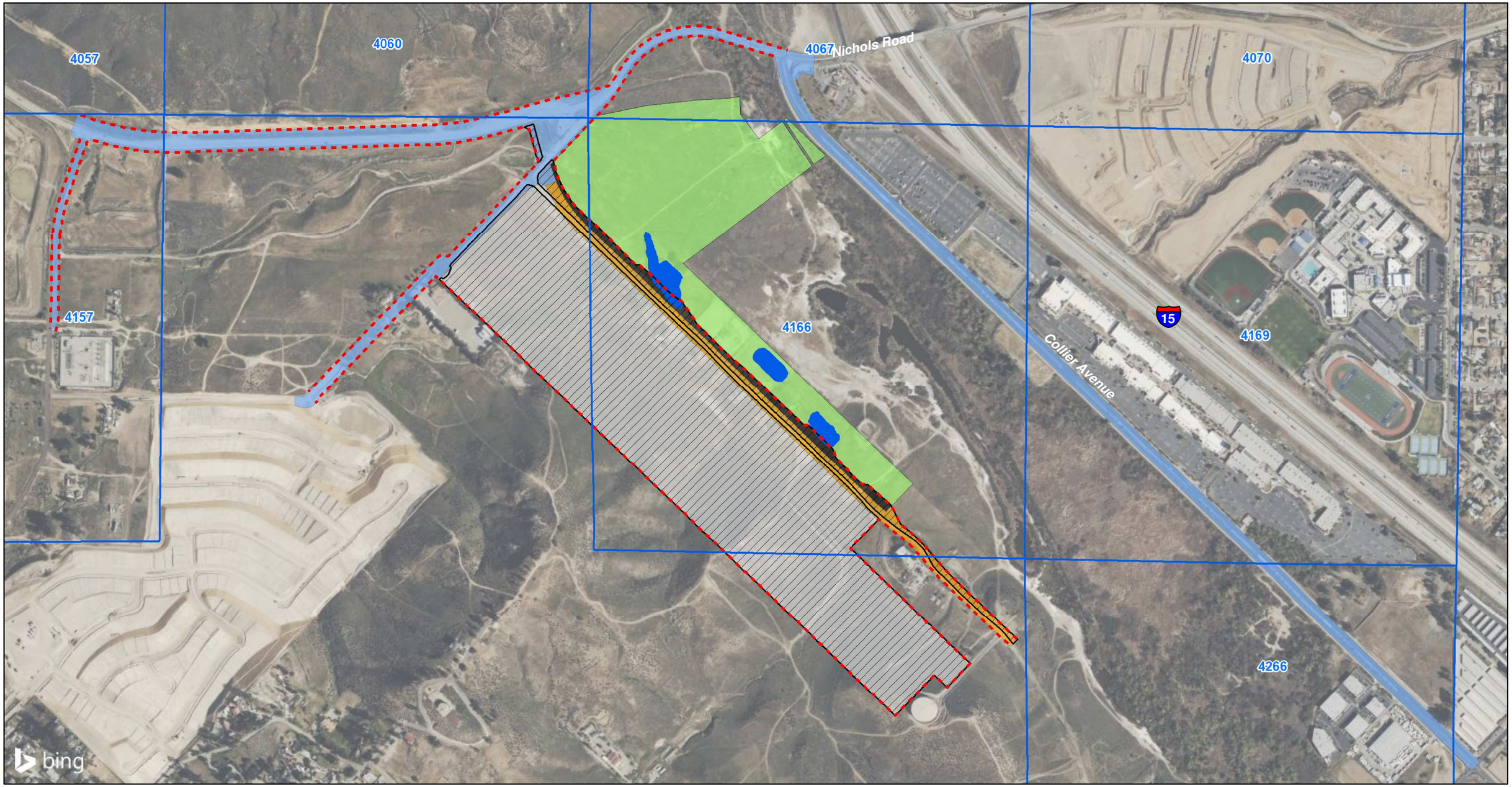
BAKER INDUSTRIAL PROJECT

LBV Habitat with LTCV Map

GLENN LUKOS ASSOCIATES

Exhibit 13

X:\1100 AFTER THE REST\1514-05BKIN\GIS\BirdsGIS\1514-05_LBV.mxd



- Industrial (Onsite)
- Baker Street (Offsite)
- City Maintenance Area (Offsite)
- Additional Street Improvements (Offsite)
- RCA Conserved Land
- Criteria Cell
- Exclusion Survey Areas
- Construction Fencing
- Vernal Pool

N

0 275 550 1,100

Feet

1 inch = 575 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen GLA
Date Prepared: July 2, 2025

BAKER INDUSTRIAL PROJECT

Western Spadefoot – Fencing and Exclusion Survey Areas

GLENN LUKOS ASSOCIATES

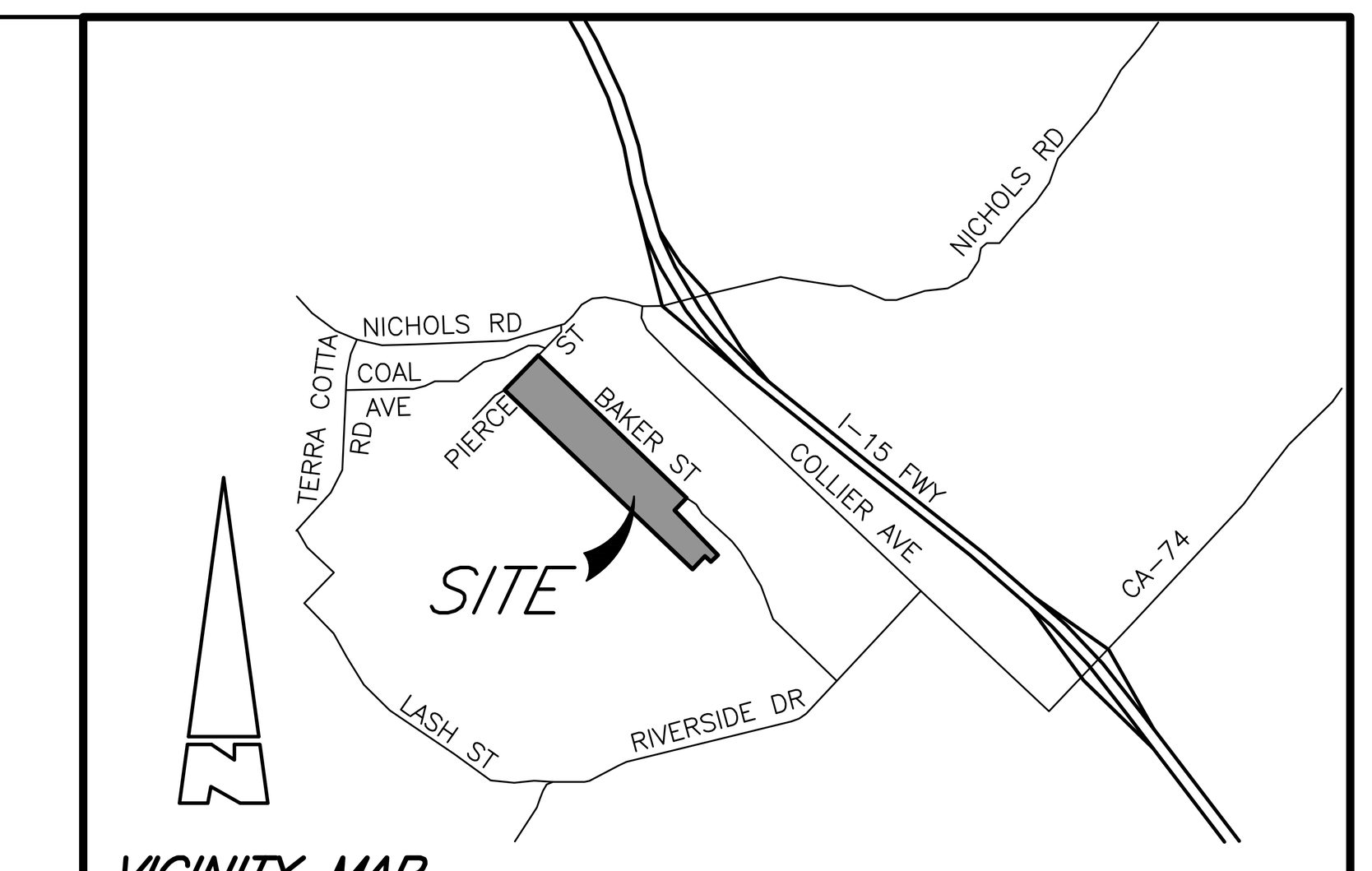
Exhibit 14

X:\1100 AFTER THE REST\1514-05BKIN\GIS\SensitiveSpeciesGIS\1514-05_Spadefoot.mxd

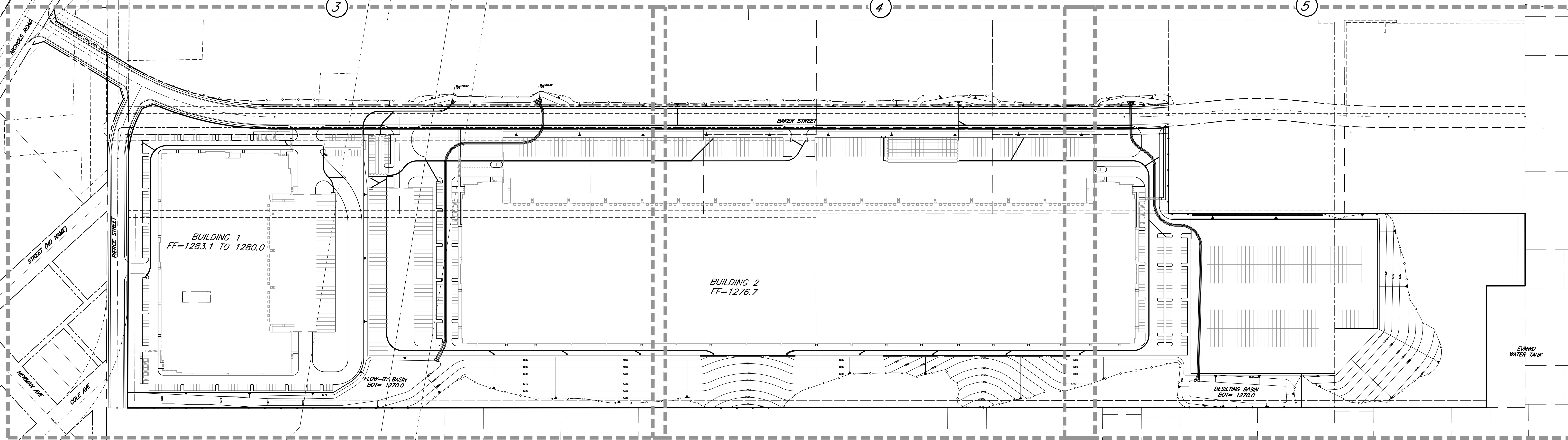
Appendix A

Conceptual Grading Plan

BAKER INDUSTRIAL PROJECT
CONCEPTUAL GRADING PLAN
IN THE CITY OF LAKE ELSINORE



VICINITY MAP
NOT TO SCALE



GENERAL NOTES:

PREPARED: AUGUST 2023

1. TOTAL PROJECT GROSS ACREAGE IS 67.88 ACRES.
2. ACREAGE SUMMARY

	ITEM	ACREAGE	PERCENT
A.	INDUSTRIAL NET AREA	61.54 AC	90.66%
B.	PUBLIC STREETS	6.34 AC	9.34%
	TOTAL	67.88 AC	100.00%

3. PROPOSED NO. OF PARCELS: 3
4. EXISTING GENERAL PLAN DESIGNATION: INDUSTRIAL
5. PROPOSED GENERAL PLAN DESIGNATION: INDUSTRIAL
6. EXISTING LAND USE: VACANT
7. PROPOSED LAND USE: INDUSTRIAL
8. EXISTING ZONING: INDUSTRIAL
9. PROPOSED ZONING: INDUSTRIAL
10. ADJACENT LAND USE:
    - NORTH:
      - GENERAL PLAN – RESIDENTIAL MIXED USE
      - ZONING – RESIDENTIAL MIXED USE
      - EXISTING USE – VACANT
    - SOUTH:
      - GENERAL PLAN – RESIDENTIAL
      - ZONING – RESIDENTIAL
      - EXISTING USE – VACANT
    - EAST:
      - GENERAL PLAN – INDUSTRIAL
      - ZONING – INDUSTRIAL
      - EXISTING USE – VACANT
    - WEST:
      - GENERAL PLAN – RESIDENTIAL
      - ZONING – RESIDENTIAL
      - EXISTING USE – VACANT
11. SOURCE OF TOPOGRAPHY IS AERIAL TOPOGRAPHY FLOWN ON AUGUST 18TH, 2020 BY KWC ENGINEERS.
12. SCHOOL DISTRICT: LAKE ELSINORE UNIFIED SCHOOL DISTRICT
13. STREETS GRADES: 1.0% MINIMUM, 10% MAXIMUM.
14. ALL CONC. GUTTERS AND SWALES SHALL HAVE A MINIMUM GRADE OF: 0.5%
15. ALL A.C. PAVING SHALL HAVE A MINIMUM GRADE OF: 1.0%
16. CONCRETE PAVEMENT SHALL BE PROVIDED FOR ALL ROADWAYS THAT HAVE STREET GRADES EXCEEDING 10% OR AS APPROVED BY THE CITY OF CORONA.
17. ALL SLOPES ADJACENT TO STREET R.O.W. TO BE MAINTAINED BY P.O.A.
18. ALL SLOPES SHOWN HEREON ARE 2:1 MAXIMUM UNLESS OTHERWISE NOTED.
19. THE SUBJECT PROPERTY IS WITHIN AN UNMAPPED FLOOD ZONE X.
20. THE SUBJECT PROPERTY IS WITHIN A SPECIAL FIRE HAZARD ZONE.
21. THE SUBJECT PROPERTY IS WITHIN A SANTA ANA RIVER WATERSHED.

LEGAL DESCRIPTION:

PARCEL A: (APN: 378-020-014)

PARCEL 1:

ALL THAT PORTION OF LOT 1, IN BLOCK "A" OF ELSINORE, AND OF LOW ROLLING HILLS ADJOINING SAID LOTS ON THE SOUTHWEST, IN THE CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 8 PAGE 377 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST WESTERLY CORNER OF THAT CERTAIN TRACT OF LAND CONVEYED BY CHARLES HUDSON AND DESSIE HUDSON, HUSBAND AND WIFE, TO GREAT COASTAL OIL CORPORATION, A CORPORATION AND RECORDED ON THE 8TH DAY OF MAY 1936, IN BOOK 275 AT PAGE 344 OF OFFICIAL RECORDS, RIVERSIDE COUNTY, CALIFORNIA; THENCE SOUTH FORTY-SIX DEGREES FIFTY MINUTES EAST (SOUTH 46° 50' EAST) A DISTANCE OF 236 FEET; THENCE NORTH FORTY-THREE DEGREES TEN MINUTES EAST (NORTH 43° 10' EAST) A DISTANCE OF 300 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH FORTY-THREE DEGREES TEN MINUTES EAST (NORTH 43° 10' EAST) A DISTANCE OF 30 FEET; THENCE NORTH FORTY-SIX DEGREES FIFTY MINUTES WEST (NORTH 46° 50' WEST) A DISTANCE OF 80 FEET; THENCE SOUTH FORTY-THREE DEGREES TEN MINUTES WEST (SOUTH 43° 10' WEST) A DISTANCE OF 30 FEET; THENCE SOUTH FORTY-SIX DEGREES FIFTY MINUTES EAST (SOUTH 46° 50' EAST) A DISTANCE OF 80 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM MINERALS, OIL AND GAS AS RESERVED BY DEED RECORDED MAY 8, 1936 IN BOOK 275 PAGE 344.

PARCEL 2: (APN: 378-020-015 AND 378-020-016)

THE NORTHWEST HALF OF THE SOUTHWEST HALF OF THE FOLLOWING DESCRIBED PROPERTY:

ALL THAT PORTION OF LOTS 1, 2 AND 3, IN BLOCK "A" OF ELSINORE, AND OF LOW ROLLING HILLS ADJOINING SAID LOTS ON THE SOUTHWEST, IN THE CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 8 PAGE 377 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHERLY CORNER OF LOT 50 OF COUNTRY CLUB HEIGHTS UNIT "B", AS SHOWN BY MAP ON FILE IN BOOK 17, PAGES 25 AND 26 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; THENCE NORTH 43° 24' EAST ALONG THE SOUTHERLY EXTENSION OF THE MOST WESTERLY LINE AND ALONG THE MOST WESTERLY LINE OF THAT CERTAIN PARCEL OF LAND CONVEYED TO ABE CORLIN AND HENRY C. SCHULTZ, BY DEED RECORDED NOVEMBER 15, 1928 IN BOOK 789, PAGE 273 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, TO THE MOST NORTHERLY POINT IN SAID MOST WESTERLY LINE, FOR THE POINT OF BEGINNING; THENCE SOUTH 46° 50' EAST, FORMERLY RECORDED SOUTH 47° EAST, 3067.6 FEET; THENCE NORTH 43° 10' EAST, FORMERLY RECORDED NORTH 43° EAST, 1100 FEET TO THE MOST EASTERLY CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO GREAT COASTAL OIL CORPORATION, BY DEED RECORDED MAY 8, 1936 IN BOOK 275 PAGE 344 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; THENCE NORTH 46° 50' WEST ALONG THE NORTHEASTERLY LINE OF SAID PARCEL SO CONVEYED TO GREAT COASTAL OIL CORPORATION, 3960 FEET TO THE NORTHWESTERLY LINE OF LOT 1 IN BLOCK "A", ABOVE DESCRIBED; THENCE SOUTHWESTERLY ALONG SAID NORTHWESTERLY LINE AND ALONG THE SOUTHWESTERLY PROLONGATION OF SAID NORTHWESTERLY LINE, TO A POINT WHICH BEARS NORTH 46° 50' WEST FROM THE POINT OF BEGINNING, SAID POINT BEING THE MOST WESTERLY CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO GREAT COASTAL OIL CORPORATION, HEREINABOVE REFERRED TO; THENCE SOUTH 46° 50' EAST, ALONG THE SOUTHWESTERLY LINE OF SAID PARCEL, TO THE POINT OF BEGINNING;

EXCEPTING THEREFROM ALL THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST WESTERLY CORNER OF THAT CERTAIN TRACT OF LAND CONVEYED TO GREAT COASTAL OIL CORPORATION, BY DEED RECORDED MAY 8, 1936 IN BOOK 275 PAGE 344 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; THENCE SOUTH 46° 50' EAST, 236 FEET; THENCE NORTH 43° 10' EAST, 300 FEET FOR THE POINT OF BEGINNING; THENCE NORTH 43° 50' EAST, 30 FEET; THENCE NORTH 46° 50' WEST, 80 FEET; THENCE SOUTH 43° 10' WEST, 30 FEET; THENCE SOUTH 46° 50' EAST, 80 FEET TO THE POINT OF BEGINNING;

ALSO EXCEPTING THEREFROM A STRIP(S) OF LAND 1 ROD WIDE, 4-½ FEET ON THE EASTERLY SIDE AND 12 FEET ON THE WESTERLY SIDE OF THE CENTER LINE OF THE PIPELINE OF THE TEMESCAL WATER COMPANY, AS NOW LAID OVER AND ACROSS THE HEREINABOVE DESCRIBED PROPERTY AS CONVEYED TO THE TEMESCAL WATER COMPANY, A CORPORATION, BY DEED RECORDED MAY 12, 1917 IN BOOK 362 PAGE 56, OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

ALSO EXCEPTING THEREFROM THE 1/8 PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE SECURED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275 PAGE 344 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

INDEX MAP

SCALE: 1"=100'

PARCEL B: (APN: 378-020-028)

PARCEL 1 OF PARCEL MAP NO. 11395, IN THE CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ON FILE IN BOOK 58 PAGE 68 OF PARCEL MAPS, RIVERSIDE COUNTY RECORDS.

EXCEPTING THEREFROM 1/8 PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE ACCRUED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275 PAGE 344 OF OFFICIAL RECORDS, RIVERSIDE COUNTY RECORDS.

PARCEL C: (APN: 378-020-037 AND OTHER PROPERTY)

PARCEL 2 OF PARCEL MAP 8585, AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 29 OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

EXCEPTING THE 1/8TH PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE SECURED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275, PAGE 344 OF OFFICIAL RECORDS, RIVERSIDE COUNTY RECORDS.

PARCEL D: (APN: 378-020-031)

PARCEL 4 OF PARCEL MAP NO. 11395, IN THE CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 58, PAGE 68, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPTING THE 1/8TH PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE SECURED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275, PAGE 344, OF OFFICIAL RECORDS, RIVERSIDE COUNTY RECORDS.

PARCEL E: (APN: 378-020-048)

PARCEL 1 :

THE SOUTHEAST ONE-HALF OF THE SOUTHWEST ONE-HALF OF THE FOLLOWING DESCRIBED PROPERTY;

ALL THAT PORTION OF LOTS 1, 2 AND 3 IN BLOCK A OF ELSINORE, AND OF LOW ROLLING HILLS ADJOINING SAID LOTS ON THE SOUTHWEST, AS SHOWN BY MAP ON FILE IN BOOK 8 PAGE 377 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHERLY CORNER OF LOT 50 OF COUNTRY CLUB HEIGHTS, UNIT "B" AS SHOWN BY MAP ON FILE IN BOOK 17 PAGES 25 AND 26 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTH 43° 24' EAST, ALONG THE SOUTHERLY EXTENSION OF THE MOST WESTERLY LINE AND ALONG THE MOST WESTERLY LINE OF THAT CERTAIN PARCEL OF LAND CONVEYED TO ABE CORLIN AND HENRY C. SCHULTZ, BY DEED RECORDED NOVEMBER 15, 1928 IN BOOK 789 PAGE 273 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, TO THE MOST NORTHERLY POINT IN SAID MOST WESTERLY LINE, FOR THE POINT OF BEGINNING;

THENCE 46° 50' EAST, FORMERLY RECORDED SOUTH 47° EAST. 3067.6 FEET;

THENCE NORTH 43° 10' EAST, FORMERLY RECORDED NORTH 43° EAST, 1100 FEET TO THE MOST EASTERLY CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO GREAT COASTAL OIL CORPORATION, BY DEED RECORDED MAY 8, 1936 IN BOOK 275 PAGE 344 OF OFFICIAL RECORDS OF SAID RIVERSIDE COUNTY;

THENCE NORTH 46° 50' WEST, ALONG THE NORTHEASTERLY LINE OF SAID PARCEL SO CONVEYED TO GREAT COASTAL OIL CORPORATION, 3960 FEET TO THE NORTHWESTERLY LINE OF LOT 1 IN BLOCK A, ABOVE DESCRIBED;

THENCE SOUTHWESTERLY ALONG SAID NORTHWEST LINE AND ALONG THE SOUTHWESTERLY PROLONGATION OF SAID NORTHWESTERLY LINE, TO A POINT WHICH BEARS NORTH 46° 50' WEST FROM THE POINT OF BEGINNING, SAID POINT BEING THE MOST WESTERLY CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO GREAT COASTAL OIL CORPORATION, HEREINABOVE REFERRED TO;

THENCE SOUTH 46° 50' EAST, ALONG THE SOUTHWESTERLY LINE OF SAID PARCEL, TO THE POINT OF BEGINNING;

EXCEPTING THEREFROM THAT PORTION CONVEYED TO ELSINORE VALLEY MUNICIPAL WATER DISTRICT, A PUBLIC CORPORATION BY DEED RECORDED APRIL 8, 1987 AS INSTRUMENT NO. 96282 OF OFFICIAL RECORDS.

PARCEL 2 :

AN EASEMENT FOR ROAD PURPOSES, 20 FEET WIDE, OVER AND ACROSS THE EXISTING ROAD, THE CENTER LINE BEING THE NORTHEASTERLY LINE OF THE ABOVE DESCRIBED PROPERTY AND THE NORTHWESTERLY EXTENSION OF SAID LINES AS EXTENDED TO THE SOUTHEASTERLY LINE OF PIERCE STREET, EXCEPTING THEREFROM THAT PORTION INCLUDED WITH PARCEL E ABOVE.

EXCEPTING THEREFROM 1/8TH INTEREST OF ALL OIL, GAS AND MINERAL RIGHTS THEREOF.

PARCEL F: (APN: 378-020-029)

PARCEL 2 OF PARCEL MAP NO. 11395, IN THE CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 58, PAGE 68 OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

EXCEPT THE 1/8TH PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE SECURED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275, PAGE 344 OF OFFICIAL RECORDS, RIVERSIDE COUNTY RECORDS.

PARCEL G: (APN: 378-020-030)

PARCEL 3 OF PARCEL MAP NO. 11395, IN THE CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 58, PAGE 68, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPTING THE 1/8TH PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE SECURED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275, PAGE 344, OF OFFICIAL RECORDS, RIVERSIDE COUNTY RECORDS.

PARCEL H: (APN: 378-020-036 AND OTHER PROPERTY)

PARCEL 1 OF PARCEL MAP 8585, AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 29 OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

EXCEPTING THE 1/8TH PART OF ALL OIL, GAS AND MINERALS IN, UNDER OR UPON SAID LAND OR WHICH MAY BE SECURED THEREFROM, AS RESERVED IN DEED FROM CHARLES HUDSON AND DESSIE HUDSON, RECORDED MAY 8, 1936 IN BOOK 275, PAGE 344 OF OFFICIAL RECORDS, RIVERSIDE COUNTY, RECORDS.

UTILITY CONTACTS:

WATER:	ELSINORE VALLEY MUNICIPAL WATER DISTRICT 31315 CHANEY STREET LAKE ELSINORE, CA. 92531 (951) 674-3146
SEWER:	ELSINORE VALLEY MUNICIPAL WATER DISTRICT 31315 CHANEY STREET LAKE ELSINORE, CA. 92531 (951) 674-3146
POWER:	SOUTHERN CALIFORNIA EDISON CO. 26100 MENIFEE ROAD ROMOLAND, CA. 92585 (951) 928-8207 (951) 820-5498
GAS:	SOUTHERN CALIFORNIA GAS CO. 1981 W. LUGONIA AVENUE REDLANDS, CA. 92373 (909) 335-7828
PHONE:	VERIZON FIOS 40710 CALIFORNIA OAKS ROAD MURRIETA, CA 92562 (951) 290-7287
CABLE TV:	TIME WARNER CABLE 53017 CRESSIDA STREET LAKE ELSINORE, CA 92532 (888) 211-1546

ASSESSOR PARCEL NO:

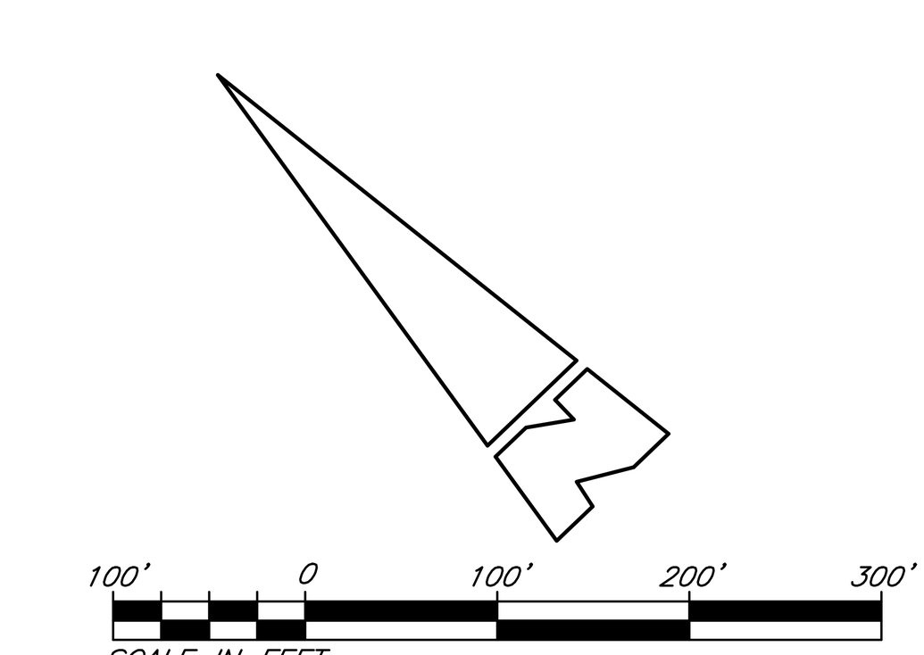
378-020-014, -015, -016, -028, -029, -030, -031, -036, -037, -048

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA STATE PLANE COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "CNPP", "BILL", AND "MLFP" NAD83 (NSRS2011) EPOCH 2010.00 AS SHOWN HEREON. ALL BEARINGS SHOWN ON THIS MAP ARE GRID. QUOTED BEARINGS AND DISTANCES FROM REFERENCE MAPS OR DEEDS AS SHOWN PER THAT RECORD REFERENCE. ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS SPECIFIED OTHERWISE. GRID DISTANCES MAY BE OBTAINED BY MULTIPLYING THE GROUND DISTANCE BY A COMBINATION FACTOR OF 0.99991624. CALCULATIONS ARE MADE AT FD. 1" I.P., OPEN, DN. 0.4', NE COR. PARCEL 3 PM 58/68 WITH COORDINATES OF: N: 2200713.6419 (GRID), E: 6223632.768 (GRID), USING AN ELEVATION OF 1261.91 (NAVD 88).

BENCHMARK

BENCH MARK NO. C-95-33 ELEV. = 1356.45 MSL (1929 DATUM) ADJUSTED BY VERTCON TO 1358.92 (1988 DATUM) FROM THE INTERSECTION OF LAKESHORE DRIVE AND DRYDEN STREET 40 FEET SOUTHEASTERLY ALONG LAKESHORE AND 40 FEET NORTHEASTERLY TO THE CHISELED "SQUARE" IN TOP OF CURB AT BCR.



OWNER:

RIVERSIDE LEGACY IV NICHOLS ROAD, LLC
1505 BRIDGEWAY, SUITE 107
SAUSALITO, CA 94965
(617) 877-7637
CONTACT: TRYGG DANFORTH

SITE ADDRESS:

17111 BAKER STREET
LAKE ELSINORE, CA 92530

ENGINEER:

KWC ENGINEERS
1880 COMPTON AVENUE, SUITE 100
CORONA, CA. 92881 – 3370
(951) 734-2130
ATTN.: BRANDON BARNETT, P.E.

LEGEND:

(line)	(GRAY)	PROPOSED WATER
(line)	(GRAY)	PROPOSED SEWER
(line)	(GRAY)	PROPOSED RECLAIMED WATER
(line)	(GRAY)	PROPOSED STORM DRAIN
(line)	(GRAY)	EXISTING WATER
(line)	(GRAY)	EXISTING SEWER
(line)	(GRAY)	EXISTING RECLAIMED WATER
(line)	(GRAY)	EXISTING STORM DRAIN

- —1200— = EXISTING CONTOUR ELEVATION
- —1200— = PROPOSED SURFACE ELEVATION
- 825.5 = PROPOSED PAD ELEVATION
- **44** = LOT NUMBER
- ELEV. = ELEVATION
- FG = FINISH GRADE
- FL = FLOWLINE
- FS = FINISHED SURFACE
- L= = LENGTH
- W= = WIDTH
- MIN. = MINIMUM
- PL = PROPERTY LINE
- R/W = RIGHT OF WAY
- GB = GRADE BREAK
- TC = TOP OF CURB
- TOE OF SLOPE / TOP OF SLOPE (2:1 UNLESS OTHERWISE NOTED)
- ADA PATH OF TRAVEL
- CATCH BASIN

SHEET INDEX

CONCEPTUAL GRADING PLAN
BAKER INDUSTRIAL
CITY OF LAKE ELSINORE

PREPARED BY:

KWC ENGINEERS
CIVIL ENGINEERS • PLANNERS • SURVEYORS
1880 COMPTON AVENUE, SUITE 100 CORONA, CA. 92881-3370 951-734-2130

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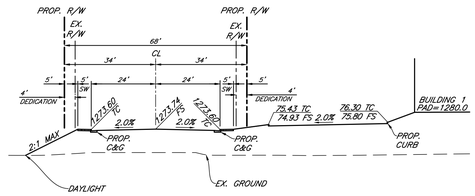

SECTION A–A

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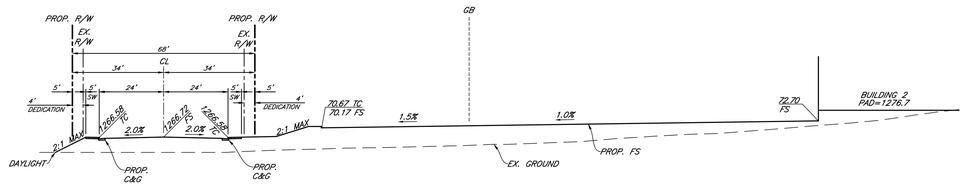
NTS



SECTION B–B

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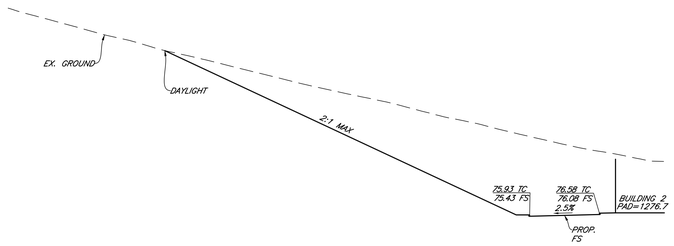

SECTION E–E

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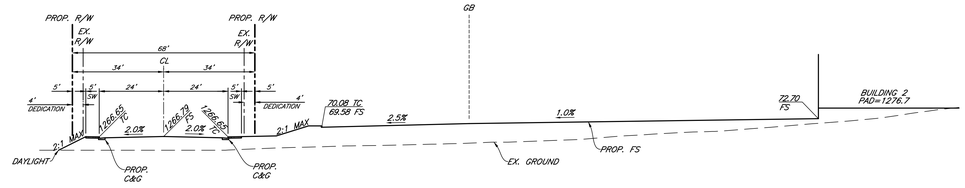
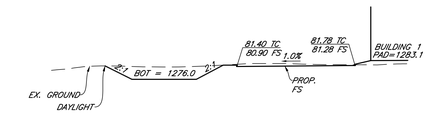


SECTION C–C

SEE SHEET 4
NTS



SECTION F–F

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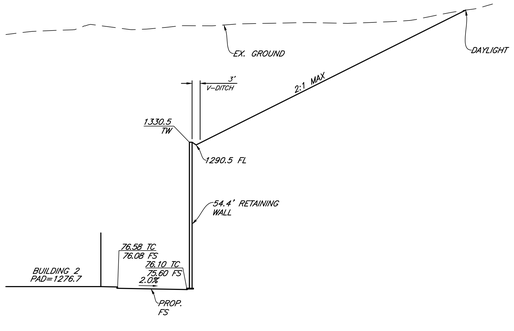

SECTION D–D

SEE SHEET 4
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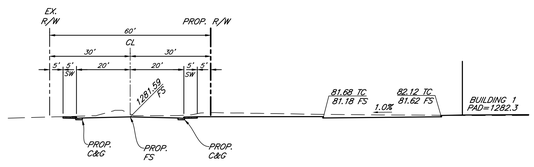
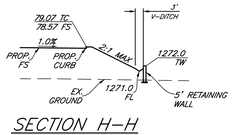


SECTION G–G

SEE SHEET 3
NTS



SECTION H–H

SEE SHEET 5
NTS

CONCEPTUAL GRADING PLAN
BAKER INDUSTRIAL
CITY OF LAKE ELSINORE

PREPARED BY:

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SHEET 2 OF 5 SHEET

NICHOLS ROAD

STREET (NO NAME)

PIERCE STREET

DAYLIGHT LINE

4' DEDICATION

2:1 MAX

PROP. R/W

EX. R/W

PROP. C&G

BAKER STREET

PP# 476540?E

INFILTRATION CHAMBERS

PROP. 24" SD

PROP. 36" SD

PROP. CURB

SCE ESMT

SPA CORPORATION ESMT

BUILDING 1
FF=1283.1 TO 1280.0

BUILDING 2
FF=1276.7

ELEV. 1259.0
SD OUTLET #1

Q_{100}=100.47 CFS

RIP RAP
WINGWALL

ACCESS ROAD

ELEV. 1259.0
SD OUTLET #2

Q_{100}=391.60 CFS

RIP RAP
WINGWALL

10.0% MAX.

RASAMAY CORPORATION ESMT.

FLOW-BY BASIN
BOT= 1270.0

71.00 TC
70.00 INV

DAYLIGHT LINE

PROPERTY BNDY.

SEE SHEET 4

OLE AVE

NEWMAN AVE

SCALE IN FEET
40' 0 40' 80' 120'

CONCEPTUAL GRADING PLAN
BAKER INDUSTRIAL
CITY OF LAKE ELSINORE

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SHEET
3 OF 5
SHEET

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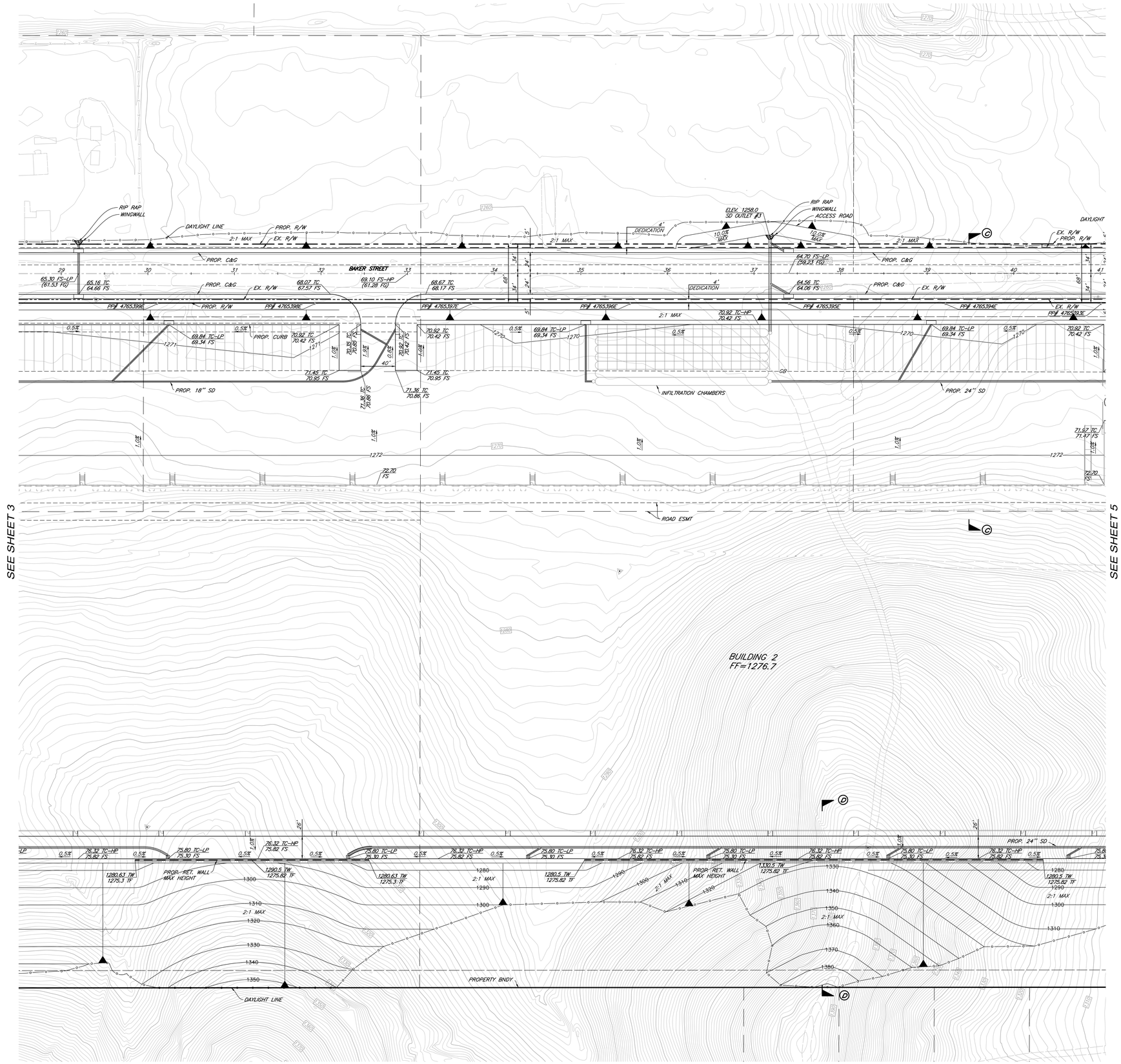

CONCEPTUAL GRADING PLAN
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SHEET
4 OF 5
SHEET

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SEE SHEET 4

DAYLIGHT LINE
ELEV. 1263.0
SD OUTLET #4
RIP RAP
WINGWALL
ACCESS ROAD
EX. R/W
PROP. R/W
10.0% MAX.
PROP. C&G
BAKER STREET
PPM 4765392E
PPM 4765391E
PPM 4765389E
PPM 4765388E
PPM 4765387E
EX. R/W
PROP. 36" SD
PROP. 24" SD
74.58 TC
70.08 FS
68.20 TC
68.70 FS
74.11 TC
72.67 FS
72.80 TC
72.46 FS
70.92 TC
70.42 FS
71.45 TC
70.95 FS
72.41 TC
71.91 FS
73.07 TC
72.57 FS
73.35 TC
72.85 FS
71.97 TC
71.47 FS
72.70
73.24 TC
72.74 FS
73.68 TC--LP
73.18 FS
72.37 TC
72.87 FS
72.88 TC
72.39 FS
72.51 TC
72.01 FS
72.48 TC
71.98 FS
73.00 TC
72.50 FS
73.23 TC
72.73 FS
1267.33 TW
1266.00 TF
1272.00 TW
1267.00 TF
1279.33 TW
1278.00 TF
89.32 TC
88.82 FS
1274.72 TC/GB
1274.22 FS
2:1 MAX
3.0%
1.1%
PROPERTY BNDY
76.36 TC
75.86 FS
76.58 TC
76.08 FS
75.18 FS
75.68 FS
75.15 TC
74.65 FS
75.87 TC
75.37 FS
75.80 TC--LP
75.30 FS
76.30 TC--HP
75.82 FS
75.55 TC
75.05 FS
77.71 TC
77.21 FS
88.60 TC
88.10 FS
92.41 TC
91.91 FS
88.89 TC
88.39 FS
1280.5 TW
1275.62 TF
74.00 TC
70.00 INV
DESILTING BASIN
BOT= 1270.0
EVMWD
WATER TANK

SCALE IN FEET
40' 0 40' 80' 120'

CONCEPTUAL GRADING PLAN
BAKER INDUSTRIAL
CITY OF LAKE ELSINORE

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SHEET
5 OF 5
SHEET

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Appendix B

Report of 2023 Dry Season Fairy Shrimp Surveys

GLENN LUKOS ASSOCIATES

Regulatory Services

August 9, 2024 [Revised August 12, 2024]

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Submittal Requirements for 2023/2024 Dry Season Survey for Listed Branchiopods Conducted for the Baker Industrial Project Site, City of Lake Elsinore, Riverside County, California

Dear Ms. Love:

This letter report documents the results of a dry season survey conducted by Glenn Lukos Associates, Inc. (GLA) for four depressional features at the Baker Industrial Project Site (Project) in the City of Lake Elsinore, Riverside County, California. GLA notified the U.S. Fish and Wildlife Service (USFWS) on August 24, 2023, of the intent to perform the dry season surveys, and conducted the dry season soil collection on October 19 and November 2, 2023.

GLA biologist David Moskovitz (PER0010680-0) performed the soil collection from the features, with assistance from GLA biologist Stephanie Cashin (TE-20280D-0) and Chris Waterston (ESPER2380694), and from GLA trainee David Smith (under supervision). D. Christopher Rodgers (TE-796284-7) processed the soil samples to determine cyst presence/absence and species identification. Appendix A is the report summarizing the results of soil analysis, which was provided to GLA in final form on April 8, 2024.

I. SITE LOCATION AND DESCRIPTION

The Project is located in the City of Lake Elsinore, Riverside County, California [Exhibit 1 – Regional Map] within Section 25, Township 5 South, and Range 5 West as depicted on the U.S. Geological Survey (USGS) topographic map Lake Elsinore, California [dated 1953 and photorevised in 1988] [Exhibit 2 – Vicinity Map]. APNs for the Project are 378-020-024, -037, and -040

The Project site is generally bordered by Nichols Road to the north, rural and undeveloped land to the south and west, and Collier Street to the east. The site is bisected by Baker Street. The fairy shrimp survey area includes four depressional features [Exhibit 3 – Fairy Shrimp Survey Area Map].

The approximate UTM coordinates of the features within the fairy shrimp survey area are:

- Feature 1: Zone 11 south; 466368.8 mE and 3729343.4 mN
- Feature 2: Zone 11 south; 466598.7 mE and 3729130.8 mN
- Feature 3: Zone 11 south; 466699.7 mE and 3729015.1 mN
- Feature 4: Zone 11 south; 466773.4 mE and 3728854.4 mN

II. DESCRIPTION OF THE DEPRESSIONAL FEATURES

The survey included four depressional features that were documented to pond seasonally. These depressions are referenced as Features 1, 2, 3, and 4 and are described below. Features 1, 2, and 3 are located east of Baker Street and elevated on a terrace above the adjacent offsite Alberhill Creek floodplain. Feature 4 is located west of Baker Street. The extent of each ponded feature was based on mapping conducted in during 2024 surveys.

Feature 1

Feature 1 is located near the center of the Project site on the east side of Baker Street. The extent of ponding was estimated at 0.45 acre (849.83 square meters). Feature 1 was vegetated predominantly around the edges and was observed to be unvegetated with cracked soil in the center of the feature. Vegetation on the perimeter of the feature included salt grass (*Distichlis spicata*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*), vernal barley (*Hordeum intercedens*), silverscale saltbush (*Atriplex agentea*), alkali weed (*Cressa truxillensis*), and small flowered ice plant (*Mesembryanthemum nodiflorum*).

Feature 2

Feature 2 is located near the center of the Project site east of Baker Street. The extent of ponding was estimated at 0.40 acre (1,618.74 square meters). Feature 2 was mostly unvegetated with a small patch of alkali bulrush (*Bolboschoenus maritimus*) and brome grasses (*Bromus sp.*) along the edges.

Feature 3

Feature 3 is the largest and northern most ponded feature within the Project site located east of Baker Street. The maximum extent of ponding was estimated at 0.87 acre (2,549.52 square meters). The center of the feature was mostly unvegetated with deeply cracked soils. Vegetation located around the edges included a large population of Coulter's goldfields intermixed with annual bromes and vernal barley. Additional species include hairy leaved sunflower (*Helianthus annuus*) and alkali weed.

Feature 4

Feature 4 is a created basin (stock pond) adjacent to the west side of Baker Road. The maximum extent of ponding was estimated at 0.17 acre (323.74 square meters). Vegetation within the feature included hairy leaved sunflower, curly dock (*Rumex crispus*), and summer mustard (*Hirschfeldia incana*). Plant species around the edges included soft chess (*Bromus hordeaceus*), one large tamarisk (*Tamarix ramosissima*), five-hook bassia (*Bassia hyssopifolia*), and tocalote (*Centaurea melitensis*).

III. METHODOLOGY

A. Soil Collection

Soil sample collection and processing followed the USFWS *Survey Guidelines for the Listed Large Branchiopods*, November 13, 2017 (USFWS 2017). Soil sample collection was conducted by GLA biologist David Moskovitz with assistance from Stephanie Cashin and Chris Waterston; and GLA biologist, David Smith (under supervision) on October 19 and November 2, 2023.

The number of samples collected for Features 1, 2, and 4 equated to 50 samples each and Feature 3 equaled 100 samples following the Soil Sample Summary (Table 1) summarized in the USFWS 2017 Survey Guidelines. Soil sub-sampling locations were distributed in a grid pattern to cover the entire feature with targeted collection in the lowest topographic areas that would potentially exhibit past aquatic invertebrate accumulation.

Soil samples of approximately 100 milliliters each were removed at each sub-sample location using a hand trowel and were combined into a labeled bag for each feature with the collection date, location, feature ID, and name of collector for future processing. Samples were stored in a dry location out of direct sunlight until shipped for processing.

Dry Season Fairy Shrimp Survey results are depicted in Exhibit 4 [2023-2024 Dry Season Fairy Shrimp Survey Results]. Representative site photographs are included as Exhibit 5.

Table 1 – Soil Sample Summary

Feature Size		Number of Samples Collected per Pool	Number of Pools of Each Feature Size Class
Square Meters	Approx. Acreage		
< 2.5	0.0005	As appropriate	NA
2.5–24	0.005	10	NA
25–235	0.05	25	NA
236–2300	0.5	50	3
2300–23,225	5.0	100	1
Total Pools Sampled			4

B. Soil Processing and Culturing Analysis

According to the soil processing report [Appendix A], soil samples were prepared for analysis by dissolving the clumps of soil in water and sieving material through 300- and 150-micron (µm) pre sized screens. The portions of material that remained in the sieves was dissolved in a brine solution to separate the organic material from the inorganic material. Retained soil was dried and examined under a microscope for large branchiopod cysts (embryonic eggs).

Isolated cysts were cultured and fairy shrimp were grown until mature following Martin, Rogers & Olsen (2016). Mature shrimp were sacrificed in 90% ethyl alcohol and identified under microscope.

IV. RESULTS OF DRY SEASON SURVEY

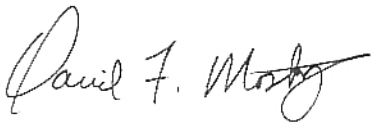
Branchinecta cysts were present in Features 1, 2, and 3, cultured and identified as *B. lindahli*. No cysts were detected in Feature 4. No *Streptocephalus* cysts were detected in samples [Appendix A].

I certify that the information in this survey report and the attached exhibits fully and accurately represent my work.

If you have any questions regarding this report, please contact me via email at dmoskovitz@wetlandpermitting.com.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

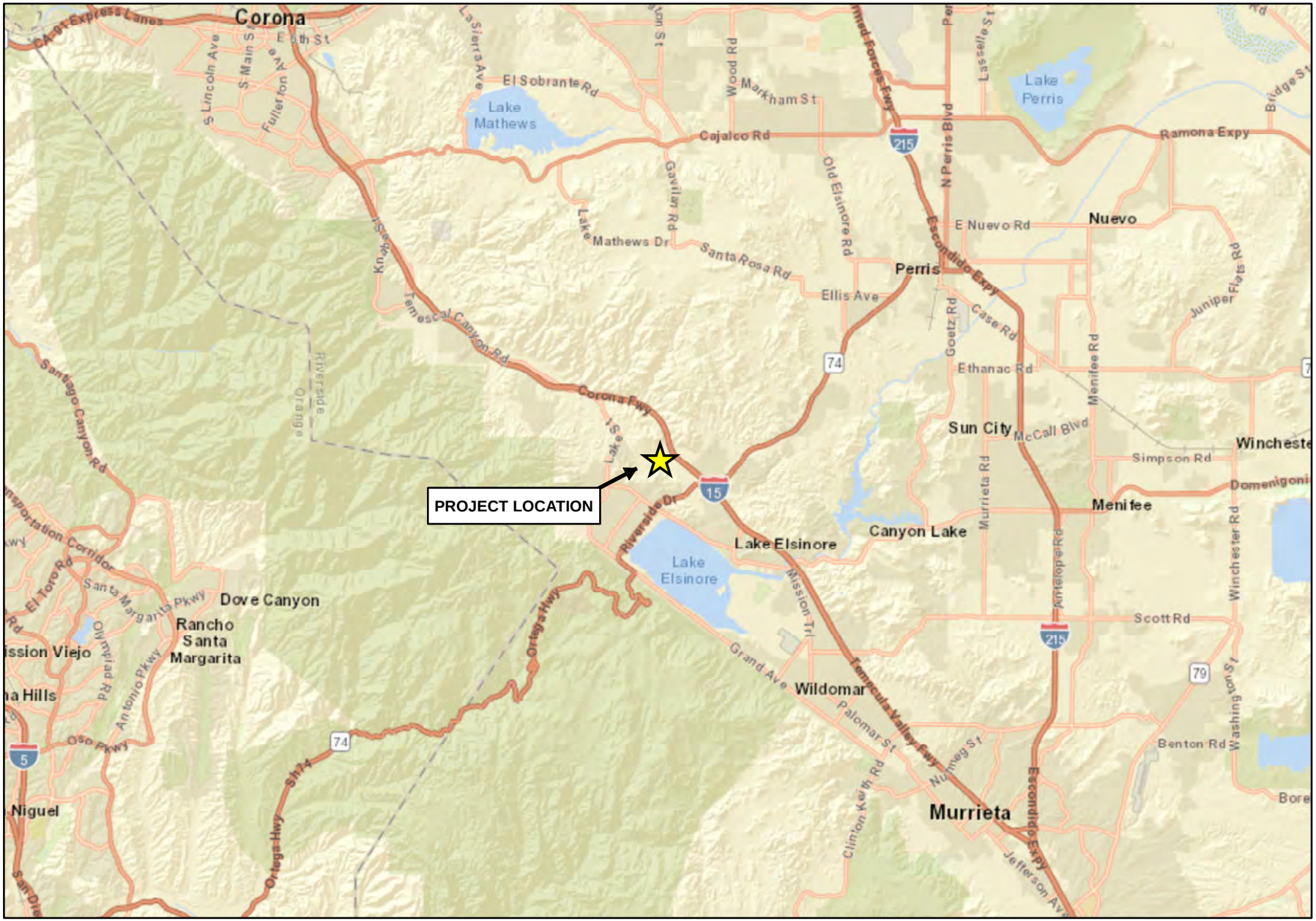


David Moskovitz
Biologist (PER0010680-0)

Stephanie Cashin
Biologist (TE-20280D-0)

Chris Waterston
Biologist (ESPER-2380694)

P:1514-05b.FairShrimp_dry2023-2024.rpt



Source: ESRI World Street Map

N

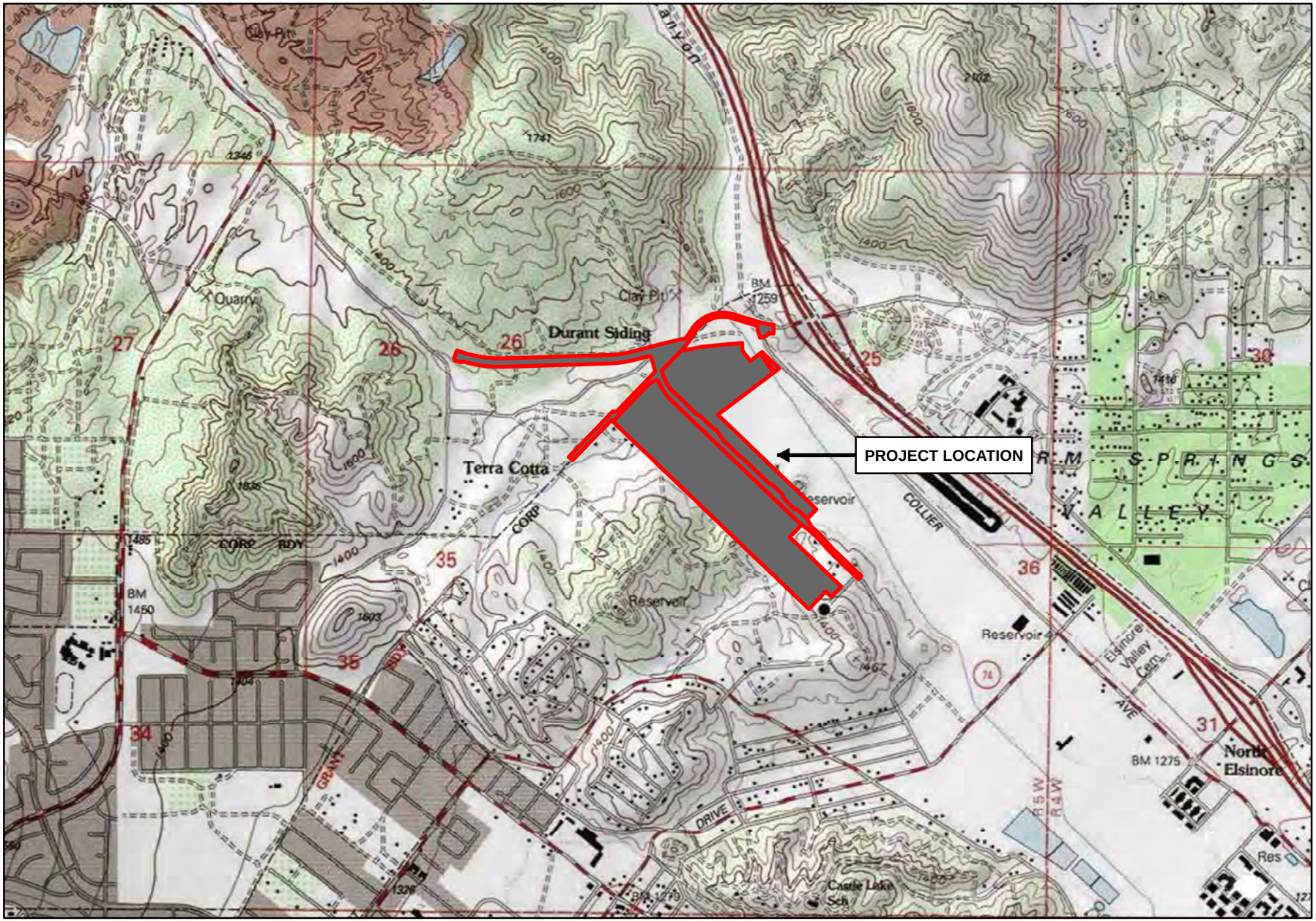
0 2 4 8 Miles

BAKER INDUSTRIAL PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



BAKER INDUSTRIAL PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Survey Area

Fairy Shrimp Pool

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: August 12, 2024

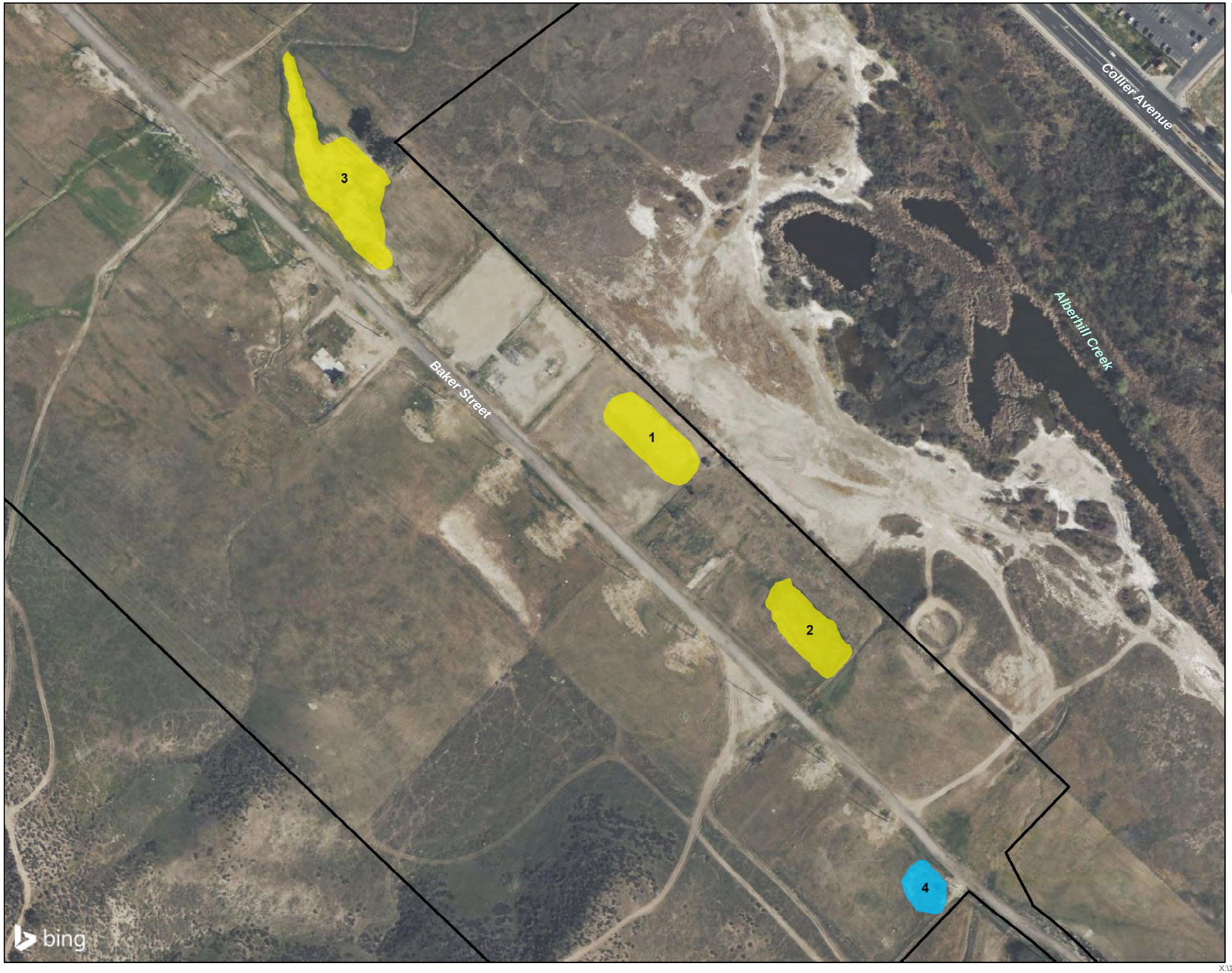
BAKER INDUSTRIAL PROJECT

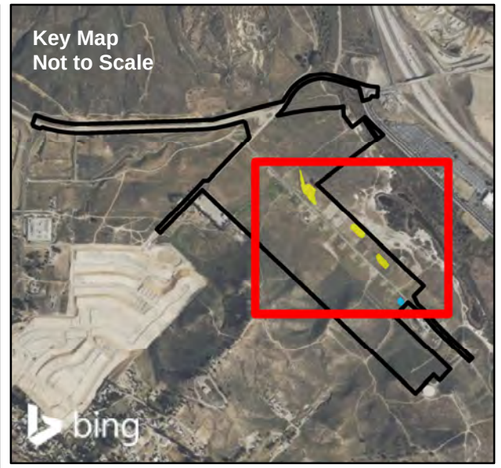
Fairy Shrimp Survey Area Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\1100 AFTER THE REST\1514-05BKIN\GIS\FairyShrimpGIS\1514-05_FSSurveyArea.mxd





Survey Area

Fairy Shrimp Pools

Branchinecta Cysts Detected;
B. lindahli Cultured

No Fairy Shrimp Detected

0 100 200 400
Feet

1 inch = 200 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: August 12, 2024

BAKER INDUSTRIAL PROJECT

Fairy Shrimp Dry Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 4

X:\1100 AFTER THE REST\1514-05BKIN\GIS\FairyShrimpGIS\1514-05_FS_Dry2024.mxd

Photograph 1: A general view of the Project site facing approximately north along Baker Road. Photo taken on 07/19/24.

Photograph 2: A general view of the Project site facing approximately west from the central portion of the site. Photo taken on 07/19/24.

Photograph 3: A view of Feature 1 facing north during the dry season sampling effort. (Zone 11S, 466368.8 mE and 3729343.4 mN, 10/19/23, CW, *Branchinecta* cysts detected with cultured identification as *B. lindahli*).

Photograph 4: A view of Feature 2 facing northeast during the dry season sampling effort. (Zone 11S, 466598.7 mE and 3729130.8 mN, 10/19/23, CW, *Branchinecta* cysts detected with cultured identification as *B. lindahli*).

GLENN LUKOS ASSOCIATES

BAKER INDUSTRIAL PROJECT

Site Photographs

Photograph 5: A view of Feature 2 facing approximately north during the dry season sampling effort. (Zone 11S, 466598.7 mE and 3729130.8 mN, 10/19/23, SC, *Branchinecta* cysts detected with cultured identification as *B. lindahli*).

.

Photograph 6: A view of Feature 3 facing approximately northwest during the dry season sampling effort. (Zone 11S, 466699.7 mE and 3729015.1 mN, 11/02/23, SC, *Branchinecta* cysts detected with cultured identification as *B. lindahli*).

.

Photograph 7: A view of Feature 3 facing approximately northeast during the dry season sampling effort. (Zone 11S, 466699.7 mE and 3729015.1 mN, 11/02/23, SC, *Branchinecta* cysts detected with cultured identification as *B. lindahli*).

.

Photograph 8: A view of Feature 4 facing approximately northwest during the dry season sampling effort. (Zone 11S, 466773.4 mE and 3728854.4 mN 07/19/23, SC).

21 March 2024

Thienan Pfeiffer
tly@wetlandpermitting.com
Glenn Lukos Associates, Inc.
1940 E Deere Avenue, Suite 250
Santa Ana, CA 92705, USA
Office 949.340.9088

SUBJECT: Results of Dry Season Special Status Crustacean Soil Samples Analyses from the Baker Industrial Proposed Project Site, Riverside County, CA.

Dear Thienan:

Glenn Lukos Associates, Inc. (GLA) biologists sent soil samples to D. Christopher Rogers from four special status shrimp habitats within the proposed Baker Industrial Proposed Project Site. This project site is in the City of Lake Elsinore (APNs: 378-020-024, -037, and -040), in Riverside County, California. The samples were sent for examination and analysis for federally listed and petitioned vernal pool crustaceans.

Samples were sent by GLA staff from previously identified habitats. Vernal pool crustacean eggs were found in three of the four pool samples. The cultures produced only the nonlisted *Branchinecta lindahli*. All specimens were identified based on adult morphological characters.

D. Christopher Rogers understands that GLA will submit this report and all other pertinent materials and information to the US Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW), as required by the USFWS guidelines for a protocol level survey.

Definitions

For this report, special status shrimp are defined to include shrimp species listed as threatened or endangered under the federal Endangered Species Act (ESA) (50 CFR 17.11 for listed animals and various Federal Register notices for proposed species). Three special status fairy shrimp species (*Branchinecta lynchi* Eng, Belk, & Eriksen, 1990, *Branchinecta sandiegonensis* Fugate, 1993, and *Streptocephalus woottoni* Eng, Belk, & Eriksen, 1990) are known to occur within the vicinity of the project site. In addition, the nonlisted fairy shrimp species *Branchinecta lindahli* Packard, 1883 is known from the proposed site vicinity.

Methods

Soil samples from 4 known special status shrimp habitats were received from GLA for analyses. The soil samples arrived in plastic ziplock bags, labeled with the locality numbers, and submitted

to Dr. Roger's laboratory for analysis. All processing, analyses and culturing was conducted under USFWS Permit #TE796284-7.

Soil samples were labelled with the numbers on their respective bags and prepared for examination by dissolving the clumps of soil in water and sieving the material through 300- and 150- µm pore size screens. The small size of these screens ensures that the eggs from the shrimp species will be retained. The portion of each sample retained in the screens was dissolved in a brine solution to separate the organic material from the inorganic material. The organic fraction was then examined under a microscope. Counts were made by estimating the number of eggs per 100ml of soil, because not all samples had the same volume of soil collected originally.

Isolated eggs from each sample were cultured separately. Adult shrimp were reared from the recovered eggs using methods following Martin, Rogers & Olesen (2016). Hatched shrimp were fed a standard *Daphnia* food that includes; fish food, fish oil, baker's yeast, and the alga *Selenastrum capricornutum*. The shrimp were reared to maturity. Adult *Branchinecta* reared from culture were killed in 90% ethyl alcohol and examined under a stereo dissection microscope. Identifications were made based upon comparisons with specimens in our collections, the original species descriptions, and professional experience.

Results

Eggs belonging to the genus *Branchinecta* were isolated from all soil samples except from pool 4. Adult *B. lindahli* were reared from all three cultures. No suspected hybrids between *B. lindahli* and the federally listed *B. sandiegonensis* were identified.

These results are insufficient by themselves to determine the presence or absence of listed vernal pool crustaceans at the Baker proposed project site and must be coupled with a USFWS protocol wet season survey before any determinations can be made.

Certification

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

If you have any questions, please call me.

Sincerely,

D. Christopher Rogers
785.925.7468
Crustacean Taxonomist and Ecologist

Literature Cited

Federal Register. 1994. 19 September: Fish & Wildlife Service, Interior. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status and Withdrawal of Proposal to Give Endangered Status; Final Rule and Proposed Rule; Determination of Endangered Status for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp. 59 CFR (17): 48153-48185.

Martin, J.W., D.C. Rogers & J. Olesen. 2016. Collecting and processing branchiopods. Journal of Crustacean Biology, 36: 396-401.

Appendix C

Report of 2024 Wet Season Fairy Shrimp Surveys

GLENN LUKOS ASSOCIATES
Regulatory Services

August 21, 2024

Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Report of Findings for 2023-2024 Wet-Season Survey for Listed Branchiopods Conducted for the Baker Industrial Project, Located in the City of Lake Elsinore, Riverside County, California

Dear Ms. Love:

Glenn Lukos Associates, Inc. (GLA) conducted wet-season surveys for listed branchiopods (fairy shrimp) within four seasonally ponded features at the Baker Industrial Project Site (Property), located in the City of Lake Elsinore, Riverside County, California.

GLA biologists Stephanie Cashin (TE-20280D-0) and Chris Waterston (ESPER-2380694) along with GLA biologists David Smith and Velvet Park, as supervised trainees, conducted the 2023-2024 wet season survey with the objective of determining the presence or absence of federally-listed Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and vernal pool fairy shrimp (*Branchinecta lynchi*).

The versatile fairy shrimp (*Branchinecta lindahli*) was detected in three of the four features surveyed. No listed branchiopods were detected on site.

I. SITE LOCATION AND DESCRIPTION

The Project is located in the City of Lake Elsinore, Riverside County, California [Exhibit 1 – Regional Map] within Section 25, Township 5 South, and Range 5 West as depicted on the U.S. Geological Survey (USGS) topographic map Lake Elsinore, California [dated 1953 and photorevised in 1988] [Exhibit 2 – Vicinity Map]. APNs for the Project are 378-020-024, -037, and -040

The Project site is generally bordered by Nichols Road to the north, rural and undeveloped land to the south and west, and Collier Street to the east. The site is bisected by Baker Street. The

fairy shrimp survey area includes four depressional features [Exhibit 3 – Fairy Shrimp Survey Area Map]. Approximately a third of the property along the southwestern boundary consists of hills and the remaining two-thirds of the property is generally flat and extends to the northeast boundary and the Alberhill Creek flood plain.

II. METHODOLOGY

GLA biologist David Moskovitz provided a written notification to commence wet and dry season surveys to the U.S. Fish and Wildlife Service (USFWS), Carlsbad Field Office on August 25, 2023. Initial mapping in the notification was based on surveys conducted in 2020; however, mapping was updated during the 2023-2024 wet season surveys. Storms in late December 2023 and early January 2024 initiated hydrologic monitoring of Pools 1-4. Pool 3 began to sustain ponding after storms between January 19 - 23, 2024, with sampling in Pool 3 initiated beginning January 26, 2024. Pools 1 and 4 began to sustain ponding beginning February 2, 2024. After a multiple day storm in early February 2024, all pools reached the maximum extent of ponding. Pool 1 remained ponded until May 9, 2024. Pool 3 remained ponded until May 14, 2024. Pool 2 and 4 remained ponded until May 22, 2024.

In accordance with the USFWS *Survey Guidelines for the Listed Large Branchiopods* (Survey Guidelines) dated November 13, 2017[1], site visits were conducted within 24 hours of rain events to determine whether features contained a minimum of three centimeters (cm) of ponding. Under typical conditions, sampling commences within seven days of initial ponding. Sampling continued weekly until the feature was dry or had been inundated continuously for 120 days. If dried features were re-inundated, sampling would begin again as above. Sampling for the presence of fairy shrimp was performed using a dip net within representative portions of the depression bottom, edges, and vertical water column when there was adequate ponding. Specimens were placed into vials, with unique depression information, containing 95% ethanol solution. Specimens were identified through microscopy and using the "Key to California Fairy Shrimps" found in Eriksen and Belk (1999, Revised 2016).[2] Datasheets are attached as Appendix A.

IV. RESULTS

A total of four features were sampled during the 2023-2024 wet season. Of the four features sampled; three features supported fairy shrimp. The common versatile fairy shrimp

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1 USFWS. *Survey Guidelines for the Listed Large Branchiopods,* Revised: November 13, 2017.

2 *Eriksen, C. and D. Belk. 1999. Fairy Shrimps of California's Puddles, Pools, and Playas. Mad River Press, Inc. Eureka, California.*

(*Branchinecta lindahli*) was detected in the three features. No listed species were detected. Table 1 includes the wet season fairy shrimp survey results. The western spadefoot toad (*Spea hammondii*) was detected in Pools 1-3. Exhibit 4 depicts the fairy shrimp wet season survey results map. Site photographs are depicted in Exhibit 5.

Table 1 Wet Season Fairy Shrimp Survey Results

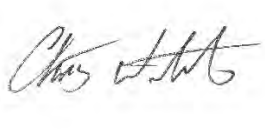
Pool ID	FAIRY SHRIMP DETECTED	SURFACE AREA MAX (MxM)	DEPTH MAX (cm)	EASTING	NORTHING
1	Yes	50x27	45	466368.80	3729343.40
2	Yes	67x27	55	466598.70	3729130.80
3	Yes	150x43	55	466699.70	3729015.10
4	No	34x30	70	466773.40	3728854.40

I certify that the information in this survey report and the attached exhibits fully and accurately represent my work. If you have any questions regarding this report, please contact us via email at dmoskovitz@wetlandpermitting.com, at scashin@wetlandpermitting.com, or at cwaterston@wetlandpermitting.com.

Sincerely,

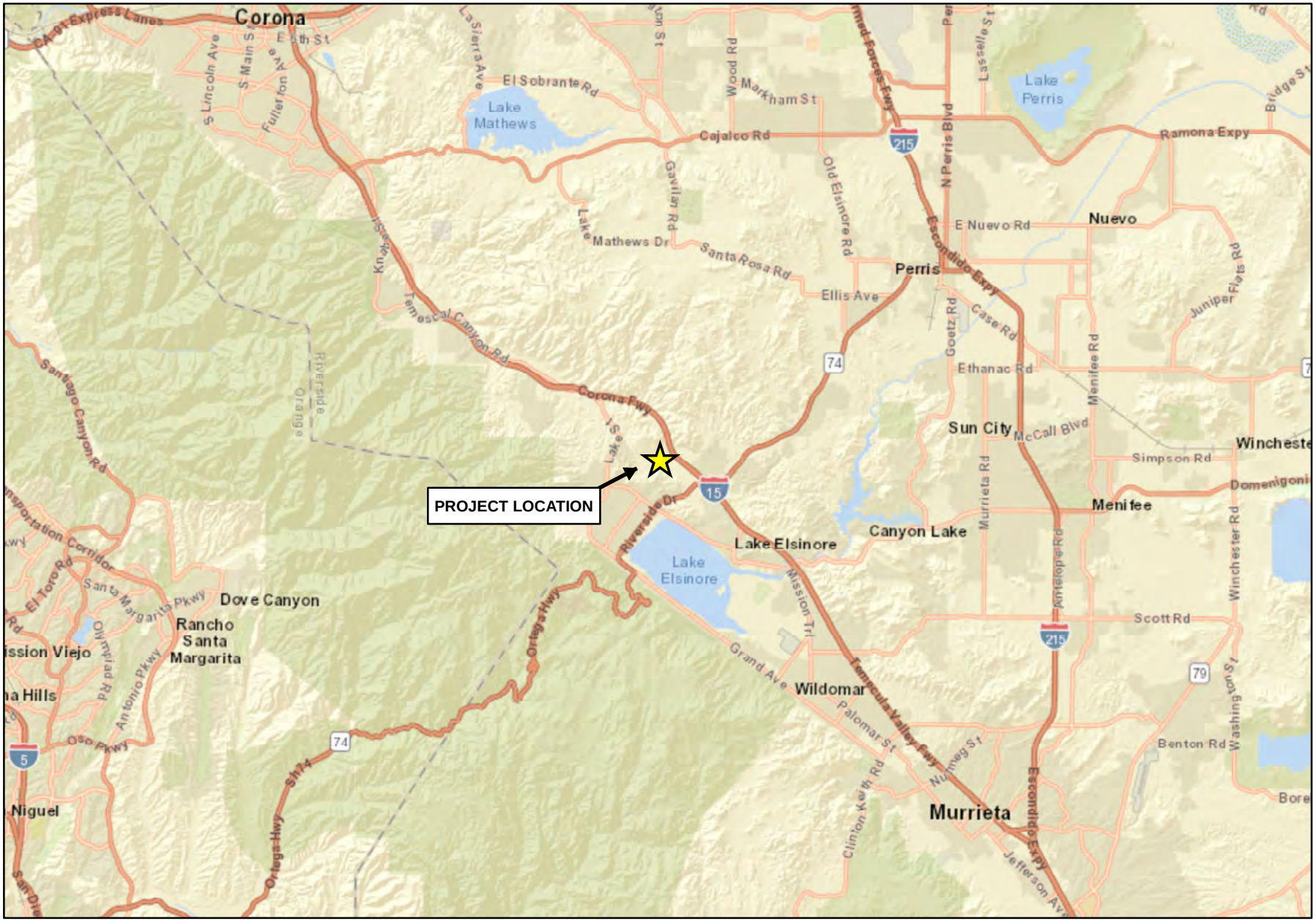
GLENN LUKOS ASSOCIATES, INC.

Stephanie Cashin
Biologist (TE-20280D-0)



Chris Waterston
Biologist (ESPER-2380694)

p:1514-05a.2023-2024.WetSeason.90-day.rpt.docx



Source: ESRI World Street Map

N

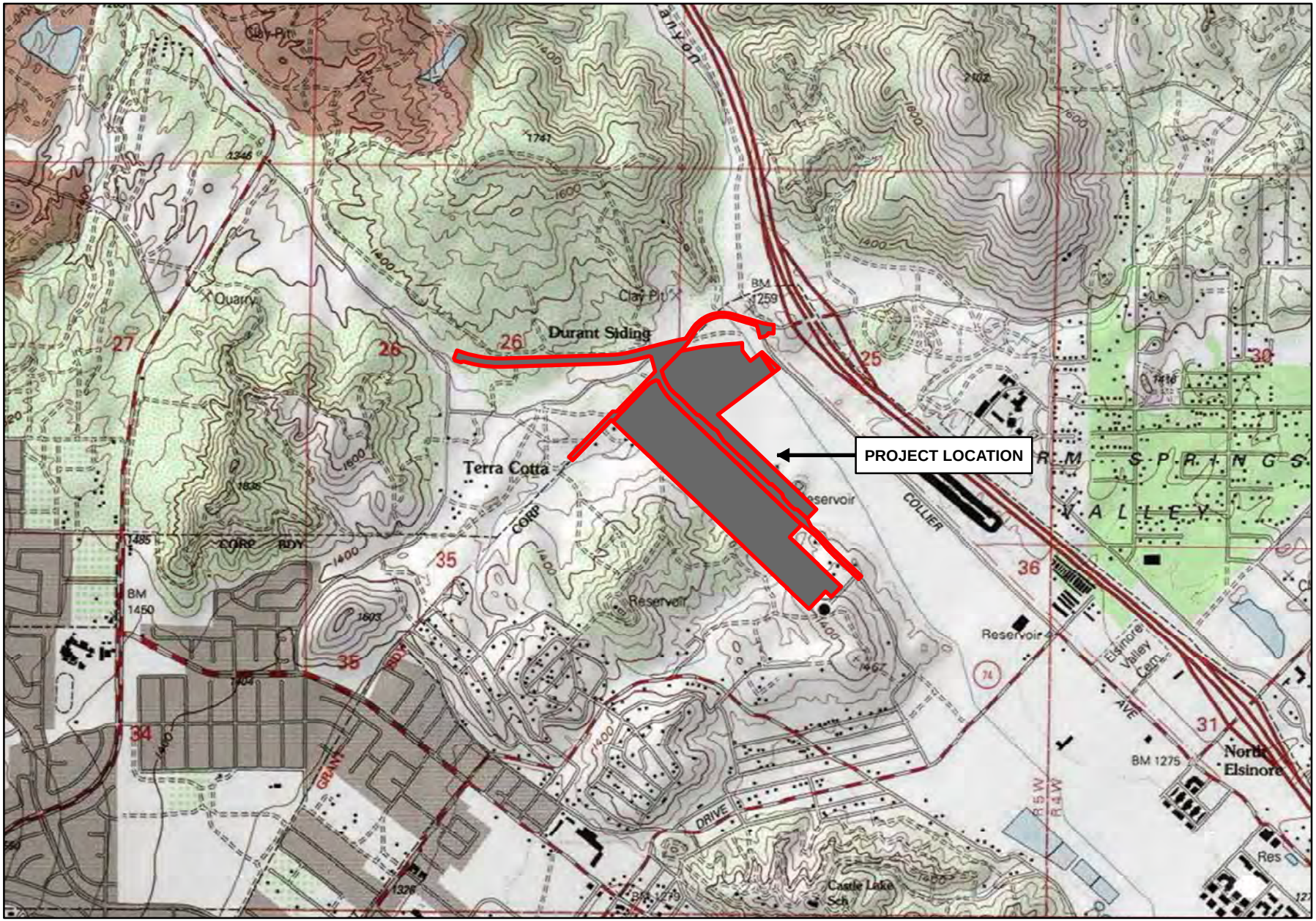
0 2 4 8 Miles

BAKER INDUSTRIAL PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



BAKER INDUSTRIAL PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Survey Area

Fairy Shrimp Pool

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: August 12, 2024

BAKER INDUSTRIAL PROJECT

Fairy Shrimp Survey Area Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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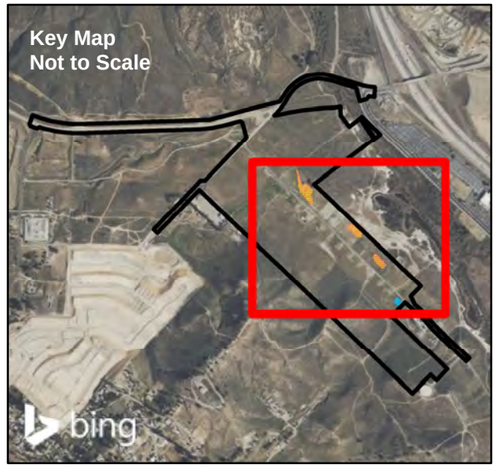

Survey Area

Fairy Shrimp Pools

Wet Season
B. lindahli Detected

Wet Season
B. lindahli Not Detected

Dry Season
Branchinecta Cysts Detected;
B. lindahli Cultured

0 100 200 400
Feet

1 inch = 200 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: August 12, 2024

BAKER INDUSTRIAL PROJECT

Fairy Shrimp Wet Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 4

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Photograph 1: A general view of the Project site facing approximately north along Baker Road. Photo taken on 07/19/24.

Photograph 2: A general view of the Project site facing approximately west from the central portion of the site. Photo taken on 07/19/24.

Photograph 3: A view of Pool 1 facing northeast. (Zone 11S, 466368.8 mE and 3729343.4 mN, 02/08/2024, SC, *B. lindahli*).

Photograph 4: A view of Pool 1 facing northwest. (Zone 11S, 466368.8 mE and 3729343.4 mN, 04/22/2024, SC, *B. lindahli*).

GLENN LUKOS ASSOCIATES

BAKER INDUSTRIAL PROJECT

Site Photographs

Photograph 5: A view of Pool 2 facing approximately northeast. (Zone 11S, 466598.7 mE and 3729130.8 mN, 03/20/2024, SC, *B. lindahli detected*).

Photograph 6: A view of Pool 3 facing approximately north standing near the southern edge of pool. (Zone 11S, 466699.7 mE and 3729015.1 mN, 02/08/2024, SC, *B. lindahli* detected).
.

Photograph 7: A view of Pool 3 facing approximately east-southeast standing at the western edge near the middle of the pool. (Zone 11S, 466699.7 mE and 3729015.1 mN, 02/02/2024, SC, *B. lindahli detected*).

Photograph 8: A view of Pool 4 facing approximately south. (Zone 11S, 466773.4 mE and 3728854.4 mN 02/22/2024, SC).

BAKER INDUSTRIAL PROJECT
Site Photographs

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25
SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)					
Date: 01/26/2024	Time:	Weather Conditions: clear, 0-1mph			

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8																		dry
2	3729130.8 466598.7																		dry
3	3729015.1 466699.7	18.2	17.4		25		150x43												
4	3728854.4 466773.4																		dry

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 02/02/2024 | Time: | Weather Conditions: part cloud, 0-1mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	11.1	10.8		10		8x6												
2	3729130.8 466598.7																		dry
3	3729015.1 466699.7	11.1	10.8		25		150x43												
4	3728854.4 466773.4	11.1	10.8		3		0.25x0.25												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 02/08/2024 | Time: | Weather Conditions: part cloud, 0-5mph, multiple day storm just passed, filled all pools

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	18.2	10.8		30		50x27												
2	3729130.8 466598.7	18.2	10.8		30		67x27												
3	3729015.1 466699.7	18.2	14.5		50		150x43				x		x	x					
4	3728854.4 466773.4	18.2	10.5		70		34x30												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 02/15/2024 | Time: | Weather Conditions: part cloud, 0-6mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	14.4	12		30		50x27												
2	3729130.8 466598.7	14.4	12		30		67x27												
3	3729015.1 466699.7	14.4	12		50		150x43				x		x	x					
4	3728854.4 466773.4	14.4	12		70		34x30												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 02/22/2024 | Time: | Weather Conditions: clear, 0-3mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	18.5	14		30		50x27	1s			x		x	x					Baja treefrog; Branchinecta lindahli
2	3729130.8 466598.7	18.5	14		45		67x27	1s					x	x					Baja treefrog tadpoles; B. lindahli
3	3729015.1 466699.7	18.5	14		50		150x43	1s			x		x	x					crawfish, Baja treefrog; B. lindahli
4	3728854.4 466773.4	18.5	12.7		70		34x30						x						Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 02/28/2024 | Time: | Weather Conditions: clear, 0mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	16.7	14		30		49x26	1s			x	x	x	x	x	x			western toad and Baja treefrog; Branchinecta lindahli
2	3729130.8 466598.7	16.7	14		45		65x25	1s			x		x	x	x				western toad and Baja treefrog tadpoles; B. lindahli
3	3729015.1 466699.7	16.7	14		50		150x39				x		x	x		x			western toad and Baja treefrog
4	3728854.4 466773.4	16.7	12.7		70		33x29				x				x				Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 03/07/2024 | Time: | Weather Conditions: overcast, 0-3mph; rained last 2 days

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	20.5	19.2		35		50x27				x				x	x			western toad tadpoles
2	3729130.8 466598.7	20.5	19.2		55		67x27				x								western toad tadpoles
3	3729015.1 466699.7	20.5	20.5		30		150x43				x				x	x			western toad tadpoles
4	3728854.4 466773.4	20.5	18		70		34x30				x				x	x			western toad tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 03/15/2024 | Time: | Weather Conditions: overcast, 0-5mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	17.4	18		35		47x25				x		x	x	x	x			western toad and Baja treefrog tadpoles, crayfish
2	3729130.8 466598.7	17.4	18		55		35x10	1s			x		x		x	x			western toad tadpoles; B. lindahli
3	3729015.1 466699.7	17.4	18.1		30		147x41				x		x	x	x	x			western toad and Baja treefrog tadpoles, crayfish, string algae
4	3728854.4 466773.4	17.4	17.3		70		34x30				x		x		x				western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 03/20/2024 | Time: | Weather Conditions: clear, 2-3mph; rained a couple days

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	22.3	19.5		45		50x25				x		x	x	x	x			western toad and Baja treefrog tadpoles, crayfish
2	3729130.8 466598.7	22.3	19.5		50		65x25				x		x	x	x	x			western toad tadpoles, western spadefoot tadpole
3	3729015.1 466699.7	22.3	19.5		55		150x43				x		x	x	x	x			western toad and Baja treefrog tadpoles, crayfish
4	3728854.4 466773.4	22.3	18.2		70		31x28				x		x	x	x	x			western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 03/28/2024 | Time: | Weather Conditions: clear, 2-5mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	23	21		25		45x25				x		x	x	x	x			western toad and Baja treefrog tadpoles, crayfish, western spadefoot tadpole
2	3729130.8 466598.7	23	18		30		65x25				x		x	x	x	x			western toad tadpoles
3	3729015.1 466699.7	23	20.2		22		146x40				x		x	x	x	x			western toad and Baja treefrog tadpoles, crayfish, western spadefoot tadpole
4	3728854.4 466773.4	23	17		60		30x27				x	x	x	x	x	x			western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 04/04/2024	Time:	Weather Conditions: cloudy, 0mph; rained >1in over weekend

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	23	21		25		45x25				x	x	x	x	x	x			western toad and Baja treefrog tadpoles
2	3729130.8 466598.7	23	18		30		65x25				x		x	x	x	x			western toad tadpoles
3	3729015.1 466699.7	23	20.2		35		146x40				x		x	x	x	x			western toad and Baja treefrog tadpoles
4	3728854.4 466773.4	23	17		60		30x27				x	x	x	x	x	x			western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25
SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)					
Date: 04/12/2024	Time:	Weather Conditions: clear, 0-5mph			

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	18.5	18.5		25		40x17				x	x	x	x	x	x			western toad and Baja treefrog tadpoles
2	3729130.8 466598.7	18.5	17		30		63x23				x		x	x	x	x			western toad tadpoles(2cohorts) and metamorphs
3	3729015.1 466699.7	18.5	18.2		35		144x37				x		x	x	x	x			western toad and Baja treefrog tadpoles
4	3728854.4 466773.4	18.5	16.5		60		30x27				x	x	x	x	x	x			western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 04/18/2024 | Time: | Weather Conditions: clear, 0mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	20	19		25		40x17				x	x	x	x	x	x			western toad and Baja treefrog tadpoles
2	3729130.8 466598.7	20	20.2		30		63x23				x		x	x	x	x			western toad tadpoles(2cohorts) and metamorphs
3	3729015.1 466699.7	20	18.4		25		144x37				x		x	x	x	x			western toad and Baja treefrog tadpoles
4	3728854.4 466773.4	20	21.2		60		30x27				x	x	x	x	x	x			western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 04/22/2024 | Time: | Weather Conditions: clear, 0-4mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	25.5	24		10		26x15				x		x	x	x	x			western toad and Baja treefrog tadpoles
2	3729130.8 466598.7	25.5	24.3		25		57x17				x		x	x	x	x			western toad tadpoles(2cohorts) and metamorphs
3	3729015.1 466699.7	25.5	23.1		30		130x33				x		x	x	x	x			western toad and Baja treefrog tadpoles
4	3728854.4 466773.4	25.5	24		50		30x27				x		x	x	x	x			western toad and Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 05/01/2024 | Time: | Weather Conditions: clear, 4-5mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8	25	19.3		10		12x6				x		x	x	x	x			
2	3729130.8 466598.7	25	19		24		57x17				x		x	x	x	x			
3	3729015.1 466699.7	25	19.8		25		130x33				x		x	x	x	x			
4	3728854.4 466773.4	25	23		40		30x27				x		x	x	x	x			

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 05/09/2024 | Time: | Weather Conditions: clear, 2-3mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3729343.4 466368.8																		dry
2	3729130.8 466598.7	25	24		12	30x10						x	x	x	x				
3	3729015.1 466699.7	25	24		7	10x4						x	x	x	x				
4	3728854.4 466773.4	25	21		35	10x8						x	x	x	x				Baja treefrog tadpoles

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25
SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)					
Date: 05/14/2024	Time:	Weather Conditions: clear, 2-3mph			

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	466368.8 3729343.4	20	0																dry
2	466598.7 3729130.8	20	19.5		5	3x1							x	x	x				
3	466699.7 3729015.1	20	0																dry
4	466773.4 3728854.4	20	18		25	9x5							x	x	x				

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: Baker Industrial Project	County: Riverside	Quad: Lake Elsinore	Township: 5 South	Range: 5 West	Section: 25

SURVEYOR/Permit Number: Stephanie Cashin (TE-20280D-0) Chris Waterston (ESPER2380694)

Date: 05/22/2024 | Time: | Weather Conditions: clear, 0mph

Feature ID#	UTM (Northing, Easting, Datum)	Temp (˚C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	466368.8 3729343.4	21.1																	dry
2	466598.7 3729130.8																		dry
3	466699.7 3729015.1																		dry
4	466773.4 3728854.4																		dry

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix D

Southwestern Willow Flycatcher Survey Report

GLENN LUKOS ASSOCIATES

Regulatory Services

September 8, 2020

Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Submittal Report for Southwestern Willow Flycatcher Surveys for the 90.71-Acre Nichols Industrial Center Property Located in the City of Lake Elsinore, Western Riverside County, California.

Dear Ms. Love:

This letter report summarizes the methodology and findings of presence/absence surveys for the federally listed endangered southwestern willow flycatcher (***Empidonax traillii extimus***) ("SWWF") conducted by Glenn Lukos Associates, Inc. (GLA) within the above referenced property located in the City of Lake Elsinore, Riverside County, California. In addition, this report also provides the result of surveys for the federally listed endangered least Bell's vireo (***Vireo bellii pusillus***) ("LBV") that were conducted in conjunction with the flycatcher surveys.

The overall 90.71-acre property is divided into two parcels, including a 30.33-acre parcel proposed for conservation and a 60.38-acre parcel proposed for development. The surveys were conducted for a portion of Alberhill Creek that is mostly outside of, but adjacent to the parcel proposed for conservation, with only a small portion of riparian habitat coinciding with the boundary. SWWF surveys were conducted from May 18 through July 16, 2020 in all areas of suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines. LBV surveys were conducted from April 13 through July 28, 2020 in all areas of suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines. The SWWF was not detected during the focused surveys. One LBV male (presumed nesting) was detected immediately adjacent to the proposed conservation parcel and the riparian habitat occurring within that parcel is considered occupied habitat by the LBV.

1.0 INTRODUCTION

Least Bell's Vireo (LBV)

The LBV is a small, migratory songbird, which inhabits riparian habitats throughout southern California. The LBV is one of four subspecies of Bell's Vireo recognized by the American Ornithologist's Union (AOU 1957) and is the western-most subspecies, breeding entirely within California and northern Baja California. The LBV was officially designated as a state-endangered species on October 2, 1980 and achieved federally endangered status on May 2, 1986 (USFWS 1986).

The LBV generally begins arriving to its breeding grounds during the third week in March. The height of the breeding season generally extends from April 10 through July 31, although it can begin before and end later than these dates. During the breeding season, the LBV primarily occupies riverine riparian habitats that typically feature dense cover within 1-2 meters of the ground and a dense, stratified canopy. It inhabits low, dense riparian growth along water or along dry parts of intermittent streams. Typically, the species is associated with southern willow scrub, cottonwood forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, wild blackberry, or mesquite in desert localities.

The LBV primarily nests in small, remnant segments of vegetation typically dominated by willows and mule fat but may also use a variety of shrubs, trees, and vines. The birds forage in riparian and adjoining chaparral or scrub habitat (Salata 1983). Nests are typically built within one meter of the ground in the fork of willows (***Salix*** sp.), mule fat (***Baccharis salicifolia***), wild rose (***Rosa californica***), or other understory vegetation (Franzreb 1989). Cover surrounding nests is moderately open mid-story, with an overstory of willow, cottonwood, sycamore, or oak. Crown cover is usually more than 50 percent and contains occasional small openings. The most critical structural component to LBV breeding habitat is a dense shrub layer at one to three meters (three to 10 feet) above the ground (Goldwasser 1981, Franzreb 1989).

During the spring and fall migration, the LBV occupies a wider range of habitats including coastal sage scrub and woodland habitats. The LBV generally departs to its wintering grounds during August and September. The LBV winters in southern Baja California and central Mexico. Winter range habitat includes thorn scrub vegetation adjacent to watercourses or in riparian gallery forests along the west coast of north and central Mexico. The LBV generally does not occur within California during its wintering season, but some occurrences near San Diego have been documented. Decreases in populations of least Bell's vireo have been attributed to habitat degradation/destruction and cowbird parasitism.

Southwestern Willow Flycatcher (SWWF)

The SWWF is a small, migratory songbird, which inhabits riparian habitats throughout southern California and is one of four subspecies of willow flycatcher (WIFL) currently recognized. It was officially designated as a state-endangered species on January 2, 1991 and federally designated as endangered on March 29, 1995. The SWWF measures about 5.75 inches (15 cm) in length, and weighs only about 0.4 ounces (12 g). Overall, it is roughly the size of a small sparrow. Both sexes look alike. Its appearance is overall greenish or brownish gray above, with a white throat that contrasts with a pale olive breast. The belly is pale yellow. Two white wing bars are visible, but the eye ring is faint or absent. The upper mandible is dark and the lower mandible light (USGS). It closely resembles the other races of willow flycatcher, and several other species of the ***Empidonax*** genus, particularly the closely related Alder flycatcher (***Empidonax alnorum***). The SWWF breeds in relatively dense riparian habitats in all or parts of seven southwestern states, from near sea level to over 2,000 m (6,100 ft). More specifically, the SWWF breeds in riparian habitats along rivers, streams, or other wetlands, where relatively dense growths of trees and shrubs are established, near or adjacent to surface water or underlain by saturated soil (McCabe 1991). Common tree and shrub species comprising nesting habitat include willow (***Salix*** sp.), boxelder (***Acer negundo***), tamarisk (***Tamarix ramosissima***), and Russian olive (***Eleagnus angustifolia***) (USFWS 2002).

Habitat characteristics such as plant species composition, size and shape of habitat patch, canopy structure, vegetation height, and vegetation density vary across the subspecies range. However, regardless of the plant species composition or height, occupied sites usually consist of dense vegetation in the patch interior, or an aggregate of dense patches interspersed with openings. In most cases this dense vegetation occurs within the first 3-4 m (10-13 ft) above ground. These dense patches are often interspersed with small openings, open water or marsh, or shorter/sparser vegetation creating a mosaic that is not uniformly dense (USFWS 2002). The SWWF winters in Mexico and Central America and northern South America (Phillips 1948, Gorsiki 1969, McCabe 1991, Koronkiewicz et al. 1998, Unitt 1999).

2.0 SITE LOCATION AND DESCRIPTION

The Nichols Industrial Center Property (Property) in the City of Lake Elsinore, Riverside County, comprises approximately 90.71 acres, which as noted above consists of a 60.38-acre parcel to be developed and a 30.33-acre parcel to be conserved The overall Property is located immediately south of Collier Avenue and the Outlets at Lake Elsinore. Specifically, the Universal Transverse Mercator (UTM) coordinates approximately corresponding to the site are 466469.22 mE and 3729081.37 mN within Section 25, Township 5 South, and Range 5 West of the Lake Elsinore, California USGS 7.5-minute topographical maps [Exhibit 2 – Vicinity Map].

The Property is bordered by Collier Avenue to the north, Nichols Road to the west and is bisected by Baker Street. An aerial map depicting the Property is included in Exhibit 3.

Focused SWWF and LBV surveys focused included onsite and adjacent offsite riparian vegetation associated with Alberhill Creek [Exhibit 3]. The riparian habitat was comprised of a mixture of salt cedar (***Tamarix ramosissima***), black willow (***Salix gooddingii***), arroyo willow (***Salix lasiolepis***), and mulefat (***Baccharis salicifolia***), with alkali bulrush (***Bolboschoenus maritimus***) and cattail (***Typha*** sp.). Other common plants include common nettle (***Urtica dioca***), shortpod mustard (***Hirschfeldia incana***), western ragweed (***Ambrosia psilostachya***), saltgrass (***Distichlis spicata***), annual rabbitsfoot grass (***Polypogon monspeliensis***).

3.0 METHODOLOGY

Surveys for the SWWF were conducted in accordance with the 2010 U.S. Fish and Wildlife Service (USFWS) guidelines[1], which stipulate that five surveys (divided into three survey periods) shall be conducted in all areas of suitable habitat. One survey was conducted during the first survey period (May 15 to May 31). Two surveys were conducted during the second survey period (June 1 to June 24), and two surveys were conducted during the third survey period (June 25 to July 17). GLA biologist Jeff Ahrens (TE 052159-5) conducted SWWF surveys on May 18, June 9, June 23, July 1, and July 16, 2020.

Surveys for the LBV were conducted in accordance with the 2001 USFWS survey protocol, which stipulates all riparian areas and any other potential vireo habitats should be surveyed at least (8) times during the period from April 10 to July 31. GLA biologist Stephanie Cashin conducted LBV surveys on April 13 and June 19, 2020. Mr. Ahrens conducted LBV surveys on May 5 and May 18, 2020. GLA biologist April Nakagawa conducted LBV surveys on May 28, June 8, July 15, and July 28, 2020.

All surveys were conducted during the morning hours and were completed before 11:00 A.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures in excess of 95ºF). All areas of suitable habitat were surveyed on foot by walking slowly and methodically. Taped vocalizations primarily using the WIFL's main contact call "fitz-bew" were used to elicit responses from WIFLs that might be present on site. The detection of WIFLs on site was based on both sight and call. The presence/absence of LBV was determined by identifying all birds by sight and call, aided by the use of binoculars. No taped vocalizations were used to elicit response from LBV or any other species potentially present.

[1] ***A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher***, prepared by the USGS.

Weather conditions during the LBV surveys were conducive to a high level of bird activity. Temperatures ranged from approximately 56 degrees Fahrenheit to 88 degrees Fahrenheit. Wind speeds ranged from 0-10 miles per hour during the surveys. Table 1 summarizes the survey dates and weather information for each survey date. Weather conditions during the SWWF surveys were conducive to a high level of bird activity. Temperatures ranged from approximately 53 degrees Fahrenheit to 73 degrees Fahrenheit. Wind speeds ranged from 0-2 miles per hour during the surveys. Table 2 summarizes the survey dates and weather information for each survey date.

Table 1. Summary of LBV Survey Dates and Weather Conditions

Date	Survey	Start/End Time	Surveyor	Temp ºF, (start/end)	Wind Speed (MPH) (start/end)	% Cloud Cover (start/end)
4/13/20	LBV	0620/1000	SC	60/68	0-1/0-1	100/100
5/5/20	LBV	0550/0920	JA	56/75	1-2/0-2	0/0
5/18/20	LBV	0550/1100	JA	57/69	1-2/1-2	80/50
5/28/20	LBV	0600/1100	AN	62/84	0-1/0-1	0/0
6/8/20	LBV	0645/1100	AN	58/75	8-10/8-10	0/0
6/19/20	LBV	0615/1015	SC	59/67	0-2/0-1	100/50
7/15/20	LBV	0645/1100	AN	62/77	0-1/0-1	100/0
7/28/20	LBV	0700/1100	AN	62/88	0-1/4-5	0/0

AN = April Nakagawa, JA = Jeff Ahrens, SC = Stephanie Cashin

Table 2. Summary of SWWF Survey Dates and Weather Conditions

Date	Survey	Start/End Time	Surveyor	Temp ºF, (start/end)	Wind Speed (MPH) (start/end)	% Cloud Cover (start/end)
5/18/20	SWWF	0550/1100	JA	57/69	1-2/1-2	80/50
6/9/20	SWWF	0600/0940	JA	53/73	1-2/1-2	0/0
6/23/20	SWWF	0555/1000	JA	58/68	0-1/0-1	100/0
7/1/20	SWWF	0555/0930	JA	60/66	1-2/1-2	100/100
7/16/20	SWWF	0550/0930	JA	59/72	1-2/0-1	30/0

4.0 RESULTS

GLA biologists did not detect the SWWF or any WIFL during the focused surveys within Alberhill Creek, including the portion that coincides with the proposed conservation parcel. The LBV was also not detected within the conservation parcel boundary. However, a male LBV (presumed nesting based on behavior) was detected within Alberhill Creek and during every LBV survey and generally within close proximity to the conservation parcel. Therefore, based on numerous detections of the LBV, the riparian habitat within the conservation parcel would also be considered occupied by the LBV.

Other sensitive species detected on site during the focused surveys included the yellow warbler (***Setophaga petechia***) and yellow breasted chat ***(Icteria virens***).

Common birds identified on or adjacent to the survey area include common yellowthroat (***Geothlypis trichas***), song sparrow (***Melospiza melodia***), house finch (***Carpodacus mexicanus***), lesser goldfinch (***Spinus psaltria***), mourning dove (***Zenaida macroura***), bushtit (***Psaltriparus minimus***), green heron (***Butorides virescens***), Nuttall's woodpecker (***Picoides nuttallii***), black phoebe (***Sayornis nigricans***), American avocet (***Recurvirostra americana***), black-necked stilt (***Himantopus mexicanus***), mallard (***Anas platyrhynchos***), pied-billed grebe (***Podilymbus podiceps***), northern rough-winged swallow (***Stelgidopteryx serripennis***), barn swallow (***Hirundo rustica***), and Anna's hummingbird (***Calypte anna***).

Exhibits 3 and 4 depict the LBV territory on an aerial map and topographic map, respectively. A compendium listing all avian species detected during the focused surveys is included at the end of the report.

If you have any questions, please contact me at jahrens@wetlandpermitting.com or (949) 340-2521.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

TE-052159-5	September 2, 2020
Permit #	Date

Jeff Ahrens
Biologist

p:1476-2.WIFLd_(2020).rpt

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APPENDIX A

AVIAN COMPENDIUM

The avian compendium lists bird species identified on the Site.

* = non-native species

ACCIPITERIDAE	**Hawks, Old World Vultures and Harriers**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
Circus hudsonius	northern harrier
AEGITHALIDAE	**Bushtit**
Psaltriparus minimus	bushtit
ALAUDIDAE	**Larks**
Eremophila alpestris actia	California horned lark
ANATIDAE	**Ducks**
Anas cyanoptera	cinnamon teal
Anas platyrhynchos	mallard
Aythya americana	redhead
Mareca strepera	gadwall
Oxyura jamaicensis	ruddy duck
Spatula clypeata	northern shoveler
APODIDAE	**Swifts**
Aeronautes saxatalis	white-throated swift
ARDEIDAE	**Herons, Bitterns, and Allies**
Ardea alba	great egret
Ardea herodias	great blue heron
Butorides virescens	green heron
Egretta thula	snowy egret
Nycticorax	black-crowned night heron
CARDINALIDAE	**Cardinals, Grosbeaks And Allies**
Passerina caerulea	blue grosbeak
Pheucticus melanocephalus	black-headed grosbeak
CATHARTIDAE	**New World Vultures**
Cathartes aura	turkey vulture

CHARADRIIDAE		**Plovers And Relatives**
	Charadrius vociferus	killdeer
COLUMBIDAE		**Pigeons and Doves**
*	***Columba livia***	rock pigeon
	Streptopelia decaocto	Eurasian collared dove
	Zenaida macroura	mourning dove
CORVIDAE		**Jays, Magpies and Crows**
	Aphelocoma californica	California scrub-jay
	Corvus corax	common raven
EMBERIZIDAE		**Emberizines**
	Melospiza melodia	song sparrow
	Melozone crissalis	California towhee
	Pipilo maculates	spotted towhee
FALCONIDAE		**Falcons and Caracaras**
	Falco peregrinus	peregrine falcon
	Falco sparverius	American kestrel
FRINGILLIDAE		**Finches**
	Carduelis psaltria	lesser goldfinch
	Carpodacus mexicanus	house finch
	Spinus lawrencei	Lawrence's goldfinch
	Spinus tristis	American goldfinch
HIRUNDINIDAE		**Swallows**
	Hirundo rustica	barn swallow
	Petrochelidon pyrrhonota	cliff swallow
	Stelgidopteryx serripennis	northern rough-winged swallow
ICTERIDAE		**Blackbirds**
	Agelaius phoeniceus	red-winged blackbird
	Euphagus cyanocephalus	Brewer's blackbird
	Icterus cucullatus	hooded oriole
	Molothrus ater	brown-headed cowbird
	Quiscalus mexicanus	great-tailed grackle
	Sturnella neglecta	western meadowlark
LARIDAE		**Skuas, Gulls, Terns And Skimmers**
	Larus californicus	California gull
MIMIDAE		**Mockingbirds and Thrashers**
	Mimus polyglottos	northern mockingbird

PARULIDAE	**Wood Warblers and Relatives**
Cardellina pusilla	Wilson's warbler
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat
Oreothlypis celata	orange-crowned warbler
Setophaga coronata	yellow-rumped warbler
Setophaga petechial	yellow warbler
PHALACROCORACIDAE	**Cormorants**
Phalacrocorax auritus	double-crested cormorant
PICIDAE	**Woodpeckers**
Picoides nuttallii	Nuttall's woodpecker
PODICIPEDIDAE	**Grebes**
Aechmophorus clarkii	Clark's grebe
Podilymbus podiceps	pied-billed grebe
POLIOPTILIDAE	**Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
PTILIOGONATIDAE	**Silky-flycatchers**
Phainopepla nitens	phainopepla
RALLIDAE	**Rails, Gallinules And Coots**
Fulica americana	American coot
Porphyrio martinicus	common gallinule
Porzana carolina	sora
RECURVIROSTRIDAE	**Stilts and Avocets**
Himantopus mexicanus	black-necked stilt
Recurvirostra americana	American avocet
SCOLOPACIDAE	**Sandpipers**
Limnodromus scolopaceus	long-billed dowitcher
STURNIDAE	**Starlings**
* ***Sturnus vulgaris***	European starling
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
TROGLODYTIDAE	**Wrens**
Cistothorus palustris	marsh wren

Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
TYRANNIDAE	**Tyrant Flycatchers**
Empidonax difficilis	Pacific-slope flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
VIREONIDAE	**Vireos**
Vireo bellii pusillus	least Bell's vireo

Source: ESRI World Street Map

N

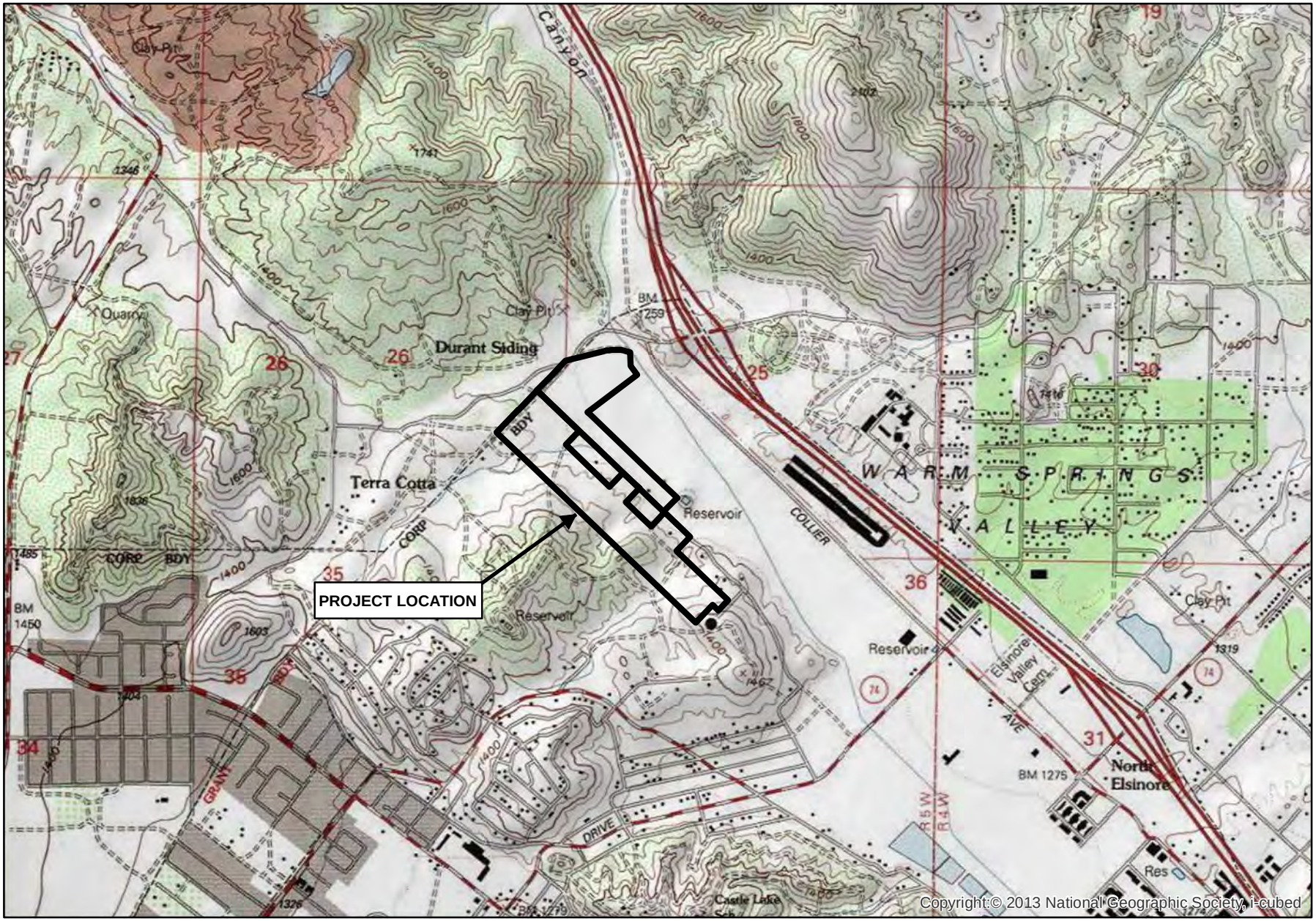
0 2 4 8 Miles

NICHOLS INDUSTRIAL CENTER PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Lake Elsinore, CA quadrangle

N

0 1,000 2,000 4,000 Feet

NICHOLS INDUSTRIAL CENTER PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Proposed Development

Proposed Conservation

Least Bell's Vireo Territory

N

0 225 450 900

Feet

1 inch = 450 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: B. Gale, GLA
Date Prepared: September 7, 2020

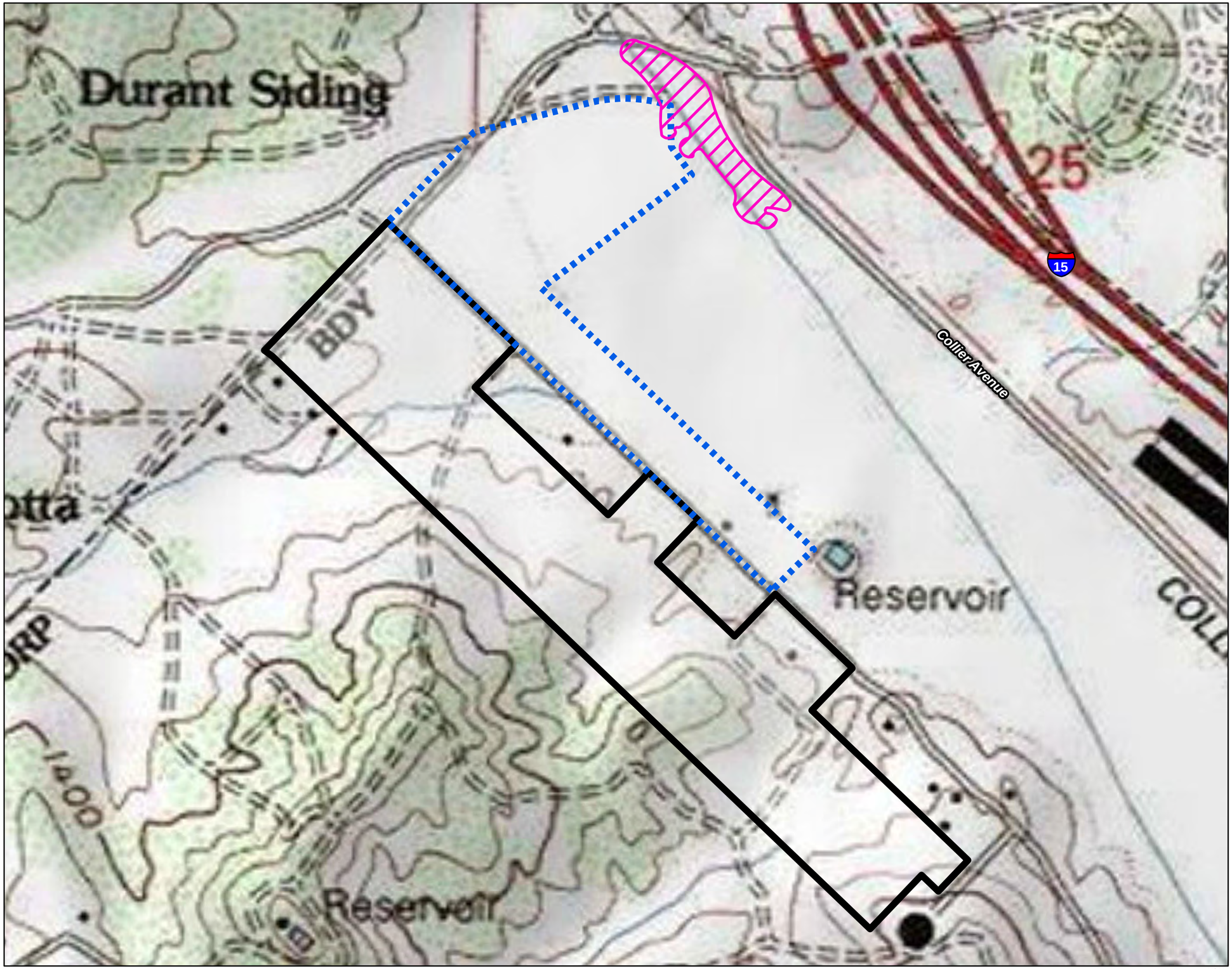
NICHOLS INDUSTRIAL CENTER PROJECT

Least Bell's Vireo Location Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\1100 AFTER THE REST\1476-02NICH\1476-2_GIS\BIO_GIS\Birds\1476-2_LBV.mxd



Proposed Development

Proposed Conservation

Least Bell's Vireo Territory

N

0 225 450 900

Feet

1 inch = 450 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: B. Gale, GLA
Date Prepared: September 7, 2020

NICHOLS INDUSTRIAL CENTER PROJECT

Least Bell's Vireo Location Map with Topo

GLENN LUKOS ASSOCIATES

Exhibit 4

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Appendix E

Baker Industrial Hydrology Memorandum

KWC ENGINEERS
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www.kwcengineers.com

MEMORANDUM

To: Regional Conservation Authority (RCA) – Western Riverside County
From: Brandon Barnett, KWC Engineers
Date: June 24th, 2025
Subject: Baker Industrial Project, City of Lake Elsinore | Vernal Pool Hydrology

Background

The Baker Industrial project (Project) is comprised of 66.23 acres along Baker Street in the City of Lake Elsinore in Riverside County, California, adjacent to Pierce Street. Baker Street is located southerly to and parallel with the Temescal Wash. The site's existing condition consists of undeveloped land and characterized by steep to flat topography, generally decreasing in elevation from the southwest to the northeast. Several drainage paths are present which convey storm drainage across the Project, conveying flows toward the northeast side of Baker Street. Along the northeast side of Baker Street are three categorized vernal pools that have been identified in the Project's DBESP Analysis (November 2023, GLA). The purpose of this study is to hydrologically model each vernal pool tributary watershed to determine the existing and proposed peak runoff flow and drainage volume for specified rainstorm events. This study also models Watershed A that is on the eastern side of the Project. The hydrologic analysis was prepared using the Rational Method and Unit Hydrograph Method as specified in the Riverside County Hydrology Manual (1978).

Existing Condition

Vernal Pool 1 (VP 1, associated with Watershed C) is located in the middle of the three vernal pools and is positioned roughly 1,800 ft southeast of Pierce Street along the northerly right-of-way of Baker Street and has an existing-condition tributary of 6.40 acres. VP 1 accepts surface sheet flow from the southerly hills directly southwest of Baker Street. Vernal Pool 2 (VP 2, associated with Watershed B) is located roughly 2,400 ft southeast of Pierce Street along Baker Street and has an existing-condition tributary of 27.79 acres. VP 2 accepts flows from a ravine to the southwest. The flowline from said ravine transitions into sheet flow as the terrain flattens closer to Baker Street. Vernal Pool 3 (VP 3, associated with Watershed D) is roughly 860 ft southeast of Pierce Street along Baker Street and has an existing condition tributary of 217.80 acres. VP 3's tributary starts with the Terracina Tract's (TR 36557) existing basin outletting into a historical flowline, conveying flows towards and through the Project before entering VP 3. Watershed A is located on the eastern side of the project and has an existing-condition tributary of 165.2 acres. The tributary starts southwest of the Project where a ravine collects flows as it heads towards the Project property. Through the project property, the flows transition to sheet flow as drainage is conveyed toward to Baker Street and eventually the Temescal Wash. Please refer to the Existing Condition Hydrology Kep Maps for each watershed's tributary area and associated hydrologic data. Table 1 & 2 summarizes the data and results for the 2-, 5- & 10-year storm events for each watershed and associated vernal pool.

TABLE 1 – Existing Condition Rational Method Summary

Watershed	Vernal Pool	Area (ac)	Q2 (cfs)	Q5 (cfs)	Q10 (cfs)
A	-	165.2	81.29	127.72	191.55
B	VP2	27.79	21.05	31.91	45.19
C	VP1	6.40	4.56	6.83	9.64
D	VP3	217.79	142.94	217.36	284.45

TABLE 2 – Existing Condition Unit Hydrograph Method Summary

Watershed	Vernal Pool	Area (ac)	2-Year 1-Hour Storm Volume (ac-ft)	5-Year 1-Hour Storm Volume (ac-ft)	10-Year 1-Hour Storm Volume (ac-ft)
B	VP2	27.79	0.4805	0.8556	1.4386
C	VP1	6.40	0.1064	0.1892	0.3153
D	VP3	217.79	9.1641	13.8575	18.0869

Proposed Condition

VP 1 (Watershed C) has a proposed condition tributary of 7.28 acres and accepts existing Baker Street right-of-way flows as well as proposed, treated buildout flows. VP 2 (Watershed B) has a proposed condition tributary of 28.54 acres and accepts flows from approximately half the Project and natural hillside to the east. Once pool 1 and 2s tributaries are picked up and treated via BMPs, they are discharged into a proposed trough system. As concentrated flows leave each pipe, they will hit the splash wall of the trough and spread out across the entire length of the trough system. The VP side of the trough system will have 6" openings every 5ft that will help create a sheet flow condition that mimics existing condition.

VP 3 has a proposed condition tributary of 219.64 acres. VP 3's (Watershed D) tributary starts with the Terracina Tract's existing basin outletting into a historical flowline that is conveyed via a debris basin along the southern boundary of the Project. Offsite flows then bypass the Project through a public storm drain that discharges into a similar trough system mentioned above. This trough system supports mimicking the existing condition flows for VP 3 by providing both a point source and supportive sheet flow. The trough system is designed to let larger flows during high storm events continue down the existing FL that leads to the Temescal Wash, while still operating returning concentrated flows to sheet flow during smaller storm events. The attached Vernal Pool Exhibit details how the Project will mimic the existing condition of each vernal pool after the Project is constructed. The project will endeavor to minimize dry weather nuisance flows to help prevent nonseasonal discharges to the vernal pools.

Watershed A has a proposed condition tributary of 163.30 acres and starts southwest of the project where a ravine collects flows as it heads towards a proposed flow-by basin along the edge of the project site. Flows then bypass the project through a public storm drain that discharges on the north side of Baker Street and continue down to Temescal Wash as they have done historically. Please refer to the Proposed Condition Hydrology Kep Maps for each watershed and associated hydrologic data. Tables 3 & 4 summarizes the data and results for the 2-, 5- & 10-year storm events for each watershed.

TABLE 3 – Proposed Condition Rational Method Summary

Watershed	Vernal Pool	Area (ac)	Q2 (cfs)	Q5 (cfs)	Q10 (cfs)
A	-	163.30	80.36	126.26	189.35
B	VP2	28.54	25.28	36.50	47.41
C	VP1	7.28	5.42	7.77	10.04
D	VP3	219.64	148.75	223.61	287.20

TABLE 4 – Proposed Condition Unit Hydrograph Method Summary

Watershed	Vernal Pool	Area (ac)	2-Year 1-Hour Storm Volume (ac-ft)	5-Year 1-Hour Storm Volume (ac-ft)	10-Year 1-Hour Storm Volume (ac-ft)
B	VP2	28.54	0.7018	1.0433	1.5219
C	VP1	7.28	0.1741	0.2509	0.3470
D	VP3	219.64	9.2511	14.0879	18.1836

The ponding duration is the key metric in defining the ecology of each vernal pool near the Project site. Although the depth of the three vernal pools will contribute to their ponding duration, each vernal pool has a maximum depth and volume capacity based on the topography of each pool. The ponding observed by Glenn Lukos Associates during the 2024 rainfall season was at or very close to maximum capacity of each vernal pool. Ultimately, the ponding duration of each vernal pool based on its capacity is influenced by the number of rainfall events, the amount of rainfall during each event, the frequency of the rainfall events, the timing of the last rainfall event, the air temperature, and the evaporation/evapotranspiration rates of each pool.

The only factor that the Project will alter is the volume of rainfall theoretically delivered to the vernal pools via the modified watersheds, but as noted below for Vernal Pools 2 and 3, the volumes of the modelled events exceed the maximum capacity estimated for the pools, so according to GLA the increases modelled for those events post-project should have no effect on the maximum depths of the pools, nor on the total duration of inundation. Any significant increases in duration would have to be the result of non-seasonal release of dry weather flows, which would simulate additional rainfall events. However, the proposed Project will retain all its non-seasonal dry weather flows and will not release water to the vernal pools outside of the rainfall season. As such, the Project will not extend the ponding duration of the vernal pools beyond that which is influenced by the occurrence of rainfall events.

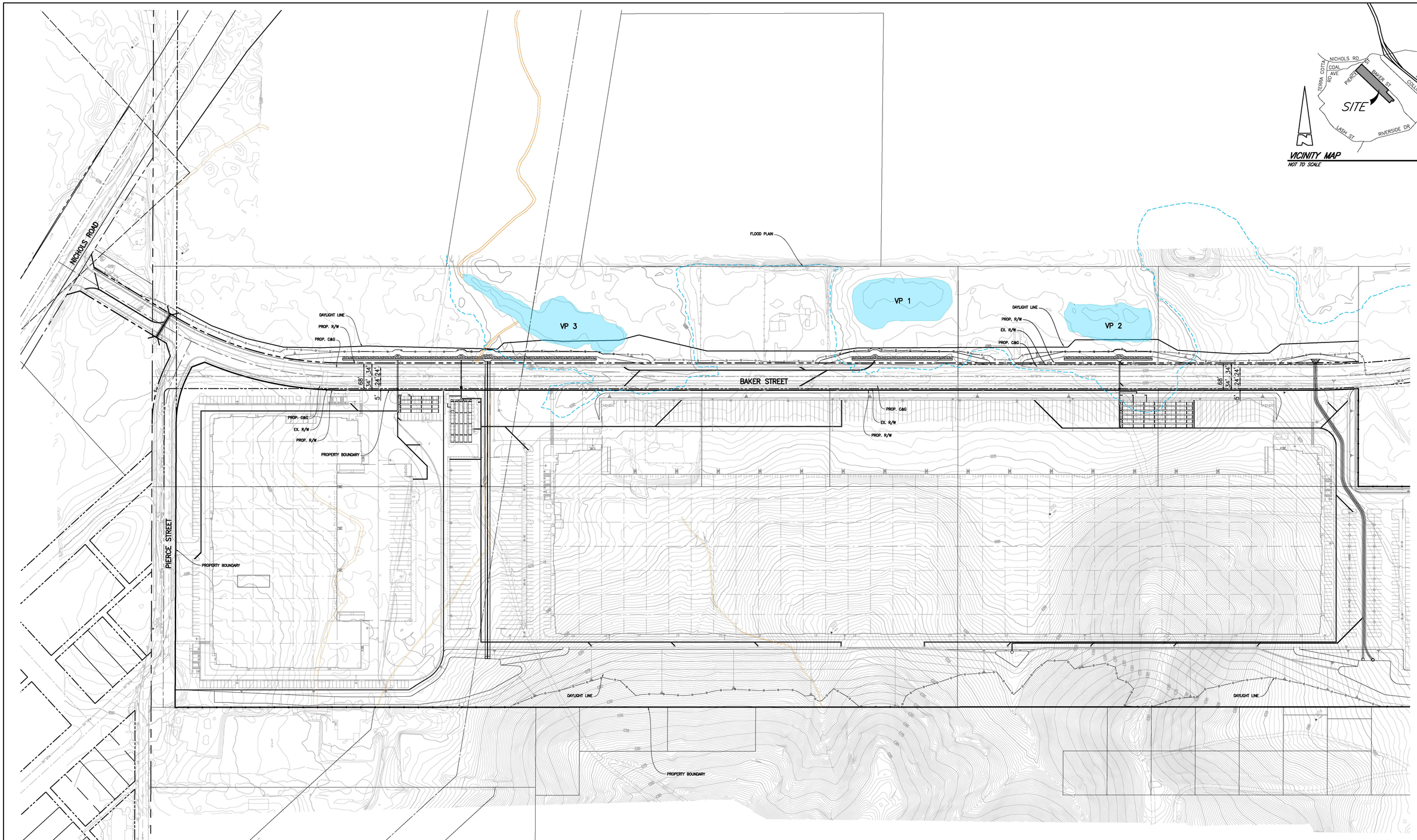
The modelled existing condition 2-, 5- and 10-year events for Vernal Pools 2 and 3 all exceed the maximum volume capacity for the vernal pools. For example, the existing 2-year volume for the Vernal Pool 3 watershed (9.16-acre-feet) is more than nine times the volume capacity of Vernal Pool 3, with the excess water spilling off the pool. The proposed 2-year condition increases by 0.06-acre-foot to 9.25-acre-feet, but because of the excess, the increase is irrelevant, and the Project will not increase the depth of duration relative to a single rainfall event or cumulative rainfall events. The excess is even more profound with the 5-year and 10-year events. According to GLA the 2024 rainfall season was well above average, none of the pools were inundated past late May, and the Project will not increase those durations. In most years, the ponding duration will be less than that post-project, but certainly not more than that, unless the rainfall events themselves occur later in the season. Vernal Pool 1 is different in that the existing watershed is so much smaller compared with the other two vernal pools and proportionally relies much more on direct rainfall, and so it takes many rainfall events to bring the pool to its maximum. Although the volume percentage increases to Vernal Pool 1 are larger than the other two vernal pools, the actual volume amounts are small and although it could allow Vernal Pool 1 to pond relatively faster, the Project would not change the maximum depths of the vernal pool, nor would it change the duration of the vernal pool beyond that of the other vernal pools. In 2024, Vernal Pool 1 ponded later and dried up sooner than the other two vernal pools, and so the total duration for Vernal Pool 1 was three weeks less than Vernal Pool 3. Depending on conditions in any given year, the increase in hydrology could cause Vernal Pool 1 to inundate slight faster in-line with Vernal Pool 3, and therefore the total duration for Vernal Pool 1 could therefore increase by a week or so but would not exceed to the total duration of the other vernal pools.

In summary, the data demonstrates that the duration of each Vernal Pool is not expected to increase significantly.

Appendix

A

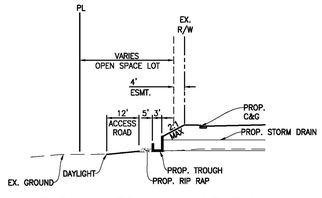
VERNAL POOL EXHIBIT



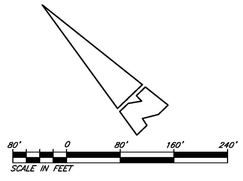
VICINITY MAP
NOT TO SCALE

LEGEND:

- FLOODPLAIN ZONE
- VERNAL POOLS
- CDFW NON-RIPARIAN STREAM
- PROPOSED R/W
- EXISTING R/W
- PROPOSED CL
- EXISTING CL
- SLOPE
- DAYLIGHT LINE
- PROPOSED SD
- PROPOSED RIP RAP



TYPICAL TROUGH SECTION
NTS



SCALE IN FEET

RCA VERNAL POOL EXHIBIT
BAKER INDUSTRIAL
CITY OF LAKE ELSINORE

PREPARED BY:

KWC ENGINEERS
CIVIL ENGINEERS • PLANNERS • SURVEYORS
1880 COMPTON AVENUE, SUITE 100 CORONA, CA 92881-3370 951-734-3130

SHEET 1 OF 2 SHEET

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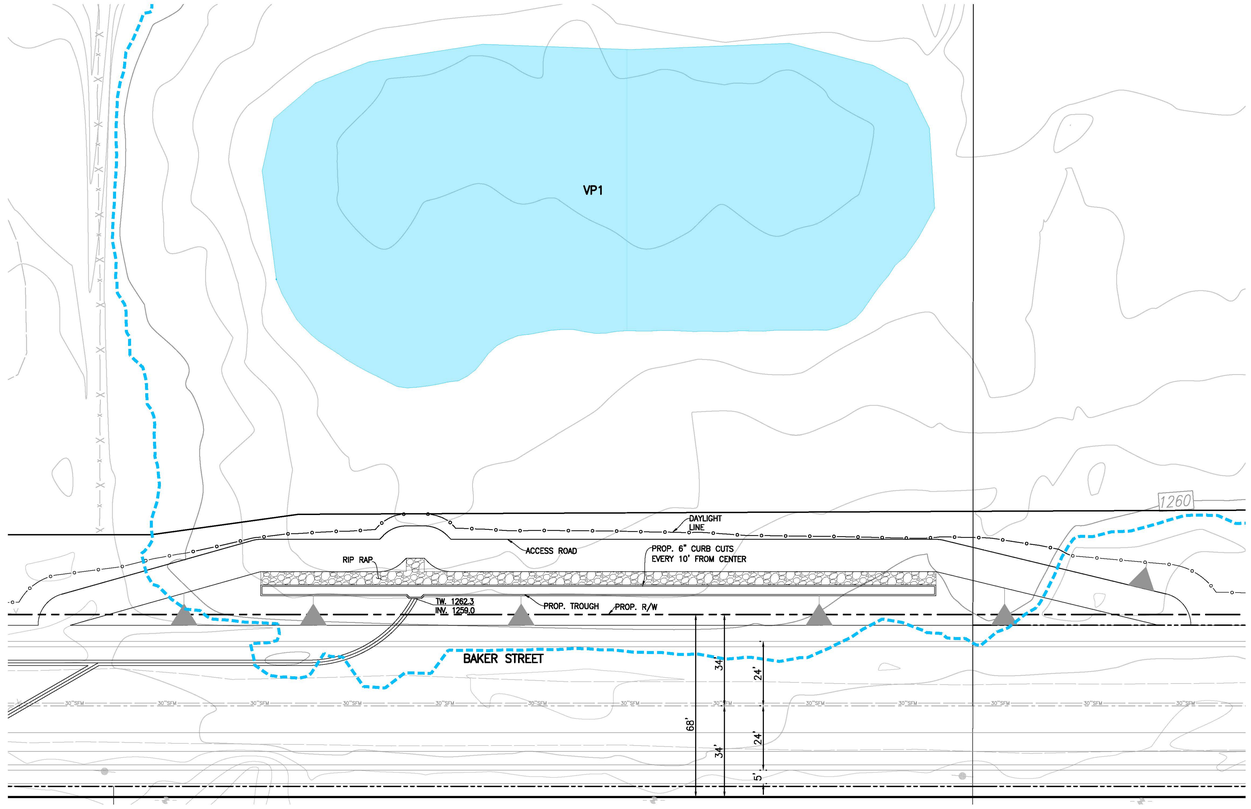
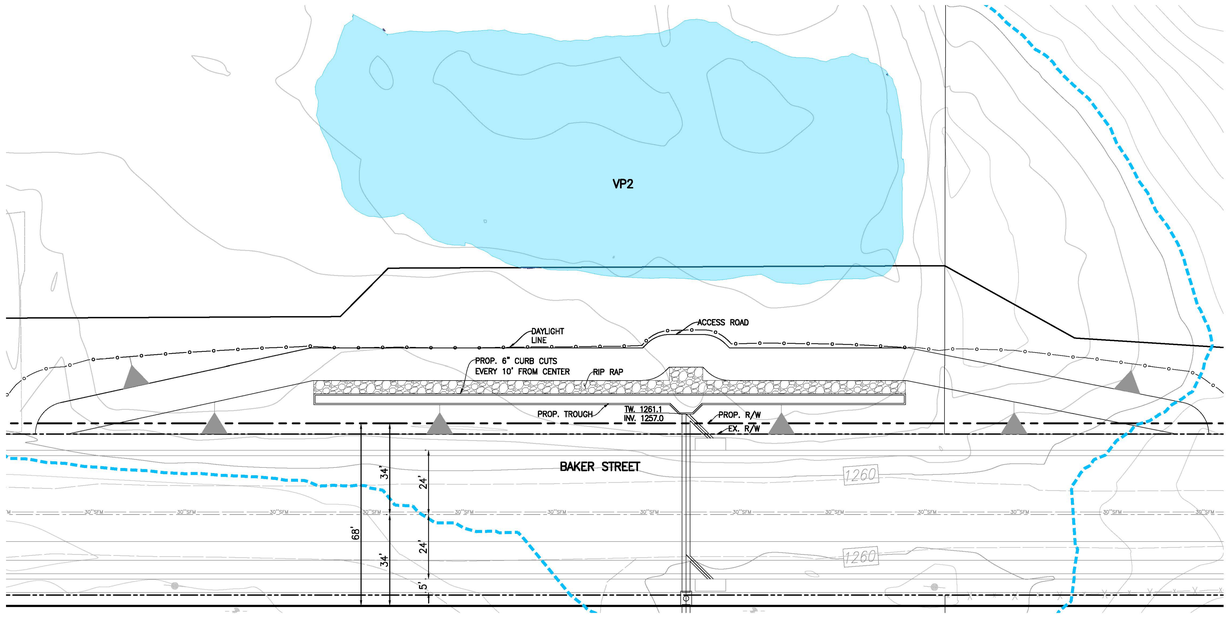


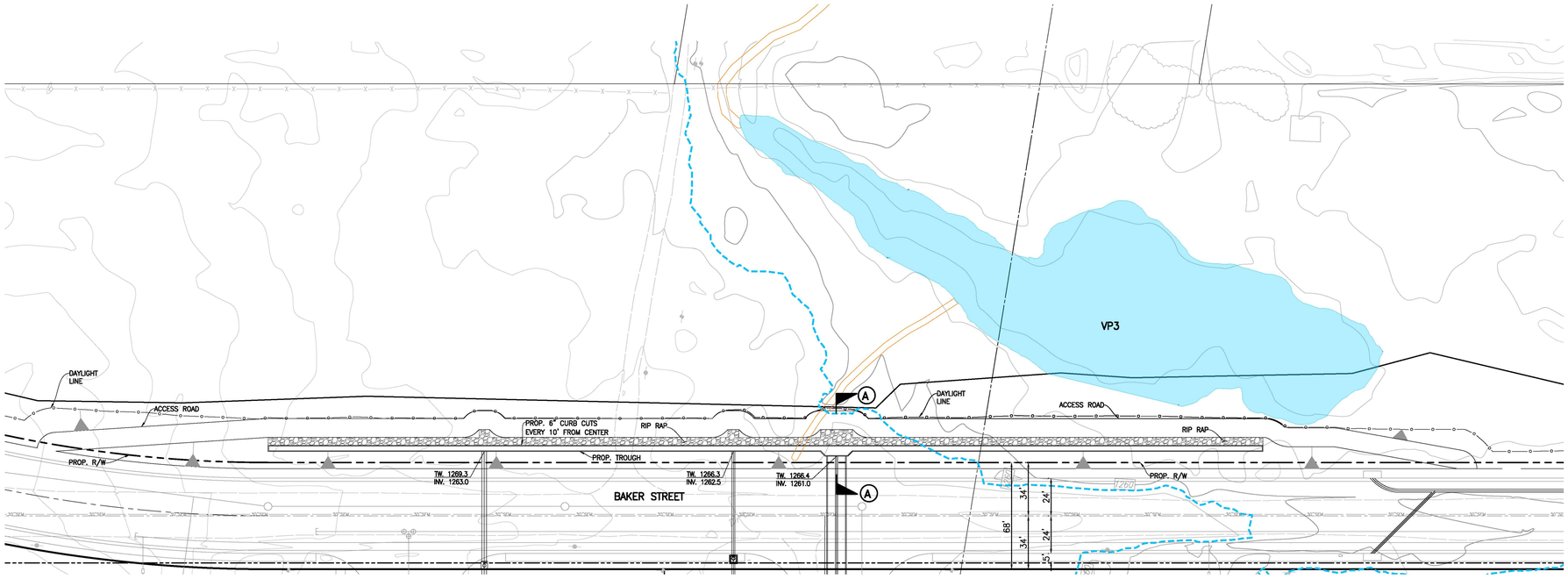
VERNAL POOL 1 OUTLET

SCALE 1" = 20'



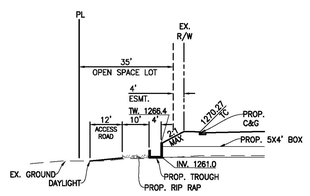
VERNAL POOL 2 OUTLET

SCALE 1" = 20'



VERNAL POOL 3 OUTLET

SCALE 1" = 30'



SECTION A–A

NTS

LEGEND:

- FLOODPLAIN ZONE
- VERNAL POOLS
- CDFW NON-RIPARIAN STREAM
- PROPOSED R/W
- EXISTING R/W
- PROPOSED CL
- EXISTING CL
- SLOPE
- DAYLIGHT LINE
- PROPOSED SD
- PROPOSED RIP RAP

20' 0 20' 40' 60'

SCALE IN FEET

30' 0 30' 60' 90'

SCALE IN FEET

RCA VERNAL POOL EXHIBIT
BAKER INDUSTRIAL
CITY OF LAKE ELSINORE

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SHEET 2 OF 2 SHEET

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Appendix

B

EXISTING CONDITION HYDROLOGY RATIONAL METHOD & KEY MAP

VERNAL POOLS
EXISTING CONDITION
HYDROGOLY KEY MAP
FOR
BAKER INDUSTRIAL
COUNTY OF RIVERSIDE

HYD:	PS
DRAFT:	PS
CHECK:	BB

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SHEET 1 OF 1

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Appendix

C

EXISTING CONDITION HYDROLOGY UNIT HYDROGRAPH & KEY MAP

LEGEND

AREA BOUNDARY

FLOWLINE

A / 6.98 — TRIBUTARY AREA DESIGNATION / TRIBUTARY AREA ACREAGE

XX — ZZZ — ELEVATION @ NODE / NODAL POINT REFERENCE

200' 0 200' 400' 600'

SCALE IN FEET

VERNAL POOLS
EXISTING CONDITION
UNIT HYDROGRAPH MAP
FOR
BAKER INDUSTRIAL
COUNTY OF RIVERSIDE

HYD: PS
DRAFT: PS
CHECK: BB

KWC ENGINEERS

SHEET 1 OF 1

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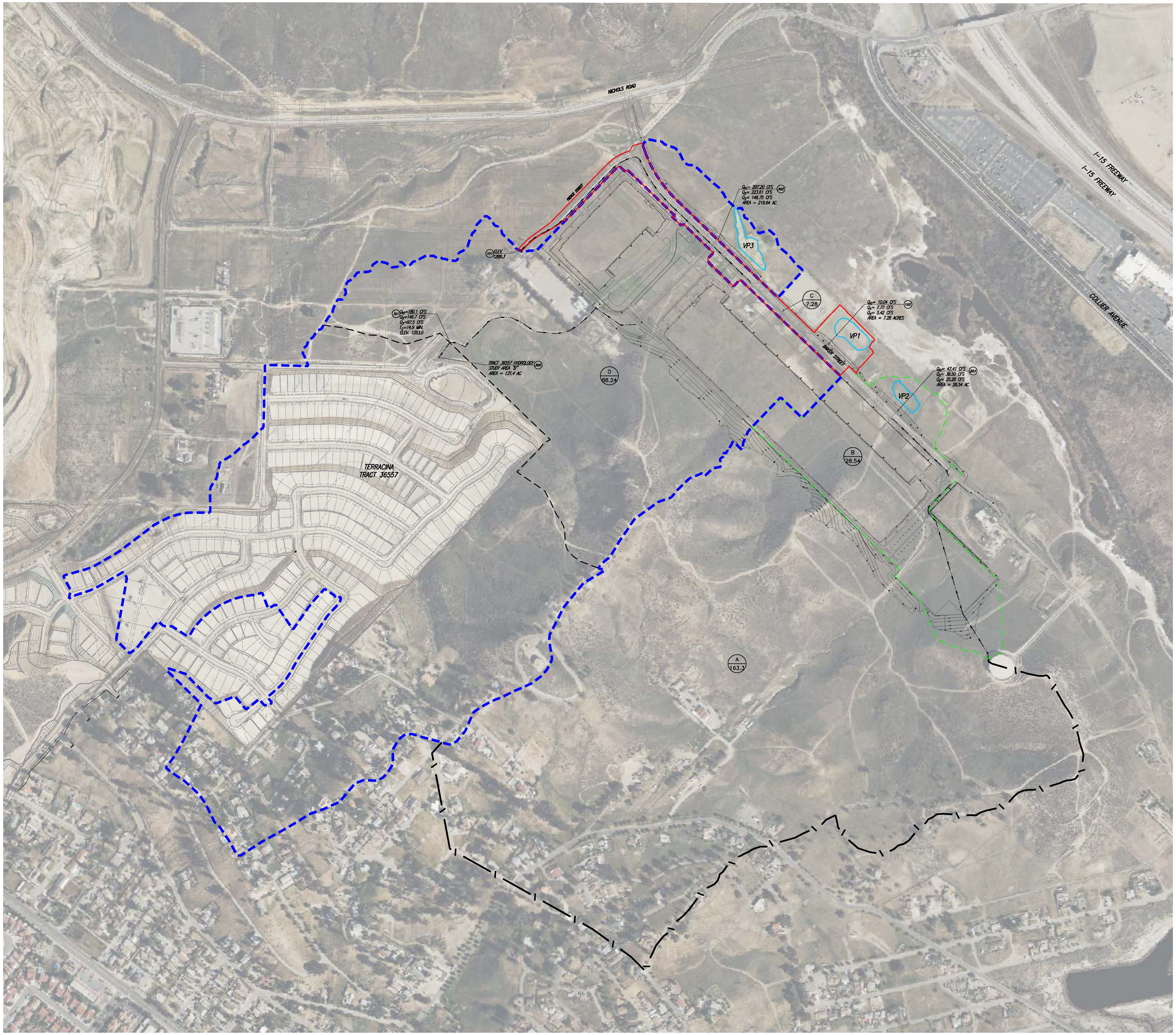
Appendix

D

PROPOSED CONDITION HYDROLOGY RATIONAL METHOD & KEY MAP



LEGEND

VP 1 MAJOR AREA BOUNDARY
VP 2 MAJOR AREA BOUNDARY
VP 3 MAJOR AREA BOUNDARY
MINOR AREA BOUNDARY
VERNAL POOLS
FLOWLINE
A / 6.98 — TRIBUTARY AREA DESIGNATION / TRIBUTARY AREA ACREAGE
XX ZZZ — ELEVATION @ NODE / NODAL POINT REFERENCE

200' 0 200' 400' 600'
SCALE IN FEET

VERNAL POOLS
PROPOSED CONDITION
HYDROGOLY KEY MAP
FOR
BAKER INDUSTRIAL
COUNTY OF RIVERSIDE

HYD: PS
DRAFT: PS
CHECK: BB

KWC ENGINEERS
CIVIL ENGINEERING, PLANNING AND CONSTRUCTION MANAGEMENT

SHEET 1 OF 1

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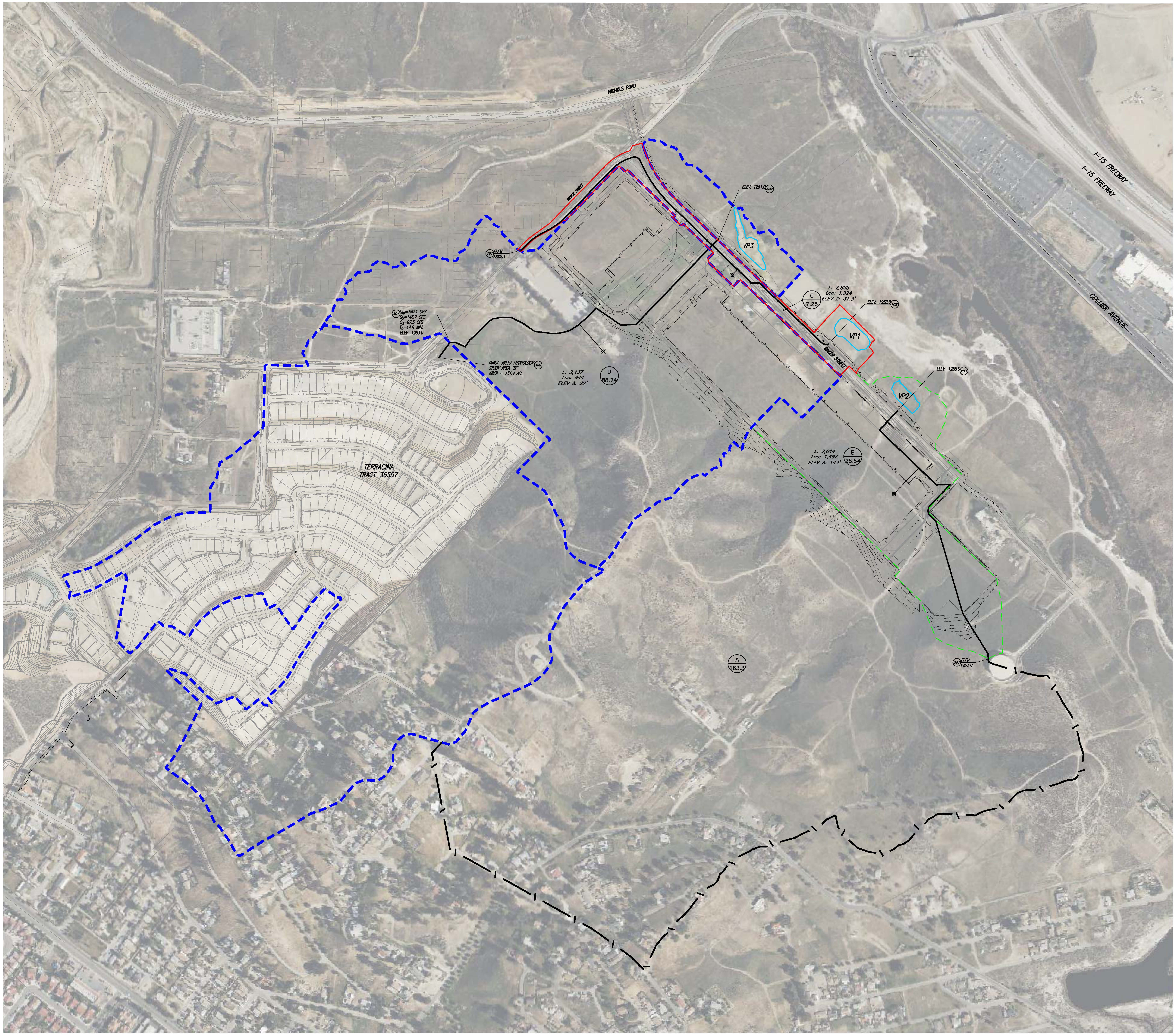
Appendix

E

PROPOSED CONDITION HYDROLOGY UNIT HYDROGRAPH & KEY MAP



LEGEND

- VP 1 MAJOR AREA BOUNDARY
- VP 2 MAJOR AREA BOUNDARY
- VP 3 MAJOR AREA BOUNDARY
- MINOR AREA BOUNDARY
- VERNAL POOLS
- FLOWLINE
- A / 6.98 — TRIBUTARY AREA DESIGNATION / TRIBUTARY AREA ACREAGE
- XX, ZZZ — ELEVATION @ NODE / NODAL POINT REFERENCE

200' 0 200' 400' 600'
SCALE IN FEET

VERNAL POOLS
PROPOSED CONDITION
UNIT HYDROGRAPH MAP
FOR
BAKER INDUSTRIAL
COUNTY OF RIVERSIDE

HYD: PS
DRAFT: PS
CHECK: BB

KWC ENGINEERS
CIVIL ENGINEERING, PLANNING AND CONSTRUCTION MANAGEMENT

SHEET 1 of 1

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