

BIOLOGICAL TECHNICAL REPORT

FOR THE

BEAUMONT POINTE SPECIFIC PLAN

**LOCATED IN WESTERN
RIVERSIDE COUNTY, CALIFORNIA**

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November 16, 2022

INFORMATION SUMMARY

- A. Report Date:** November 16, 2022
- B. Report Title:** Biological Technical Report for the Beaumont Pointe Specific Plan
- C. Project Site Location:** Unincorporated Riverside County within the City of Beaumont Sphere of Influence, California
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1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general and focused biological surveys in support of the Beaumont Pointe Specific Plan (the Project) for an approximately 622.46-acre Study Area, which encompasses the proposed Project site (539.87 acres¹), proposed off-site conservation lands (78.40 acres), and an offsite portion of the existing Jack Rabbit Trail easement (4.19 acres). The Project is located in unincorporated Riverside County, California, within the City of Beaumont (City) sphere of influence. This report identifies biological resources associated with the Study Area and evaluates impacts associated with the proposed Project in the context of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), the California Environmental Quality Act (CEQA), and State and Federal regulations such as the federal Endangered Species Act (FESA), Clean Water Act (CWA), California Endangered Species Act (CESA), and the California Fish and Game Code.

The scope of this report includes a discussion of existing conditions for the approximately 622.46-acre Study Area, all methods employed regarding the general and focused biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), and an analysis of impacts to biological resources associated with the Project. Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA and MSHCP requirements, including (1) general reconnaissance survey and vegetation mapping; (2) general biological surveys; (3) habitat assessments for special-status plant species (including species with applicable MSHCP survey requirements) as defined in Section 2.0 below; (4) habitat assessments for special-status wildlife species (including species with applicable MSHCP survey requirements) as defined in Section 2.0 below; (5) assessment for the presence of wildlife migration and colonial nursery sites; (6) assessments for MSHCP riparian/riverine areas and vernal pools; and (7) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act, State Water Quality Control Board pursuant to Section 401 of the Clean Water Act, and CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600–1616 of the California Fish and Game Code. Observations of all plant and wildlife species were recorded during the biological studies and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

¹ The Project's Land Use Plan reports 539.9 acres for the Project site, which is rounded to one decimal place. For the purpose of the biological impact analysis, all acreages are reported to one hundredth of an acre.

1.2 Relationship of the Project to the MSHCP

1.2.1 MSHCP Background

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats.

Through agreements with the USFWS and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts to these species for Projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements in order for these species to ultimately be considered “adequately conserved”. A number of these species have survey requirements based on a project’s occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell’s vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP *Volume I, Section 6.1.2*). An additional 28 species (MSHCP *Volume I, Table 9.3*) not yet adequately conserved have species-specific objectives in order for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands described within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and ungrouped, independent Cell has designated “criteria” for the purpose of targeting additional conservation lands for acquisition. Projects located within the Criteria Area are subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if lands are targeted for inclusion in the MSHCP Reserve. In addition, all Projects located within the Criteria Area are subject to the Joint Project Review (JPR) process, where the Project is reviewed by the Regional Conservation Authority (RCA) to determine overall compliance/consistency with the biological requirements of the MSHCP.

1.2.2 Criteria Refinement

The Project is within the Pass Area Plan as well as the Reche Canyon/Badlands Area Plan (Exhibit 2B depicts the boundary line for the two Area Plans), with the majority of the Project located within the MSHCP Criteria Area, specifically within Criteria Cells 933, 936, 1030, 1032, and 1125, and Cell Group A' [Exhibit 4A – MSHCP Overlay Map and Exhibit 12 – Reserve Assembly Analysis Map]. The lands described for conservation within the referenced Cells are intended to contribute to the assembly of Proposed Core 3 (*Volume 1, Section 3.2.3*). In general, the MSHCP defines a Core Area as a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species. Proposed Core Areas, such as Proposed Core 3, are assembled from existing PQP Lands and/or lands to be acquired as Additional Reserve Lands pursuant to the Criteria specified for the applicable Cells.

Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the MSHCP Plan Area [Exhibit 11A – Proposed Core 3 Map]. This Core consists mainly of private lands but also contains a few PQP parcels including De Anza Cycle Park. The Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. The Core also functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core.

Based on the existing Cell Criteria, the Project as designed would impact areas described for conservation. Portions of the *Volume 1, Section 6.5* (Criteria Refinement Process [CRP]) of the MSHCP states that individual public and private projects within the Plan Area are expected to be designed and implemented in accordance with the Criteria for each Area Plan presented in *Volume 1, Section 3.2* of the MSHCP document. Criteria Refinements are an important part of the Reserve Assembly process to achieve goals for Covered Species, Covered Habitats, etc. However, in cases where refinements to the Criteria are desirable to facilitate Reserve Assembly, including for development projects that would otherwise be inconsistent with the existing Criteria, the CRP described in *Volume 1, Section 6.5* shall apply. Criteria Refinements may be initiated by Local Permittees, or at the request of private entities to Local Permittees if agreed to by the applicable Local Permittee, either for purposes of correcting minor discrepancies or inaccuracies or for evaluating alternative conservation proposals involving single or multiple landowners and jurisdictions that are of equivalent or superior benefit to Covered Species. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the Refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species conservation goals. However, the CRP cannot be used for Criteria changes that would result in a reduction in the amount of conservation relative to the minimum acreages described by the Criteria. A Criteria Refinement can be approved with lesser conservation in one or more Cells provided that the decrease is made up with other lands in the Criteria Area not described by the Criteria that satisfy the goals for Covered Habitats, Covered Species, etc., or with lands outside of the Criteria Area that similarly satisfy the goals.

On behalf of the City of Beaumont and the Applicant (Beaumont Pointe Partners, LLC), GLA prepared a Criteria Refinement Process (CRP) analysis to modify the Criteria identified for Criteria Cells associated with lands to be developed as part of the Beaumont Pointe Specific Plan. GLA transmitted an initial CRP analysis to the RCA on February 8, 2022. Based on GLA's analysis, the RCA completed Criteria Refinement Review Findings to support the Criteria Refinement (#21-03-09-01), which were transmitted to USFWS and CDFW, referred to jointly as the Wildlife Agencies, on March 11, 2022. The Wildlife Agencies provided a comment letter to the City of Beaumont on May 12, 2022. The following is an excerpt of the comments from the Wildlife Agencies' letter:

The Beaumont Pointe Specific Plan development site is located in the Potrero/Badlands Subunit (Subunit 1) of The Pass Area Plan. The MSHCP Planning Species for the Potrero/Badlands Subunit include mountain lion, bobcat, the threatened Stephen's kangaroo rat, Bell's sparrow, and Southern California rufous-crowned sparrow, among other species. The maintenance of large blocks of Habitat for large mammal movement between the northern and southern sections of the San Bernardino National Forest, and Core and Linkage habitat for mountain lion are among the identified Biological Issues and Considerations (Section 3.2.3) for this Subunit.

To accommodate the wildlife movement considerations mentioned above, the California Department of Transportation and the Riverside County Transportation Commission expended significant local, State, and federal dollars to construct a wildlife crossing beneath State Route 60 (Highway 60) at the northwest end of the Project site to enabling large mammal movement between the interior of the Proposed Core 3 and the area north of Highway 60 and the San Bernardino National Forest. Public funds were expended identifying a location for this mammal crossing that is biologically appropriate (usable by mountain lions and bobcats), technically feasible (buildable), be financially feasible and would not constrain or jeopardize traffic flow on Highway 60. Years of effort went into selecting a feasible location, and then designing this undercrossing so that it would function to enable large mammal movement between Proposed Core 3 and the area north of Highway 60.

If the Project is built with the current design, the existing wildlife crossing would direct wildlife into a small north-south trending valley which terminates at a steep ridgeline with topography that does not facilitate animal movement into the interior of Proposed Core 3. We are concerned that mountain lion and bobcat use of the corridor would be inhibited by the narrowness of the canyon and the proximity of Project activities (the sights and sounds of people, moving vehicles, nighttime lighting, and noise on the Project site). Edge effects from adjacent development or disturbed areas can be biologically significant for distances of at least 300 meters within corridor areas (Beier 2018). Large mammals tend to be guided by terrain when moving across large landscapes such as utilizing valley and canyon bottoms preferentially over steep slopes. Mountain lions prefer relatively wide buffers between their movement corridors and nearby human activity, and in general wildlife corridors should be at least 2 km wide where feasible (Beier 2018).

To avoid the degradation of the existing large mammal crossing, the Wildlife Agencies request that the development footprint be modified to pull out of Criteria Cell 933 (approximately 34 acres) and include the larger connecting valley in the Criteria Refinement conservation strategy so that large mammals can traverse the valley southward into Proposed Core 3 and northward to the wildlife undercrossing. We understand that the proposed development footprint might shift to accommodate this change. We also acknowledge that some of the area in Criteria Cell 933 where we have requested avoidance is not described for conservation, however, the public investment in the Highway 60 undercrossing and the benefit to the MSHCP Conservation scenario should not be eroded by the Project.

GLA's initial CRP analysis proposed 230.82 acres of total conservation, including 49.55 acres in Cell 933. As noted by the above-referenced comments, the Wildlife Agencies requested that the proposed development footprint be revised to further pull away from the existing (recently constructed) large mammal crossing under State Route 60 (SR-60) within Cell 933. The Wildlife Agencies requested that the development footprint be pulled out of Cell 933 altogether, which, per their comment letter, would have increased the conservation in Cell 933 by another 34 acres compared with the initial Project proposal. On June 8, 2022, the Project Proponent transmitted to the RCA their proposed design revisions to address the Wildlife Agencies' comments, which the RCA then transmitted to the Wildlife Agencies. The proposed revisions do not pull the development footprint entirely out of Cell 933 (the revisions will increase the conservation by approximately 19 acres instead of 34 acres). However, the Wildlife Agencies agreed with the proposed project design revisions conserving the additional 19 acres in Cell 933 and indicated that the Project Proponent could move forward on submitting a revised CRP analysis to the RCA for finalization².

GLA prepared a revised CRP Analysis that was transmitted to the RCA on September 2, 2022. The revised CRP Analysis is based on the revised Project design that was reviewed by the Wildlife Agencies. Based on the revisions, the Project will conserve approximately 230.82 acres of land, resulting in an increase of 17.79 acres compared with the initial proposal. Approximately 206.89 acres of the Project site is described for conservation based on the Cell Criteria³ for Cells 933, 936, 1030, 1032, and 1125. Of the 206.89 acres of lands described for conservation within these Cells, the Project will impact 109.69 acres and conserve 97.20 acres. In addition, the Project will conserve another 55.22 acres of undescribed lands (onsite) within these Cells. All undescribed lands to be conserved are referred to in this analysis as

² The RCA notified the Project Proponent and the City of Beaumont via email on July 21, 2022, which also confirmed that same day via email by the Wildlife Agencies.

³ For a number of reasons, the MSHCP does not provide exact and specific areas to represent "described conservation" based on the stated Criteria for each Cell Group and independent Cell. As such, the actual acreages presented in this *Analysis* to represent MSHCP "described conservation" are based on GLA's hand-drawn GIS interpretation of the Cell Criteria as an approximation of the midrange goal of the described percentage range. For example, the Criteria for Cell 933 describes a conservation range of 20% to 30%, resulting in a conservation midrange of 25%. As presented in Appendix B of this *Analysis*, GLA adjusted the boundaries of the applicable Criteria Cells for GIS analysis due to discrepancies between existing County GIS and more accurate property survey boundaries, and to correct apparent errors in the initial establishment of the Criteria Cells. As a result, the acreages presented in this *Analysis* are close to but are not an exact representation of the midrange percentages (in some cases slightly less and in others slightly greater). Table 1-1 below presents an overall conservation surplus of 23.93 acres, although the actual surplus may be within a margin of error of one to two acres.

“replacement lands”. As such, the impacts and conservation are presented in the following four categories:

- Described Lands – Impact (109.69 acres)
- Described Lands – Proposed Conservation (97.20 acres)
- Undescribed Lands – Onsite Replacement (55.22 acres)
- Undescribed Lands – Offsite Replacement (78.40 acres)

The combined onsite conservation of described lands and replacement lands will result in a surplus of conservation in Cell 933 but are not enough to offset the impacts to 109.69 acres of described lands, resulting in an overall conservation deficit of 54.47 acres for Cells 936, 1030, 1032, and 1125. However, another 78.40 acres of offsite undescribed lands (replacement) will be conserved, including 37.89 acres in Cell Group A' and the 40.51 acres that are not within a Criteria Cell, but adjacent to Cell Group A', resulting in an overall conservation surplus of 23.93 acres for the Project. Table 1-1 below summarizes the proposed impacts and conservation. The areas of proposed impact and conservation (described and undescribed lands) are also depicted on Exhibit 12 [Reserve Assembly Analysis Map]. Table 1-2 compares the proposed conservation with the described conservation.

Table 1-1. Summary of Proposed Impacts and Conservation (in acres)

Criteria Cell	Described Conservation	Described Lands – Impact	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
<i>Onsite</i>					
933	37.85	16.04	21.81	47.03	30.99
936	25.51	24.19	1.32	0.00	(24.19)
1030	30.25	13.72	16.53	0.16	(13.56)
1032	81.76	42.75	39.01	5.54	(37.21)
1125	31.52	12.99	18.53	1.13	(11.86)
No Cell	N/A	N/A	N/A	1.36	1.36
<i>Onsite Subtotal</i>	206.89	109.69	97.20	55.22	(54.47)
			152.42 (onsite conservation)		
<i>Offsite</i>					
Cell 1125	N/A	N/A	N/A	37.89	37.89
No Cell	N/A	N/A	N/A	40.51	40.51
<i>Offsite Subtotal</i>				78.40	78.40
Total	206.89	109.69	97.20	133.62	23.93

Table 1-2. Summary of Proposed Versus Described Conservation (in acres)

	Proposed Conservation	Described Conservation	Conservation Surplus or (Deficit)
Onsite (Cells 933, 936, 1030, 1032, 1125)	152.42	206.89	(54.47)
<i>Onsite Subtotal</i>	<i>152.42</i>	<i>206.89</i>	<i>(54.47)</i>
Offsite (Cell Group A')	37.89	N/A	37.89
Offsite Lands not in Criteria Area	40.51	N/A	40.51
<i>Offsite Subtotal</i>	<i>78.40</i>	<i>N/A</i>	<i>78.40</i>
Totals	230.82	206.89	23.93

The RCA amended their Criteria Refinement Findings on September 9, 2022 and transmitted their Findings to the Wildlife Agencies for a final review. On November 9, 2022, the Wildlife Agencies issued a letter to the City of Beaumont concurring with the RCA’s Findings that the proposed Revised Criteria Refinement is superior or equivalent to conservation described within Proposed Core 3. Attached as Appendix C is GLA’s Criteria Refinement Analysis (Appendix C-1), the RCA’s Criteria Refinement Review Findings (Appendix C-2) and the Wildlife Agencies’ concurrence letter (Appendix C-3).

1.2.3 MSHCP Survey Requirements

The Study Area is located within the MSHCP Burrowing Owl Survey Area and partially within NEPSSA survey area 8 [Exhibit 4B – MSHCP Overlay Survey Areas Map]. No part of the Study Area is located within the CAPSSA or within the MSHCP Mammal or Amphibian Survey Areas. Within the designated Survey Areas, the MSHCP requires habitat assessments and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of a property that provide long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP plan area. Findings of equivalency shall be made demonstrating that the 90-percent standard has been met, if applicable. If equivalency findings cannot be demonstrated, then “biologically equivalent or superior preservation” must be provided and a Demonstration of Biologically Equivalent or Superior Preservation (DBESP) must be processed through coordination with USFWS and CDFW.

Section 3.2.3 of the MSHCP also identifies the following Planning Species for Proposed Core 3: southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), cactus wren (*Campylorhynchus brunneicapillus*), loggerhead shrike

(*Lanius ludovicianus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), Stephens' kangaroo rat (*Dipodomys stephensi*), bobcat (*Lynx rufus*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), mountain lion (*Puma concolor*), and Nevin's barberry (*Berberis nevinii*). For those Planning Species where suitable habitat is present within the Study Area and will be conserved by the Project (southern California rufous-crowned sparrow, Bell's sage sparrow, loggerhead shrike, Stephens' kangaroo rat, bobcat, and mountain lion, the Project will support the conservation goals for those species through the proposed conservation.

Several drainage features that are considered MSHCP riparian/riverine resources are present within the Study Area, which are subject to MSHCP riparian/riverine policies (Volume I, Section 6.1.2) that address the treatment of riparian/riverine areas or vernal pools, and survey requirements for riparian birds, including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and listed fairy shrimp, as appropriate based on the potential or lack of potential for these areas to support riparian/riverine species.

1.3 Study Area Location

The Study Area comprises approximately 622.46 acres in unincorporated Riverside County, California [Exhibit 1 – Regional Map], is inclusive of the proposed Project and proposed off-site conservation lands, and is located within Sections 1, 2, and 12 of Township 3 South and Range 2 West of the U.S. Geological Survey (USGS) 7.5" quadrangle map El Casco, California (dated 1967 and photorevised in 1979) [Exhibit 2 – Vicinity Map]. The Study Area is generally bordered by State Route 60 (SR-60) to the north, undeveloped land and existing MSHCP conserved lands to the south and west, and an active construction site to the east.

1.4 Project Description

The Project Applicant (Beaumont Pointe Partners, LLC) proposes to develop the 539.9-acre Project Site with recreational/entertainment commercial development comprising up to 246,000 square feet (sf) of general commercial uses in addition to a 125-room hotel (approximately 90,000 sf) and up to 4,995,000 sf of industrial and warehouse uses [Exhibit 3 – Site Plan Map]. The Project is anticipated to be developed in three phases with buildout projected by 2027.

The Project site contains 277.12 acres of proposed open space, including 124.70 acres referred to in this report as "Project Maintained Open Space" (Planning Area 9 in the Project's Land Use Plan) consisting of open space to be managed by the Project, and 152.42 acres designated as "Conservation Land" that would be conserved as natural habitat to support Reserve Assembly as required by the MSHCP [Exhibit 3 – Site Plan Map]. Portions of the 124.70 acres in the Project Maintained Open Space will be impacted by remedial grading, improved with manufactured slopes, and/or used for wildfire fuel modification purposes. Disturbed areas within the Project Maintained Open Space will be replanted with native vegetation to the greatest extent possible and will serve as a buffer between the development footprint and the proposed Additional Reserve Lands (ARL), which represent the onsite lands to be conserved and included as part of the broader MSHCP Conservation Area. The Project Applicant is also proposing to conserve 78.40 acres of land located adjacent to but outside of the Project site boundary for MSHCP

Reserve Assembly. The Study Area (622.46 acres) is comprised of the 539.87-acre Project site (rounded to 539.9 acres for Land Use Plan references), 78.40 acres of offsite conservation, and 4.19 acres associated with a portion of the offsite Jack Rabbit Trail right-of-way. Altogether, a total of 230.82 acres is proposed for conservation in support of MSHCP Reserve Assembly (comprised of 152.42 acres in the Project site and 78.40 acres of offsite conservation).

The Project would construct /improve four main roadways for on-site circulation, including 4th Street, Jack Rabbit Trail, Entertainment Avenue, and Industrial Way. 4th Street would be constructed along the southern boundary of the Project site from Jack Rabbit Trail at the easterly edge of the Project site and would extend from its current proposed terminus to the east at Jack Rabbit Trail, culminating at a cul-de-sac with a 40-foot private access road.

Jack Rabbit Trail is an existing privately maintained two-lane private access road that runs from the Jack Rabbit Trail/SR-60 interchange, through the Project site and continuing farther south to eventually connect to Gilman Springs Road to the south. The Project would reroute the section of Jack Rabbit Trail from the SR-60 interchange to 4th Street to connect with the existing access Jack Rabbit Trail at the southern edge of the Project site. Entertainment Avenue, a proposed private road, would be constructed as a curvilinear street connecting Jack Rabbit Trail and 4th Street. Industrial Way, a proposed private access road, would be constructed along the northern boundary of the Project.

Regional access to the Project site would be provided from SR-60 at Potrero Boulevard and I-10 at Beaumont Avenue. Local access to the Project site would be provided from the future extension of 4th Street from Jack Rabbit Trail to Potrero Boulevard currently under construction as part of the adjacent Hidden Canyon project; 4th Street between Jack Rabbit Trail and Potrero Boulevard is planned as an industrial collector with a 78-foot right-of-way and 56-foot curb-to-curb, which is consistent with the width of 4th Street and the eastern end of the Project site. Access from the Project site to the SR-60 via Jack Rabbit Trail is proposed to be restricted, with the northerly portion of Jack Rabbit Trail to the SR-60/Jack Rabbit Trail interchange utilized as secondary emergency egress (and fire and emergency vehicle ingress) only.

The Project's fuel modification limits will partially extend in the Project Maintained Open Space but will not encroach into the existing MSHCP Conservation Area or the ARL proposed by the Project.

2.0 METHODOLOGY

In order to adequately identify biological resources in accordance with the requirements of CEQA and the MSHCP, Glenn Lukos Associates (GLA) assembled biological data for the Study Area consisting of the following main components:

- Delineation of aquatic resources (including wetlands and riparian habitat) potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), CDFW, and MSHCP riparian/riverine areas and vernal pools policy;

- Performance of vegetation mapping;
- Performance of habitat assessments and site-specific biological surveys to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA and the MSHCP;
- Performance of a focused survey for rare plants;
- Performance of a focused survey for burrowing owl; and
- Performance of a wildlife movement study.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDDB) [CDFW 2022], the California Native Plant Society (CNPS) 8th edition online inventory (CNPS 2022), the Natural Resource Conservation Service soil data (NRCS 2022), MSHCP species and habitat maps and sensitive soil maps (Dudek 2003), other pertinent literature, and knowledge of the region. Site-specific general surveys within the Study Area were conducted on foot for each target plant or animal species identified below. Table 2-1 provides a summary list of survey dates, survey types, and personnel.

Table 2-1. Summary of Biological Surveys for the Study Area

Survey Type	2019 Survey Dates	Biologists
General Biological Surveys	4/10, 4/15	DM, JF, JS, ZW
Evaluation of MSHCP Riparian/Riverine Areas	4/15, 11/19, 12/6	JF, LLG, MAR, ZW
Evaluation of MSHCP Vernal Pools and Fairy Shrimp Habitat	4/15, 5/1, 11/19, 12/6	DM, ZW
Delineation of Federal and State Jurisdictional Waters	4/15, 11/19, 12/6	JF, LLG, MAR, ZW
Focused Plant Surveys	4/10, 4/15, 5/1, 5/23, 5/30	DM, JF, JS, SC, AN, TM, ZW
Focused Burrowing Owl Surveys	7/23, 7/24, 8/1, 8/21	JF

JF = Jason Fitzgibbon
 JS = Jillian Stephens
 MAR = Martin Rasnick

SC = Stephanie Cashin
 ZW = Zack West

AN = April Nakagawa
 DM = David Moskovitz

TM = Trina Ming
 LLG = Lesley Lokovic Gamber

Individual plants and wildlife species were evaluated for this report based on their “special-status.” For this report, plants were considered “special-status” based on one or more of the following criteria:

- Listing⁴ through the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA);
- Designation as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3, or 4; and/or
- Designation by the MSHCP as a NEPSSA target species.

Wildlife species were considered “special-status” based on one or more of the following criteria:

⁴ “Listing” refers to species designated as Endangered or Threatened pursuant to FESA or CESA, i.e., those species that are listed in one of these categories, and in the case of CESA also includes Candidate species.

- Listing through FESA/CESA;
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species; and/or
- Species requiring specific survey actions under the MSHCP; and/or
- Species identified as MSHCP planning species for Proposed Core 3.

Vegetation communities and habitats were considered “special-status” based on one or more of the following criteria:

- Global (G) and/or State (S) ranking of category 3 or less based on CDFW designation (see Section 3.2.2 below for further explanation); and
- Riparian/riverine habitat.

2.1 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Study Area, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Study Area; (3) general field reconnaissance surveys; (4) vegetation mapping according to Holland (1986); and (5) habitat assessments and focused surveys for special-status plants (including those with MSHCP requirements).

2.1.1 Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39) (CNPS 2022); and
- CNDDDB for the USGS 7.5’ quadrangles: El Casco, California and surrounding quadrangles (CDFW 2022).

2.1.2 Vegetation Mapping

Vegetation communities within the Study Area were mapped according to Holland (1986). Plant communities were mapped in the field directly onto a 200-scale (1”=200’) aerial photograph.

2.1.3 Special-Status Plant Species and Habitats Evaluated for the Study Area

A literature search was conducted to obtain a list of special-status plants with the potential to occur within the Study Area. The CNDDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to

develop a list of target species for the survey program included the CNPS online inventory (2022) and the MSHCP (Dudek 2003).

The Study Area is located within NEPSSA designated survey area 8. Pursuant to the MSHCP, the following target species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): many-stemmed dudleya (*Dudley multicaulis*; CRPR 1B.2) and Yucaipa onion (*Allium marvinii*; CRPR 1B.2).

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Study Area were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) identify the potential for any special-status plants that may occur within the Study Area; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Study Area, if applicable.

2.1.4 Botanical Surveys

GLA biologists Zack West, David Moskovitz, Jillian Stephens, Trina Ming, April Nakagawa, Stephanie Cashin, and Jason Fitzgibbon visited the Study Area on April 10, April 15, May 1, May 23, and May 30, 2019⁵, to conduct general and focused plant surveys. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFG 2009, CNPS 2001, USFWS 2000). As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods and had the greatest focus on portions of the Study Area that are proposed for development by the Project [Exhibit 3]. 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 Study Area. 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 adopted by CNPS (2010) and CDFW (Nelson 1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al. (2012), and Munz (1974).

2.2 Wildlife Resources

Wildlife species were evaluated and detected during the field surveys by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Study Area by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visits. A complete list of wildlife species observed within the Study Area is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFG 2008), Standard Common and Scientific Names for North American Amphibians,

⁵ The 2018-2019 rainfall season was about average, with approximately 13 inches of total rainfall (based on rain gauge data) for the season, with the majority of the rainfall occurring in January through March, which is the critical period to support plant growth and flowering.

Turtles, Reptiles, and Crocodilians 6th Edition, Collins and Taggart (2009) for amphibians and reptiles, and the American Ornithologists' Union Checklist 7th Edition (2009) for birds. The methodology (including any applicable survey protocols) utilized to conduct general surveys, habitat assessments, and focused surveys for special-status animals are included below.

2.2.1 General Surveys

Birds

During the general biological and reconnaissance survey within the Study Area, birds were identified incidentally within each habitat type. Birds were detected by both direct observation and by vocalizations and were recorded in field notes.

Mammals

During general biological and reconnaissance survey within the Study Area, mammals were identified incidentally within each habitat type. Mammals were detected both by direct observations and by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

Reptiles and Amphibians

During general biological and reconnaissance surveys within the Study Area, reptiles and amphibians were identified incidentally during surveys within each habitat type. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.2.2 Special-Status Animal Species Evaluated for the Study Area

A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Study Area. Species were evaluated based on three factors, including: 1) species identified by the CNDDDB as occurring (either currently or historically) on or in vicinity of the Study Area, (2) species survey areas as identified by the MSHCP for the Study Area; and 3) any other special-status animals that are known to occur within the vicinity of the Study Area, or for which potentially suitable habitat occurs within the Study Area.

2.2.3 Habitat Assessment for Special-Status Animal Species

GLA biologists Zack West, Jillian Stephens, Jason Fitzgibbon, and Dave Moskovitz conducted habitat assessments for special-status animal species on April 1 and April 15, 2019. An aerial photograph, soil map and topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Study Area.

2.2.4 Focused Surveys for Special-Status Animals Species

Burrowing Owl

The Study Area is located within the MSHCP survey area for the burrowing owl (*Athene cunicularia*). GLA biologist Jason Fitzgibbon conducted focused surveys for the burrowing owl for all suitable habitat areas within the Study Area. Surveys were conducted in accordance with survey guidelines described in the 2006 MSHCP Burrowing Owl Survey Instructions. The guidelines stipulate that four focused-survey visits be conducted on separate dates between March 1 and August 31. Within areas of suitable habitat, the MSHCP first requires a focused burrow survey to map all potentially suitable burrows. Focused burrowing owl surveys were conducted on July 23, July 24, August 1, and August 21, 2019. Based on the amount of suitable habitat, the Study Area was divided into two survey polygons, with one polygon surveyed in the morning and the second polygon surveyed around dusk. The morning surveys were conducted within a period from one hour prior to sunrise to two hours after sunrise and continued while the potential to observe burrowing owls and general bird activity continued to be high, and the dusk surveys from two hours before sunset to one hour after sunset.

Both the burrow and owl 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. Additionally, all work was performed more than 5 days after a rain event. Refer to Table 2-2 below for survey condition details.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Transects were spaced between 22 feet and 65 feet apart, adjusting for vegetation height and density, in order to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 320 feet along 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) in order to identify potentially occupied burrows. Table 2-2 summarizes the burrowing owl survey visits. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

Table 2-2. Summary of Burrowing Owl Surveys

Survey Date	Biologist	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Visibility
7/23/2019	JF	0555/1035	71/91	0/2	High
		1845/2055	92/88	4/0	High
7/24/2019	JF	0615/1015	77/94	0/5	High
		1810/2040	88/78	4/2	High
8/1/2019	JF	0540/0955	67/82	0/0	High
		1810/2055	96/86	7/2	High
8/21/2019	JF	0530/1010	77/91	0/0	High
		1750/2040	94/82	0/2	High

JF = Jason Fitzgibbon

2.3 Jurisdictional Waters

The Project was delineated to identify the limits of jurisdictional waters, including waters of the U.S. (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and waters of the State (including riparian vegetation) subject to the jurisdiction of CDFW. Prior to beginning the field delineation, a 200-scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/CDFW jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils, and hydrology. Potential wetland habitats at the subject site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual⁶ (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement)⁷. The presence of an Ordinary High Water Mark (OHWM) was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States⁸ in conjunction with the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.⁹ While in the field the limits of the OHWM, wetlands (if applicable), and CDFW jurisdiction were recorded using GPS technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets.

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

Volume I, Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine 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; or areas with fresh water flow during all or a portion of the year.*

⁶ Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

⁷ U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

⁸ Lichvar, R. W., and S. M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. (<http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf>).

⁹ Curtis, Katherine E. and Robert Lichevar. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

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 indicators of hydrology and/or vegetation during the drier portion of the growing season.*

With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.

GLA biologists Zack West and David Moskovitz surveyed the Study Area for riparian/riverine areas and vernal pool/seasonal pool habitat, including features with the potential to support fairy shrimp. To assess for vernal/seasonal pools (including fairy shrimp habitat), 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 2019 rainfall season, including April 15, May 1, November 19, and December 6, 2019.

3.0 REGULATORY SETTING

The proposed Project is subject to state and federal laws and regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including: state- and federally-listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; special-status species which are not listed as threatened or endangered by the state or federal governments; and special-status vegetation communities.

3.1 Endangered Species Acts

3.1.1 California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list."

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.” Under the CESA, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Exceptions authorized by the state to allow “take” require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

The FESA of 1973 defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of FESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification that result in injury to, or death of species as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

3.1.3 State and Federal Take Authorizations

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to

implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the CESA require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.1.4 Take Authorizations Pursuant to the MSHCP

The Western Riverside County MSHCP was approved on June 17, 2003, and an Implementing Agreement (IA) was executed between the federal and state wildlife agencies and participating entities. The MSHCP is a comprehensive habitat conservation-planning program for western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the MSHCP, and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species pursuant to Section 10(a) of the FESA.

Through agreements with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), the MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 “Covered Species” designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through project participation with the MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. As noted above, project-specific survey requirements exist for species designated as “Covered Species not yet adequately conserved”. These include Narrow Endemic Plant Species, as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species identified by the Criteria Area Species Survey Areas (CASSA); animals species as identified by survey area; and plant and animal species associated with riparian/riverine areas and vernal pool habitats (*Volume I, Section 6.1.2* of the MSHCP document).

For projects that have a federal nexus such as through federal Clean Water Act Section 404 permitting, take authorization for federally listed covered species would occur under Section 7 (not Section 10) of FESA and that USFWS would provide a MSHCP consistency review of the proposed project, resulting in a biological opinion. The biological opinion would not require more mitigation (including conservation) than what is required to be consistent with the MSHCP.

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.1.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants CNPS Ranked 3 or 4.

3.2.2 Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal Candidate Species (former C1 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (CFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDDB project. Informally listed taxa are not protected but warrant

consideration in the preparation of biotic assessments. For some species, the CNDDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State Candidate for listing as Endangered
- SCT State Candidate for listing as Threatened
- CFP California Fully Protected
- SP State Protected
- SSC State Species of Special Concern

CNDDDB Global/State Rankings

The CNDDDB provides global and state rankings for species and communities based on a system developed by The Nature Conservancy to measure rarity of a species. The ranking provides a shorthand formula about how rare a species/community is and is based on the best information available from multiple sources, including state and federal listings, and other groups that recognize species as sensitive (e.g., Bureau of Land Management, Audubon Society, etc.). State and global rankings are used to prioritize conservation and protection efforts so that the rarest species/communities receive immediate attention. In both cases, the lower ranking (i.e., G1 or S1) indicates extreme rarity. Rare species are given a ranking from 1 to 3. Species with a ranking of 4 or 5 is considered to be common. If the exact global/state ranking is undetermined, a range is generally provided. For example, a global ranking of “G1G3” indicates that a species/community global rarity is between G1 and G3. If the animal being considered is a subspecies of a broader species, a “T” ranking is attached to the global ranking. The following are descriptions of global and state rankings:

Global Rankings

- G1 – Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or because of some factor(s) making it especially vulnerable to extinction.
- G2 – Imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range.
- G3 – Either very rare and local throughout its range (21 to 100 occurrences) or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or because of some other factor(s) making it vulnerable to extinction throughout its range.
- G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 – Common, widespread, and abundant.

State Rankings

- S1 – Extremely rare; typically 5 or fewer known occurrences in the state; or only a few remaining individuals; may be especially vulnerable to extirpation.
- S2 – Very rare; typically between 6 and 20 known occurrences; may be susceptible to becoming extirpated.
- S3 – Rare to uncommon; typically 21 to 50 known occurrences; S3 ranked species are not yet susceptible to becoming extirpated in the state but may be if additional populations are destroyed.
- S4 - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 - Common, widespread, and abundant in the state.

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Eighth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five ranks. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS has developed five categories of rarity that are summarized in Table 3-1.

Table 3-1. CNPS Ranks 1, 2, 3, & 4, and Threat Code Extensions

CNPS Rank	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the “Inventory” and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	Comments
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 Jurisdictional Waters

3.3.1 Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

- (1) *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
- (2) *All interstate waters including interstate wetlands;*
- (3) *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:*
 - (i) *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
 - (ii) *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
 - (iii) *Which are used or could be used for industrial purpose by industries in interstate commerce...*
- (4) *All impoundments of waters otherwise defined as waters of the United States under the definition;*
- (5) *Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;*
- (6) *The territorial seas;*
- (7) *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*
- (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

1. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term “wetlands” (a subset of “waters of the United States”) is defined at 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions.” In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be hydrophytic in nature as published in the most current national wetland plant list;
- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with “problematic hydrophytic vegetation”, which require a minimum of 14 days of ponding to be considered a wetland.

2. Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by migratory birds or endangered species, and the definition of “waters of the United States” in Corps regulations was modified as quoted above from 33 CFR 328.3(a).

On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the Clean Water Act.

The written opinion notes that the court's previous support of the Corps' expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc.*) was for a wetland that abutted a navigable water and that the court did not express any opinion on the question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.

Therefore, we believe that the court's opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the Clean Water Act (regardless of any interstate commerce connection). However, the Corps and EPA have issued a joint memorandum which states that they are interpreting the ruling to address only the migratory bird issue and leaving the other interstate commerce clause nexuses intact.

3. Rapanos v. United States and Carabell v. United States

On June 5, 2007, the EPA and Corps issued joint guidance that addresses the scope of jurisdiction pursuant to the Clean Water Act in light of the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* ("Rapanos"). The information below was provided in the joint EPA/Corps guidance.

For sites that include waters other than Traditional Navigable Waters (TNWs) and/or their adjacent wetlands or Relatively Permanent Waters (RPWs) tributary to TNWs and/or their adjacent wetlands, as set forth below, the Corps must apply the "significant nexus" standard.

For "isolated" waters or wetlands, the joint guidance also requires an evaluation by the Corps and EPA to determine whether other interstate commerce clause nexuses, not addressed in the SWANCC decision are associated with isolated features on project sites for which a jurisdictional determination is being sought from the Corps.

The Corps and EPA will assert jurisdiction over the following waters:

- Traditional navigable waters.
- Wetlands adjacent to traditional navigable waters.
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).
- Wetlands that directly abut such tributaries.

The Corps and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:

- Non-navigable tributaries that are not relatively permanent.
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent.

- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow).
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters.
- Significant nexus includes consideration of hydrologic and ecologic factors.

3.3.2 Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States¹⁰ and waters of the State. Waters of the United States are defined above in Section II.A and waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

¹⁰ Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code of Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be “waters of the U.S.” in an approved jurisdictional determination; “waters of the U.S.” identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of “waters of the U.S.” or any current or historic federal regulation defining “waters of the U.S.” under the federal Clean Water Act.

1. State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

The following wetlands are waters of the State:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state;¹¹ and*
3. *Artificial wetlands¹² that meet any of the following criteria:*
 - a. *Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;*
 - b. *Specifically identified in a water quality control plan as a wetland or other water of the state;*
 - c. *Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or*
 - d. *Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):*
 - i. *Industrial or municipal wastewater treatment or disposal,*
 - ii. *Settling of sediment,*
 - iii. *Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,*
 - iv. *Treatment of surface waters,*
 - v. *Agricultural crop irrigation or stock watering,*
 - vi. *Fire suppression,*
 - vii. *Industrial processing or cooling,*
 - viii. *Active surface mining – even if the site is managed for interim wetlands functions and values,*
 - ix. *Log storage,*
 - x. *Treatment, storage, or distribution of recycled water, or*

¹¹ “Created by modification of a surface water of the state” means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.

¹² Artificial wetlands are wetlands that result from human activity.

- xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or*
- xii. Fields flooded for rice growing.¹³*

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

3.3.3 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

¹³ Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

4.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals, an assessment for MSHCP riparian/riverine areas and vernal pools, and a jurisdictional delineation for waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

4.1 Existing Conditions

Topography within the approximately 622.46-acre Study Area consists of gently sloping to steeply sloping hills divided by canyons. Elevations within the Study Area range from approximately 2,230 to 2,510 feet above mean sea level (amsl), with highest elevations occurring along a central divide between the northeastern and southwestern portions of the Study Area. The northeastern portion of the property adjacent to State Route 60 generally consists of gentle valleys and flats and has been subject to decades-long ongoing and historical disturbance in the form of grazing and unauthorized off-road motorized vehicle use. The vegetation community in this area is primarily non-native grassland with Riversidean sage scrub occurring on the hills that divide each valley (Exhibit 5 – Vegetation Map) and is discussed in more detail below. The southwestern and southern portions of the Study Area have been subject to a much lesser degree of disturbance due to steep terrain consisting of canyons divided by ridgelines occurring in a heavily eroded landscape associated with the badlands formation. Unpaved access roads also occur throughout the site, the majority of which are located along the northeastern portion of the Study Area and serve as utility access. In addition, the existing paved Jack Rabbit Trail (not publicly maintained) traverses the southeastern portion of the property.

The Natural Resource Conservation Service (NRCS) identifies the following soil series as occurring (currently or historically) within the Study Area [Exhibit 6 – Soils Map]: Badland, Greenfield sandy loam, Monserate sandy loam, Ramona sandy loam, San Emigdio fine sandy loam, San Emigdio loam, and San Timoteo loam.

4.2 Vegetation Mapping

The Study Area supports the following vegetation/land cover types: chaparral, non-native grassland, Riversidean sage scrub, southern riparian scrub, disturbed areas, and developed areas (Jack Rabbit Trail). Table 4-1 provides a summary of the vegetation/land cover types and their corresponding acreage. Descriptions of each vegetation/land cover type follow the table. A vegetation map is attached as Exhibit 5 and photographs depicting the Study Area are included as Exhibit 13 (Site Photographs).

Table 4-1. Summary of Vegetation Communities /Land Cover Types for the Study Area

VEGETATION/LAND USE TYPE	ACREAGE
Non-Native Grassland	462.56
Riversidean Sage Scrub	137.35
Chaparral	1.88
Southern Riparian Scrub	1.23
Disturbed	17.43
Developed	2.01
Total	622.46

Chaparral

Approximately 1.88 acres of chaparral occur in small pockets within the southwestern portion of the Study Area. Within the Study Area, this plant community is dominated by sugar bush (*Rhus ovata*) and toyon (*Heteromeles arbutifolia*). Additional species that comprise this community within the Study Area include black sage (*Salvia mellifera*), scrub oak (*Quercus berberidifolia*), and spiny redberry (*Rhamnus crocea*). Based on the dominant species of sugar bush and toyon, this vegetation community would also be characterized as a Sugarbush Chaparral Alliance (S4 Ranking) or a Laurel Sumac Scrub Alliance (S4 Ranking), neither of which are considered sensitive vegetation communities.

Non-Native Grassland

The Study Area supports approximately 462.56 acres of non-native grassland. This plant community is present throughout the Study Area, primarily on flat and gentle-sloping areas within the northeastern portion of the Study Area, where it appears to have become the dominant vegetation community as a result of historic grazing practices. This community has also extended into the southwesterly portion of the Study Area, where it has naturalized on steep slopes that allow it can outcompete native vegetation, which has more difficulty establishing due to the steep gradient. These areas are dominated with species such as Madrid brome (*Bromus madritensis*), ripgut grass (*Bromus diandrus*), slender wild oat (*Avena barbata*), Russian thistle (*Salsola tragus*), summer mustard (*Hirschfeldia incana*), and doveweed (*Croton setiger*). Other commonly occurring species in this vegetation community include common sand-aster (*Corethrogyne filaginifolia*), prickly lettuce (*Lactuca serriola*), long-stem wild buckwheat (*Eriogonum elongatum*), stinknet (*Oncosiphon piluliferum*), tree tobacco (*Nicotiana glauca*), and common sunflower (*Helianthus annuus*). Scattered elderberry (*Sambucus nigra* ssp. *caerulea*) trees also occur sporadically throughout the non-native grassland community.

Riversidean Sage Scrub

The Study Area supports approximately 137.35 acres of Riversidean sage scrub, primarily in the southwestern portion of the Study Area [Exhibit 5 – Vegetation Map]. This community also occurs within the northeastern portion of the Study Area, where it was believed to have been historically dominant; Riversidean sage scrub remains on the hills that separate each valley where cattle had more difficulty accessing during historic grazing practices. This plant community is comprised of a mosaic of dominant plant species, including California buckwheat (*Eriogonum fasciculatum*), California sage brush (*Artemisia californica*), black sage (*Salvia mellifera*), Palmer’s goldenbush (*Ericameria palmeri*), and brittlebush (*Encelia farinosa*).

Chaparral yucca (*Hesperoyucca whipplei*) and Mojave yucca (*Yucca schidigera*) also occur sporadically within this vegetation community. Based on the primary dominant species (California buckwheat), this vegetation community would also be characterized as a California Buckwheat Scrub Alliance, which has a S5 ranking and is not considered a sensitive vegetation community.

Southern Riparian Scrub

The Study Area supports approximately 1.23 acres of southern mixed riparian, which occurs in small patches within the canyons that occur along the southwestern portion of the Study Area. Within each patch, this community is dominated by a single species or a mosaic of species, which include mule fat (*Baccharis salicifolia*), sand bar willow (*Salix exigua*), yellow willow (*Salix lutea*), sycamore (*Platanus racemosa*), and narrowleaf cattail (*Typha domingensis*). Riparian communities in general are considered to be sensitive vegetation communities pursuant to CEQA.

Disturbed

Disturbed areas account for 17.43 acres throughout the Study Area. This land use type consists of a network of dirt access roads, the majority of which occur within the northeastern portion of the Study Area. Disturbed areas are generally devoid of vegetation; however, some ruderal species occur sporadically in these areas.

Developed

The existing Jack Rabbit Trail accounts for approximately 2.01 acres within the southeastern portion of the Study Area and consists of a privately maintained paved road providing local access to property owners.

4.3 Special-Status Vegetation Communities

The CNDDDB identifies the following ten special-status vegetation communities for the El Casco, California and surrounding quadrangle maps: Canyon Live Oak Ravine Forest, Desert Fan Palm Oasis Woodland, Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub. The Study Area contains a single special-status vegetation community, Southern Riparian Scrub (as described above in Section 4.2, above). The Riversidean sage scrub and chaparral communities are not considered to be sensitive based on their state rankings.

4.4 Special-Status Plants

No special-status plants were detected at the Study Area. Table 4-2 provides a list of special-status plants evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors: 1) species identified by the CNDDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Study Area, 2) applicable MSHCP survey areas, and 3) any other special-

status plants that are known to occur within the vicinity of the Study Area, or for which potentially suitable habitat occurs within the site.

Table 4-2. Special-Status Plants Evaluated for the Study Area

Species Name	Status	Habitat Requirements	Potential for Occurrence
California satintail <i>Imperata brevifolia</i>	Federal: None State: None CNPS: Rank 2B.1 MSHCP: None	Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub.	Confirmed absent within the development footprint.
California screw moss <i>Tortula californica</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Sandy soil in chenopod scrub, and valley and foothill grassland.	Confirmed absent within the development footprint.
Chaparral sand verbena <i>Abronia villosa</i> var. <i>aurita</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy soils in chaparral, coastal sage scrub.	Confirmed absent within the development footprint. Potential to occur within the proposed conservation areas.
Colorado Desert larkspur <i>Delphinium parishii</i> ssp. <i>subglobosum</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: None	Chaparral, cismontane woodland, pinyon and juniper woodland, Sonoran desert scrub.	Confirmed absent within the development footprint.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Playas, vernal pools, marshes and swamps (coastal salt).	Confirmed absent within the development footprint.
Davidson's saltscale <i>Atriplex serenana</i> var. <i> davidsonii</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP (d)	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Confirmed absent within the development footprint.
Duran's rush <i>Juncus duranii</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: Not covered	Mesic soils in lower and upper montane coniferous forests, meadows and seeps.	Confirmed absent within the development footprint.
Hall's monardella <i>Monardella macrantha</i> ssp. <i>hallii</i>	Federal: None State: None CNPS: Rank 1B.3 MSHCP: MSHCP	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland.	Confirmed absent within the development footprint.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(d)	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Confirmed absent within the development footprint.
Jaeger's (bush) milk-vetch <i>Astragalus pachypus</i> var. <i>jaegeri</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland.	Confirmed absent within the development footprint. Potential to occur within the proposed conservation areas.
Johnston's bedstraw <i>Galium johnstonii</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: None	Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland.	Confirmed absent within the development footprint.
Laguna Mountains jewelflower <i>Streptanthus bernardinus</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: Not covered	Chaparral and lower montane coniferous forest.	Confirmed absent within the development footprint.
Lemon lily <i>Lilium parryi</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP (f)	Mesic soils in lower montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest.	Confirmed absent within the development footprint.
Little mousetail <i>Myosurus minimus</i> ssp. <i>apus</i>	Federal: None State: None CNPS: Rank 3.1 MSHCP: MSHCP (d)	Valley and foothill grassland, vernal pools (alkaline soils).	Confirmed absent within the development footprint.
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Confirmed absent within the development footprint.
Many-stemmed dudleya <i>Dudleya multicaulis</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP (b)	Openings in chaparral, coastal sage scrub, and valley and foothill grasslands, often on clay soils.	Confirmed absent within the development footprint.
Marsh sandwort <i>Arenaria paludicola</i>	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: None	Bogs and fens, freshwater marshes and swamps.	Confirmed absent within the development footprint.
Mesa horkelia <i>Horkelia cuneata</i> var. <i>puberula</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Confirmed absent within the development footprint.
Mojave tarplant <i>Deinandra mohavensis</i>	Federal: None State: SE CNPS: Rank 1B.3 MSHCP: MSHCP (e)	Chaparral (mesic soils) and riparian scrub.	Confirmed absent within the development footprint.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Mud nama <i>Nama stenocarpum</i>	Federal: None State: None CNPS: Rank 2B.2 MSHCP: MSHCP (d)	Marshes and swamps	Confirmed absent within the development footprint.
Nevin's barberry <i>Berberis nevinii</i>	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP (d)	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub.	Confirmed absent within the development footprint.
Ocellated humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP (f)	Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings.	Confirmed absent within the development footprint.
Palmer's mariposa lily <i>Calochortus palmeri</i> var. <i>palmeri</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Mesic soils in chaparral, lower montane coniferous forest, and meadows and seeps.	Confirmed absent within the development footprint.
Paniculate tarplant <i>Deinandra paniculata</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Usually in vernal mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Confirmed absent within the development footprint.
Parish's brittlescale <i>Atriplex parishii</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP (d)	Chenopod scrub, playas, vernal pools.	Confirmed absent within the development footprint.
Parish's bush-mallow <i>Malacothamnus parishii</i>	Federal: None State: None CNPS: Rank 1A MSHCP: None	Chaparral and coastal scrub	Confirmed absent within the development footprint.
Parish's checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Federal: None State: Rare CNPS: Rank 1B.2 MSHCP: None	Chaparral, cismontane woodland, and lower montane coniferous forest.	Confirmed absent within the development footprint.
Parish's gooseberry <i>Ribes divaricatum</i> var. <i>parishii</i>	Federal: None State: None CNPS: Rank 1A MSHCP: None	Riparian woodland.	Confirmed absent within the development footprint.
Parish's rupertia <i>Rupertia rigida</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: Not covered	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, pebble (pavement) plain, valley and foothill grassland.	Confirmed absent within the development footprint.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Confirmed absent within the development footprint. Potential to occur within the proposed conservation areas.
Payson's jewelflower <i>Caulanthus simulans</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Sandy or granitic soils in chaparral and coastal scrub.	Confirmed absent within the development footprint.
Peninsular spineflower <i>Chorizanthe leptotheca</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Alluvial fan, granitic. Chaparral, coastal scrub, lower montane coniferous forest.	Confirmed absent within the development footprint.
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Marshes and swamps (freshwater).	Confirmed absent within the development footprint.
Plummer's mariposa lily <i>Calochortus plummerae</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Confirmed absent within the development footprint.
Robinson's pepper grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: None	Chaparral, coastal sage scrub	Confirmed absent within the development footprint. Potential to occur within the proposed conservation areas.
Salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	Federal: FE State: SE CNPS: Rank 1B.2 MSHCP: None	Coastal dune, coastal salt marshes and swamps.	Confirmed absent within the development footprint.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Salt Spring checkerbloom <i>Sidalcea neomexicana</i>	Federal: None State: None CNPS: Rank 2B.2 MSHCP: Not covered	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Confirmed absent within the development footprint.
San Bernardino aster <i>Symphotrichum defoliatum</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Confirmed absent within the development footprint.
San Bernardino grass-of-Parnassus <i>Parnassia cirrata</i> var. <i>cirrata</i>	Federal: None State: None CNPS: Rank 1B.3 MSHCP: None	Mesic, streamsides, sometimes calcareous. Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.	Confirmed absent within the development footprint.
San Bernardino Mountains owl's-clover <i>Castilleja lasiorhyncha</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Mesic soils in chaparral, meadows and seeps, pebble (pavement) plain, riparian woodland, and upper montane coniferous forest.	Confirmed absent within the development footprint.
San Diego sagewort <i>Artemisia palmeri</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Sandy and mesic soils in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland.	Confirmed absent within the development footprint.
San Gabriel ragwort <i>Senecio astephanus</i>	Federal: None State: None CNPS: Rank 4.3 MSHCP: None	Rocky slopes, coastal bluff scrub, chaparral.	Confirmed absent within the development footprint.
San Jacinto Valley crownscale <i>Atriplex coronata</i> var. <i>notatior</i>	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: MSHCP (d)	Alkaline soils in chenopod scrub, valley and foothill grassland, vernal pools.	Confirmed absent within the development footprint.
Santa Ana River woolly star <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Confirmed absent within the development footprint.
Scalloped moonwort <i>Botrychium crenulatum</i>	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Bogs and fens, lower and upper montane coniferous forest, meadows and seeps, marshes and swamps (freshwater).	Confirmed absent within the development footprint.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Slender-horned spineflower <i>Dodecahema leptoceras</i>	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Confirmed absent within the development footprint.
Small-flowered morning-glory <i>Convolvulus simulans</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Confirmed absent within the development footprint.
Smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Confirmed absent within the development footprint.
South coast saltscale <i>Atriplex pacifica</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Confirmed absent within the development footprint.
Southern California black walnut <i>Juglans californica</i>	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces.	Confirmed absent within the development footprint.
Southern jewelflower <i>Streptanthus campestris</i>	Federal: None State: None CNPS: Rank 1B.3 MSHCP: None	Rocky soils in chaparral, lower montane coniferous forest, and pinyon and juniper woodland.	Confirmed absent within the development footprint.
Spiny-hair blazing star <i>Mentzelia tricuspis</i>	Federal: None State: None CNPS: Rank 2B.1 MSHCP: None	Sandy, gravelly, slopes, and washes. Mojavean desert scrub.	Confirmed absent within the development footprint.
Spreading navarretia <i>Navarretia fossalis</i>	Federal: FT State: None CNPS: Rank 1B.1 MSHCP: MSHCP (b)	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater).	Confirmed absent within the development footprint.
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	Federal: FT State: SE CNPS: Rank 1B.1 MSHCP: MSHCP (d)	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Confirmed absent within the development footprint.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Vernal barley <i>Hordeum intercedens</i>	Federal: None State: None CNPS: Rank 3.2 MSHCP: MSHCP	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Confirmed absent within the development footprint.
White rabbit-tobacco <i>Pseudognaphalium leucocephalum</i>	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Coastal sage scrub and chaparral.	Confirmed absent within the development footprint.
Wright's trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Federal: None State: None CNPS: Rank 2B.1 MSHCP: MSHCP(b)	Alkaline soils in meadows and seeps, marshes and swamps, riparian scrub, vernal pools.	Confirmed absent within the development footprint.
Yucaipa onion <i>Allium marvinii</i>	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral (clay, openings).	Confirmed absent within the development footprint.

Federal

FE – Federally Endangered
FT – Federally Threatened

State

SE – State Endangered
ST – State Threatened

CNPS Rare Plant Rank

Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2 – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed.
Rank 4 – Plants of limited distribution (a watch list).

CNPS Threat Rank Extensions

.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened, or no current threats known)

MSHCP

MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land
Not Covered = Species not adequately covered under MSHCP
None = Species not considered for coverage under MSHCP

Occurrence

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.

- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.4.1 Special-Status Plant Results

Special-status plant surveys were conducted for the study during the 2019 spring and summer blooming periods. It should be noted that the 2019 rainy season resulted in many, evenly spaced rain events and higher than average total rainfall. As such, the 2019 spring and summer blooming periods were an optimal season to conduct focused floristic surveys, as each species present within the Study Area was expected to be detectable during that time.

No special-status plant species were observed within the Study Area during focused plant surveys. The Study Area occurs within NEPSSA 8; therefore, the following target species were evaluated: many-stemmed dudleya and Yucaipa onion. In addition, all of the other special-status plant species identified above in Table 4-2 were evaluated, even though they do not have specific survey requirements under the MSHCP, since these species, if present, would still need to be evaluated as a CEQA-significant impact.

Plant Species with MSHCP Survey Requirements

Many-stemmed dudleya (*Dudleya multicaulis*) – This species is a member of the stonecrop family (Crassulaceae) and is designated as a CNPS List 1B.2 species but is not state or federally listed. This perennial herb is known to occur in chaparral, coastal scrub, and valley and foothill grasslands. It is often associated with clay soils. Many-stemmed dudleya is known to occur from Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties from approximately 50 to 2,590 feet amsl. This species is known to bloom from April through July.

Yucaipa onion (*Allium marvinii*) – This species is a member of the lily family (Liliaceae) and is designated as a CNPS List 1B.1 species but is not state or federally listed. This perennial herb is known to occur in clay openings within chaparral from approximately 2,490 to 3,500 feet amsl. Yucaipa onion is known to occur from the Beaumont and Yucaipa areas of Riverside County and is known to bloom from April through May.

These species are not expected to occur due to a lack of suitable (clay) soils within the Study Area and were not detected during focused surveys. Therefore, these species were confirmed to be absent from the Study Area.

Special-Status Plants with Potential to Occur

The special-status plant species described below were not observed by GLA biologists during general and focused plant surveys performed during the 2019 spring and summer blooming periods. These species were determined to be absent from portions of the Study Area proposed for development, which were the greater focus of the field efforts and have greater accessibility;

however, portions of the Study Area not proposed for the development consist of steep terrain divided by a series of ridgelines and canyons largely lacking access roads. As a result, portions of the Study Area not proposed for development were surveyed through a combination of direct observation through physical access of ridgelines and canyon bottoms, supplemented by observation of steep hillsides through the use of binoculars. The following special-status species have a potential to occur within the proposed conservation lands, although the species were confirmed absent during focused surveys within the proposed development footprint and therefore the Project would not impact these species:

Chaparral sand verbena (*Abronia villosa* var. *aurita*) – This species is a member of the four o'clock family (Nyctaginaceae) and is designated as a CNPS List 1B.1 species but is not state or federally listed. This annual herb is known to occur in chaparral, coastal scrub, and desert dunes from approximately 260 to 5,250 feet amsl. Chaparral sand verbena is known from Ventura, Los Angeles, Orange, San Diego, Riverside, San Bernardino and Imperial Counties as well as Baja California. The species is known to bloom from January through September.

Jaeger's (bush) milk-vetch (*Astragalus pachypus* var. *jaegeri*) – This species is a member of the pea family (Fabaceae) and is designated as a CNPS List 1B.1 species but is not state or federally listed. This perennial shrub is known to occur in chaparral, cismontane woodland, coastal scrub and valley and foothill grassland from approximately 1,200 to 3,000 feet amsl. Jaeger's milk-vetch is known to occur from Riverside and San Diego Counties and blooms from December through June.

Parry's spineflower (*Chorizanthe parryi* var. *parryi*) – This species is a member of the buckwheat family (Polygonaceae) and is designated as a CNPS List 1B.1 species but is not state or federally listed. This annual herb is known to occur in chaparral, cismontane woodland, coastal scrub and in rocky or sandy openings in foothill valley and grasslands from approximately 900 to 4,000 feet amsl. Parry's spineflower is known to occur from Los Angeles, Riverside and San Bernardino counties and blooms from April through June.

Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*) – This species is a member of the mustard family (Brassicaceae) and is designated as a CNPS List 1B.2 species but is not state or federally listed. This annual herb is known to occur in chaparral and coastal scrub below approximately 2,805 feet amsl. Robinson's peppergrass is known to occur from Santa Barbara, Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties as well as Baja California. This species is known to bloom from January through July.

Other special-status plant species with potential to occur within the Study Area were confirmed absent through general and focused plant surveys, as noted in Table 4-2 above. These species include Nevin's barberry (*Berberis nevinii*), paniculate tarplant (*Deinandra paniculata*), and Southern California black walnut (*Juglans californica*). Nevin's barberry and Southern California black walnut are relatively large, perennial shrubs and trees, respectively, which would have been easily observed during the plant surveys, including with the use of binoculars. In addition, paniculate tarplant typically inhabits disturbed areas which were easily accessible and, if present, this species commonly occurs in large quantities. Due to the habit and growth

characteristics of the above noted species, they would have been observed if present; therefore, they were confirmed absent.

4.5 Special-Status Animals

The following special-status animals were detected within the Study Area: American badger (*Taxidea taxus*) and red-diamond rattlesnake (*Crotalus ruber*). Several additional species have potential to occur. Table 4-3 provides a list of special-status animals evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including: 1) species identified by the CNDDDB as occurring (either currently or historically) on or in the vicinity of the Study Area, 2) applicable MSHCP survey areas, and 3) any other special-status animals that are known to occur within the vicinity of the Study Area, for which potentially suitable habitat occurs on site.

Table 4-3. Special-Status Animals Evaluated for the Study Area

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Crotch bumble bee <i>Bombus crotchii</i>	Federal: None State: SCE MSHCP: None	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Potential to occur.
Fish			
Santa Ana speckled dace <i>Rhinichthys osculus</i> ssp. 3	Federal: None State: SSC MSHCP: Not covered	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Does not occur.
Southern steelhead - southern California DPS <i>Oncorhynchus mykiss irideus</i>	Federal: FE State: None MSHCP: None	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur.
Amphibians			
Southern mountain yellow-legged frog <i>Rana muscosa</i>	Federal: FE State: SE MSHCP: MSHCP (c)	Streams and small pools in ponderosa pine, montane hardwood-conifer, and montane riparian habitat types.	Does not occur.
Western spadefoot <i>Spea hammondi</i>	Federal: None State: SSC MSHCP: MSHCP	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Reptiles			
California glossy snake <i>Arizona elegans occidentalis</i>	Federal: None State: SSC MSHCP: Not Covered	Inhabits arid scrub, rocky washes, grasslands, chaparral. Occurs interior coast range and southwestern desert regions	Potential to occur.
Coast horned lizard <i>Phrynosoma blainvillii</i>	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Potential to occur
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	Federal: None State: SSC MSHCP: Not covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Potential to occur.
Coastal whiptail <i>Aspidoscelis tigris stejnegeri (multiscutatus)</i>	Federal: None State: SSC MSHCP: MSHCP	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Potential to occur.
Red-diamond rattlesnake <i>Crotalus ruber</i>	Federal: None State: SSC MSHCP: MSHCP	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Confirmed present
Southern California legless lizard <i>Anniella stebbinsi</i>	Federal: None State: SSC MSHCP: Not Covered	Broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats than any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	Does not occur.
Southern rubber boa <i>Charina umbratica</i>	Federal: None State: ST MSHCP: MSHCP (f)	Restricted to the San Bernardino and San Jacinto Mountain, in a variety of montane forest habitats. Found in vicinity of streams or wet meadows. Requires loose, moist soil for burrowing. Seeks cover in rotting logs.	Does not occur.
Two-striped garter snake <i>Thamnophis hammondi</i>	Federal: None State: SSC MSHCP: Not Covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Western pond turtle <i>Emys marmorata</i>	Federal: None State: SSC MSHCP: MSHCP	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur.
Birds			
Black swift (nesting) <i>Cypseloides niger</i>	Federal: BCC State: SSC MSHCP: MSHCP	Nests in forested areas near rivers in dark, damp areas. Forages in skies over mountainous areas and on coastal cliffs.	Does not occur
Burrowing owl <i>Athene cunicularia</i>	Federal: None State: SSC MSHCP: MSHCP(c)	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Confirmed absent.
Coastal California gnatcatcher <i>Polioptila californica californica</i>	Federal: FT State: SSC MSHCP: MSHCP	Low elevation coastal sage scrub and coastal bluff scrub.	Potential to occur.
Golden eagle (nesting and wintering) <i>Aquila chrysaetos</i>	Federal: None State: CFP MSHCP: MSHCP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Foraging only.
Least Bell's vireo <i>Vireo bellii pusillus</i>	Federal: FE State: SE MSHCP: MSHCP(a)	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur.
Loggerhead shrike (nesting) <i>Lanius ludovicianus</i>	Federal: BCC State: SSC MSHCP: MSHCP	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Potential to occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Northern harrier (nesting) <i>Circus cyaneus</i>	Federal: None State: SSC MSHCP: MSHCP	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Observed foraging. Does not nest onsite.
Peregrine falcon (nesting) <i>Falco peregrinus anatum</i>	Federal: Delisted, BCC State: Delisted, CFP	Breeding habitat consists of high cliffs, tall buildings, and bridges along the coast and inland. Foraging habitat primarily includes open areas near wetlands, marshes, and adjacent urban landscapes.	Observed foraging. Does not nest onsite.
Purple martin (nesting) <i>Progne subis</i>	Federal: None State: SSC MSHCP: MSHCP	Forage over towns, cities, parks, open fields, dunes, streams, wet meadows, beaver ponds, and other open areas. Nest in woodpecker holes in mountain forests or Pacific lowlands.	Not expected to occur.
Southwestern willow flycatcher (nesting) <i>Empidonax traillii extimus</i>	Federal: FE State: SE MSHCP: MSHCP(a)	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur.
Swainson's hawk (nesting) <i>Buteo swainsoni</i>	Federal: None State: ST MSHCP: MSHCP	Occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys for hunting and uses perches.	Foraging only.
Tricolored blackbird (nesting colony) <i>Agelaius tricolor</i>	Federal: BCC State: CE, SSC MSHCP: MSHCP	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur.
Western yellow-billed cuckoo (nesting) <i>Coccyzus americanus occidentalis</i>	Federal: FT, BCC State: SE MSHCP: MSHCP(a)	Dense, wide riparian woodlands with well-developed understories.	Does not occur.
White-tailed kite (nesting) <i>Elanus leucurus</i>	Federal: None State: CFP MSHCP: MSHCP	Winter foraging occurs in wet meadows, marshes, ponds, lakes, rivers, and agricultural fields. Requires extensive marshes for nesting.	Foraging only.
Yellow warbler (nesting) <i>Setophaga petechia</i>	Federal: BCC State: SSC MSHCP: MSHCP	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Foraging only.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Yellow-breasted chat (nesting) <i>Icteria virens</i>	Federal: None State: SSC MSHCP: MSHCP	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur.
Yellow-headed blackbird (nesting) <i>Xanthocephalus xanthocephalus</i>	Federal: None State: SSC MSHCP: None	Breed and roost in freshwater wetlands with dense, emergent vegetation such as cattails. Often forage in fields, typically wintering in large, open agricultural areas.	Does not occur.
Mammals			
American badger <i>Taxidea taxus</i>	Federal: None State: SSC MSHCP: Not covered	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Confirmed present.
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	Federal: None State: SSC MSHCP: Not covered	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Potential to occur.
Lesser long-nosed bat <i>Leptonycteris yerbabuenae</i>	Federal: FE State: None WBWG: H MSHCP: None	Thorn scrub and deciduous forest. Roosts in caves and mines.	Does not occur.
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	Federal: None State: SSC MSHCP: MSHCP(c)	Fine, sandy soils in coastal sage scrub and grasslands.	Low potential to occur.
Mountain lion <i>Puma concolor</i>	Federal: None State: SCE MSHCP: MSHCP	Mountain lions use rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitat areas.	Confirmed present at the site through detection of tracks and scat. General potential to use the site for local movement and use.
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	Federal: None State: SSC MSHCP: MSHCP	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Potential to occur.
Pallid bat <i>Antrozous pallidus</i>	Federal: None State: SSC WBWG: H MSHCP: Not covered	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Foraging only.
San Bernardino flying squirrel <i>Glaucomys oregonensis californicus</i>	Federal: None State: SSC MSHCP: MSHCP (e)	Black oak or white fir dominated woodlands between 5,200 and 8,500 feet in the San Bernardino and San Jacinto Mountain ranges.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	Federal: FE State: SC MSHCP: MSHCP(c)	Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub.	Does not occur.
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	Federal: None State: SSC MSHCP: MSHCP	Occupies a variety of habitats, but is most common among shortgrass habitats. Also occurs in sage scrub, but needs open habitats.	Potential to occur.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Potential to occur.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	Federal: None State: SSC MSHCP: Not covered	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Potential to occur.
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	Federal: FE State: ST SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Potential to occur.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Federal: None State: SSC WBWG: H MSHCP: None	Coniferous forests and woodlands, deciduous riparian woodland, semi-desert and montane shrublands.	Does not occur.
Western mastiff bat <i>Eumops perotis californicus</i>	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Foraging only.
Western yellow bat <i>Lasiurus xanthinus</i>	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Foraging only.

Federal

FE – Federally Endangered
 FT – Federally Threatened
 FPT – Federally Proposed Threatened
 FC – Federal Candidate
 BCC – Bird of Conservation Concern

State

SE – State Endangered
 ST – State Threatened
 CE – Candidate Endangered
 SCE – State Candidate
 CFP – California Fully-Protected Species
 SSC – Species of Special Concern

Western Bat Working Group (WBWG)

H – High Priority

LM – Low-Medium Priority

M – Medium Priority

MH – Medium-High Priority

MSHCP

MSHCP = No additional action necessary

MSHCP(a) = Surveys may be required as part of wetlands mapping

MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area

MSHCP(c) = Surveys may be required within locations shown on survey maps

MSHCP(d) = Surveys may be required within Criteria Area

MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species

MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land

Not Covered = Species not adequately covered under MSHCP

None = Species not considered for coverage under MSHCP

Occurrence

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Foraging only – This species has potential to occur for foraging only based on suitable foraging habitat; however its presence/absence has not been confirmed.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.5.1 Special-Status Wildlife Species Observed within the Study Area

Reptiles

Red-diamond rattlesnake (*Crotalus ruber*) – This species is designated as a CDFW Species of Special Concern (SSC) and is a covered species under the MSHCP without additional survey or conservation requirements.

The red-diamond rattlesnake was incidentally observed during the general and focused biological survey efforts.

Birds

Bell's Sage Sparrow (*Amphispiza belli belli*) – Bell's sage sparrow is identified as a planning species for Proposed Core 3 and is a covered species under the MSHCP without additional survey or conservation requirements.

Bell's sage sparrow was observed during biological surveys within the Study Area, which provides suitable habitat for this species within the Riversidean sage scrub and chaparral vegetation communities.

Northern Harrier (*Circus cyaneus*) – The northern harrier is designated as an SSC when nesting and is a covered species under the MSHCP without additional survey or conservation requirements.

This species was observed foraging in the Study Area during the biological survey efforts, but it was not observed nesting within the Study Area; therefore, it is considered present for foraging only.

Peregrine Falcon (*Falco peregrinus*) – The peregrine falcon (*Falco peregrinus*) has special status when nesting and is a covered species under the MSHCP without additional survey or conservation requirements. This species was observed foraging in the Study Area during the biological survey efforts; however, the Study Area does not support nesting habitat for this species, which generally consists of high cliffs and tall human-made structures. The peregrine falcon is also designated as state Fully Protected (CFP) species, which protects individuals from direct harm; however, since the falcon does not nest at the Project site, the Project does not have the potential to harm peregrine falcon individuals.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps*) – Southern California rufous-crowned sparrow is identified as a planning species for Core 3 and is a covered species under the MSHCP without additional survey or conservation requirements.

Southern California rufous-crowned sparrow was observed during biological surveys within the Study Area, which provides suitable habitat for this species within the Riversidean sage scrub and chaparral vegetation communities.

Mammals

American Badger (*Taxidea taxus*) – The American badger is designated as an SSC and was initially considered for conservation under the MSHCP. However, the badger is one of many species that was not afforded coverage under the Plan because it was determined that sufficient information was not available to proceed with conservation planning for the species.

Although the American badger was not directly observed within the Study Area, multiple burrows were observed during biological survey efforts within the Riversidean sage scrub, chaparral, and non-native grassland vegetation communities. As such, the species was assumed to be present within the Study Area, although the actual amount of habitat utilized by badgers could not be determined.

Bobcat (*Lynx rufus*) – The bobcat is identified as a planning species for Core 3 and is a covered species under the MSHCP without additional survey or conservation requirements.

As described below in the discussion for wildlife movement, bobcat tracks and scat were detected by GLA within the Study Area during the 2019 biological surveys. Given the presence of potential movement routes (valleys and ridgelines) and a prey population (birds, rabbits, and ground squirrels), bobcats are expected to use access roads, ridgelines, and drainages within the Study Area for local movement. In addition, bobcats may currently utilize the Study Area to access SR-60, where they likely conduct overland crossing of the active roadway due to the constrained nature of existing culverts (see Section 4.8.1 for more detail) to move between existing conserved lands to the north and south. Furthermore, as described below in Section 5.6.1, SR-60 improvements being completed by Caltrans include the construction of undercrossings intended for wildlife use, including a 20-foot-by-20-foot box culvert located in the northwestern portion of the Study Area. Bobcats are expected to use the culvert and other new SR-60 undercrossings for movement between lands north and southwest of SR-60.

Mountain Lion (*Puma concolor*) – Mountain lions associated with the Southern California and Central Coast populations are designated as a State Candidate Endangered species (SCE). On April 16, 2020, the California Fish and Game Commission voted to designate the Southern California and Central Coast mountain lion populations as a Candidate for listing as an Endangered species under the CESA. The vote triggered what was intended as a one-year review by CDFW to determine whether these mountain lion populations should be formally protected under CESA, but the review is still pending.

As described below in the discussion for wildlife movement, mountain lion tracks and scat were detected by GLA within the Study Area during the 2019 biological surveys. Given the presence of potential movement routes (valleys and ridgelines) and a prey population (including mule deer), the Study Area is acknowledged as part of a larger home range in the badlands for mountain lions. Mountain lions are expected to use access roads, ridgelines, and drainages within the Study Area for local movement. In addition, mountain lions may currently utilize the Study Area to access SR-60, where they would be limited to overland crossing of the active roadway to move between existing conserved lands to the north and south. Furthermore, as described below in Section 5.6.1, SR-60 improvements being completed by Caltrans include the construction of undercrossings intended for wildlife use, including a 20-foot-by-20-foot box culvert located in the northwestern portion of the Study Area. Mountain lions are expected to use the box culvert and potentially other new SR-60 undercrossings for movement between lands north and southwest of SR-60.

4.5.2 Special-Status Wildlife Species Not Observed but with a Potential to Occur at the Study Area

This section discusses 11 species that were not observed during general and focused biological surveys but have a potential to occur based on the presence of suitable habitat. Focused surveys were not conducted for these species for a number of reasons depending on the species, including that the MSHCP does not have project-specific survey requirements for the species. Of these 11 species, 7 species (coast horned lizard, coastal whiptail, coastal California gnatcatcher, loggerhead shrike, northwestern San Diego pocket mouse, Stephens' kangaroo rat, and San Diego black-tailed jackrabbit) are designated as Covered Species under the MSHCP, and as such

the participation of a Project in the MSHCP (including the payment of MSHCP development fees) by itself mitigates any potentially significant impacts under CEQA.

Four of the species (Crotch bumble bee, California glossy snake, Dulzura pocket mouse and southern grasshopper mouse) are not designated as Covered Species under the MSHCP. The California glossy snake, Dulzura pocket mouse and southern grasshopper mouse were all initially considered for conservation, but ultimately were not covered due to a lack of sufficient information to proceed with conservation planning. Crotch bumble bee was never considered for conservation at the time that the MSHCP was developed. Regardless of the reason for the lack of coverage, if the Project were to remove habitat for these species that would be considered a potentially significant impact, then mitigation would be required to reduce the impacts below a level of significance. As discussed throughout this report, the Project will conserve 230.82 acres of various habitats, including grasslands, coastal sage scrub, and chaparral, all of which potentially supports the bumble bee, glossy snake, pocket mouse and grasshopper mouse, and as discussed below in Section 5.2.2 would mitigate the loss of potential habitat for these species.

Invertebrates

Crotch Bumble Bee (*Bombus crotchii*) – Crotch Bumble Bee is designated as an SCE but is not covered under the MSHCP as it was never considered for inclusion in the MSHCP.

Crotch bumble bee was voted as a candidate for listing by the California Fish and Game Commission in June of 2019. In a case filed by the Almond Alliance of California, the Sacramento Supreme Court of California (Court) ruled that insects (including Crotch bumble bee) are not eligible for listing under CESA in November of 2020. In February of 2021, the California Fish and Game Commission appealed this decision, and in May 2022, the Third District Court of Appeal court ruled that bees and other insects can be protected under CESA. The plaintiffs subsequently appealed to the California Supreme Court, but in September 2022, the court declined to hear the case, allowing the appellate decision to stand. Therefore, the CDFW can move forward with listing Crotch bumble bee, which is currently recognized as a State Candidate Endangered (SCE) species.

Crotch bumble bee was not incidentally observed during the various biological surveys conducted for the Study Area, although potentially suitable habitat is present at the site. Suitable habitat for this species within the Study Area consists of Riversidean sage scrub where it is located on relatively flat terrain.

Reptiles

California Glossy Snake (*Arizona elegans occidentalis*) – The California glossy snake is designated as an SSC, and although it was initially considered for coverage under the MSHCP, the glossy snake was ultimately not designated as a Covered Species.

The California glossy snake was not incidentally observed during the various biological surveys conducted for the Study Area. However, the site contains potentially suitable habitat for the species. Furthermore, the glossy snake is nocturnal, and since night surveys were not performed

at the site, there would not have been any opportunity to observe the snake if present. Suitable habitat for this species occurs within the Riversidean sage scrub and chaparral vegetation communities within the Study Area. Although soils in these areas did not appear to be loose enough for burrowing, the species has low to moderate potential to occur based on general habitat quality.

Coast Horned Lizard (*Phrynosoma blainvillii*) – This species is designated as an SSC and is a covered species under the MSHCP without additional survey or conservation requirements.

The coast horned lizard was not observed during the biological survey efforts; however, the species has a potential to occur within the Study Area. Suitable habitat for this species occurs within the within the Riversidean sage scrub and chaparral vegetation communities within the Study Area.

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*) – This species is designated as an SSC and is a covered species under the MSHCP without additional survey or conservation requirements.

The coastal whiptail was not observed during the biological survey efforts; however, the species has a potential to occur within the Study Area. Suitable habitat for this species occurs within the within the Riversidean sage scrub and chaparral vegetation communities within the Study Area.

Coastal California Gnatcatcher (*Polioptila californica californica*) – The coastal California gnatcatcher (CAGN) is designated as a federally threatened (FT) species and an SSC and is a covered species under the MSHCP. While this species is considered adequately covered under the MSHCP and does not have additional survey requirements, pursuant to Condition 5(b) of the MSHCP take permit issued by USFWS, disturbances to occupied CAGN habitat within the Criteria Area must occur outside of the nesting season (March 1 through August 31).

CAGN were not incidentally observed during the biological surveys; however, suitable habitat for this species occurs within the Riversidean sage scrub vegetation community within the Study Area.

Loggerhead Shrike (*Lanius ludovicianus*) – The loggerhead shrike is designated as an SSC when nesting and is a covered species under the MSHCP without additional survey or conservation requirements.

Although this species was not detected during the biological survey efforts, the Study Area provides suitable nesting habitat for the loggerhead shrike within the Riversidean sage scrub and chaparral vegetation communities. Suitable foraging habitat also occurs within the non-native grassland community.

Mammals

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*) – The Dulzura pocket mouse is designated as an SSC, and although it was initially considered for coverage under the MSHCP, the pocket mouse was ultimately not designated as a Covered Species.

The Study Area supports suitable habitat for the Dulzura pocket mouse within the Riversidean sage scrub and chaparral vegetation communities.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*) – This species is designated as an SSC and is a covered species under the MSHCP without additional survey or conservation requirements.

The Study Area supports suitable habitat for the northwestern San Diego pocket mouse within the Riversidean sage scrub and chaparral vegetation communities.

Southern Grasshopper Mouse (*Onychomys torridus ramona*) – The southern grasshopper mouse is designated as an SSC, and although it was initially considered for coverage under the MSHCP, the grasshopper mouse was ultimately not designated as a Covered Species.

Although the southern grasshopper mouse was not observed during the biological survey efforts, the Study Area provides suitable habitat for this species within the Riversidean sage scrub and chaparral vegetation communities.

Stephens' Kangaroo Rat (*Dipodomys stephensi*) – Stephens' kangaroo rat (SKR) is a federally Endangered (FE) species and a state Threatened (ST) species. The SKR is designated as a Covered Species pursuant to both the SKR Habitat Conservation Plan (SKR HCP) and the MSHCP, although coverage allocated to the proposed Project would be through the SKR HCP, which preceded the MSHCP. SKR coverage pursuant to the MSHCP is for properties located outside of the original SKR HCP coverage area.

The Study Area supports potential habitat for the SKR within relatively open (less than 50% vegetative cover) areas within the Riversidean sage scrub and non-native grassland communities; therefore, the SKR may be present. The Study Area is located within the Fee Assessment Area of the SKR HCP. Within the Fee Area, suitable habitat is assumed to be occupied and focused surveys are not required. Take authorization for SKR is achieved through the HCP with the payment of the SKR Fee.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*) – This species is designated as an SSC and is a covered species under the MSHCP without additional survey or conservation requirements.

Although the San Diego black-tailed jackrabbit was not observed during the biological survey efforts, the Study Area supports suitable habitat for this species within gently sloped areas supporting Riversidean sage scrub and chaparral vegetation communities.

4.5.3 Special-Status Wildlife Species Not Observed but with a Potential to Forage Within the Study Area

Birds

The following bird species were not observed within the Study Area during general and focused biological surveys. Each species has a potential to utilize the site for foraging; however, these birds would not nest at the site due to a lack of suitable habitat. These species are considered special status only when individuals nest at a given property. As discussed below in Section 5.2.2, impacts to the loss of foraging habitat for these species would not be considered significant for this reason.

Golden Eagle (*Aquila chrysaetos*) – The golden eagle, a CFP species, has the potential to forage throughout the Study Area and is a covered species under the MSHCP; however, the Study Area does not contain the high cliffs and rocky escarpments used for nesting by this species.

Swainson's Hawk (*Buteo swainsoni*) – The Swainson's hawk, designated as ST, has the potential to forage within the Study Area during its migration from wintering grounds located south of the region to its known breeding range, which is generally from the Antelope Valley region of Southern California northward, with only few additional recently documented breeding locations along the coastal plain (Orange and Los Angeles Counties); therefore, the Study Area is considered to be located outside of the nesting range for this species. Swainson's hawk is a covered species under the MSHCP.

White-tailed Kite (*Elanus leucurus*) – There is potential for the white-tailed kite, designated as a CFP and an MSHCP covered species, to forage within Study Area. However, due to the extremely limited number of mature trees, this species is not expected to nest within the Study Area.

Yellow Warbler (*Setophaga petechia*) – There is potential for the yellow warbler, designated as an SSC when nesting and an MSHCP covered species, to forage within Study Area, as this species is a habitat generalist during migration. However, due to the extremely limited riparian habitat, which does not support a dense, mature, or stratified canopy occurring within the Study Area, this species is not expected to occur in a nesting role.

Mammals

Special-status Bats – Three special-status bat species, all designated as an SSC, have the potential to forage within the Study Area: pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*). None of these species are covered under the MSHCP. However, the context of evaluating significant impacts to these bat species pursuant to CEQA is based on the presence of roosting bats, including specifically for maternity roosting. The Study Area supports suitable foraging habitat for each of these species; however, these species are not expected to roost within the Study Area, as rock outcrops are not present, and mature trees occur in extremely limited numbers as only solitary or

groups of only a few individuals occurring in association with canyon bottoms and do not provide a developed canopy. Impacts to bat habitat is further discussed below in Section 5.2.2.

4.5.4 Special-Status Wildlife Species Confirmed Absent Through Focused Surveys at the Study Area

Burrowing Owl (*Athene cunicularia*) – The burrowing owl is designated as an SSC and is a covered species not adequately conserved under the MSHCP, which means that projects located within the Burrowing Owl Survey Area where suitable habitat is present must conduct focused breeding season and pre-construction burrowing owl surveys to determine presence/absence of the species. If burrowing owls are found to be present, avoidance measures must be implemented.

The Study Area occurs within the MSHCP Burrowing Owl Survey Area; therefore, focused surveys were conducted during July and August of 2019 pursuant to MSHCP burrowing owl survey requirements. Neither burrowing owls nor diagnostic sign of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) were observed within the Study Area during focused surveys; therefore, this species is considered to be absent from the Study Area.

4.6 Raptor Use

The Study Area supports suitable foraging and breeding habitat for a number of raptor species, including special-status raptors.

Southern California holds a diversity of birds of prey (raptors), and many of these species are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands. This type of habitat has declined severely in the region, affecting many species, but especially raptors. A few species, such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), are somewhat adaptable to low-level human disturbance and can be readily observed adjacent to neighborhoods and other types of development. These species still require appropriate foraging habitat and low levels of disturbance in vicinity of nesting sites.

Many of the raptors that would be expected to forage and nest within western Riverside County are fully covered species under the MSHCP without project-specific conservation requirements. Some common raptor species (e.g., American kestrel and red-tailed hawk) are not covered by the MSHCP but are expected to be conserved with implementation of the Plan due to the parallel habitat needs with those raptors covered under the Plan. However, coverage for those applicable raptor species does not allow for impacts to active bird nests, as nesting birds are still protected as described below in Section 4.7. As is discussed below in Section 6.0, pre-construction nesting bird surveys are still required as an avoidance measure to prevent impacts to active bird nests.

Appendix B (faunal compendium) provides a list of the raptor species detected over the course of the field studies. These species were red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*; SSC when nesting),

peregrine falcon (*Falco peregrinus*; CFP), American kestrel, barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). The Study Area supports suitable foraging habitat and potential prey for the above-mentioned raptor species in the form of insects, spiders, lizards, snakes, small mammals, and other birds. Turkey vulture (*Cathartes aura*) was also observed foraging within the Study Area.

4.7 Nesting Birds

The Project site contains trees (in extremely limited numbers), shrubs, and ground cover that provide suitable habitat for many nesting native birds. Mortality of native birds (including eggs) is prohibited under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.¹⁴

4.8 Wildlife Linkages/Corridors and Nursery Sites

4.8.1 Wildlife Movement

In general terms, habitat linkages are areas which provide a connection between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of “gene flow” between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired. As discussed below, the MSHCP does not distinguish between a “linkage” and a “corridor”. All movement areas that are important for connecting blocks of habitat are referred to as “linkages”. The MSHCP acknowledges that true linkages will provide “live-in” habitat, whereas other linkages will contain only general habitat to support migration/dispersal, and therefore will function more as “corridors”. However, to avoid confusion with MSHCP references to “transportation corridors”, all wildlife movement routes are referred to as “linkages”. Practically speaking though, all recognized “linkages” will function similarly in connecting different habitat blocks (i.e., Core Areas), with some containing a greater degree of “live-in” habitat.

As part of Reserve design, the MSHCP recognizes numerous Core Areas and Linkages (including Constrained Linkages). The following are MSHCP definitions for relevant terms in the discussion of wildlife use (including movement) for the Project’s Study Area:

- Core – A block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.

¹⁴ Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

- Linkage – A connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for "Live-In" Habitat and/or provide for genetic flow for identified Planning Species. Areas identified as Linkages in MSHCP may provide movement Habitat but not Live-In Habitat for some species, thereby functioning more as movement corridors.
- Habitat – The combination of environmental conditions of a specific place providing for the needs of a species or a population of such species.
- Live-In Habitat – Habitat that contains the necessary components to support key life history requirements of a species, e.g., year-round Habitat for permanent residents or breeding Habitat for migrant species.

As discussed above in Section 1.4 of this report, the majority of the Study Area is located within the MSHCP Criteria Area [Exhibit 4A – MSHCP Overlay Map]. The lands described for conservation within the referenced Criteria Cells are intended to contribute to the assembly of Proposed Core 3 (MSHCP *Volume 1, Section 3.2.3*). Proposed Core Areas, such as Proposed Core 3, are assembled from existing PQP Lands and/or lands to be acquired as Additional Reserve Lands pursuant to the Criteria specified for the applicable Cells. Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the MSHCP Plan Area [Exhibit 11A – Proposed Core 3 Map]. This Core consists mainly of private lands but also contains a few PQP parcels including De Anza Cycle Park. The Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. The Core also functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core.

The Project site is located along the eastern edge of Proposed Core 3, with the western / southwestern portion of the Project site described for conservation to be included within Core 3. As noted above, a Criteria Refinement is currently under review by the City of Beaumont, County of Riverside, RCA, USFWS, and CDFW to adjust the conservation distribution amongst the various Criteria Cells that include the Project. Based on the existing Criteria, the majority of the proposed development footprint is outside of the areas to be included as part of Proposed Core 3, and therefore have not been identified by the MSHCP as needed to support the movement of wildlife. With the approval of the pending Criteria Refinement, the entirety of the Project's development footprint will be excluded from Proposed Core 3 and the lands to be conserved by the Project will be incorporated into Proposed Core 3.

Although the proposed development footprint will not affect lands needed to support wildlife movement as part of Proposed Core 3, the site does facilitate the local movement of numerous species and contains habitat (including live-in habitat) for many of those species. As is discussed below in Section 5.6.1 of this report, the Project will impact local movement routes and will remove live-in habitat for wildlife. GLA biologists collected wildlife movement data in 2019 to document the use of the site by mammalian wildlife for live-in habitat and dispersal. The 2019 study used a variety of methods, including the use of wildlife cameras and the documentation of wildlife use by noting sign (i.e., scat and tracks) and roadkill. Through the combination of data, GLA confirmed the presence of seven medium- to large-sized mammal species, including bobcat

(*Lynx rufus*), coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), American badger, raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), and mountain lion. As the site contains numerous unpaved roads covering the ridges and lowlands of the site, the biologists found that these roads facilitated the greatest degree of movement for the collective species. The site also contains ephemeral drainage features as part of the natural topography that further facilitate the local movement of wildlife between SR-60 to the north and Proposed Core 3 to the south/southwest.

In 2020, GLA biologists evaluated existing culverts beneath SR-60 for the potential to facilitate wildlife movement between the Study Area and lands north of SR-60. During the culvert study, the biologists noted wildlife observations, the presence of diagnostic sign such as tracks and scat, and the potential for each existing culvert located adjacent to the Study Area to facilitate wildlife movement beneath SR-60 (i.e., length/width, site distance, and movement constraints). It should be noted that none of the existing culverts were constructed to serve as wildlife crossings. A total of eighteen culverts associated with SR-60 are located adjacent to the northern boundary of the Study Area. All of the culverts are composed of corrugated metal pipe (CMP) and were constructed to provide storm-water conveyance beneath SR-60. Culvert sizes vary between 2 and 4 feet in diameter, and those that were identified as having “line-of-sight” to the opposite side of SR-60 are between 70 and 100-feet long. The majority of the culverts were heavily blocked by desiccated vegetation, which would deter medium to large-sized mammals from utilizing the culverts for movement across SR-60. Small mammal scat and tracks were observed at two culverts and coyote scat was noted near one of the culverts, but it is unknown if coyote would use the small CMP culverts or would cross the active roadway. The culverts could potentially provide movement opportunities for small mammals and reptiles, but not for the medium to large-sized mammals noted to occur within the Study Area.

4.8.2 Nursery Sites

Wildlife nurseries in the context of CEQA analyses are intended as sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species.

The Study Area supports reproduction of locally common species and individuals of special-status wildlife species; however, the Study Area does not have the potential to support a regionally important wildlife nursery site such as a heronry, colonial nesting site (i.e., northern harrier), or colonial maternal bat roost.

4.9 Critical Habitat

There is no federally designated Critical Habitat mapped within or adjacent to the Study Area.

4.10 Jurisdictional Waters

4.10.1 Corps Jurisdiction

The Study Area contains approximately 2.33 acres (23,737 linear feet) associated with Drainages A through Q exhibiting characteristics associated with waters of the U.S. and that may be regulated by the Corps, of which 0.02 acre consists of jurisdictional wetlands [Exhibit 9A – Corps/RWQCB Jurisdictional Delineation Map]. Table 4-4 summarizes potential Corps jurisdiction within the Study Area.

Table 4-4. Summary of Corps Jurisdiction for the Study Area

Drainage Name	Non-Wetland Waters (acres)	Wetlands (acres)	Total (acres)	Linear Feet
Drainage A	0.04	0.00	0.04	1,096
Drainage B	0.36	0.00	0.36	1,008
Drainage C	0.04	0.00	0.04	733
Tributary C-1	0.02	0.00	0.02	382
Drainage D	0.06	0.00	0.06	797
Drainage E	0.03	0.00	0.03	478
Drainage F	<0.01	0.00	<0.01	52
Drainage G	0.20	0.00	0.20	2,091
Tributary G-1	0.01	0.00	0.01	408
Drainage H	0.05	0.00	0.05	1,188
Drainage I	0.07	0.00	0.07	1,476
Tributary I-1	0.01	0.00	0.01	533
Tributary I-2	0.01	0.00	0.01	501
Tributary I-3	0.03	0.00	0.03	954
Tributary I-4	0.01	0.00	0.01	299
Drainage J	0.04	0.00	0.04	547
Drainage K	0.02	0.00	0.02	461
Tributary K-1	0.01	0.00	0.01	330
Tributary K-2	0.02	0.00	0.02	261
Drainage L	0.17	0.02	0.19	1,344
Drainage M	0.05	0.00	0.05	767
Tributary M-1	0.01	0.00	0.01	305
Drainage N	0.13	0.00	0.13	1,480
Tributary N-1	0.02	0.00	0.02	592
Drainage O	0.01	0.00	0.01	419
Tributary O-1	0.01	0.00	0.01	109
Drainage P	0.72	0.00	0.72	2,076

Tributary P-1	0.01	0.00	0.01	435
Tributary P-2	0.02	0.00	0.02	250
Tributary P-3	0.02	0.00	0.02	560
Drainage Q	0.10	0.00	0.10	1,805
Total	2.31	0.02	2.33	23,737

4.10.2 Regional Water Quality Control Board Jurisdiction

The same areas identified as potential waters of the U.S. (i.e. Corps jurisdiction) would be regulated by the Regional Board pursuant to CWA Section 401 and Section 13050[e] of the California Water Code 13050. The Study Area contains approximately 2.33 acres (23,737 linear feet) of Regional Board jurisdictional Waters of the U.S., of which 0.02 acre consists of jurisdictional wetlands) [9A – Corps/RWQCB Jurisdictional Delineation Map]. Table 4-5 summarizes Regional Board jurisdiction within the Study Area.

Table 4-5. Summary of Regional Board Jurisdiction for the Study Area

Drainage Name	Non-Wetland Waters (acres)	Wetlands (acres)	Total (acres)	Linear Feet
Drainage A	0.04	0.00	0.04	1,096
Drainage B	0.36	0.00	0.36	1,008
Drainage C	0.04	0.00	0.04	733
Tributary C-1	0.02	0.00	0.02	382
Drainage D	0.06	0.00	0.06	797
Drainage E	0.03	0.00	0.03	478
Drainage F	<0.01	0.00	<0.01	52
Drainage G	0.20	0.00	0.20	2,091
Tributary G-1	0.01	0.00	0.01	408
Drainage H	0.05	0.00	0.05	1,188
Drainage I	0.07	0.00	0.07	1,476
Tributary I-1	0.01	0.00	0.01	533
Tributary I-2	0.01	0.00	0.01	501
Tributary I-3	0.03	0.00	0.03	954
Tributary I-4	0.01	0.00	0.01	299
Drainage J	0.04	0.00	0.04	547
Drainage K	0.02	0.00	0.02	461
Tributary K-1	0.01	0.00	0.01	330
Tributary K-2	0.02	0.00	0.02	261
Drainage L	0.17	0.02	0.19	1,344
Drainage M	0.05	0.00	0.05	767

Tributary M-1	0.01	0.00	0.01	305
Drainage N	0.13	0.00	0.13	1,480
Tributary N-1	0.02	0.00	0.02	592
Drainage O	0.01	0.00	0.01	419
Tributary O-1	0.01	0.00	0.01	109
Drainage P	0.72	0.00	0.72	2,076
Tributary P-1	0.01	0.00	0.01	435
Tributary P-2	0.02	0.00	0.02	250
Tributary P-3	0.02	0.00	0.02	560
Drainage Q	0.10	0.00	0.10	1,805
Total	2.31	0.02	2.33	23,737

4.10.3 CDFW Jurisdiction

CDFW jurisdiction associated with the Study Area totals approximately 3.75 acres, 23,737 linear feet, of which 1.18 acres consists of jurisdictional riparian habitat and 2.57 acres consist of non-riparian streambed. The locations and extent of CDFW jurisdictional areas are depicted on Exhibit 9B – CDFW/MSHCP Jurisdictional Delineation Map. A summary of CDFW jurisdiction within the Project Study Area is provided below in Table 4-6.

Table 4-6. Summary of CDFW Jurisdiction for the Study Area

Drainage Name	Non-Riparian (acres)	Riparian (acres)	Total (acres)	Linear Feet
Drainage A	0.06	0.00	0.06	1,096
Drainage B	0.36	0.00	0.36	1,008
Drainage C	0.07	0.00	0.07	733
Tributary C-1	0.03	0.00	0.03	382
Drainage D	0.09	0.00	0.09	797
Drainage E	0.03	0.00	0.03	478
Drainage F	<0.01	0.00	<0.01	52
Drainage G	0.29	0.00	0.29	2,091
Tributary G-1	0.01	0.00	0.01	408
Drainage H	0.07	0.00	0.07	1,188
Drainage I	0.11	0.08	0.19	1,476
Tributary I-1	0.01	0.00	0.01	533
Tributary I-2	0.01	0.00	0.01	501
Tributary I-3	0.05	0.00	0.05	954
Tributary I-4	0.01	0.00	0.01	299
Drainage J	0.04	0.00	0.04	547
Drainage K	0.02	0.00	0.02	461

Drainage Name	Non-Riparian (acres)	Riparian (acres)	Total (acres)	Linear Feet
Tributary K-1	0.01	0.00	0.01	330
Tributary K-2	0.02	0.00	0.02	261
Drainage L	0.08	0.55	0.63	1,344
Drainage M	0.03	0.33	0.36	767
Tributary M-1	0.01	0.00	0.01	305
Drainage N	0.15	0.20	0.35	1,480
Tributary N-1	0.02	0.00	0.02	592
Drainage O	0.02	0.00	0.02	419
Tributary O-1	0.01	0.00	0.01	109
Drainage P	0.73	0.00	0.73	2,076
Tributary P-1	0.01	0.00	0.01	435
Tributary P-2	0.04	0.00	0.04	250
Tributary P-3	0.02	0.00	0.02	560
Drainage Q	0.15	0.02	0.17	1,805
Total	2.57	1.18	3.75	23,737

4.11 MSHCP Riparian/Riverine Areas and Vernal Pools

Vegetation communities associated with riparian systems and vernal pools are depleted natural vegetation communities because, similar to coastal sage scrub, they have declined throughout Southern California during past decades. In addition, they support a large variety of special-status wildlife species. Most species associated with riparian/riverine are covered species under the MSHCP (under *Volume I, Section 6.1.2* of the MSHCP). The MSHCP has specific policies and procedures regarding the evaluation and conservation of riparian/riverine resources (including riparian vegetation) and vernal pools because it supports MSHCP covered species. Thus, the MSHCP classification of riparian/riverine includes both riparian (depleted natural vegetation communities) as well as ephemeral drainages that are natural in origin but may lack riparian vegetation.

The riparian/riverine jurisdiction in the Study Area is identical to that of CDFW jurisdiction. It totals approximately 3.75 acres, of which 1.18 acres consist of riparian habitat, and the remaining 2.57 acres consist of riverine streambed.

Although riparian habitat is present within the Study Area in the form of southern riparian scrub, this community does not hold the potential to support least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo. Within the Study Area, this community is comprised of individual trees and shrubs with an herbaceous understory and does not contain a stratified canopy or support the structural complexity required to support these species.

The Study Area does not contain any depressions (natural or artificial) that would inundate long enough to support resources associated with vernal pools, including fairy shrimp. The soils

mapped within the Study Area are categorized as sandy loam soils, which are generally not associated with vernal pools, and direct observations of the soils within the Study Area showed a lack of clay soil components. Road ruts are generally not allowed to develop or persist for durations long enough to support resources associated with pools, as regular maintenance of the access roads located within the Study Area keeps these roads free of ruts and washouts, as these roads are utilized for operations and maintenance of various utilities (i.e., Southern California Edison transmission towers and a SoCal Gas transmission pipeline), as well as access to commercial apiary operations. In addition, no plant species were observed within the Study Area that are associated with vernal pools and similar habitats that experience prolonged inundation.

5.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that would occur as a result of the proposed project. Impacts (or effects) can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or animals, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Indirect impacts pertain to those impacts that result in a change to the physical environment, but which is not immediately related to a project. Indirect (or secondary) impacts are those that are reasonably foreseeable and caused by a project but occur at a different time or place. Indirect impacts can occur at the urban/wildland interface of projects, to biological resources located downstream from projects, and other offsite areas where the effects of the project may be experienced by plants and wildlife. Examples of indirect impacts include the effects of increases in ambient levels of noise or light; predation by domestic pets; competition with exotic plants and animals; introduction of toxics, including pesticides; and other human disturbances such as hiking, off-road vehicle use, unauthorized dumping, etc. Indirect impacts are often attributed to the subsequent day-to-day activities associated with project build-out, such as increased noise, the use of artificial light sources, and invasive ornamental plantings that may encroach into native areas. Indirect effects may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects” and may result in a slow replacement of native plants by non-native invasives, as well as changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. A cumulative impact can occur from multiple individual effects from the same project, or from several projects. The cumulative impact from several projects is the change in the environment resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. An important component of the cumulative analysis is the cumulative context, which is generally defined as the area within which an environmental document considers potential cumulative

effects. When considering other development projects for comparison as part of a cumulative analysis, the list method should be utilized, which focuses on past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside of the control of the Lead Agency. Future projects can be used that the Lead Agency has knowledge of, but for which no current plans have been submitted for review, so long as they are not unduly speculative. This biological technical report does not include a cumulative analysis, as the cumulative context and projects for comparison have not yet been defined.

5.1 California Environmental Quality Act (CEQA)

5.1.1 Thresholds of Significance

Environmental impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

“Prevent the elimination of fish or wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...”

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

“The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ...”

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

5.1.2 Criteria for Determining Significance Pursuant to CEQA

Appendix G of the 2018 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

5.2 Special-Status Species

Appendix G(a) of the CEQA guidelines asks if a project is likely to “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.” For the purpose of this biological technical report, several factors were considered when determining whether the Project would have a substantial adverse effect on a special-status species, including the range/distribution of the species, the relative sensitivity of the species, the size and geographic context of the Project site, the amount of habitat for each species and the context of use of the site. The loss of habitat for a special-status species is not considered as a substantial adverse effect, and therefore a potentially significant impact, simply because there is an impact. That impact must be shown to have a substantial adverse effect on the resource. In the case of an individual species, the effect of the habitat loss must be substantial and adverse relative to the range of the species, i.e., that the loss of habitat by a particular development activity would

adversely affect the species as a whole, and not simply the affect that a development activity would have on a specific population.

5.2.1 Special-Status Plants

Special-status plant species were confirmed absent from the Study Area. As such, the proposed Project would not impact special-status plants.

5.2.2 Special-Status Animals

The proposed Project would result in the loss of habitat that supports or potentially supports special-status species. As discussed above in Section 4.0, the Study Area has the potential to support a number of species (raptors and bats), that might forage at the site, but would not otherwise use the site for live-in habitat, including for nesting (or roosting in the case of bats). As such, these impacts are not evaluated in the context of CEQA significance since special status for these species is in the context of breeding. The following special-status species have the potential to use the site as live-in habitat, including Crotch bumble bee, California glossy snake, coast horned lizard, coastal whiptail, red-diamond rattlesnake, CAGN, loggerhead shrike, American badger, bobcat, Dulzura pocket mouse, mountain lion, northwestern San Diego pocket mouse, southern grasshopper mouse, SKR, and San Diego black-tailed jackrabbit.

The Project is not required per the MSHCP to conduct presence/absence surveys for any of the above-referenced species, either because the species are fully covered and the MSHCP does not have any project-specific survey requirements for these species, or the species are not covered and so survey requirements were not developed for the MSHCP. For the majority of these species, including the reptiles, loggerhead shrike, and small mammals, either there is no established survey protocol for the species or the extensive survey efforts to confirm the presence/absence of these species is not warranted. For example, the MSHCP does not require a general survey protocol to confirm the presence/absence of special-status reptiles, nor is it an industry standard to implement sampling efforts needed to confirm the presence of reptiles and further to determine the extent of occupied habitat. Similarly, small mammal trapping is not typically conducted unless there is a potential for a listed species that does not otherwise have coverage, or in the case of the MSHCP there is a specific requirement for surveys based on a designated survey area¹⁵. Since focused surveys were not performed for these species to confirm absence, or to determine the extent of site use by the one or more species if present, then the alternative is to acknowledge the possibility of occurrence based on the presence of suitable habitat. The likelihood is that certain species, if present, occupy a smaller portion of the site, and that although the loss of habitat might impact one or more species, it is probable that impacts would not be considered as “substantial adverse” impacts that would trigger a determination of significance. As discussed below, for these species, the conservation proposed by the Project and the lands set aside for conservation under the MSHCP would mitigate any impacts that might be potentially significant.

¹⁵ The MSHCP requires surveys for the Los Angeles pocket mouse, San Bernardino kangaroo rat, and Aguanga kangaroo rat based on occurrence within a designated survey area. However, the Project site is not located within a small mammal survey area and so focused surveys were not required for small mammals.

The coast horned lizard, coastal whiptail, red-diamond rattlesnake, CAGN, loggerhead shrike, bobcat, mountain lion, northwestern San Diego pocket mouse, SKR and San Diego black-tailed jackrabbit are all MSHCP Covered Species. As such, the loss of habitat for these species does not require project-specific mitigation since participation in the MSHCP, including the payment of MSHCP development fees, is intended to mitigate any potentially significant impacts to below a level of significance. In addition, the species receive coverage under the MSHCP because lands have adequately been conserved throughout the Plan area to support coverage¹⁶. Furthermore, given that adequate conservation is provided within western Riverside County for these species, the loss of habitat as a result of the Project would not be a substantial adverse effect to the species at the local level.

California glossy snake, American badger, Dulzura pocket mouse and southern grasshopper mouse are not designated as Covered Species under the MSHCP as sufficient information was not available to make that determination when the MSHCP was approved. Crotch bumble bee is not a Covered Species because at the time that the MSHCP was approved the bumble bee was not regarded with a level of sensitivity to warrant consideration. Regardless of whether these species have an official designation as a Covered Species, the lands collectively conserved as part of the MSHCP Reserve are certain to provide habitat for these species, and so participation of the Project in the MSHCP, including the proposed conservation of 230.82 acres of lands with potential habitat for these species, function to mitigate any impacts to below a level of significance.

Invertebrates

Crotch Bumble Bee

Crotch bumble bee (SCE) was not observed incidentally but has the potential to occur within relatively flat areas vegetated with the Riversidean sage scrub community within the Study Area. The Project would permanently impact up to 58.13 acres of habitat with the potential to support Crotch bumble bee, and as such there is a potential for a significant impact under CEQA prior to mitigation depending on extent of use. Furthermore, if Crotch bumble bee remains as a SCE or has otherwise been confirmed as a State Endangered species at the time of Project site disturbance and the bumble bee is confirmed present, then an Incidental Take Permit (ITP) could be required prior to the disturbance of the occupied habitat. A measure has been included in Section 6.0 of this report to further address Crotch bumble bee as a listed species.

Although Crotch bumble bee is not a covered species under the MSHCP, the conservation lands that comprise the MSHCP Reserve include habitat suitable to support this species on a regional level. As such, the Project's participation in the MSHCP, through both the proposed conservation of open space with potential to support the bumble bee and the payment of MSHCP development fees, offsets potential impacts to the bumble bee that would reduce impacts to below a level of significance.

¹⁶ Coverage for the SKR for the Project comes from participation in the SKR HCP, which includes payment of the SKR fee.

Reptiles

California Glossy Snake

California glossy snake (SSC) was not observed incidentally but has the potential to occur within the chaparral, Riversidean sage scrub, and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 58.76 acres of habitat with the potential to support the California glossy snake, and as such there is a potential for a significant impact under CEQA prior to mitigation depending on the size of the population and extent of use. Although the California glossy snake is not a covered species under the MSHCP, the conservation lands that comprise the MSHCP Reserve include habitat suitable to support this species on a regional level. As such, the Project's participation in the MSHCP, through both the proposed conservation of open space with potential to support the glossy snake and the payment of MSHCP development fees offsets potential impacts to the glossy snake that would reduce impacts to below a level of significance.

Coast Horned Lizard

Coast horned lizard (SSC) was not observed incidentally but has the potential to occur within the chaparral, Riversidean sage scrub, and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 58.76 acres of habitat with the potential to support coast horned lizard, and as such there is a potential for a significant impact under CEQA prior to mitigation depending on the size of the population and extent of use. These impacts are addressed through consistency with the MSHCP, as the coast horned lizard is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the horned lizard. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Coastal Whiptail

Coastal whiptail (SSC) was not observed incidentally but has the potential to occur within the chaparral, Riversidean sage scrub, and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 58.76 acres of habitat with the potential to support coastal whiptail, and as such there is a potential for a significant impact under CEQA prior to mitigation depending on the size of the population and extent of use. These impacts are addressed through consistency with the MSHCP, as the coastal whiptail is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the whiptail. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Red-diamond Rattlesnake

Red-diamond rattlesnake (SSC) was observed within the Study Area during field efforts and has the potential to occur more extensively within the chaparral, Riversidean sage scrub, and

southern riparian scrub communities within the Study Area. The loss of up to 58.76 acres of habitat with the potential to support this species is potentially a significant impact under CEQA, prior to mitigation. These impacts are addressed through consistency with the MSHCP, as the rattlesnake is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the rattlesnake. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Birds

Bell's Sage Sparrow

Bell's sage sparrow (SSC) was observed within the chaparral, Riversidean sage scrub, and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 58.76 acres of habitat with the potential to support Bell's sage sparrow. The loss of 58.76 acres of habitat with the potential to support this species is potentially a significant impact under CEQA, prior to mitigation. These impacts are addressed through consistency with the MSHCP, as the sage sparrow is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the sage sparrow. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Coastal California Gnatcatcher

The coastal California gnatcatcher (CAGN) was not observed but has the potential to occur within the Riversidean sage scrub community within the Study Area. The Project would permanently impact up to 58.13 acres of habitat with the potential to support CAGN, which would be a potentially significant impact under CEQA, prior to mitigation. These impacts are addressed through consistency with the MSHCP, as the CAGN is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the CAGN, specifically 77.15 acre of Riversidean sage scrub. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance. Furthermore, Condition 5b of the USFWS MSHCP Take Permit places a seasonal restriction on the clearing of occupied CAGN habitat, stating that the clearing of occupied habitat within PQP Lands and the Criteria Area is prohibited between March 1 and August 15. A measure is provided below in Section 6.0 to address compliance with this condition.

Loggerhead Shrike

Loggerhead shrike (SSC) was not observed incidentally but has the potential to occur within the chaparral, non-native grassland, Riversidean sage scrub and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 370.83 acres of habitat with the potential to support loggerhead shrike, although much of that habitat would be used for foraging purposes with the potential for nesting limited to areas with shrubs and trees. The loss of habitat with the potential to support the loggerhead shrike may be a potentially significant

impact prior to mitigation depending on the extent of use. These impacts are addressed through consistency with the MSHCP, as the loggerhead shrike is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the shrike. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Southern California Rufous-crowned Sparrow

Southern California rufous-crowned sparrow (SSC) was observed within the chaparral, Riversidean sage scrub, and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 58.76 acres of habitat with the potential to support Southern California rufous-crowned sparrow, which is potentially significant under CEQA prior to mitigation. These impacts are addressed through consistency with the MSHCP, as the rufous-crowned sparrow is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the sparrow. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Mammals

American Badger

The American badger was not directly observed during overall biological survey efforts. However, several burrows were detected within the Study Area that clearly were produced by badgers. The badger was assumed present based on the presence of burrows. The Project will impact up to 370.83 acres of habitats (grassland, Riversidean sage scrub, chaparral and southern riparian scrub) that could be used by badgers. Although the approximate extent of site use by badger could not accurately be determined, the likely use area would be concentrated in the transitional grassland/scrub areas at the boundary between the impact footprint and the open space, and within the open space itself. The loss of badger habitat depending on the extent of use could be a potentially significant impact under CEQA, prior to mitigation. Although the badger is not a covered species under the MSHCP, the conservation lands that comprise the MSHCP Reserve include habitat suitable to support this species on a regional level. As such, the Project's participation in the MSHCP, through both the proposed conservation of open space with potential to support the badger and the payment of MSHCP development fees offsets potential impacts to the badger that would reduce impacts to below a level of significance.

Bobcat

The bobcat was confirmed present within the Study Area through detection of tracks and scat, as well as through the use of wildlife cameras. Although the bobcat does not have special status as a listed species or SSC, the bobcat is a MSHCP Covered Species and is a Planning Species for Proposed Core 3 to support movement and provide for live-in habitat. The Project would permanently impact up to 386.31 acres of habitat with the potential to support bobcat, including the support of local movement that is potentially significant. However, the Project is designed to support the MSHCP goals for Proposed Core 3 through its proposed conservation lands, wildlife

fencing, and management of edge effects that are discussed below in Section 5.6.1. With the implementation of the Project, the impacts to local wildlife movement would be reduced to below a level of significance.

Dulzura Pocket Mouse

Dulzura pocket mouse (SSC) was not observed incidentally but has the potential to occur within the chaparral, non-native grassland, Riversidean sage scrub and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 370.83 acres of habitat with the potential to support the pocket mouse, and as such there is a potential for a significant impact under CEQA prior to mitigation depending on the size of the population and extent of use. Although the pocket mouse is not a covered species under the MSHCP, the conservation lands that comprise the MSHCP Reserve include habitat suitable to support this species on a regional level. As such, the Project's participation in the MSHCP, through both the proposed conservation of open space with potential to support the pocket mouse and the payment of MSHCP development fees offsets potential impacts to the pocket mouse that would reduce impacts to below a level of significance.

Mountain Lion

The mountain lion was confirmed present within the Study Area through detection of tracks and scat. As noted above, the mountain lion is currently a State Candidate for listing under CESA but is a MSHCP Covered Species. Per the MSHCP, the mountain lion is a Planning Species for Proposed Core 3 to support movement and provide for live-in habitat. The Project would permanently impact up to 386.31 acres of habitat with the potential to support the mountain lion, including the support of local movement that is potentially significant. However, the Project is designed to support the MSHCP goals for Proposed Core 3 through its proposed conservation lands, wildlife fencing, and management of edge effects that are discussed below in Section 5.6.1. With the implementation of the Project, the impacts to local wildlife movement would be reduced to below a level of significance.

Northwestern San Diego Pocket Mouse

Northwestern San Diego pocket mouse (SSC) was not observed incidentally but has the potential to occur within the chaparral, non-native grassland, Riversidean sage scrub and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 370.83 acres of habitat with the potential to support Northwestern San Diego pocket mouse, which is potentially significant under CEQA prior to mitigation. These impacts are addressed through consistency with the MSHCP, as the pocket mouse is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the pocket mouse. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

Southern Grasshopper Mouse

Southern grasshopper mouse (SSC) was not observed incidentally but has the potential to occur within the chaparral, Riversidean sage scrub, and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 58.76 acres of habitat with the potential to support the grasshopper mouse, and as such there is a potential for a significant impact under CEQA prior to mitigation depending on the size of the population and extent of use. Although the grasshopper mouse is not a covered species under the MSHCP, the conservation lands that comprise the MSHCP Reserve include habitat suitable to support this species on a regional level. As such, the Project's participation in the MSHCP, through both the proposed conservation of open space with potential to support the grasshopper mouse and the payment of MSHCP development fees offsets potential impacts to the grasshopper mouse that would reduce impacts to below a level of significance.

Stephens' Kangaroo Rat

SKR (FE, ST) was not observed incidentally but has the potential to occur within the non-native grassland community within the Study Area. The Project would permanently impact up to 312.07 acres of habitat with the potential to support SKR. The loss of 312.07 acres of habitat with the potential to support this species is potentially a significant impact under CEQA, prior to mitigation; however, the Study Area occurs within the Fee Assessment Area of the SKR HCP. All projects located within Fee Assessment Area are required to pay the SKR fee, which mitigates any impacts to SKR. With coverage afforded by the SKR HCP, any potentially significant impacts to SKR would be reduced to a less than significant level.

San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit (SSC) was not observed but has the potential to occur within the non-native grassland, Riversidean sage scrub, chaparral and southern riparian scrub communities within the Study Area. The Project would permanently impact up to 370.83 acres of habitat with the potential to support San Diego black-tailed jackrabbit, which is potentially significant under CEQA prior to mitigation. These impacts are addressed through consistency with the MSHCP, as the jackrabbit is a Covered Species, which as a part of consistency includes the payment of MSHCP development fees and the proposed conservation of open space with the potential to support the jackrabbit. As such, the Project's participation in the MSHCP would reduce potential impacts to below a level of significance.

5.3 Sensitive Vegetation Communities

Appendix G(a) of the CEQA guidelines asks if a project is likely to "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."

The proposed Project would permanently impact approximately 58.76 acres of native vegetation communities (Chaparral, Riversidean Sage Scrub and Southern Riparian Scrub) and 328.71 acres

of non-native habitats (non-native grassland) and disturbed/developed areas. Table 5-1 provides a summary of proposed impacts to vegetation within the Project footprint. A graphic depicting vegetation impacts is attached as Exhibit 8.

As noted above in Section 4.2 and 4.3, Southern Riparian Scrub is considered to be a sensitive community in general as a “riparian” community. However, based on state rankings the Riversidean sage scrub and chaparral communities are not sensitive, although as discussed above in Section 4.5 and 5.2, these vegetation communities potentially support special-status animal species. These impacts are addressed through consistency with the MSHCP, which includes the payment of MSHCP development fees and the proposed conservation of 230.82 acres of open space (152.42 acres onsite in Planning Area 10 and 78.40 acres off offsite conservation), including 80.63 acres of native vegetation communities (1.20 acres of Southern Riparian Scrub, 1.28 acres of Chaparral and 78.15 acres of Riversidean Sage Scrub). As such, the Project’s participation in the MSHCP would reduce potential impacts to below a level of significance.

Table 5-1. Summary of Vegetation Community/Land Cover Impacts

Vegetation Community/ Land Cover Type	Total Impacts
Chaparral ³	0.60
Non-native Grassland ²	312.07
Riversidean Sage Scrub ³	58.13
Southern Riparian Scrub ^{1,3}	0.03
Disturbed	15.48
Developed	1.16
Total	387.47

¹=classified as a type of riparian vegetation.

²=non-native vegetation

³=native vegetation

In addition to the above direct impacts, the proposed Project may cause potential indirect impacts to the natural vegetation communities adjacent to the proposed development. Indirect effects associated with development include water quality impacts from associated with drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; invasive plant species from landscaping; and effects from human access into adjacent open space, such as recreational activities (including off-road vehicles and hiking), pets, dumping, etc. (see Section 5.10). Temporary, indirect effects may also occur as a result of construction-related activities.

5.4 Wetland

Appendix G(c) of the State CEQA guidelines asks if a project is likely to “have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.”

Approximately 0.02 acre of potential Corps and Regional Board jurisdictional wetlands are present within Drainage L within the Study Area; however, this portion of Drainage L is located

outside of the proposed Project footprint. Therefore, the proposed Project would not result in the loss of state or federally protected wetlands.

5.5 Jurisdictional Waters

5.5.1 Corps Jurisdiction

The proposed Project will result in impacts to approximately 0.31 acre (5,506 linear feet) of potential Corps jurisdictional resources but will not result in impacts to jurisdictional wetlands [Exhibit 9A]. Table 5-2 includes a summary of Corps jurisdictional impacts.

Table 5-2. Summary of Corps Jurisdictional Impacts

Drainage Name	Non-Wetland Waters (acres)	Wetlands (acres)	Total (acres)	Linear Feet
Drainage B	0.12	0.00	0.12	1,008
Drainage C	0.01	0.00	0.01	381
Drainage E	0.01	0.00	0.01	7
Drainage G	0.08	0.00	0.08	1,048
Drainage I	0.03	0.00	0.03	969
Tributary I-1	0.01	0.00	0.01	533
Tributary I-2	0.01	0.00	0.01	501
Tributary I-3	0.03	0.00	0.03	954
Drainage L	0.01	0.00	0.01	105
Total	0.31	0.00	0.31	5,506

The CEQA impact thresholds only address jurisdictional waters with regards to federal (or state) wetlands, and as noted above in Section 5.4 the Project will not impact wetlands. However, impacts to Corps jurisdiction will require a CWA Section 404 permit from the Corps and a CWA Section 401 Water Quality Certification from the Regional Board, and mitigation will be required through the permitting process as discussed in Section 6.0.

5.5.2 Regional Board Jurisdiction

The proposed Project will result in impacts to approximately 0.31 acre (5,506 linear feet) of Regional Board jurisdictional resources [Exhibit 9A]. The proposed Project will not result in impacts to jurisdictional wetlands. Table 5-3 includes a summary of Regional Board jurisdictional impacts.

Table 5-3. Summary of Regional Board Jurisdictional Impacts

Drainage Name	Non-Wetland Waters (acres)	Wetlands (acres)	Total (acres)	Linear Feet
Drainage B	0.12	0.00	0.12	1,008
Drainage C	0.01	0.00	0.01	381
Drainage E	0.01	0.00	0.01	7
Drainage G	0.08	0.00	0.08	1,048
Drainage I	0.03	0.00	0.03	969
Tributary I-1	0.01	0.00	0.01	533
Tributary I-2	0.01	0.00	0.01	501
Tributary I-3	0.03	0.00	0.03	954
Drainage L	0.01	0.00	0.01	105
Total	0.31	0.00	0.31	5,506

The CEQA impact thresholds only address jurisdictional waters with regards to federal (or state) wetlands, and as noted above in Section 5.4 the Project will not impact wetlands. However, impacts to Regional Board jurisdictional Waters of the U.S. will require a Section 401 Water Quality Certification from the Regional Board, and impacts to Regional Board jurisdictional Waters of the State will require a Waste Discharge Order from the Regional Board. Mitigation will be required through the permitting process as discussed in Section 6.0.

5.5.3 CDFW Jurisdiction

The proposed Project will result in impacts to 0.43 acre (5,506 linear feet) of CDFW jurisdiction, which includes 0.40 acre of non-riparian streambed and 0.03 acre of jurisdictional riparian habitat [Exhibit 9B]. Table 5-4 includes a summary of CDFW jurisdictional impacts.

Table 5-4. Summary of CDFW Jurisdictional Impacts

Drainage Name	Non-Riparian (acres)	Riparian (acres)	Total (acres)	Linear Feet
Drainage B	0.12	0.00	0.12	1,008
Drainage C	0.03	0.00	0.03	381
Drainage E	0.01	0.00	0.01	7
Drainage G	0.12	0.00	0.12	1,048
Drainage I	0.04	0.03	0.07	969
Tributary I-1	0.01	0.00	0.01	533
Tributary I-2	0.01	0.00	0.01	501
Tributary I-3	0.05	0.00	0.05	954

Drainage L	0.01	0.00	0.01	105
Total	0.40	0.03	0.43	5,506

The CEQA impact thresholds only address jurisdictional waters with regards to federal or state wetlands, and as noted above in Section 5.4 the Project will not impact wetlands. However, impacts to CDFW jurisdictional streambed (including jurisdictional riparian habitat) will require a Streambed Alteration Agreement with CDFW. Mitigation will be required through the permitting process as discussed in Section 6.0.

5.5.4 Impacts to MSHCP Riparian/Riverine Areas

The Project will permanently impact 0.43 acre of MSHCP riparian/riverine areas, of which 0.03 acre supports riparian habitat. Exhibit 9B illustrates the proposed impacts to Riparian/Riverine resources.

Pursuant to *Volume I, Section 6.1.2* of the MSHCP, projects must consider alternatives providing for 100 percent avoidance of riparian/riverine areas. If avoidance is infeasible, then the unavoidable impacts must be mitigated, and a Determination of Biologically Equivalent or Superior Preservation (DBESP) is required. Refer to Section 6.0, Mitigation/Avoidance Measures for details.

5.6 Wildlife Movement and Native Wildlife Nursery Sites

Appendix G(d) of the State CEQA guidelines asks if a project is likely to “interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.”

5.6.1 Wildlife Movement

As described above in Section 4.8.1, the Study Area provides for the local movement of wildlife, including mountain lion, mule deer, bobcat, coyote, gray fox, and other smaller mammals, as well as containing general habitat, including live-in habitat for some species. As such, the proposed Project will impact the local movement of wildlife through the site. However, the Project is designed to support the MSHCP goals pertaining to movement, specifically as it relates to supporting the goals of Proposed Core 3. The supporting design elements of the Project include 1) conserving the lands required by the MSHCP to support the assembly and function of Proposed Core 3; 2) installing and maintaining fencing that will separate the development footprint (including the Project’s managed open space buffer) from Core 3 conservation lands; and 3) managing edge effects between the Project and the conserved lands, including lighting and noise.

The Project will conserve 230.82 acres of lands that will support the function of Proposed Core 3 consistent with the MSHCP goals of providing live-in habitat and facilitating movement, including 152.42 acres on site and 78.40 acres off site. As Proposed Core 3 extends from

northwest to southeast, the Core is bisected by SR-60 to the west of the Beaumont Pointe Project. As such, the SR-60 provides a constraint to movement for wildlife through Proposed Core 3. *Volume I, Section 7.5.2* of the MSHCP provides guidelines for the construction of wildlife crossings associated with roadway projects. The MSHCP notes undercrossing structures of varying sizes should be included in a long road alignment to accommodate small, medium, and large wildlife, with multiple undercrossings for each size group depending on the length of the roadway. Caltrans is currently constructing the SR-60 Truck Lanes Project which extends for approximately 4.75 miles from approximately Gilman Springs Road on the west to a point about one mile east of the western limits of the Project site. The Caltrans work is expected to be completed by the time that construction of the Beaumont Pointe Project would begin, so that certain Project components including proposed fencing would tie in consistently with the SR-60 improvements.

As part of the SR-60 improvements, Caltrans is constructing eight all-weather undercrossing structures specifically for wildlife, including two 20-foot-tall by 20-foot-wide box culverts to accommodate larger wildlife (mule deer, mountain lion, and bobcat) and six smaller undercrossings. The smaller structures consist of a combination of corrugated metal pipes (CMPs), reinforced concrete pipes (RCPs) and arch concrete pipes (ACPs). Three of the eight undercrossings are being constructed for the section of the SR-60 improvements that abut the northern Project boundary, including one 60-inch pipe at the western end of the Project site, one of the 20-foot by 20-foot culverts approximately 0.50 mile along the Project boundary east of the 60-inch pipe, and one 36-inch pipe another 0.50 mile to the east of the box culvert. Wildlife expected to occur at the Project site with the potential to use these three features include medium to large-sized mammals such as mule deer, mountain lion, bobcat and coyote, smaller mammals such as gray fox, raccoon and rodents, and other smaller wildlife such as reptiles and amphibians. The remaining five Caltrans undercrossings are being constructed west of the Project site, with the second 20-foot by 20-foot culvert located approximately one-mile west of the Project site. Exhibit 10A depicts the locations of all eight of the proposed undercrossings associated with the SR-60 project.

The conservation proposed by the Project includes the northwestern corner of Cell 933, which based on the existing Cell Criteria is not described for conservation. The northwestern portion of Cell 933 is located adjacent to the Caltrans box culvert and based on the existing Cell Criteria the box culvert might not be properly connected to the Core 3 open space. As such, one benefit of the Criteria Refinement is to place this portion of the Cell into conservation such that undercrossing is properly connected to the main portion of the Core 3 to the southwest.

The SR-60 improvements include a wildlife fence along both the northern and southern edges of the SR-60 to minimize wildlife from entering the roadway and direct wildlife to the areas north and south of the freeway. The eastern terminus of the SR-60 fence is being constructed just east of the proposed 36-inch pipe culvert [Exhibit 10B]. The proposed Beaumont Pointe Project will similarly construct a wildlife fence along the western and southern edges of the Project site to prevent wildlife from entering the Project site from the adjacent conserved lands. The fence will be constructed approximately along the boundary between the proposed conserved lands and the Project's Maintained Open Space, although the exact location will vary depending on the topography. The Project's fence will tie into the SR-60 fence at the easternmost proposed

wildlife CMP and will extend west and then south/southeast around the Project to direct wildlife in the northwesterly/southeasterly direction. The wildlife fencing along the Project boundary will include one-way swing gates opening into the MSHCP conservation area for any wildlife that enter the Project site from the north and east trying to escape into the adjacent conserved lands. In addition to the wildlife fence, the Project will also include six-foot tubular steel security fencing along the northern boundary abutting the SR-60 ROW, beginning from the wildlife fence on the west and extending east to the Project's entry point. Wildlife that either cross over or under the SR-60 east of the Caltrans wildlife fence terminus will be forced to the west or east along the security fence. A swing gate will be installed to the west along the section of lateral (north-south) wildlife fence connecting to the SR-60 fence, allowing wildlife to escape the freeway ROW towards the conserved lands.

As further discussed below, the Project through its design will also address edge effects relative to adjacent conserved lands. The Project's night lighting will be designed to prevent spillage into the MSHCP conserved lands along the western and southern development boundary. As such, consistent with the MSHCP Urban/Wildlife Interface Guidelines (*MSHCP Volume I, Section 6.1.4*) night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting to ensure ambient lighting in the MSHCP Conservation Area is not increased. Regarding noise, the Project's Maintained Open Space (i.e., Planning Area 9) will serve as a buffer between the main development footprint and the proposed conservation lands, such that wildlife within the adjacent conserved lands will not be subjected to noise that exceeds residential standards.

In conclusion, although the proposed Project will impact lands that support the local movement of wildlife, the Project is designed to support the MSHCP goals for Proposed Core 3 through its proposed conservation lands, wildlife fencing, and management of edge effects. Through compliance with MSHCP goals for Proposed Core 3, the Project will not significantly impact wildlife movement.

5.6.2 Native Wildlife Nursery Sites

The Study Area does not represent a nursery site. Therefore, the Proposed project would not result in impacts to a native wildlife nursery site.

Although impacts to native birds are prohibited by MBTA and similar provisions of California Fish and Game Code, the general loss of nesting habitat by the proposed Project would not be a significant impact under CEQA, as they are addressed on a species level, as discussed in Section 5.2, above. A measure is identified in Section 6.0 of this report to avoid impacts to nesting birds.

5.7 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." The Project will not conflict with any local policies or ordinances protecting biological resources.

5.8 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines asks if a project is likely to “conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.” As discussed throughout this report, the Project is within the Western Riverside County MSHCP. Section 7.0 of this report analyzes compliance of the Project with the Reserve Assembly and species/habitat requirements of the MSHCP. Through compliance with the applicable requirements, including the completion of a Criteria Refinement as discussed in detail in Appendix C, the Project will not conflict with the provisions of the MSHCP.

5.9 Indirect Impacts to Biological Resources

In the context of biological resources, indirect edge effects are those effects associated with developing areas adjacent to adjacent native open space. The MSHCP acknowledges that in the absence of measures to address urban edge effects to open space, it is assumed that edge effects resulting from development or land use practices in proximity to conserved habitat areas include 1) long-term presence of unshielded noise-generating land uses in proximity to the MSHCP Conservation Area; 2) unshielded night-lighting directed within the MSHCP Conservation Area; 3) use of exotic landscape plant materials that may invade native vegetation communities within the MSHCP Conservation Area; 4) discharge of uncontrolled or unfiltered urban runoff toward the MSHCP Conservation Area, including potential toxics; and 5) uncontrolled access, dumping or trespass within the MSHCP Conservation Area. In absence of measures to address these issues, edge effects would have the potential for significant indirect impacts to native biological resources. As such, the projects to be located adjacent to the MSHCP Conservation Area are required to implement measures pursuant to the Urban/Wildland Interface Guidelines (UWIG) per *Volume I, Section 6.1.4* of the MSHCP. With adherence to the guidelines, projects are expected to minimize potential edge effects such that a project will not have significant impacts to sensitive resources as a result of indirect edge effects. The Project will implement measures consistent with the MSHCP guidelines to address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasives;
- Barriers; and
- Grading/Land Development.

5.9.1 Drainage

Projects in proximity to the MSHCP Conservation Area are expected to incorporate measures to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. This includes measures required through the National Pollutant Discharge Elimination System (NPDES) requirements. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from

developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

The watershed from the proposed developed areas of the Project site flows generally to the north, offsite into 16 culverts under the SR-60 freeway. The Project will maintain the 16 existing culverts under the freeway as the ultimate discharge locations for the Project but the runoff from the proposed buildings, parking lots, and road improvements will be collected by a proposed drainage system. The proposed drainage system will consist of catch basins, grated inlets, storm drainpipes with sizes varying from 18” to 48”, and four detention basins. The drainage system routes the runoff from the proposed impervious surfaces to four proposed stormwater treatment and mitigation basins. Each basin provides stormwater treatment and peak flow mitigation for each of their respective tributaries to prevent the post-development flows from exceeding the pre-development flows. Basins will be maintained by the Master Property Owners’ Association, through access and maintenance easements with owners of each property where basins are located.

The Project’s contractor will develop a Stormwater Pollution Prevention Plan (SWPPP) to runoff and water quality during construction.

5.9.2 Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented. The proposed Project will implement a SWPPP that will address runoff during construction. In addition, following the completion of activities, runoff from any developed or paved areas (including landscaped areas) will be treated prior to draining into undeveloped areas.

5.9.3 Lighting

The UWIG expect that 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 or as part of the development project, shielding shall be incorporated to ensure ambient lighting in the MSHCP Conservation Area is not increased, i.e., the Project cannot result in light spillage into the Conservation Area such that the baseline ambient lighting is increased. A lighting analysis/illumination study (Appendix D) has been prepared for the Project demonstrating that the Project’s night lighting will not increase light levels in the adjacent Conservation Area. As shown in Exhibit 3 (Site Plan), the Project’s Land Use Plan includes the industrial and commercial development in the center of the property, surrounded by the Project Maintained Open Space (Planning Area 9), which then abuts the

proposed conservation lands (Planning Area 10) that will be part of the MSHCP Conservation Area. The nearest night lighting to the Conservation Area will be placed around the perimeter of the development areas such that the Project's Maintained Open Space will serve as a buffer between the development and the Conservation Area. Furthermore, the light fixtures will be down shielded and will face inwards towards the inside of the development area, such that the light fixtures will not result in any illumination in the Conservation Area, i.e., the ambient baseline within the Conservation Area will not increase.

5.9.4 Noise

Pursuant to the MSHCP, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards. 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.

A Noise and Vibration Analysis (dated October 5, 2022), referred to herein as the "NVA" was prepared by Urban Crossroads for the proposed Project to analyze construction and operational noise effects of the Project on surrounding areas [Appendix E], addressing both existing residential areas in nearby communities as well as proposed open space adjacent to the Project. As noted above, the MSHCP states that wildlife within the Conservation Area should not be subject to noise that would exceed residential noise standards. The MSHCP does not specify a noise level as the "residential standard", nor does the MSHCP differentiate between daytime and nighttime levels, and the standard varies depending on the Lead Agency jurisdiction. The NVA referenced the City of Beaumont Municipal Code Standards for noise.

- Operational Noise Standards – For noise-sensitive residential properties, the City of Beaumont Municipal Code, Section 9.02.050, identifies base ambient noise level (BANL) stationary-source noise level limits of 55 dBA L_{eq} for the daytime (7:00 a.m. to 10:00 p.m.) hours and 45 dBA L_{eq} during the nighttime (10:00 p.m. to 7:00 a.m.) hours. For industrial and commercial land uses, the BANL established by the City's Municipal Code is 75 dBA L_{eq} for the daytime hours and of 50 dBA L_{eq} during the nighttime hours. Section 9.02.050 states that *actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level"*. In effect, when the ambient noise levels exceed the base exterior noise level limits, the noise level standard shall be adjusted as appropriate to encompass or reflect the ambient noise level.
- Construction Noise Standards – The City of Beaumont has set restrictions to control noise impacts associated with the construction of the proposed Project. These restrictions are generally limited to the nearby noise sensitive receiver locations that may be impacted by the short-term construction noise activities. The City's Municipal Code identifies the following construction noise provisions in Section 9.02.110.F.1: *It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured*

at the property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above-described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.

Section 9.02.110.F.3 of the Municipal Code indicates that *Construction related noise...may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector. Such permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.*

Project construction noise level standards addressed in the NVA are not applicable to the biological impact analysis because the standards are based on an assumption that residences will have closed windows, such that there is a noise reduction factor of 20 dBA. The NVA utilizes an exterior construction-related noise level threshold of 75 dBA L_{eq} which represents the combination of the City of Beaumont 55 dBA L_{eq} interior noise level limit and the noise reduction factor. However, as noted the NVA was designed to address residential noise effects on humans and was not designed in consideration of noise effects on wildlife. As such, the 75 dBA L_{eq} threshold is not relevant to biological impact analysis. Regardless, construction operations will be short-term and will be restricted to daylight hours, such that the construction operations would not affect nocturnal wildlife activities.

The construction noise standards address vibration standards as well as blasting noise limits. The City of Beaumont does not identify specific vibration level limits and instead relies on the Federal Transit Administration (FTA) methodology. The FTA *Transit Noise and Vibration Impact Assessment* methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. Consistent with the thresholds of significance outlined in the City of Beaumont General Plan EIR, these guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. Regarding blasting, the City of Beaumont does not identify specific blasting noise or vibration level limits. As such, the NVA relied on other sources, including the U.S. Bureau of Mines and Caltrans. For blasting noise, an air overpressure of 133 dB is identified as a perception-based criteria level for blasting. For blasting vibration limits, the NVA used Caltrans guidance that identifies a maximum acceptable transient peak-particle-velocity (PPV) vibration threshold of 0.5 inches per second (in/sec) to evaluate the potential blasting-related vibration levels experienced at the nearby residential homes.

The NVA established five noise measurement locations and corresponding noise receiver sites (R1 through R5), and three “sensitive receiver locations” (BIO-1, BIO-2 and BIO-3). Four of the “residential” receivers (R1 through R4) are located well away from the Project site in surrounding communities and are not relevant to the biological impact analysis, and therefore are not addressed further in this report. However, R5 is located immediately east of the proposed offsite conservation lands (replacement lands to support the Criteria Refinement, and so R5 is relevant to the biological impact analysis. The following provides the locations of the four receptors for consideration of noise edge effects to wildlife:

- BIO-1 – located near the box culvert wildlife undercrossing of the SR-60, approximately 175 feet north of the Project site. BIO-1 represents the wildlife undercrossing and the proposed conservation lands south of the culvert and west of the proposed development footprint.
- BIO-2 – located between the Project site and the SR-60, approximately 184 feet northeast of the Project site. BIO-2 is located on the opposite side of the SR-60 from the existing conservation lands (PQP Conserved Lands) associated with San Timeteo Wash.
- BIO-3 – located within existing conservation lands (PQP Conserved Lands) approximately 164 feet southwest of the Project site adjacent to additional lands proposed for conservation by the Project.
- R5 – represents the existing noise sensitive residence at 13270 Jack Rabbit Trail (Hoy Ranch), approximately 92 feet south of the Project site and approximately 300 feet from the proposed offsite conservation lands. R2 is placed at the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

Operational Noise Levels

Operational noise levels (daytime and nighttime) were evaluated for loading dock activities, truck movements, roof-top air conditionings units, parking lot vehicle movements, and trash enclosure activities. Table 5-5 summarizes the total operational noise levels for the four receiver sites.

Table 5-5. Summary of Operational Noise Levels

Receiver	Daytime Operational Noise Levels (dBA L_{eq})	Nighttime Operational Noise Levels (dBA L_{eq})
BIO-1	42.2	42.2
BIO-2	46.2	46.1
BIO-3	52.0	52.0
R5	43.0	42.7

Operational noise levels (daytime and nighttime) at all four receiver sites would be under the 55 dBA L_{eq} residential daytime threshold, and noise levels would be under or near the 45 dBA L_{eq} residential nighttime threshold. Of the four receiver sites referenced here, BIO-1 is the most critical to the biological impacts analysis, as it is located at the recently constructed 20-foot-by-

20-foot box culvert wildlife undercrossing, which has been acknowledged by USFWS and CDFW as being the important area for wildlife movement relative to the Project site¹⁷. Both daytime and nighttime operational noise levels would be 42.2 dBA L_{eq}, which would be under both the daytime and nighttime thresholds. The noise levels analyzed for BIO-2 would be just over the 45 dBA L_{eq} residential nighttime threshold. However, the location of the receiver is between the Project site and the SR-60 with nearest open space located on the opposite side of the freeway, approximately twice the distance from the nearest operational noise sources as the BIO-2 receiver site. As such, operational noise levels within the open space north of the SR-60 as a result of the Project are expected to be under the 45 dBA L_{eq} residential nighttime threshold. Operational noise levels were determined to be highest at BIO-3 (52 dBA L_{eq} for both daytime and nighttime operations), which would be under the daytime residential thresholds but over the nighttime threshold. However, the location of the receiver is at the very edge of the Proposed Core 3 open space away from the interior of the Core and primary wildlife use areas and would not be expected to result in significant impacts to sensitive biological resources.

Construction Noise Levels

Construction noise levels were evaluated for construction equipment associated with grading, building construction, paving and architectural coating. The highest construction noise levels for all four receiver sites are attributed to grading, with slightly lower levels for the other construction activities. Table 5-6 summarizes construction equipment noise levels.

Table 5-6. Summary of Construction Equipment Noise Levels

Receiver	Grading (dBA L_{eq})	Building Construction (dBA L_{eq})	Paving (dBA L_{eq})	Architectural Coating (dBA L_{eq})	Highest Levels (dBA L_{eq})
BIO-1	74.4	67.4	65.4	62.4	74.4
BIO-2	75.2	68.2	66.2	63.2	75.2
BIO-3	77.7	70.7	68.7	65.7	77.7
R5	73.4	66.4	64.4	61.4	73.4

As noted above, the Project was designed to address residential noise standards, which for construction applies a 75 dBA L_{eq} threshold based on a 55 dBA L_{eq} daytime standard plus a 20 dBA noise reduction accounting for closed windows at residences. As such, the projected noise levels at all five residential receivers are under the combined 75 dBA threshold, as well as at the BIO-1 receiver. However, this threshold is not applicable to biological analyses, and instead the biological analysis must only consider the noise levels and their sources, the duration of the noise, and the time of day that the noise will occur. Construction by its very nature generates noise levels that will temporarily exceed those of ambient levels and typical project operational levels. However, construction activities will occur over a short duration and only during daytime hours, with the exception of potential nighttime concrete pour activities. Furthermore, noise levels will vary throughout construction operations depending on the equipment being used. In

¹⁷ May 12, 2022 Wildlife Agency comment letter for the Criteria Refinement Analysis

addition, the Project is not located in immediate proximity to riparian habitats that support sensitive riparian species such as the least Bell's vireo or southwestern willow flycatcher. Furthermore, as discussed below in Section 6.0 of this report, the Project will incorporate measures that would avoid and minimize impacts during the breeding season, including general nesting bird surveys with temporary setback buffers from any active nests, pre-construction burrowing owl surveys with temporary setback buffers from any occupied burrows¹⁸, and the avoidance of habitat occupied by coastal California gnatcatchers¹⁹ from March 1 to August 31. Lastly, the aforementioned species are all designated as MSHCP Covered Species, and therefore impacts (including indirect noise impacts) are covered by the MSHCP provided that projects are compliant with all applicable MSHCP requirements.

Vibration and Blasting Levels

Although not addressed by the MSHCP and not directly applicable to wildlife noise impact analyses, the NVA addressed vibration levels and blasting impacts from construction. The vibration and blasting analyses in the NVA were not designed to address wildlife but focused on human impacts in residential areas. However, vibration and blasting levels are all project to be within acceptable ranges per residential standards. Construction vibration levels are estimated to range from 19.6 to 50.3 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at the five residential receiver locations. Therefore, the NVA concluded that the Project-related vibration impacts are considered less than significant during typical construction activities at the Project site. Furthermore, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter. Although vibration levels were not analyzed for the BIO-1, 2 and 3 receivers, the R5 receiver provides a comparable analysis for the BIO receivers due to its proximity to the proposed open space.

Blasting, if needed, would be limited to a small ridgeline area in the southeastern portion of the Project site near the existing Jack Rabbit Trail and would be limited to a short daytime duration. The NVA shows that the calculated airblast levels from the worst-case (closest) Project blasting activities are expected to be as high as 111 dB at nearest receiver site (R5), which would be under the 133 dB airblast threshold, and ranging from 88 to 101 dB for the other four residential receivers. Although blasting levels were not projected for the BIO receivers, their distance from the nearest blasting is comparable to the other residential receivers. Therefore, aligning with residential standards, the Project-related airblast noise level impacts are considered less than significant during typical construction activities at the Project site.

¹⁸ No burrowing owls were detected within the Study Area during focused burrowing owl surveys. However, because the Study Area contains potential habitat for burrowing owls, pre-construction surveys are required to prevent direct impacts to owls and indirect noise impacts.

¹⁹ The gnatcatcher was not observed within the Study Area during biological surveys. However, because the Study Area is located within the Criteria Area and contains suitable habitat, the MSHCP prevents the removal of occupied habitat during the breeding season in these applicable areas.

5.9.5 Invasives

Projects adjacent to the MSHCP Conservation Area shall avoid the use of invasive plant species in landscaping, including invasive, non-native plant species listed in *Volume I, Table 6-2* of the MSHCP.

5.9.6 Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms. As described above, the Project will erect wildlife fencing along the southern and western limits of the development footprint, connecting with SR-60 wildlife fencing, to provide a barrier between the edge of the development footprint and the adjacent MSHCP Conservation Area. Although the fence is designed to minimize wildlife entering the Project site, it will also function to minimize unauthorized public access to the MSHCP Conservation Area.

5.9.7 Grading/Land Development

The MSHCP states that manufactured slopes associated with development shall not extend into the MSHCP Conservation Area. The Project will conduct remedial grading within the Project's Maintained Open Space (PA 9) to construct manufactured slopes. However, these manufactured slopes will not extend into the MSHCP Conservation Area.

5.10 Cumulative Impacts to Biological Resources

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development in the vicinity of the Project site. The cumulative impact evaluation also takes into consideration the geographic area covered by the Western Riverside County MSHCP, which is the prevailing habitat conservation plan applicable to the Project site.

The temporary direct and/or indirect impacts of the Project would not result in significant cumulative impacts to environmental resources within the region of the Project site. Cumulative impacts refer to incremental effects of an individual project when assessed with the effects of past, current, and proposed projects. The MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the City of Beaumont. The Project would result in permanent impacts to vegetation communities described for conservation by the MSHCP associated with Cells 933, 936, 1030, 1032, and 1125 totaling 109.69 acres and would impact the following communities: chaparral (0.21 acre), Riversidean sage scrub (24.40 acres), non-native grassland (82.13 acres), and southern riparian scrub (0.03 acre). To offset these impacts, the Project will conserve 133.62 acres of replacement lands, including 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, 86.03 acres of non-native grassland, and 0.22 acre of southern riparian scrub consistent with the MSHCP. Additionally, the Project would potentially impact MSHCP covered species (coast horned lizard, coastal whiptail, red-diamond rattlesnake, coastal California gnatcatcher, loggerhead shrike, bobcat, mountain lion,

northwestern San Diego pocket mouse, SKR and San Diego black-tailed jackrabbit). Impacts to covered species would be mitigated through a combination of general MSHCP compliance, pre-construction surveys, protection plans and avoidance, as required (see Sections 6.1 and 6.2). Non-covered sensitive floral species were not detected or expected to occur within or adjacent to the Project and therefore the development of the Project site would not result or contribute to a cumulative impact to non-covered species. A few non-covered sensitive faunal species have potential to occur within the Project site, and so the Project could contribute to a cumulative impact for these species. However, adequate lands will be conserved by the Project as part of the MSHCP conservation to address these species and reduce any impacts to below a level of significance. Furthermore, the Project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

The Project would also impact jurisdictional waters (0.31 acres of Corps and Regional Board jurisdiction, and 0.43 acres of CDFW jurisdiction and MSHCP riparian/riverine resources, of which 0.03 acre is vegetated riparian habitat). To offset these impacts, the Project would be required to purchase wetland/riparian habitat establishment and/or rehabilitation credits from an approved mitigation bank/in-lieu fee program at a minimum 1:1 ratio (see Section 6.5).

As described in Section 4.8 and 5.6, the proposed Project will impact local movement routes for wildlife but will conserve lands contributing to the assembly of the adjacent Proposed Core 3 and will therefore support the MSHCP goals for Core 3, including the movement of wildlife through Core 3. As such, the Project would not result or contribute to a cumulative impact to wildlife movement or corridors.

6.0 MITIGATION/AVOIDANCE MEASURES

The following discussion provides project-specific mitigation/avoidance measures for actual or potential impacts to special-status resources.

6.1 Burrowing Owl

The Project site contains suitable habitat for burrowing owls; however, burrowing owls were not detected onsite during focused surveys. MSHCP Objective 6 for burrowing owls requires that pre-construction surveys prior to site grading. As such, the following avoidance measure is recommended to avoid direct impacts to burrowing owls and to ensure consistency with the MSHCP:

- **Pre-Construction Survey.** A qualified biologist will conduct a pre-construction presence/absence survey for burrowing owls within 30 days prior to initial ground-disturbing activities (including 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 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. The Burrowing Owl Protection and Relocation Plan, if necessary, will describe methods to safely relocate burrowing owls from the Project site (if avoidance were infeasible) and to monitor burrowing owls with an adequate setback buffer if construction would proceed at the site until the owls could be relocated.

6.2 Coastal California Gnatcatcher

Although the coastal California gnatcatcher is a Covered Species without any project-specific mitigation/conservation requirements, Condition 5b of the MSHCP USFWS take permit states that the removal of occupied habitat within PQP Land and the Criteria Area is prohibited from March 1 to August 15. If gnatcatchers were to occupy portions of the impact footprint at the time of construction, then this measure would apply up to approximately 60 acres of Riversidean sage scrub habitat. If Riversidean sage scrub is to be removed from March 1 through August 15, then the following measure is recommended to avoid impacts to CAGN during the breeding season and to ensure consistency with the MSHCP:

- **Pre-Construction Survey.** Ground-disturbing activities (including vegetation removal) within the Criteria Area (Criteria Cells) should be conducted outside of the CAGN breeding season (March 1 to August 15) if occupied by CAGN. If ground-disturbing activities (including vegetation removal) cannot be limited to outside the CAGN breeding season, a qualified biologist will conduct a pre-construction presence/absence survey for CAGN within 14 days prior to site disturbance. If the species is found, the project proponent will immediately inform the Wildlife Agencies (CDFW, USFWS) and ground disturbing activities within these areas will be postponed to outside of the CAGN breeding season. If the species is not found, no further action is needed.

6.3 Crotch Bumble Bee

As discussed above, the Project will remove habitat with some potential to support Crotch bumble bee. Regarding the unresolved CESA status of the bumble bee, if the species remains as a Candidate species or has been confirmed as a State listed species at the time of Project site disturbance, then an ITP may be required from CDFW if the bumble bee were confirmed to be present, or otherwise assumed to be present. If the bumble bee were to be detected (or assumed present) within the development footprint, then the open space to be conserved would similarly be considered appropriate on the same scale as the development footprint given the similarity of vegetation communities. As such, the conservation of the open space would constitute avoidance of habitat. If the bumble bee remains as a listed species under CESA, then focused surveys shall be conducted prior to the issuance of a grading permit to confirm the presence/absence of the species, and if present then the Project proponent shall coordinate with CDFW to address the extent of impacts and determine whether an ITP would be required. If an

ITP were required, then mitigation may be required by CDFW as part of the ITP process, and the conservation of the comparable open space habitat within Planning Area 10 (onsite) and the offsite conservation area would be presented to support the ITP.

6.4 Nesting Birds

The Project site contains vegetation with the potential to support native nesting birds. As discussed above, the MBTA and California Fish and Game Code prohibits mortality of native birds, including eggs. The following measure is recommended to avoid mortality to nesting birds. The potential general impacts to native bird habitat is not considered a biologically significant impact under CEQA; however, to comply with state and federal regulations, the following is recommended:

- As feasible, vegetation clearing should be conducted outside of the nesting season, which is generally identified as February 1 through September 15. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within three days prior to any disturbance of the site, including disking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers around the nests, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests.

6.5 Jurisdictional Waters

To offset permanent impacts to 0.31 acre of Corps jurisdiction and Regional Board jurisdiction, and 0.43 acre of CDFW jurisdiction and MSHCP riparian/riverine resources (including 0.03 acre of riparian habitat), the Project will purchase wetland/riparian habitat establishment and/or rehabilitation credits from an approved mitigation bank/in-lieu fee program at a minimum 1:1 ratio. Approved mitigation banks and/or in-lieu fee programs include, but are not limited to, the Riverpark Mitigation Bank and the Santa Ana Watershed In-Lieu Fee Program. This mitigation would reduce impacts to below a level of significance.

6.6 MSHCP Conservation Requirements

The proposed Project will result in permanent impacts to vegetation communities described for conservation by the MSHCP associated with Cells 933, 936, 1030, 1032, and 1125 totaling 109.69 acres and would impact the following communities: chaparral (0.21 acre), Riversidean sage scrub (24.40 acres), non-native grassland (82.13 acres), and southern riparian scrub (0.03 acre).

To offset these impacts, the Project will conserve 133.62 acres of replacement lands, including 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, 86.03 acres of non-native grassland, and 0.22 acre of southern riparian scrub. These replacement lands are in areas that are not described for conservation by the Cell Criteria for Cells 933, 936, 1030, 1032, and 1125. As discussed above, on behalf of the City of Beaumont and the Applicant (Beaumont Pointe Partners, LLC), a Criteria Refinement Process (CRP) analysis was reviewed by the RCA and Wildlife Agencies to modify the Criteria identified for Criteria Cells associated with lands to be

developed as part of the Beaumont Pointe Specific Plan. The RCA transmitted amended Criteria Refinement Findings to the Wildlife Agencies on September 9, 2022. On November 9, 2022, the Wildlife Agencies issued a letter to the City of Beaumont concurring with the RCA's Findings that the proposed Revised Criteria Refinement is superior or equivalent to conservation described within Proposed Core 3. Attached as Appendix C is GLA's Criteria Refinement Analysis (Appendix C-1), the RCA's Criteria Refinement Review Findings (Appendix C-2) and the Wildlife Agencies' concurrence letter (Appendix C-3).

7.0 MSHCP CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the proposed Project with respect to compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed Project with respect to the Project's consistency with MSHCP Reserve assembly requirements, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.1 Project Relationship to Reserve Assembly

The Study Area is located in the MSHCP Criteria Area, within portions of independent Cells 933, 936, 1030, 1032, and 1125, as well as a portion of Cell Group A', divided between two Area Plans: The Pass Area Plan (Cells 933, 936, 1030, 1032, and 1125) and the Reche Canyon/Badlands Area Plan (Cell Group A').

The Project proposes to conserve 230.82 acres to contribute towards Reserve Assembly, but because the areas of conservation do not align exactly as described by the MSHCP Criteria, a Criteria Refinement is required. As noted above, on behalf of the City of Beaumont and the Applicant (Beaumont Pointe Partners, LLC), a Criteria Refinement Process (CRP) analysis was reviewed by the RCA and Wildlife Agencies to modify the Criteria identified for Criteria Cells associated with lands to be developed as part of the Beaumont Pointe Specific Plan. The RCA transmitted Criteria Refinement Findings to the Wildlife Agencies on September 9, 2022. On November 9, 2022, the Wildlife Agencies issued a letter to the City of Beaumont concurring with the RCA's Findings that the proposed Revised Criteria Refinement is superior or equivalent to conservation described within Proposed Core 3. Attached as Appendix C is GLA's Criteria Refinement Analysis (Appendix C-1), the RCA's Criteria Refinement Review Findings (Appendix C-2) and the Wildlife Agencies' concurrence letter (Appendix C-3).

The proposed Project is subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process in coordination with the City of Beaumont. The Project will be subject to Joint Project Review (JPR) by the RCA in order for the RCA to determine that the Project will be consistent with the MSHCP.

7.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The Study Area supports 1.18 acres of riparian habitat and 2.57 acre of riverine streambed. Although riparian habitat is present within the Study Area in the form of Southern Riparian Scrub, this community does not have the potential to support least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo. Within the Study Area, this community is comprised of individual trees and shrubs with an herbaceous understory and does not contain a stratified canopy or support the structural complexity required to support these species.

The Study Area does not contain any depressions (natural or artificial) that would inundate long enough to support resources associated with vernal pools, including fairy shrimp. The soils mapped within the Study Area are categorized as sandy loam soils, which are generally not associated with vernal pools, and direct observations of the soils within the Study Area showed a lack of clay soil components. Road ruts are generally not allowed to develop or persist for durations long enough to support resources associated with pools, as regular maintenance of the access roads located within the Study Area occurs keeps these roads free of ruts and washouts, as these roads are utilized for operations and maintenance of various utilities (i.e., Southern California Edison transmission towers and a SoCal Gas transmission pipeline), as well as access to commercial apiary operations. In addition, no plant species were observed within the Study Area that are associated with vernal pools and similar habitats that experience prolonged inundation.

The proposed Project would result in impacts to 0.03 acre of riparian habitat and 0.40 acre of riverine streambed. Therefore, a DBESP would be required for impacts to Riparian/Riverine resources.

7.3 Protection of Narrow Endemic Plants

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.

As noted above, the Project is within the NEPSSA for many-stemmed dudleya and Yucaipa onion. Neither species was detected within the broader Study Area. As such, the proposed Project would not result in impacts to these NEPSSA species, and no avoidance or mitigation is required for NEPSSA plants. Therefore, the proposed Project is consistent with *Volume I, Section 6.1.3* of the MSHCP.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the

Conservation Area. To minimize such edge effects, the guidelines shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasive species;
- Barriers;
- Grading/Land Development.

As discussed in Section 5.0 of this report, the Project will implement applicable measures as it relates to temporary construction impacts to minimize adverse indirect impacts on special-status resources within Conserved Lands. The proposed Project will be consistent with *Section 6.1.4* of the MSHCP.

7.5 Additional Survey Needs and Procedures

The Study Area is located within the Burrowing Owl Survey Area. Focused surveys were conducted during the 2019 burrowing owl breeding season, with negative results. The Study Area is not located within a CAPSSA, Mammal Survey Area, or Amphibian Survey Area, and does not support suitable habitat for riparian/riverine associated species (i.e., listed fairy shrimp, least Bell's vireo); therefore, surveys for these species were not required and impacts would not result from the proposed Project.

7.6 Conclusion of MSHCP Consistency

As outlined above, the proposed Project will be consistent with the biological requirements of the MSHCP specifically pertaining to the Project's relationship to reserve assembly with the completion of a Criteria Refinement, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

8.0 REFERENCES

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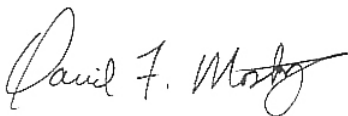
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9.0 CERTIFICATION

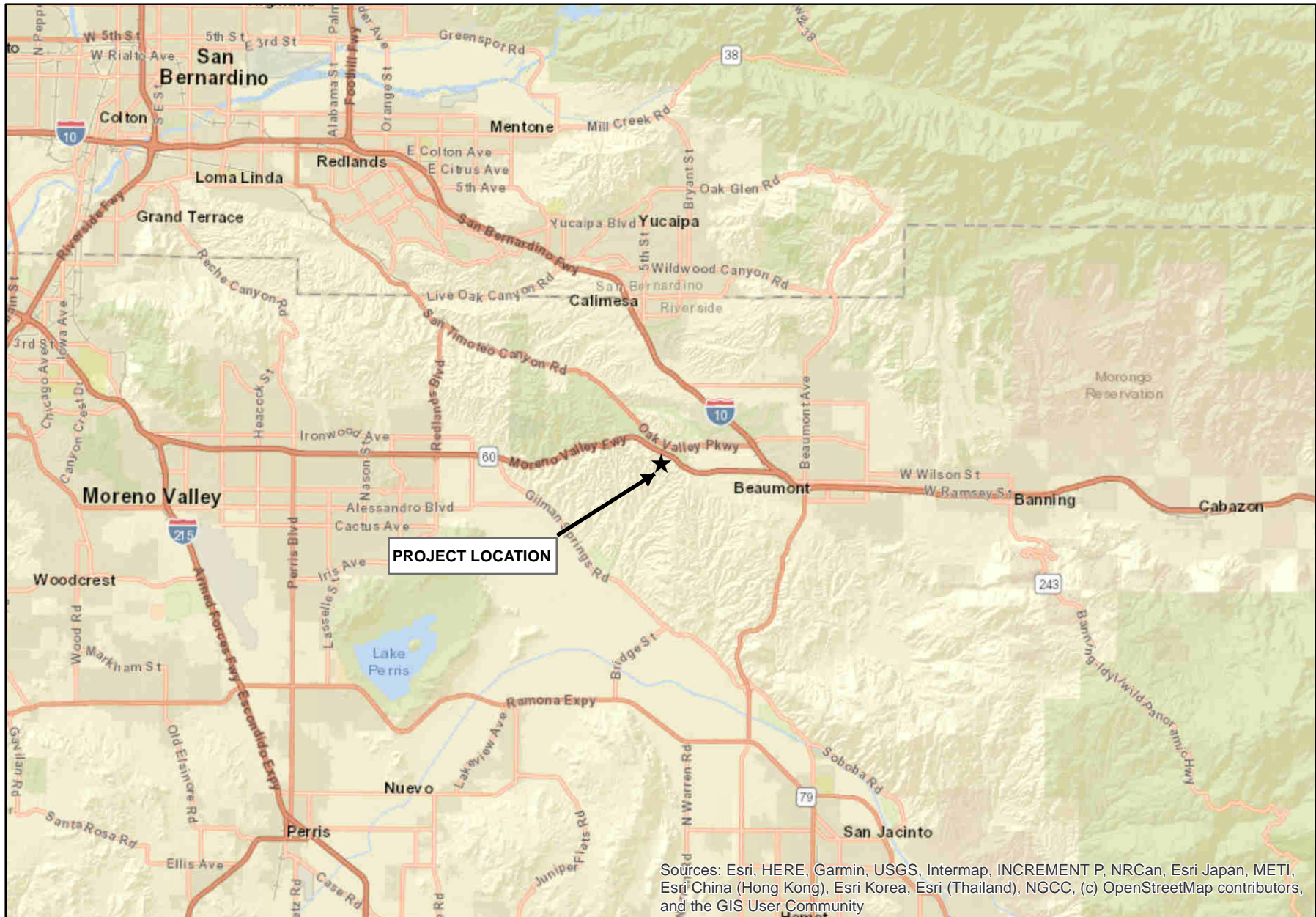
I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



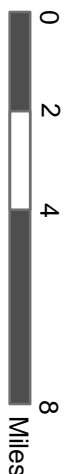
Signed: _____

Date: 11/16/2022

Source: ESRI World Street Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



BEAUMONT POINTE

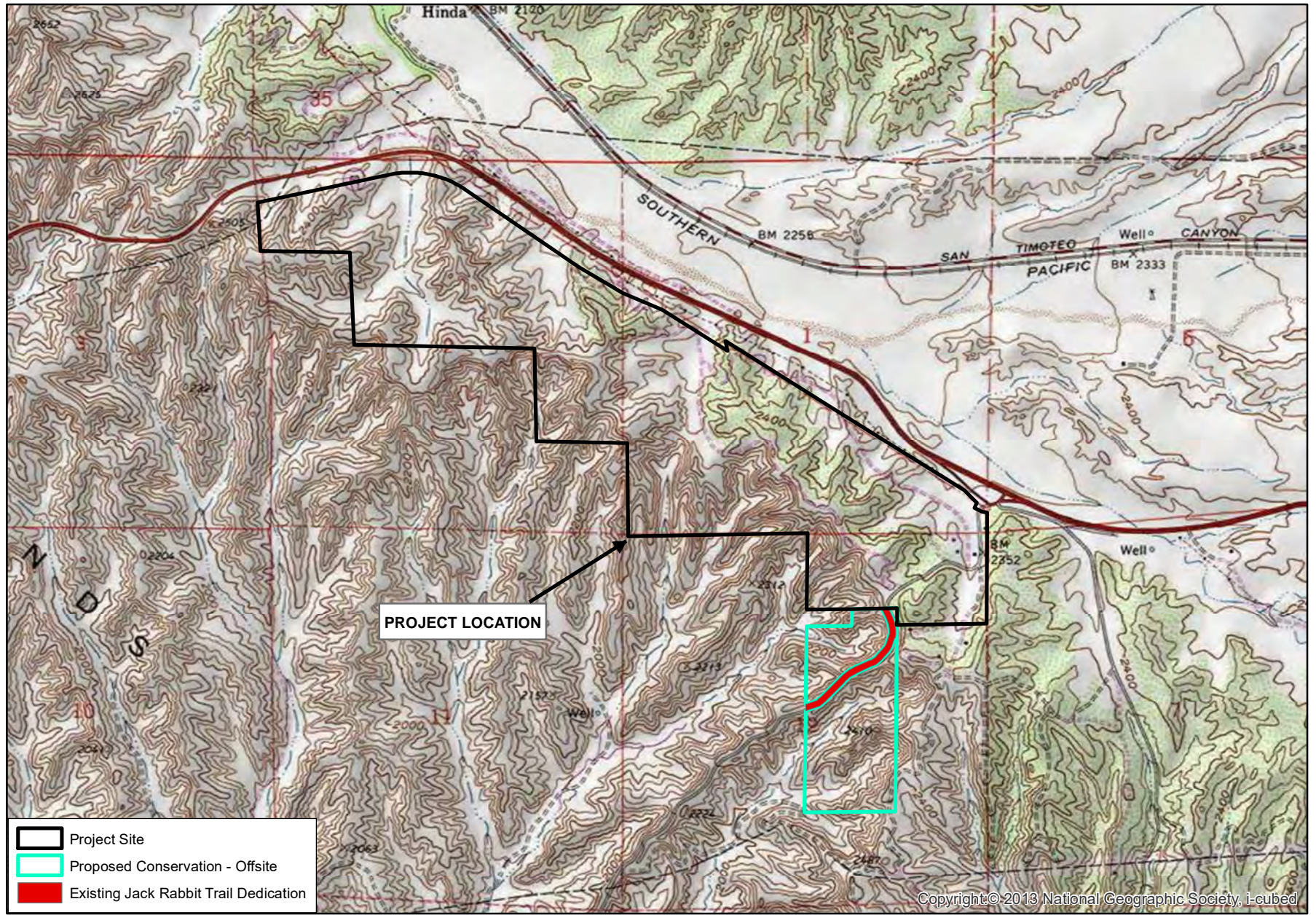
Regional Map

GLENN LUKOS ASSOCIATES



Exhibit 1

Adapted from USGS El Casco, CA quadrangle



BEAUMONT POINTE

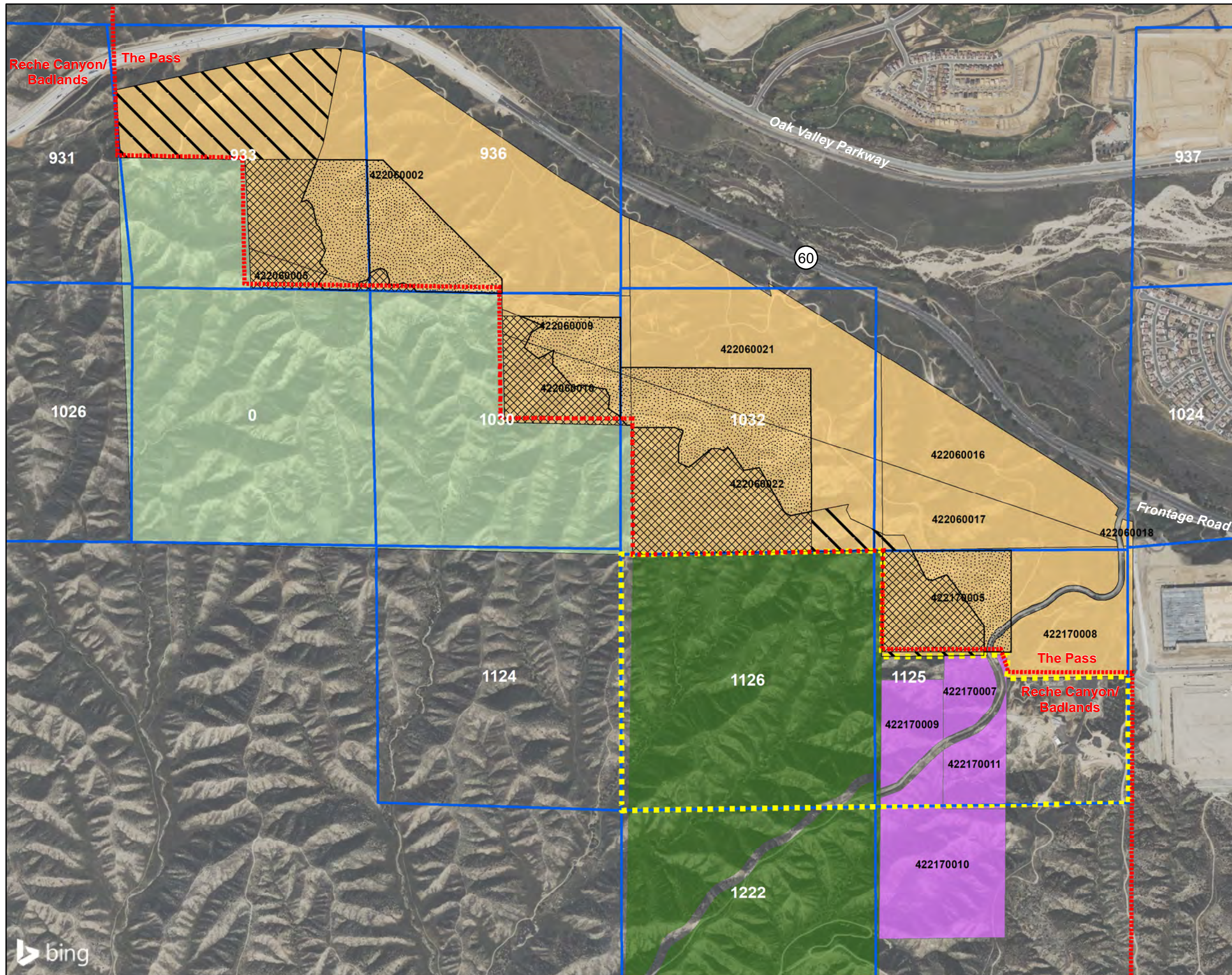
Vicinity Map

GLENN LUKOS ASSOCIATES



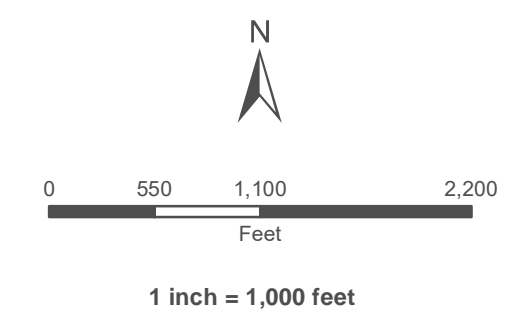
Exhibit 2A





- Area Plan Boundary
- Criteria Cells
- Cell Group A'
- PQP Conserved Lands
- RCA MSHCP Conserved Lands
- Onsite Parcels
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)


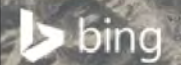
The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

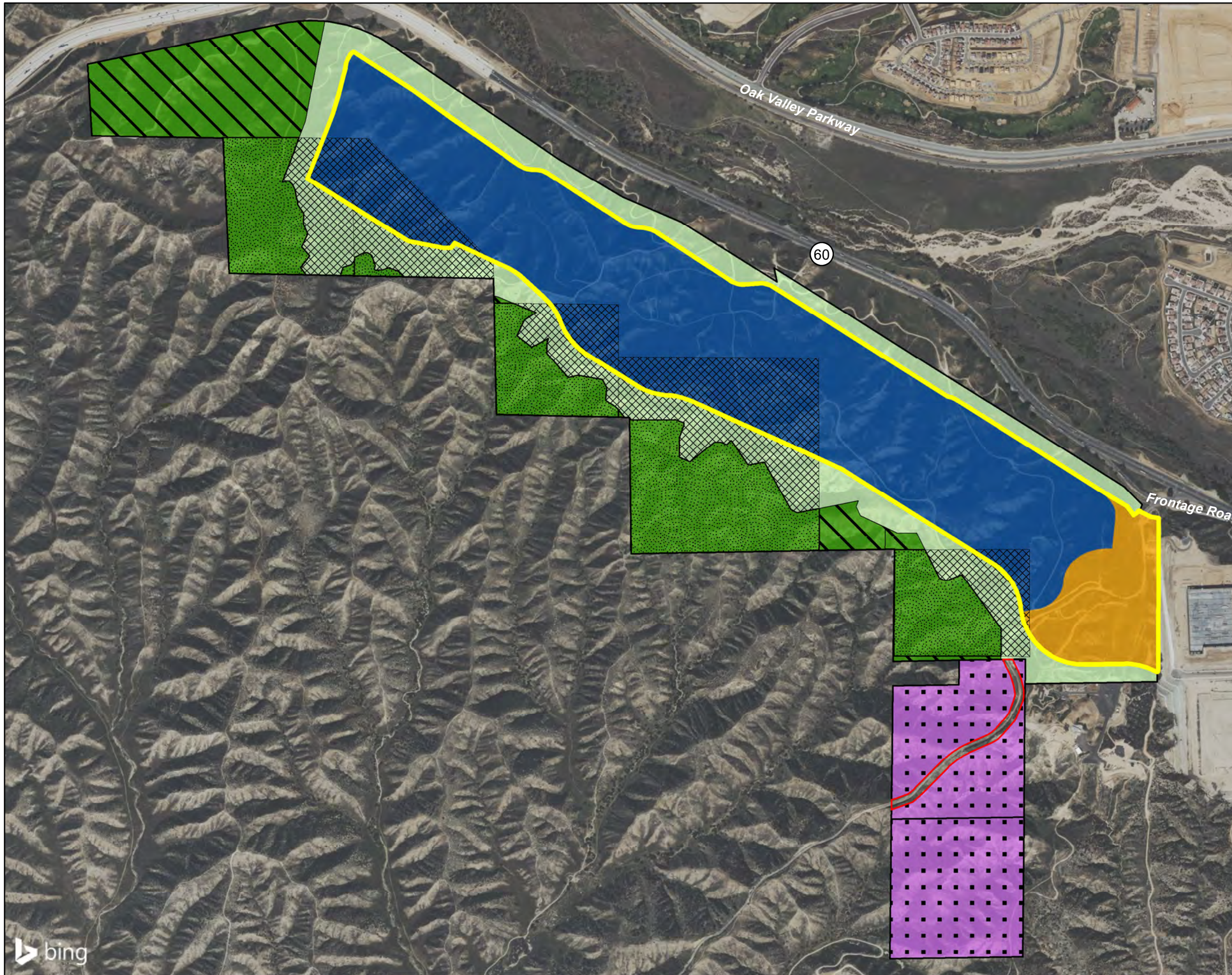














BEAUMONT POINTE
Assessor's Parcel Map

GLENN LUKOS ASSOCIATES

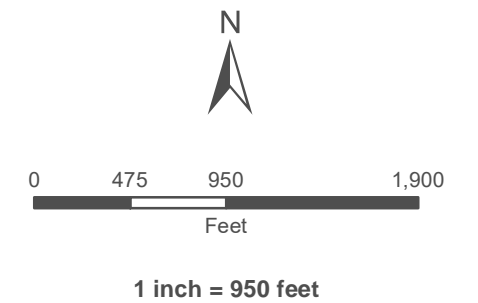
Exhibit 2B



-  Project Site
-  Existing Jack Rabbit Trail Dedication (4.19 ac.)
-  Fuel Modification Limits
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)
-  Industrial
-  General Commercial
-  Project Maintained Open Space
-  Proposed MSHCP Conservation (Onsite) (152.42 ac.)
-  Proposed MSHCP Conservation (Offsite) (78.40 ac.)

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

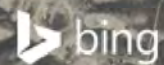


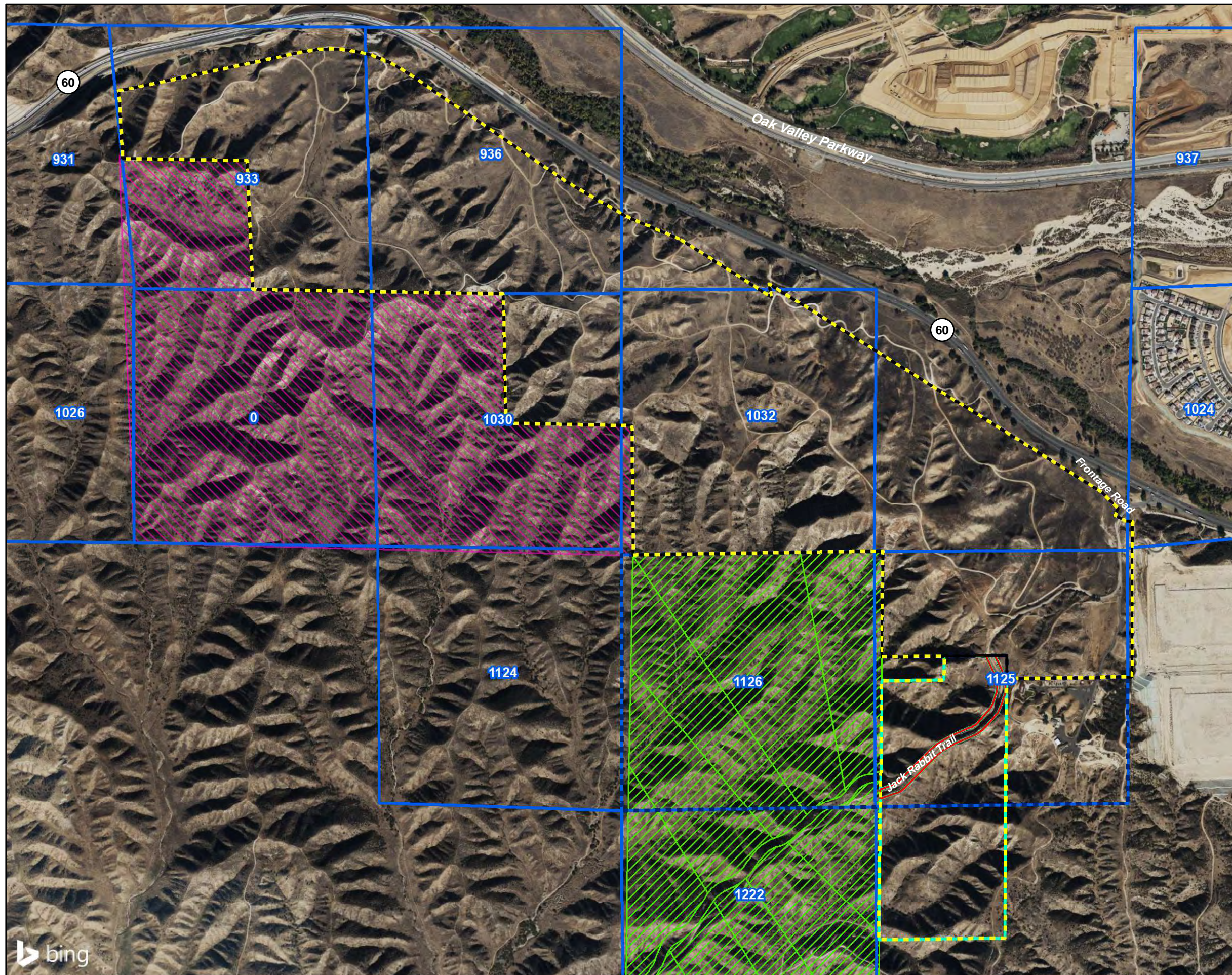
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 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022









BEAUMONT POINTE
 Site Plan Map

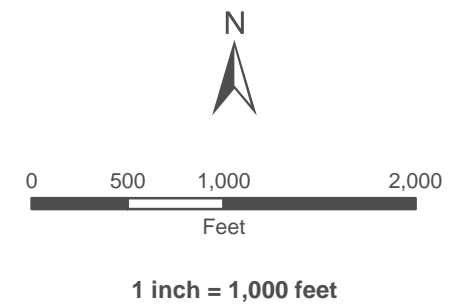
GLENN LUKOS ASSOCIATES 

Exhibit 3





-  Study Area
-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Cell Group A'
-  Criteria Cells
-  MSHCP Conserved Lands
-  PQP Conserved Lands



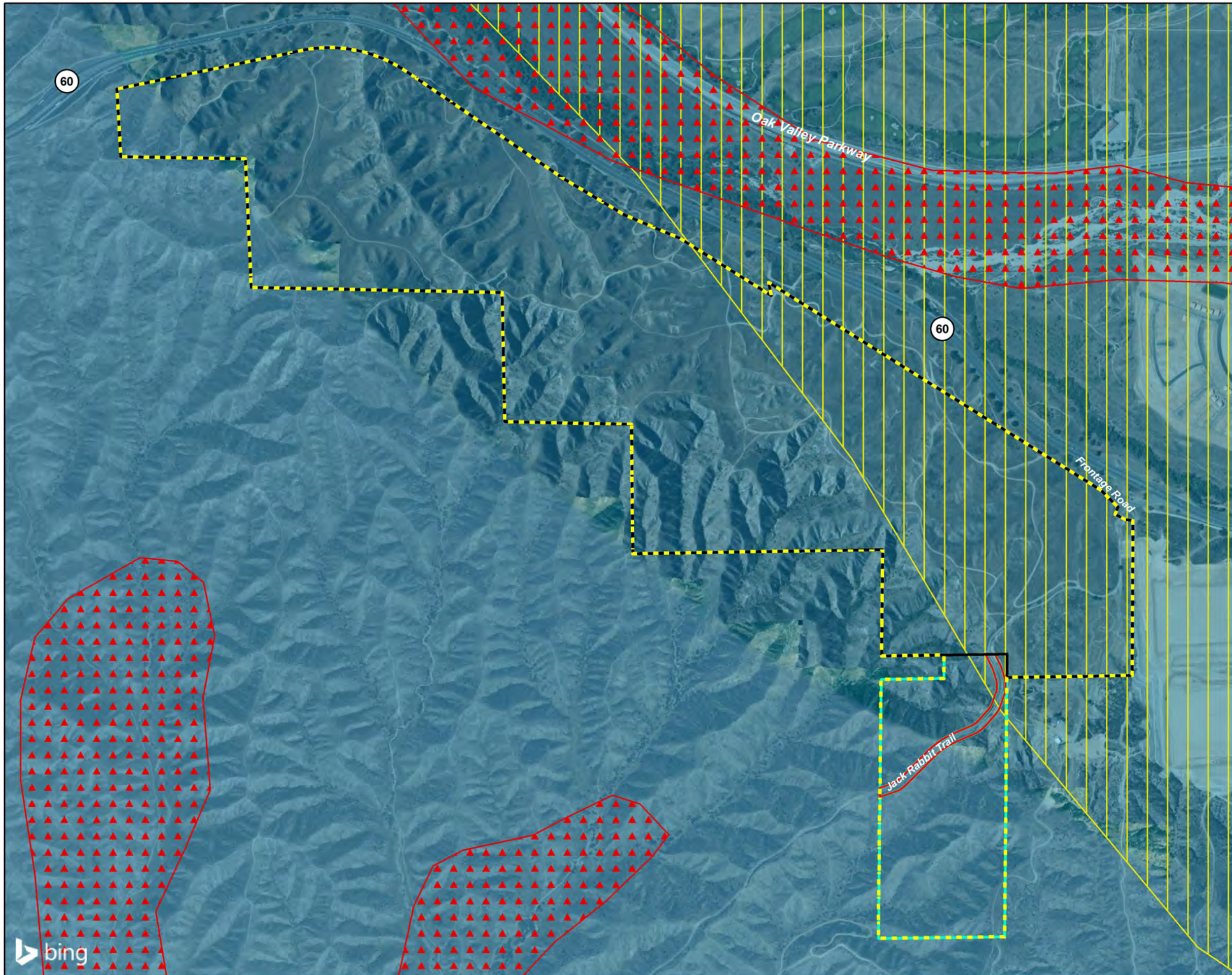
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 Projection: Lambert Conformal Conic
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 Map Prepared by: K. Kartunen, GLA
 Date Prepared: April 29, 2022








BEAUMONT POINTE
 MSHCP Overlay Map

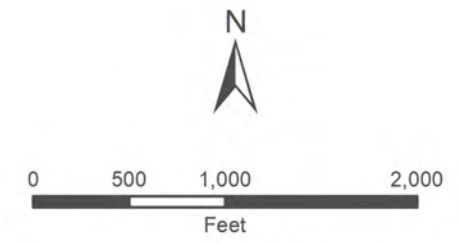
GLENN LUKOS ASSOCIATES 

Exhibit 4A





-  Study Area
-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Mammal Survey Area
-  Narrow Endemic Plant Species Survey Area
-  Burrowing Owl Survey Area



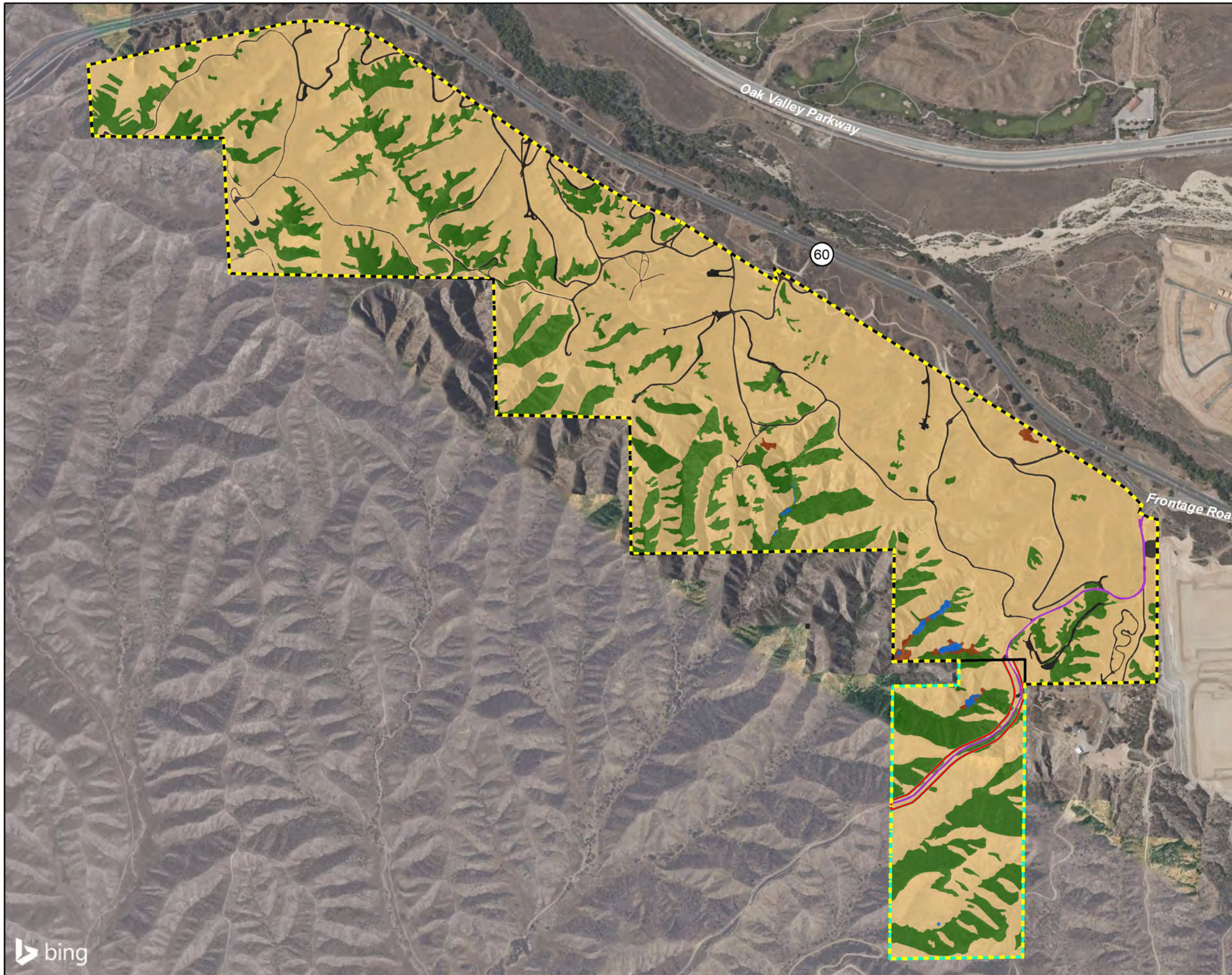
1 inch = 1,000 feet

Coordinate System: State Plane 6 NAD 83
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 Datum: North American 1983
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: June 1, 2021

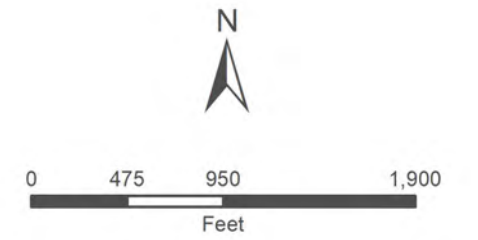
BEAUMONT POINTE
 MSHCP Overlay Survey Areas Map

GLENN LUKOS ASSOCIATES 

Exhibit 4B



- Study Area
- Project Site
- Proposed MSHCP Conservation (Offsite)
- Existing Jack Rabbit Trail Dedication
- Chaparral
- Riversidean Sage Scrub
- Disturbed
- Jack Rabbit Trail Road
- Non-Native Grassland
- Southern Riparian Scrub



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: June 1, 2021

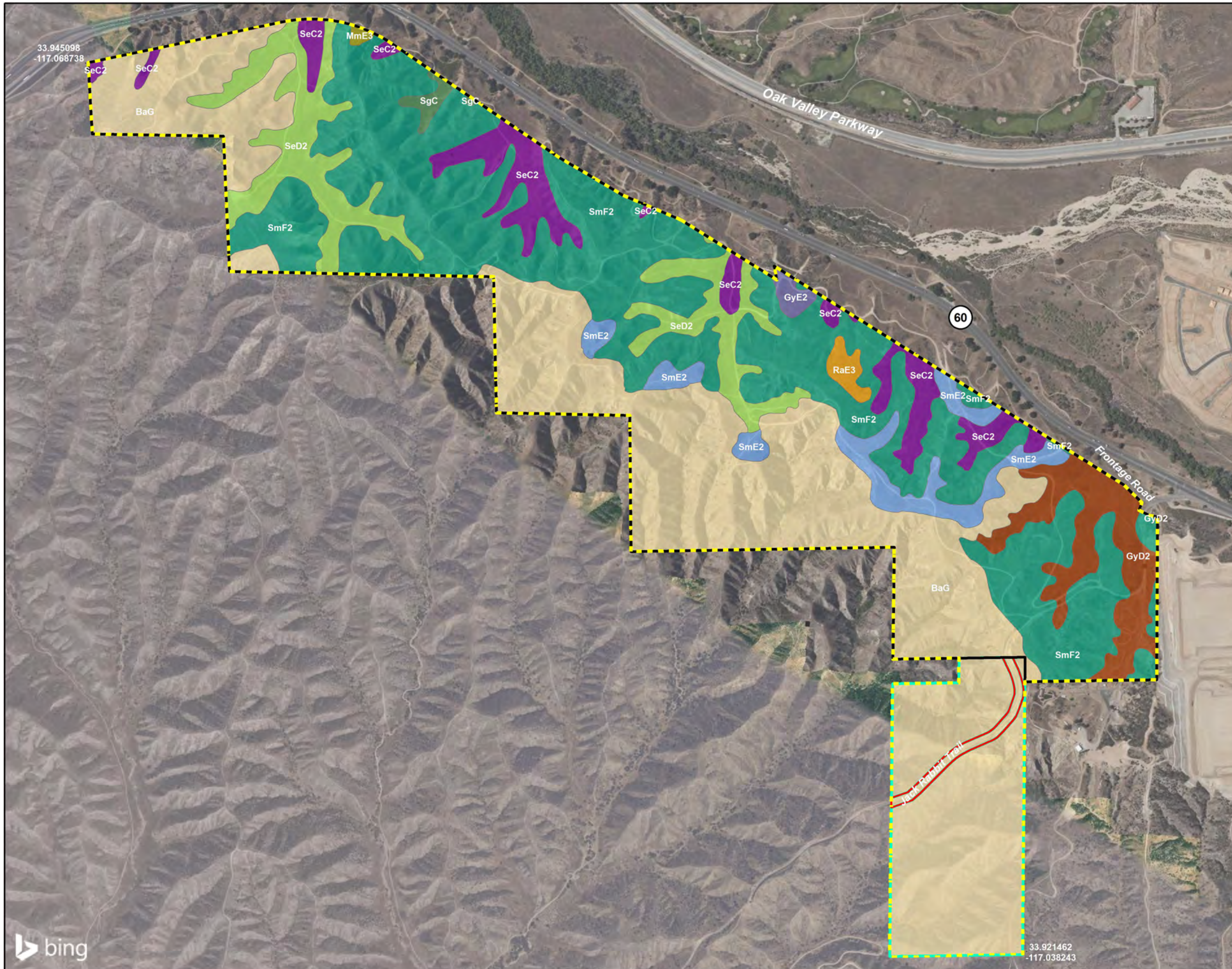
BEAUMONT POINTE

Vegetation Map

GLENN LUKOS ASSOCIATES



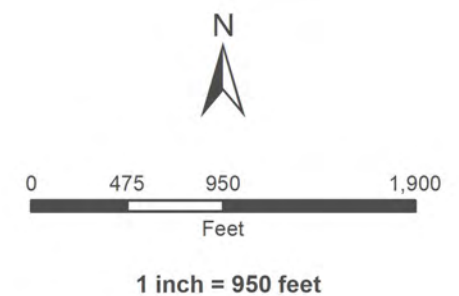
Exhibit 5



33.945098
-117.068738

33.921462
-117.038243

- Study Area
- Project Site
- Proposed MSHCP Conservation (Offsite)
- Existing Jack Rabbit Trail Dedication
- BaG Badland
- GyD2 Greenfield sandy loam, 8 to 15 percent slopes, eroded
- GyE2 Greenfield sandy loam, 15 to 25 percent slopes, eroded
- MmE3 Monserate sandy loam, 15 to 25 percent slopes, severely eroded
- RaE3 Ramona sandy loam, 15 to 25 percent slopes, severely eroded
- SeC2 San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded
- SeD2 San Emigdio fine sandy loam, 8 to 15 percent slopes, eroded
- SgC San Emigdio loam, 2 to 8 percent slopes
- SmE2 San Timoteo loam, 8 to 25 percent slopes, eroded
- SmF2 San Timoteo loam, 25 to 50 percent slopes, eroded

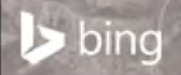


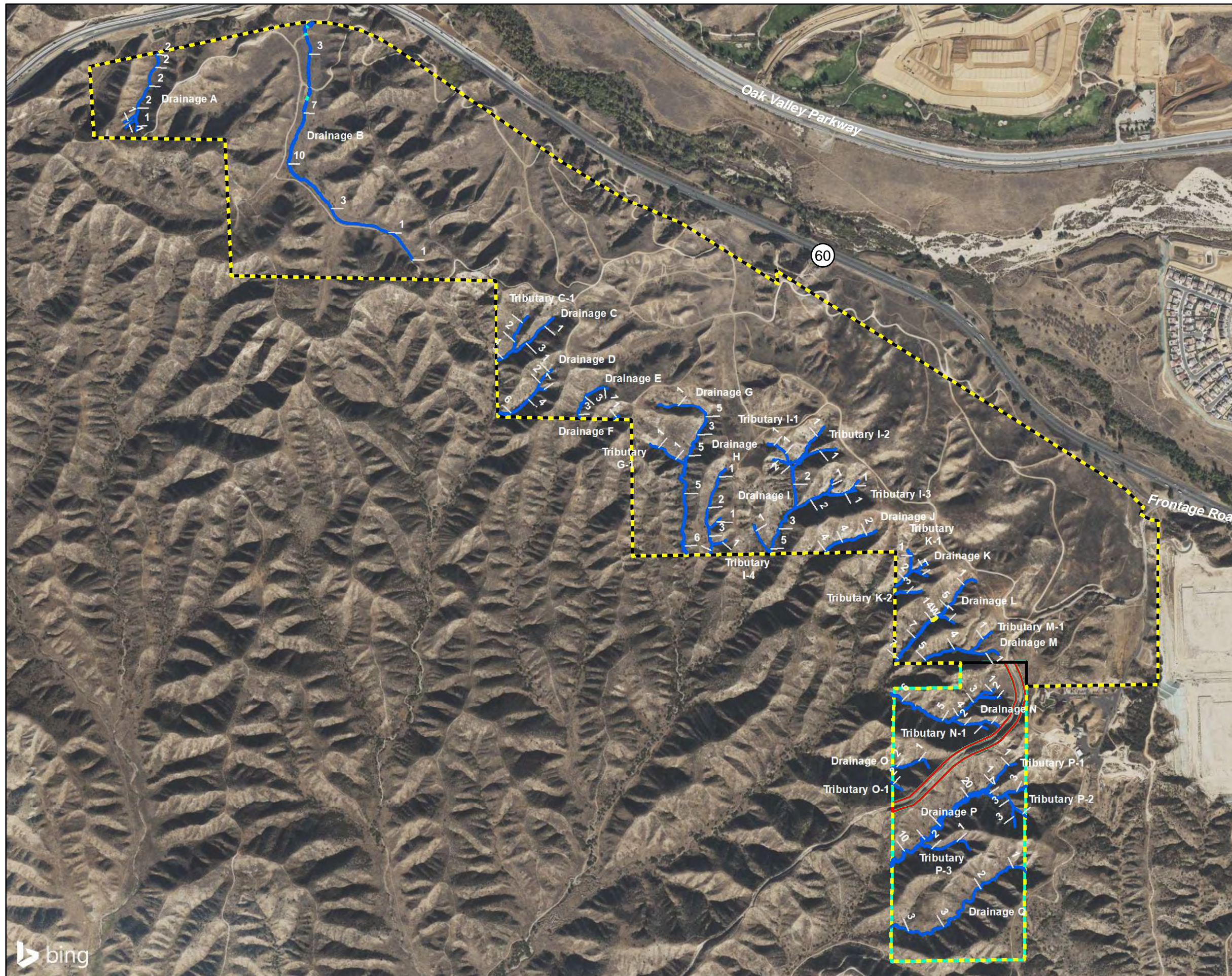
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 Map Prepared by: B. Gale, GLA
 Date Prepared: June 1, 2021

BEAUMONT POINTE
Soils Map

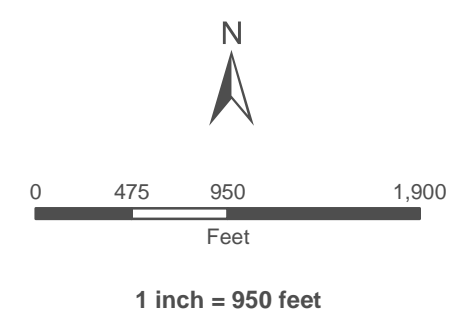
GLENN LUKOS ASSOCIATES 

Exhibit 6





- Study Area
- Project Site
- Proposed MSHCP Conservation (Offsite)
- Existing Jack Rabbit Trail Dedication
- Non-Wetland Waters of the U.S./State
- Wetland Waters of the U.S./State
- No Stream Course
- 2 Width of Jurisdiction in Feet



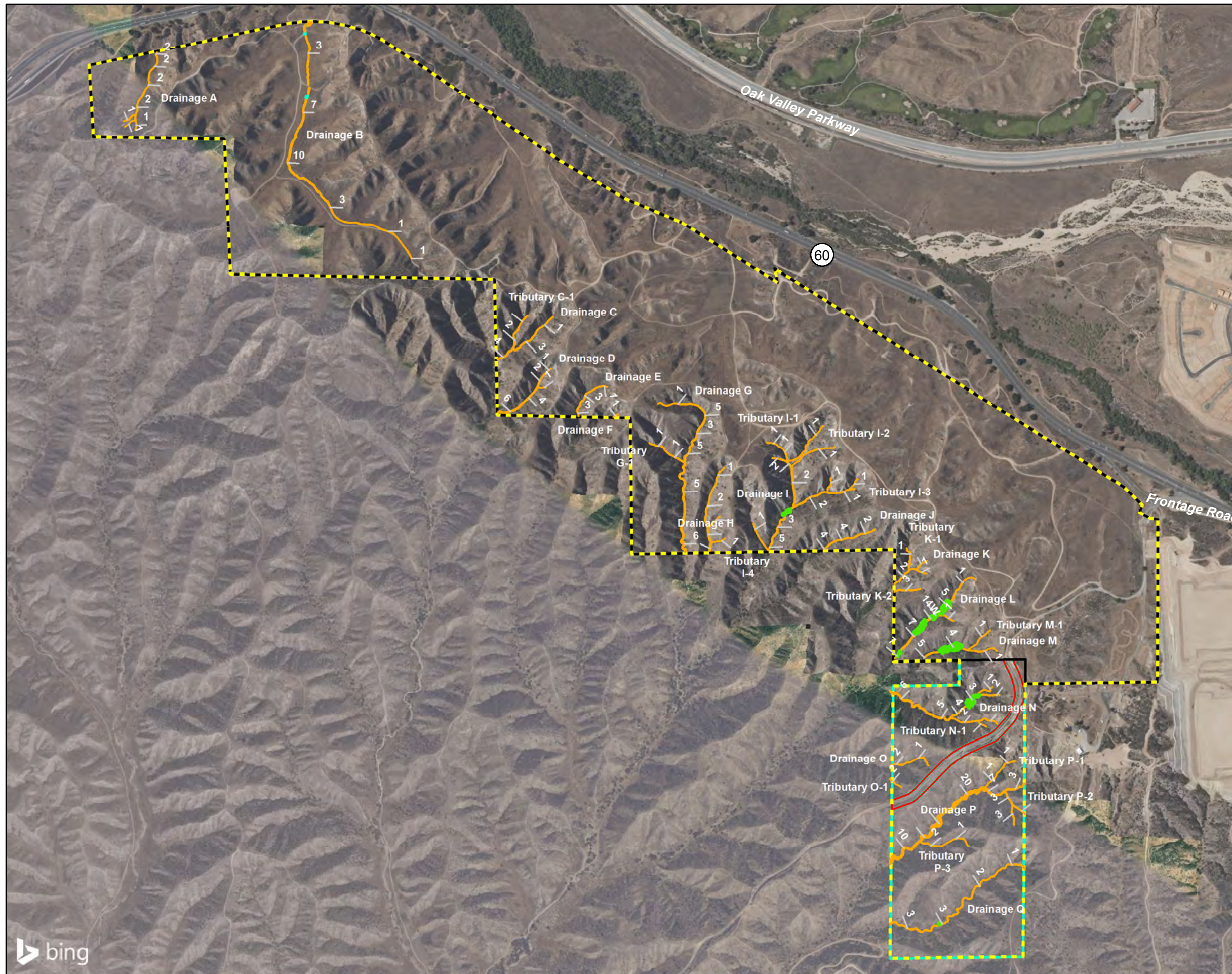
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: May 5, 2022









BEAUMONT POINTE
 Corps/Regional Board Jurisdictional Delineation Map

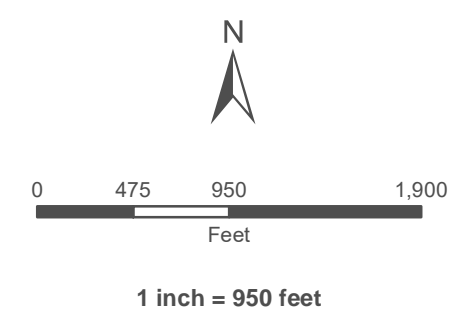
GLENN LUKOS ASSOCIATES

Exhibit 7A





-  Study Area
-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  CDFW Non-Riparian Stream
-  CDFW Riparian
-  No Stream Course
-  Width of Jurisdiction in Feet

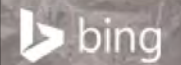


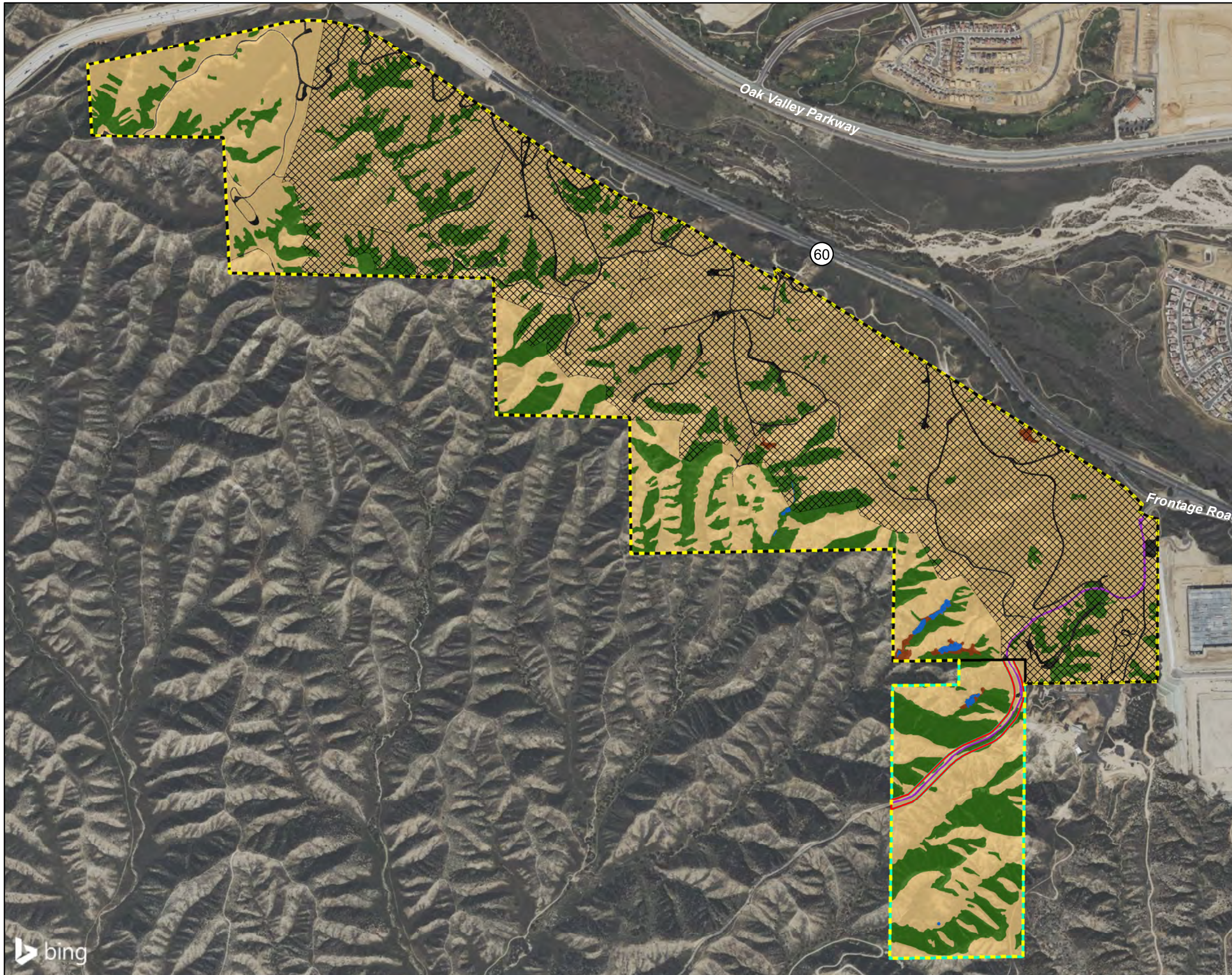
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: June 1, 2021












BEAUMONT POINTE
 CDFW/MSHCP Jurisdictional Delineation Map

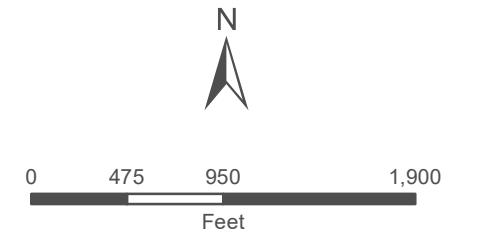
GLENN LUKOS ASSOCIATES 

Exhibit 7B 





-  Study Area
-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Development Footprint
-  Chaparral
-  Riversidean Sage Scrub
-  Disturbed
-  Jack Rabbit Trail Road
-  Non-Native Grassland
-  Southern Riparian Scrub



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 14, 2022

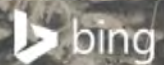
BEAUMONT POINTE

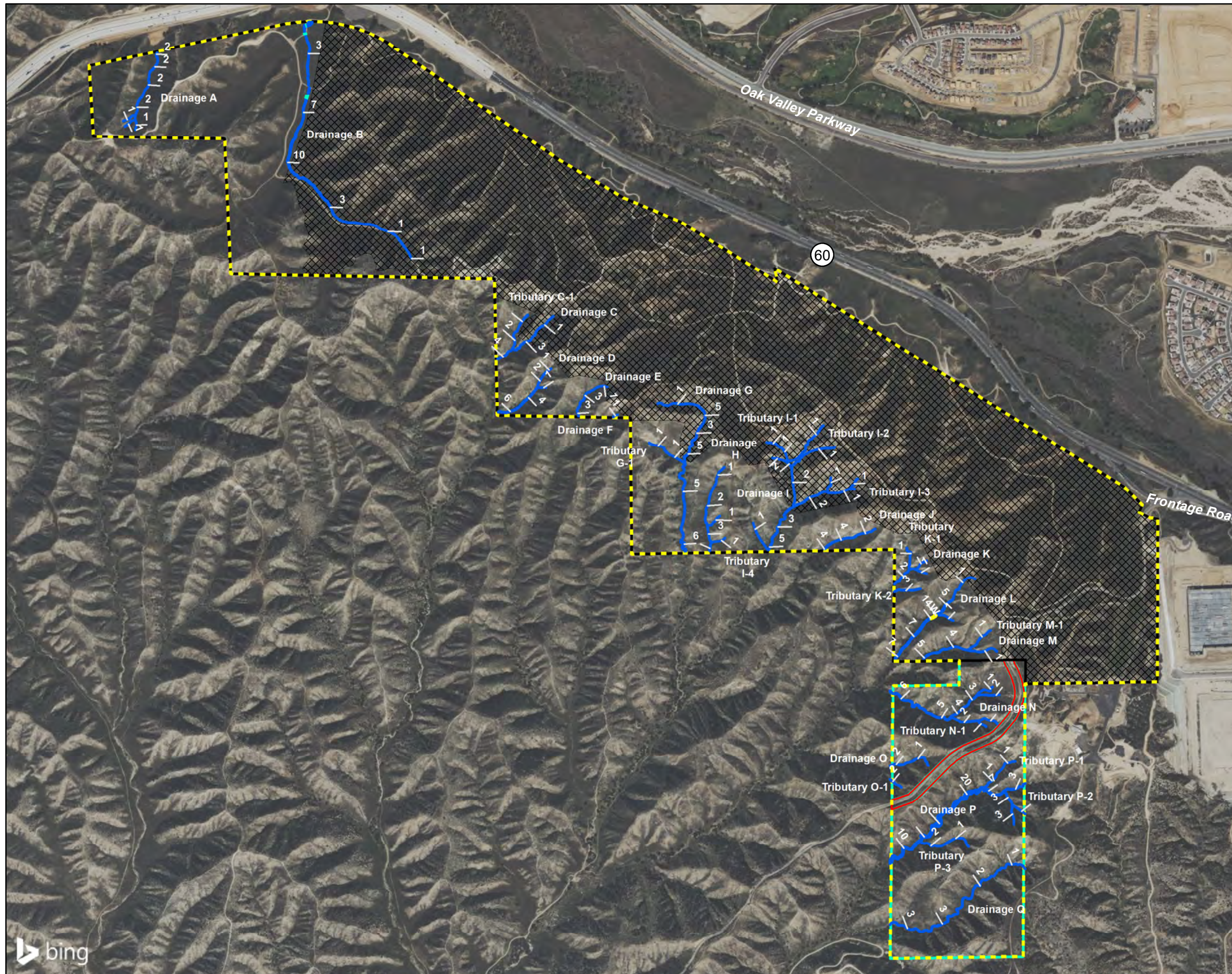
Vegetation Impacts Map

GLENN LUKOS ASSOCIATES

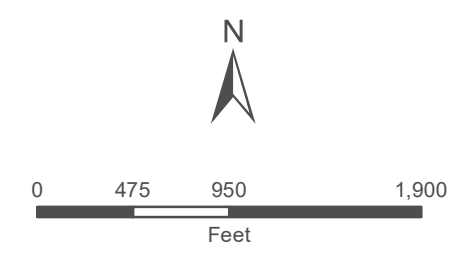


Exhibit 8





- Study Area
- Project Site
- Proposed MSHCP Conservation (Offsite)
- Existing Jack Rabbit Trail Dedication
- Development Footprint
- Non-Wetland Waters of the U.S./State
- Wetland Waters of the U.S./State
- No Stream Course
- 2 Width of Jurisdiction in Feet



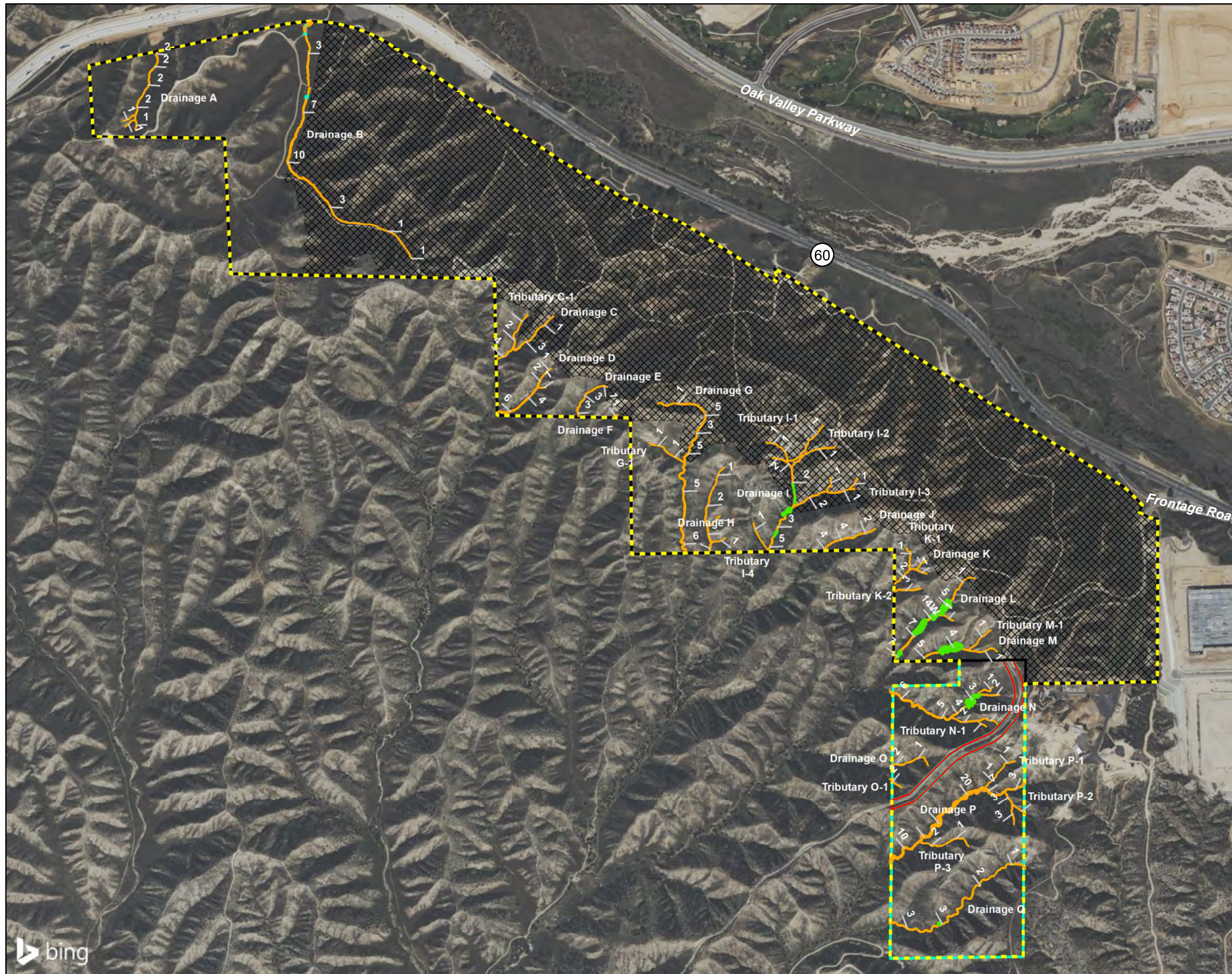
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 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 14, 2022

BEAUMONT POINTE
 Corps/Regional Board Jurisdictional Delineation/Impact Map

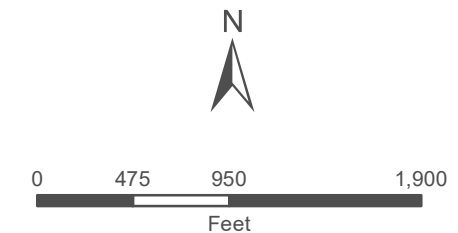
GLENN LUKOS ASSOCIATES 

Exhibit 9A





-  Study Area
-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Development Footprint
-  CDFW Non-Riparian Stream
-  CDFW Riparian
-  No Stream Course
-  Width of Jurisdiction in Feet

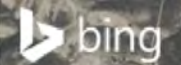


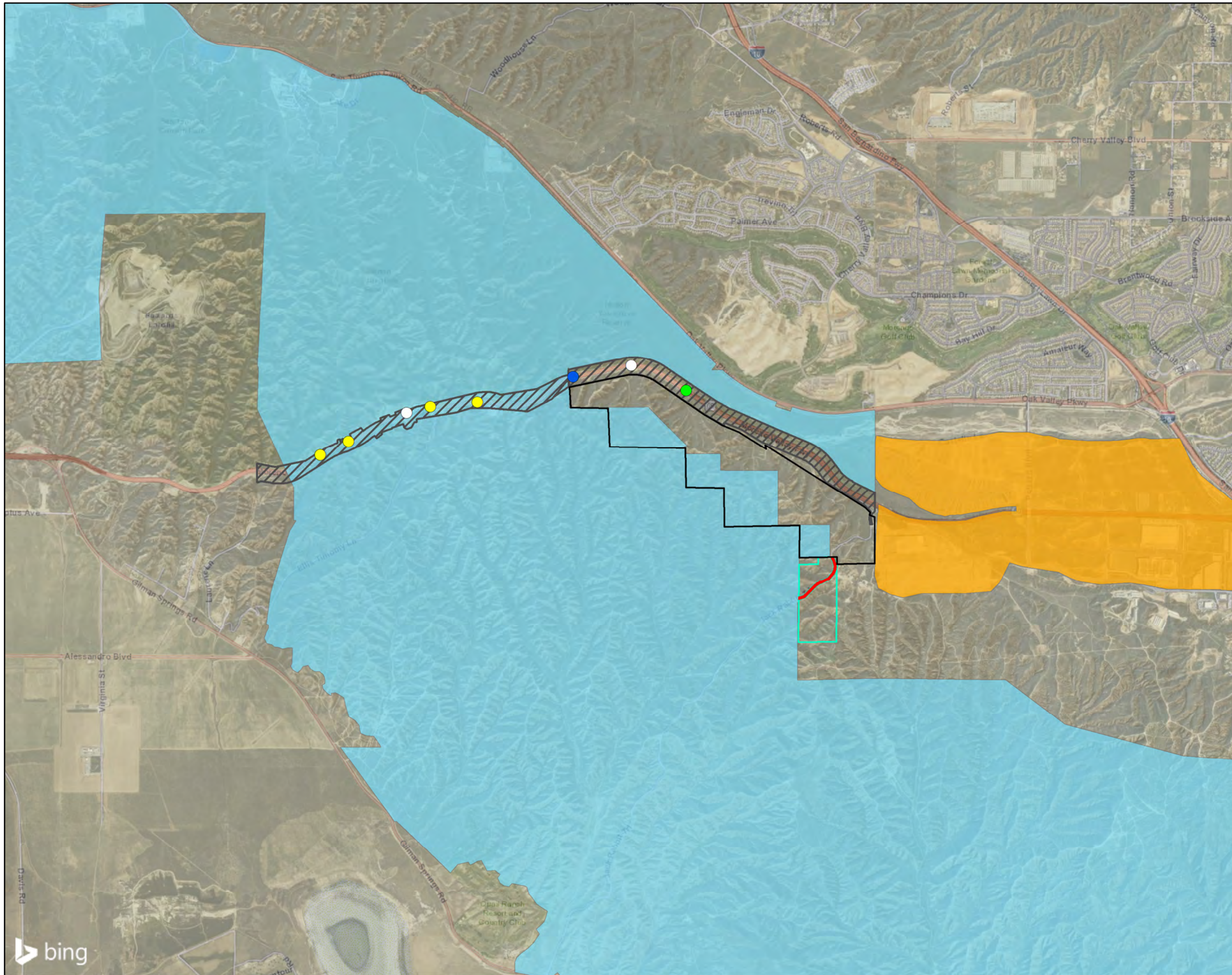
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 14, 2022

BEAUMONT POINTE
 CDFW/MSHCP Jurisdictional Delineation/Impact Map

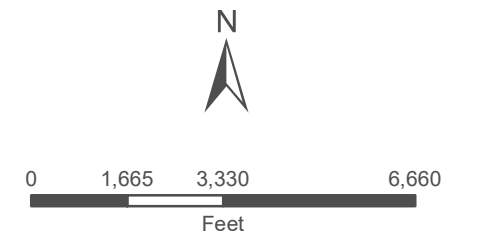
GLENN LUKOS ASSOCIATES 

Exhibit 9B





- Project Site
- Proposed Conservation - Offsite
- Existing Jack Rabbit Trail Dedication
- 60 Freeway
- Existing/Planned Developments
- Proposed Core 3 (Approximate)
- CalTrans 20'x20' Culvert
- CalTrans Arch Concrete Pipe (ACP)
- CalTrans Corrugated Metal Pipe (CMP)
- CalTrans Reinforced Concrete Pipe (RCP)



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: October 5, 2022

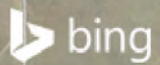
BEAUMONT POINTE

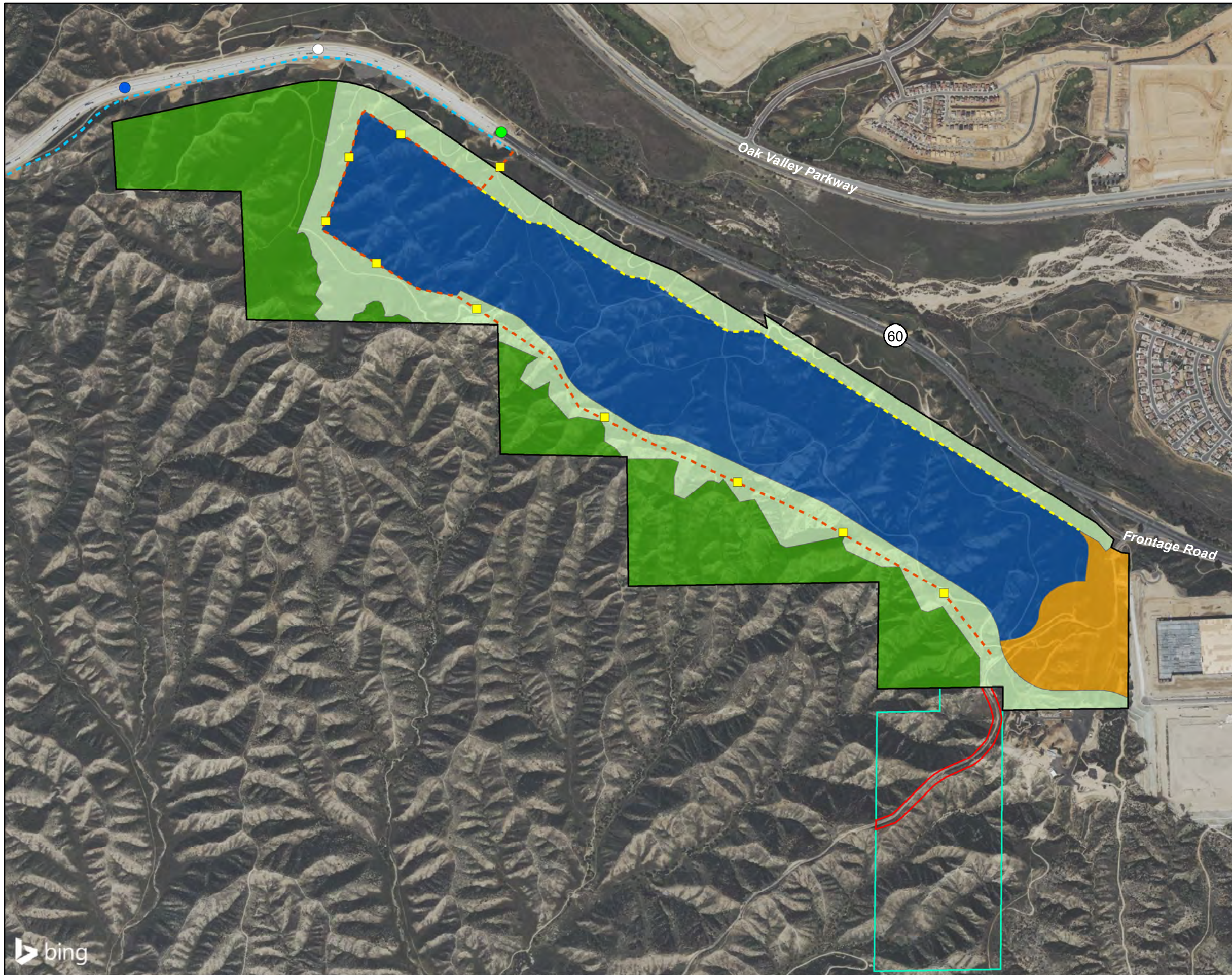
Proposed SR-60 Wildlife Crossings Map














GLENN LUKOS ASSOCIATES

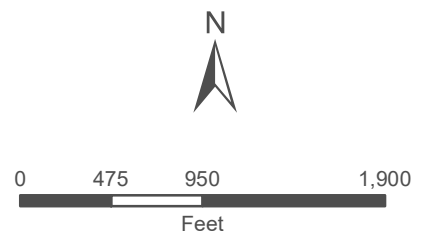


Exhibit 10A





-  Project Site
 -  Existing Jack Rabbit Trail Dedication
 -  Proposed Conservation - Offsite
 -  Onsite Conservation
 -  Project Maintained Open Space
 -  Industrial
 -  General Commercial
- Proposed Wildlife Crossings (CalTrans)**
-  CalTrans 20'x20' Culvert
 -  CalTrans Corrugated Metal Pipe (CMP)
 -  CalTrans Reinforced Concrete Pipe (RCP)
- Proposed Fencing**
-  SR-60 Wildlife Fence
 -  Beaumont Point Wildlife Fence
 -  Beaumont Point Security Fence
 -  Wildlife Gate

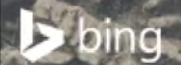


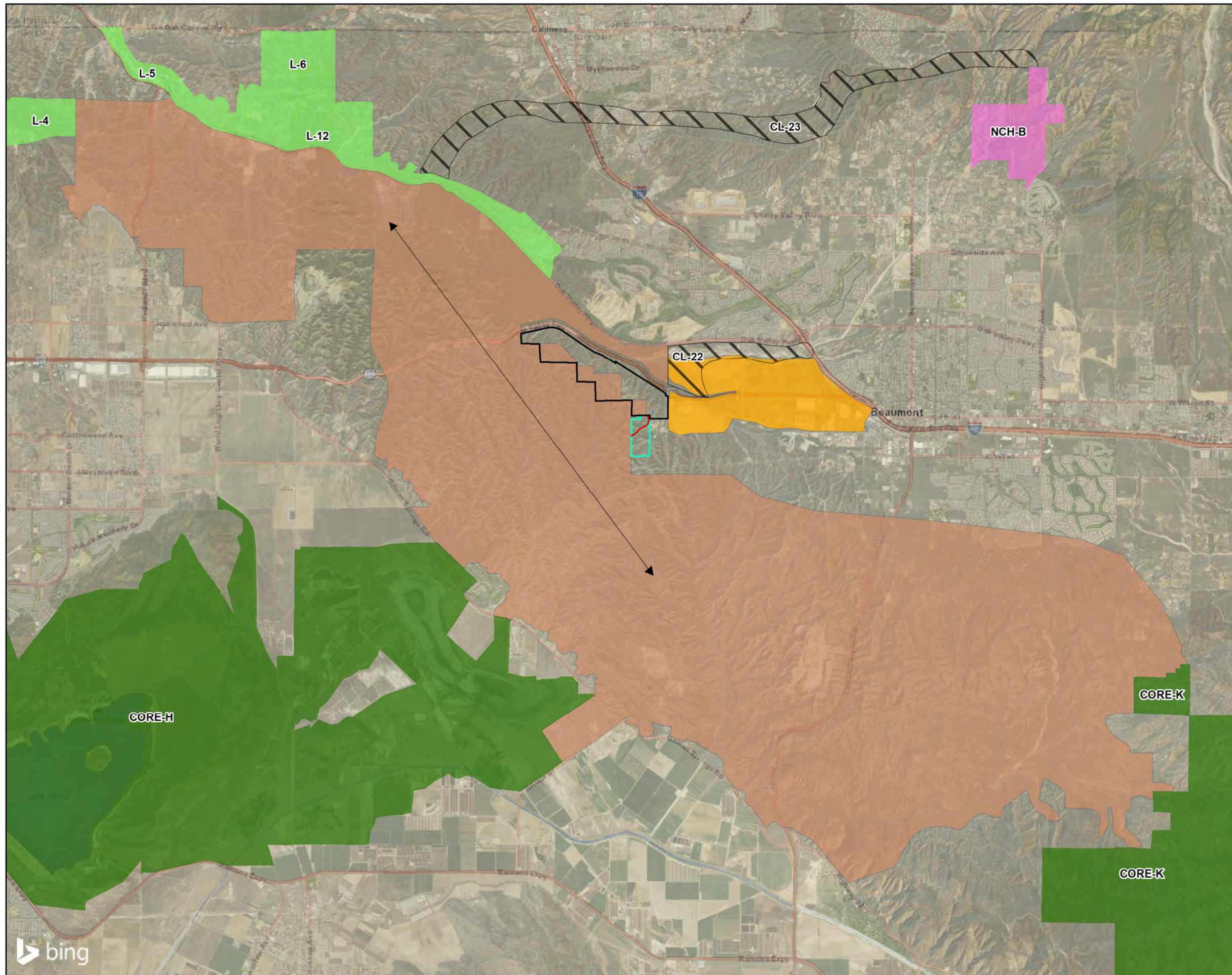
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: October 5, 2022





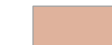




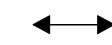
BEAUMONT POINTE
 Proposed Fencing and SR-60 Crossings Map

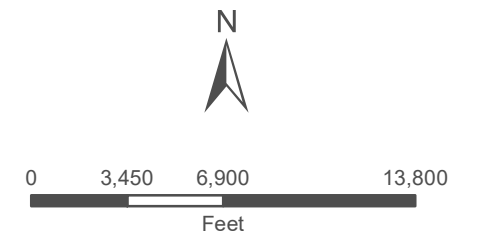
GLENN LUKOS ASSOCIATES 

Exhibit 10B





-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  Existing Core
-  Linkage
-  Non-Contiguous Habitat Block
-  Constrained Linkage
-  General Direction of Wildlife Movement



1 inch = 6,900 feet

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: October 5, 2022

BEAUMONT POINTE

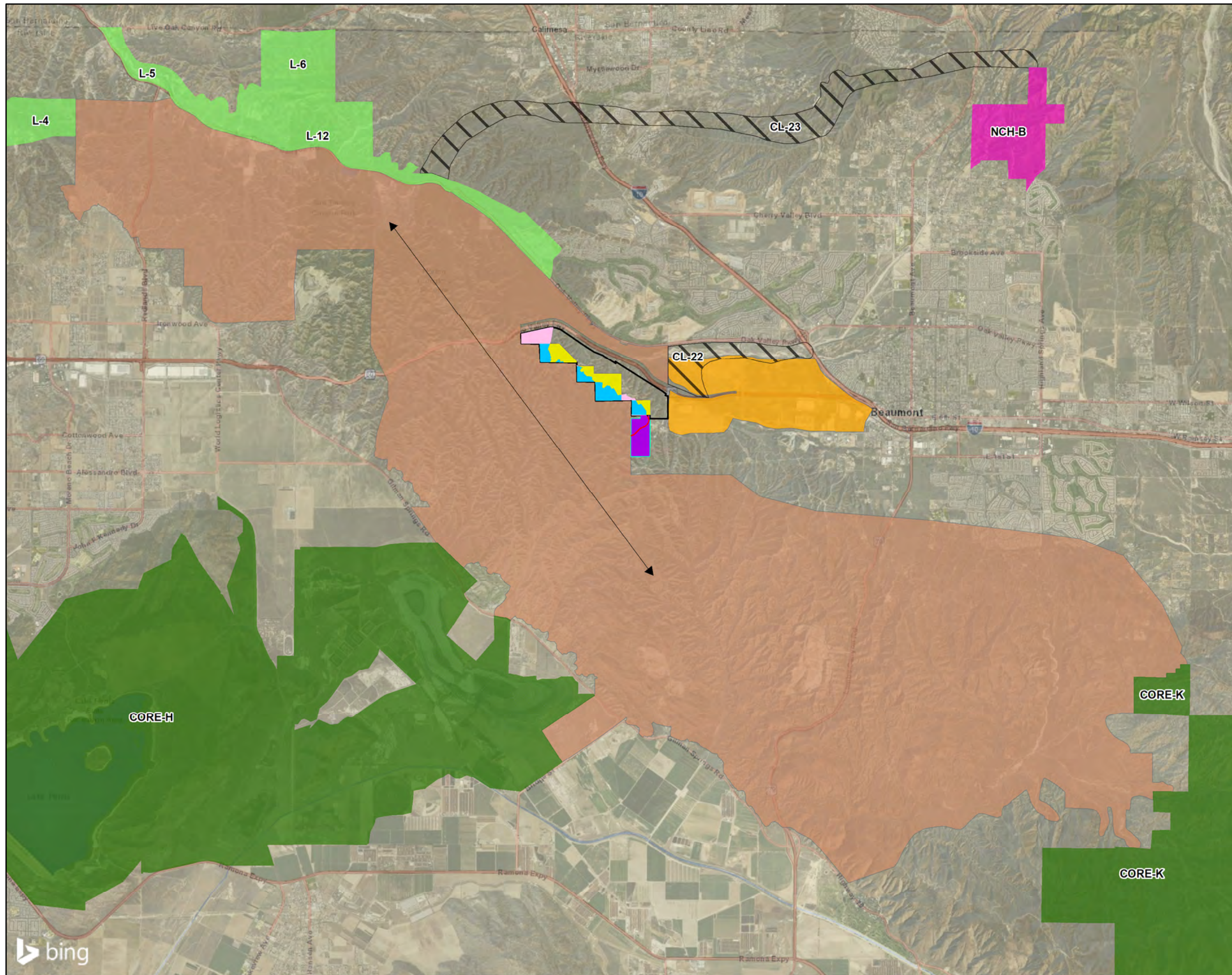
Proposed Core 3 Map







GLENN LUKOS ASSOCIATES

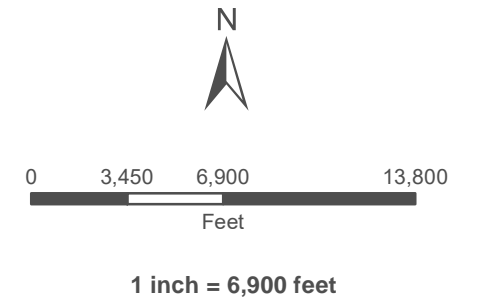


Exhibit 11A





-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  Existing Core
-  Linkage
-  Non-Contiguous Habitat Block
-  Constrained Linkage
-  General Direction of Wildlife Movement

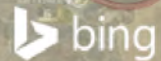


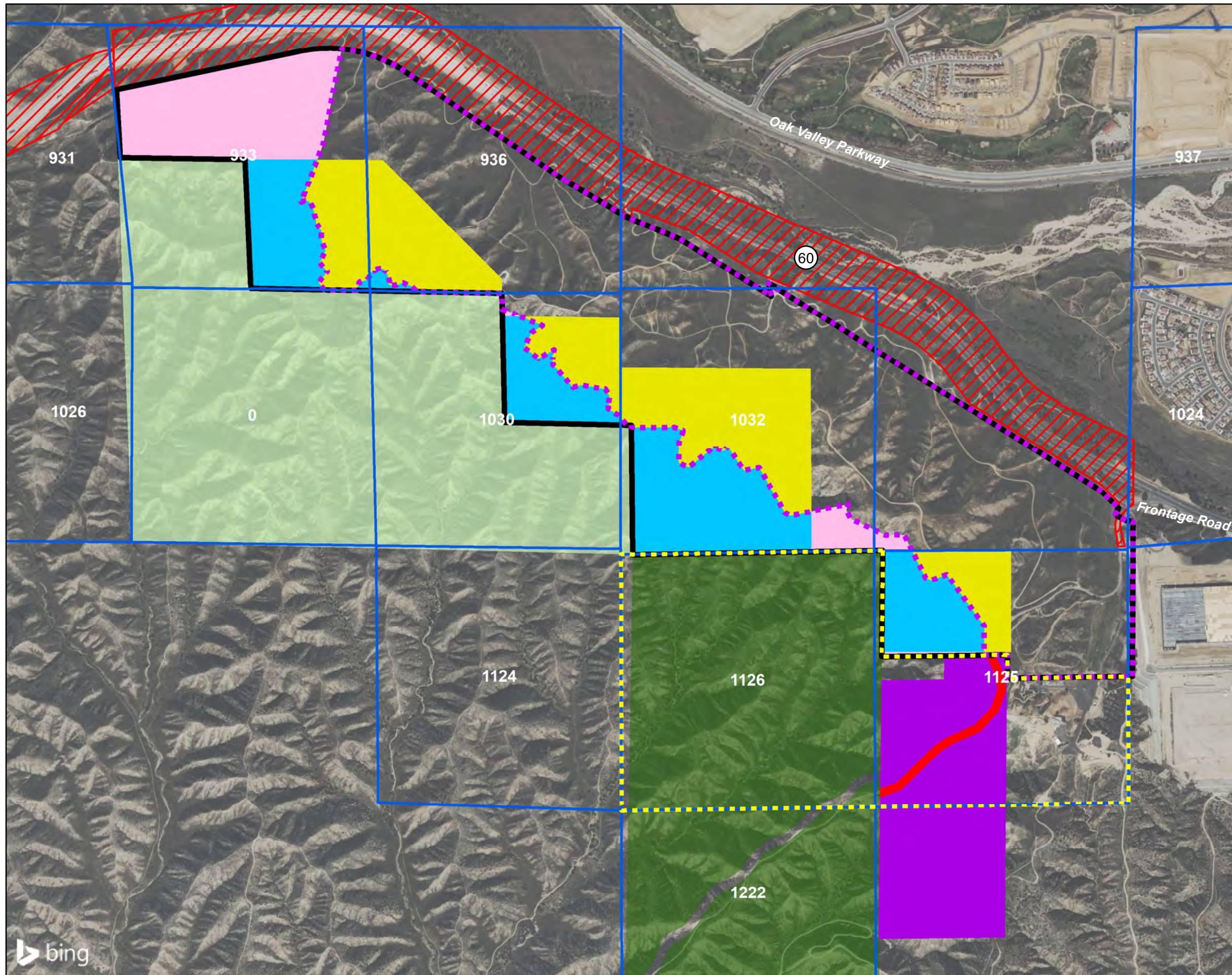
Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: October 5, 2022

BEAUMONT POINTE
 Proposed Criteria Refinement

GLENN LUKOS ASSOCIATES 

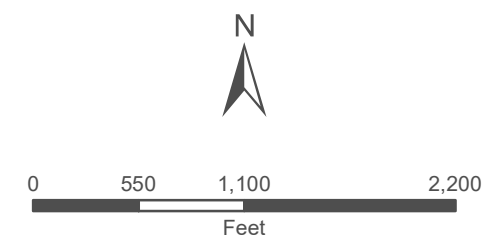
Exhibit 11B





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Proposed Impact Footprint
- 60 Freeway Easement
- Cell Group A'
- Criteria Cells
- PQP Conserved Lands
- RCA MSHCP Conserved Lands
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)

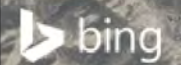
The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



1 inch = 1,000 feet

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: October 5, 2022

BEAUMONT POINTE
 Reserve Assembly Analysis Map





Photograph 1: View of the Project site looking northwest towards the SR-60. The photo depicts rolling hills dominated by non-native grassland intermixed with patches of scrub vegetation



Photograph 2: View of the Project site looking north towards the SR-60. The photo depicts a small canyon that rises from the SR-60 towards ridgelines that transition to the badlands to the south.



Photograph 3: View of the Project site looking west. The photos depicts areas of non-native grassland intermixed with patches of scrub vegetation that then transitions to larger areas of scrub habitat on the edge of the badlands.



Photograph 4: View from the boundary of the Project site looking south into the badlands and beyond towards the Mystic Lake area.





Photograph 5: Photo of a coyote taken with a remote wildlife camera.



Photograph 6: Photo of a mule deer taken with a remote wildlife camera.



Photograph 7: Photo of a bobcat taken with a remote wildlife camera.



Photograph 8: Photo depicting mountain lion scat.



APPENDIX A: FLORAL COMPENDIUM

The floral compendium lists species identified on the project site. Taxonomy follows the Jepson Manual (Baldwin et al 2012) and, for sensitive species, the California Native Plant Society's Rare Plant Inventory (Tibor 2001). Common plant names are taken from Hickman (1993), Munz (1974), and Roberts et al (2004). An asterisk (*) denotes a non-native species.

Scientific Name

Common Name

MAGNOLIOPHYTA

FLOWERING PLANTS

MONOCOTYLEDONS

MONOCOTS

Agavaceae

Hesperoyucca whipplei
Yucca schidigera

Agave Family

chaparral yucca
Mojave yucca

Liliaceae

Calochortus splendens

Lily Family

splendid mariposa lily

Poaceae

**Avena fatua*
**Bromus diandrus*
**Bromus madritensis*
**Hordeum murinum*
**Schismus barbatus*
Stipa pulchra

Grass Family

wild oat
ripgut grass
red brome
foxtail barley
Mediterranean grass
purple needle grass

Themidaceae

Bloomeria crocea
Dichelostemma capitatum

Brodiaea Family

golden stars
blue dicks

Typhaceae

Typha domingensis

Cattail Family

narrowleaf cattail

EUDICOTYLEDONS

EUDICOTS

Adoxaceae

Sambucus nigra ssp. *caerulea*

Elderberry Family

blue elderberry

Anacardiaceae

Rhus ovata
Rhus trilobata
Malosma laurina

Asteraceae

Ambrosia acanthicarpa
Artemisia californica
Artemisia dracunculus
Baccharis salicifolia
Brickellia californica
 **Centaurea melitensis*
Chaenactis glabriuscula
Corethrogyne filaginifolia
Deinandra fasciculata
Encelia farinosa
Ericameria palmeri
Eriophyllum confertiflorum var.
confertiflorum
Gutierrezia californica
Helianthus annuus
Heterotheca grandiflora
Hypochaeris glabra
 **Lactuca serriola*
Malacothrix saxatilis
 **Oncosiphon piluliferum*
 **Senecio linearifolius*
 **Sonchus oleraceus*
Stephanomeria virgata
Uropappus lindleyi

Boraginaceae

Amsinckia intermedia
Cryptantha sp.
Emmenanthe penduliflora
Eucrypta chrysanthemifolia
Pectocarya linearis
Phacelia cicutaria
Phacelia distans
Phacelia minor
Phacelia parryi
Plagiobothrys sp.

Sumac Family

sugar bush
 skunk brush
 laurel sumac

Sunflower Family

annual burrweed
 coastal sage brush
 tarragon
 mule fat
 California brickellbush
 tocalote
 yellow pincushion
 common sandaster
 clustered tarweed
 brittlebush
 Palmer's goldenbush

 golden yarrow
 California matchweed
 common sunflower
 telegraph weed
 smooth cat's ear
 prickly lettuce
 cliff aster
 stinknet
 Australian fireweed
 sow thistle
 rod wirelettuce
 silver puffs

Borage Family

common fiddleneck
 popcorn flower
 whispering bells
 common eucrypta
 sagebrush combseed
 caterpillar phacelia
 common phacelia
 wild canterbury bells
 Parry's phacelia
 Plagiobothrys species

**Brassica tournefortii*

**Hirschfeldia incana*

Saharan mustard

summer mustard

Chenopodiaceae

Atriplex canescens

**Chenopodium album*

**Salsola tragus*

Goosefoot Family

fourwing saltbush

lamb's quarters

Russian thistle

Crassulaceae

Dudleya lanceolata

Stonecrop Family

lanceleaf liveforever

Euphorbiaceae

Croton setiger

Spurge Family

doveweed

Fabaceae

Acemisson glaber

Astragalus pomonensis

Astragalus lentiginosus

Lupinus bicolor

Lupinus hirsutissimus

Lupinus succulentus

Medicago polymorpha

**Melilotus indicus*

**Trifolium hirtum*

Vicia sp.

Pea Family

deerweed

Pomona milk vetch

rattle pod

bicolor lupine

stinging lupine

arroyo lupine

bur clover

annual yellow sweetclover

rose clover

vetch species

Fagaceae

Quercus berberidifolia

Oak Family

scrub oak

Geraniaceae

**Erodium cicutarium*

Geranium Family

red-stemmed filaree

Lamiaceae

**Marrubium vulgare*

Salvia apiana

Salvia columbariae

Salvia mellifera

Mint Family

horehound

white sage

chia sage

black sage

Malvaceae

**Malva parviflora*

**Malva sylvestris*

Mallow Family

cheeseweed

tall cheeseweed

Montiaceae

Calandrinia menziesii

Onagraceae

Camissoniopsis bistorta

Eulobus californicus

Orobanchaceae

Castilleja affinis

Plantaginaceae

Plantago erecta

Platanaceae

Platanus racemosa

Polemoniaceae

Eriastrum saphirinum

Gilia sp.

Polygonaceae

Eriogonum elongatum

Eriogonum fasciculatum var. *fasciculatum*

Eriogonum fasciculatum var. *polifolium*

**Polygonum aviculare*

Rhamnaceae

Rhamnus crocea

Rosaceae

Adenostoma fasciculatum

Heteromeles arbutifolia

Rubiaceae

Galium angustifolium

Salicaceae

Populus fremontii

Salix exigua

Salix gooddingii

Salix lasiolepis

Miner's Lettuce Family

red maids

Evening Primrose Family

California sun cup

California primrose

Broomrape Family

indian paintbrush

Plantain Family

California plantain

Plane-Tree Family

western sycamore

Phlox Family

sapphire woollystar

Gilia species

Buckwheat Family

longstem buckwheat

California buckwheat

California buckwheat

prostrate knotweed

Buckthorn Family

redberry buckthorn

Rose Family

chamise

toyon

Madder Family

narrowleaf bedstraw

Willow Family

Fremont cottonwood

sandbar willow

black willow

arroyo willow

Salix lutea

yellow willow

Simaroubaceae

**Ailanthus altissima*

Quassia Family

tree of heaven

Solanaceae

**Datura stramonium*

Datura wrightii

**Nicotiana glauca*

Nightshade Family

Jimson weed

Jimson weed

tree tobacco

Tamaricaceae

**Tamarix ramosissima*

Tamarix Family

tamarisk

Urticaeae

**Urtica dioica* ssp. *holosericea*

Nettle Family

stinging nettle

APPENDIX B

FAUNAL COMPENDIUM

The faunal compendium lists species identified on the Project site. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (2009) for amphibians and reptiles, Bradley, et al. (2014) for mammals, and AOU Checklist (1998) for birds. An (*) denotes non-native species.

INSECTA

FORMICIDAE

Messor sp.

NYMPHALIDAE

Vanessa cardui

REPTILIA

ANGUIDAE

Elgaria multicastrinata

COLUBRIDAE

Pituophis catenifer

IGUANIDAE

Sceloporus occidentalis

PHRYNOSOMATIDAE

Uta stansburiana

TEIIDAE

Aspidoscelis hyperythra

VIPERIDAE

Crotalus ruber

AVES

ACCIPITRIDAE

Accipiter cooperii

INSECTS

Ants

harvester ant species

Brush-footed Butterflies

painted lady

REPTILES

Alligator Lizards & Relatives

Southern alligator lizard

Colubrid Snakes

gopher snake

Iguanid Lizards

Great Basin fence lizard

Phrynosomatid Lizards

common side-blotched lizard

Whiptail Lizards

orange-throated whiptail

Vipers

red-diamond rattlesnake

BIRDS

Hawks

Cooper's hawk

Buteo jamaicensis
Buteo lineatus
Circus cyaneus

red-tailed hawk
red-shouldered hawk
northern harrier

AEGITHALIDAE

Psaltriparus minimus

Bushtits

American bushtit

ALAUDIDAE

Eremophila alpestris

Larks

horned lark

APODIDAE

Aeronautes saxatilis
Chaetura vauxi

Swifts

white-throated swift
Vaux's swift

CAPRIMULGIDAE

Phalaenoptilus nuttallii

Nightjars

common poorwill

CARDINALIDAE

Passerina amoena

Cardinals, Grosbeaks, & Allies

lazuli bunting

CATHARTIDAE

Cathartes aura

Condors

turkey vulture

CHARADRIIDAE

Charadrius vociferus

Shorebirds

killdeer

COLUMBIDAE

Columbidae
Zenaida macroura

Pigeons & Doves

rock dove
mourning dove

CORVIDAE

Corvus corax

Crows & Jays

common raven

CUCULIDAE

Geococcyx californianus

Cuckoos

greater roadrunner

EMBERIZIDAE

Aimophila ruficeps canescens

Emberizids

Southern California rufous-crowned
sparrow
Bell's sage sparrow
song sparrow
savannah sparrow
California towhee
spotted towhee
white-crowned sparrow

Artemisiospiza belli belli

Melospiza melodia

Passerculus sandwichensis

Pipilo crissalis

Pipilo maculatus

Zonotrichia leucophrys

FALCONIDAE

Falco peregrinus
Falco sparverius

FRINGILLIDAE

Carpodacus mexicanus
Spinus psaltria

HIRUNDINIDAE

Hirundo pyrrhonota
Stelgidopteryx serripennis

ICTERIDAE

* *Molothrus ater*
Sturnella neglecta

LARIDAE

Larus occidentalis

MIMIDAE

Mimus polyglottos
Toxostoma redivivum

PARULIDAE

Setophaga coronata
Vermivora celata

PASSERELLIDAE

Ammodramus savannarum
Chondestes grammacus
Junco hyemalis

PASSERIDAE

* *Passer domesticus*

PICIDAE

Colaptes auratus
Melanerpes formicivorus
Picoides nuttallii

POLIOPTILIDAE

Polioptila caerulea

PTILIOGONATIDAE

Phainopepla nitens

Falcons

peregrine falcon
American kestrel

Fringilline and Cardueline Finches

house finch
lesser goldfinch

Swallows

cliff swallow
northern rough-winged swallow

Blackbirds and Orioles

brown-headed cowbird
western meadowlark

Gulls and Terns

western gull

Thrashers

northern mockingbird
California thrasher

Wood Warblers

yellow-rumped warbler
orange-crowned warbler

American Sparrows

grasshopper sparrow
lark sparrow
dark-eyed junco

Old World Sparrows

house sparrow

Woodpeckers and Allies

northern flicker
acorn woodpecker
Nuttall's woodpecker

Gnatcatchers

blue-gray gnatcatcher

Silky-Flycatchers

phainopepla

STRIGIDAE

Bubo virginianus

TIMALIIDAE

Chamaea fasciata

TROCHILIDAE

Calypte anna

TROGLODYTIDAE

Salpinctes obsoletus
Thryomanes bewickii

TURDIDAE

Turdus migratorius

TYRANNIDAE

Tyrannis verticali

TYTONIDAE

Tyto alba

MAMMALIA**CANIDAE**

- * *Canis familiaris*
- Canis latrans*
- Urocyon cinereoargenteus*

CERVIDAE

Odocoileus hemionus

CRICETIDAE

Neotoma fuscipes

DIDELPHIDAE

- * *Didelphis virginiana*

FELIDAE

Lynx rufus
Puma concolor

GEOMYIDAE

Thomomys bottae

True Owls

great horned owl

Babblers

wrentit

Hummingbirds

Anna's hummingbird

Wrens

rock wren
Bewick's wren

Thrushes

American robin

Tyrant Flycatchers

western kingbird

Barn Owls

barn owl

MAMMALS**Foxes, Wolves, & Allies**

feral dog
coyote
gray fox

Deer, Elk, & Allies

mule deer

Rats, Mice, Voles, & Relatives

dusky-footed woodrat

American Opossums

Virginia opossum

Cats

bobcat
mountain lion

Pocket Gophers

Botta's pocket gopher

MUSTILIDAE

Taxidea taxus

PROCYONIDAE

* *Procyon lotor*

SCIURIDAE

Otospermophilus beecheyi

Weasels & Allies

American badger

Raccoons & Allies

raccoon

Squirrels

California ground squirrel

**CRITERIA REFINEMENT ANALYSIS
(CRITERIA REFINEMENT 21-03-09-01)**

**BEAUMONT POINTE SPECIFIC PLAN/
PROPOSED CORE 3**

WESTERN RIVERSIDE COUNTY, CALIFORNIA

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February 8, 2022
[Revised September 2, 2022]

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- Appendix B – GIS Analysis and Boundary Inaccuracies

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- Exhibit 1 – Regional Map
- Exhibit 2A – Vicinity Map
- Exhibit 2B – Assessor’s Parcel Map
- Exhibit 3 – Site Plan Map
- Exhibit 4A – Proposed Core 3 Map
- Exhibit 4B – Proposed Criteria Refinement
- Exhibit 5 – Reserve Assembly Analysis Map
- Exhibit 6A – Vegetation Map
- Exhibit 6B – 1994 Rough Step Vegetation Map
- Exhibit 7 – MSHCP Riparian/Riverine Areas Map
- Exhibit 8A – Live-In Habitat for Scrub/Grassland Species
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- Exhibit 9A – Proposed SR-60 Wildlife Crossings
- Exhibit 9B – Existing CMPs and Proposed SR-60 Crossings

1.0 INTRODUCTION

On behalf of the City of Beaumont and the Applicant (Beaumont Pointe Partners, LLC), Glenn Lukos Associates, Inc. (GLA) has prepared this Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Criteria Refinement Process (CRP) analysis to modify the Criteria identified for Criteria Cells associated with lands to be developed as part of the Beaumont Pointe Specific Plan. The Beaumont Pointe Specific Plan (the “Project”) is located in the MSHCP Criteria Area. The term “Criteria Area” as defined by the MSHCP is the area comprised of Cells depicted on Figure 3-1 of the MSHCP. This refers to the collection of Criteria Cells and Cell Groups that describe lands for conservation to support assembly of the MSHCP Reserve, i.e., “Reserve Assembly”. Specifically, the Project site is within portions of independent Cells 933, 936, 1030, 1032, and 1125 (The Pass Area Plan) where lands are described for conservation to support the assembly of Proposed Core 3¹, with proposed offsite conservation lands located in a portion of Cell Group A’ (Reche Canyon/Badlands Area Plan). Exhibit 2B depicts boundary line for the two Area Plans.

GLA transmitted an initial CRP analysis to the RCA on February 8, 2022. Based on GLA’s analysis, the RCA completed Criteria Refinement Review Findings to support the Criteria Refinement (#21-03-09-01), which were transmitted to the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), referred to jointly as the Wildlife Agencies, on March 11, 2022. The Wildlife Agencies provided a comment letter to the City of Beaumont on May 12, 2022. The following is an excerpt of the comments from the Wildlife Agencies’ letter:

The Beaumont Pointe Specific Plan development site is located in the Potrero/Badlands Subunit (Subunit 1) of The Pass Area Plan. The MSHCP Planning Species for the Potrero/Badlands Subunit include mountain lion, bobcat, the threatened Stephen’s kangaroo rat, Bell’s sparrow, and Southern California rufous-crowned sparrow, among other species. The maintenance of large blocks of Habitat for large mammal movement between the northern and southern sections of the San Bernardino National Forest, and Core and Linkage habitat for mountain lion are among the identified Biological Issues and Considerations (Section 3.2.3) for this Subunit.

To accommodate the wildlife movement considerations mentioned above, the California Department of Transportation and the Riverside County Transportation Commission expended significant local, State, and federal dollars to construct a wildlife crossing beneath State Route 60 (Highway 60) at the northwest end of the Project site to enabling large mammal movement between the interior of the Proposed Core 3 and the area north of Highway 60 and the San Bernardino National Forest. Public funds were expended identifying a location for this mammal crossing that is biologically appropriate (usable by mountain lions and bobcats), technically feasible (buildable), be financially feasible and would not constrain or jeopardize traffic flow on Highway 60. Years of effort went

¹ Proposed Core 3 associated with the Project site is not to be confused with the Proposed Extension of Existing Core 3. Proposed Core 3 represents an entirely new Core area, whereas the Proposed Extension of Existing Core 3 is an extension of Existing Core E located near Lake Elsinore.

into selecting a feasible location, and then designing this undercrossing so that it would function to enable large mammal movement between Proposed Core 3 and the area north of Highway 60.

If the Project is built with the current design, the existing wildlife crossing would direct wildlife into a small north-south trending valley which terminates at a steep ridgeline with topography that does not facilitate animal movement into the interior of Proposed Core 3. We are concerned that mountain lion and bobcat use of the corridor would be inhibited by the narrowness of the canyon and the proximity of Project activities (the sights and sounds of people, moving vehicles, nighttime lighting, and noise on the Project site). Edge effects from adjacent development or disturbed areas can be biologically significant for distances of at least 300 meters within corridor areas (Beier 2018). Large mammals tend to be guided by terrain when moving across large landscapes such as utilizing valley and canyon bottoms preferentially over steep slopes. Mountain lions prefer relatively wide buffers between their movement corridors and nearby human activity, and in general wildlife corridors should be at least 2 km wide where feasible (Beier 2018).

To avoid the degradation of the existing large mammal crossing, the Wildlife Agencies request that the development footprint be modified to pull out of Criteria Cell 933 (approximately 34 acres) and include the larger connecting valley in the Criteria Refinement conservation strategy so that large mammals can traverse the valley southward into Proposed Core 3 and northward to the wildlife undercrossing. We understand that the proposed development footprint might shift to accommodate this change. We also acknowledge that some of the area in Criteria Cell 933 where we have requested avoidance is not described for conservation, however, the public investment in the Highway 60 undercrossing and the benefit to the MSHCP Conservation scenario should not be eroded by the Project.

GLA's initial CRP analysis proposed 213.03 acres of total conservation, including 49.55 acres in Cell 933. As noted by the above-referenced comments, the Wildlife Agencies requested that the proposed development footprint be revised to further pull away from the existing (recently constructed) large mammal crossing under State Route 60 (SR-60) within Cell 933. The Wildlife Agencies requested that the development footprint be pulled out of Cell 933 altogether, which, per their comment letter, would have increased the conservation in Cell 933 by another 34 acres compared with the initial Project proposal. On June 8, 2022, the Project Proponent transmitted to the RCA their proposed design revisions to address the Wildlife Agencies' comments, which the RCA then transmitted to the Wildlife Agencies. The proposed revisions do not pull the development footprint entirely out of Cell 933 (the revisions will increase the conservation by approximately 19 acres instead of 34 acres). However, the Wildlife Agencies agreed with the proposed project design revisions conserving the additional 19 acres in Cell 933 and indicated that the Project Proponent could move forward on submitting a revised CRP analysis to the RCA for finalization². The following CRP analysis is based on the revised Project design that was reviewed by the Wildlife Agencies.

² The RCA notified the Project Proponent and the City of Beaumont via email on July 21, 2022, which also confirmed that same day via email by the Wildlife Agencies.

Approximately 206.89 acres of the Project site is described for conservation based on the Cell Criteria³ for Cells 933, 936, 1030, 1032, and 1125. Of the 206.89 acres of lands described for conservation within these Cells, the Project will impact 109.69 acres and conserve 97.20 acres. In addition, the Project will conserve another 55.22 acres of undescribed lands (onsite) within these Cells. All undescribed lands to be conserved are referred to in this analysis as “replacement lands”. As such, the impacts and conservation are presented in the following four categories, which are depicted on multiple exhibits [Exhibit 2B, 3, 4B, 5, 6A, 6B, 7 and 8A]:

- Described Lands – Impact (109.69 acres)
- Described Lands – Proposed Conservation (97.20 acres)
- Undescribed Lands – Onsite Replacement (55.22 acres)
- Undescribed Lands – Offsite Replacement (78.40 acres)

The combined onsite conservation of described lands and replacement lands will result in a surplus of conservation in Cell 933 but are not enough to offset the impacts to 109.69 acres of described lands, resulting in an overall conservation deficit of 54.47 acres for Cells 936, 1030, 1032, and 1125. However, another 78.40 acres of offsite undescribed lands (replacement) will be conserved, including 37.89 acres in Cell Group A’ and the 40.51 acres that are not within a Criteria Cell, but adjacent to Cell Group A’, resulting in an overall conservation surplus of 23.93 acres for the Project. Table 1-1 below summarizes the proposed impacts and conservation. The areas of proposed impact and conservation (described and undescribed lands) are also depicted on Exhibit 5 [Reserve Assembly Analysis Map].

³ For a number of reasons, the MSHCP does not provide exact and specific areas to represent “described conservation” based on the stated Criteria for each Cell Group and independent Cell. As such, the actual acreages presented in this *Analysis* to represent MSHCP “described conservation” are based on GLA’s hand-drawn GIS interpretation of the Cell Criteria as an approximation of the midrange goal of the described percentage range. For example, the Criteria for Cell 933 describes a conservation range of 20% to 30%, resulting in a conservation midrange of 25%. As presented in Appendix B of this *Analysis*, GLA adjusted the boundaries of the applicable Criteria Cells for GIS analysis due to discrepancies between existing County GIS and more accurate property survey boundaries, and to correct apparent errors in the initial establishment of the Criteria Cells. As a result, the acreages presented in this *Analysis* are close to but are not an exact representation of the midrange percentages (in some cases slightly less and in others slightly greater). Table 1-1 below presents an overall conservation surplus of 23.93 acres, although the actual surplus may be within a margin of error of one to two acres.

Table 1-1. Summary of Proposed Impacts and Conservation (in acres)

Criteria Cell	Described Conservation	Described Lands – Impact	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
<i>Onsite</i>					
933	37.85	16.04	21.81	47.03	30.99
936	25.51	24.19	1.32	0.00	(24.19)
1030	30.25	13.72	16.53	0.16	(13.56)
1032	81.76	42.75	39.01	5.54	(37.21)
1125	31.52	12.99	18.53	1.13	(11.86)
No Cell	N/A	N/A	N/A	1.36	1.36
<i>Onsite Subtotal</i>	206.89	109.69	97.20	55.22	(54.47)
			152.42 (onsite conservation)		
<i>Offsite</i>					
Cell 1125	N/A	N/A	N/A	37.89	37.89
No Cell	N/A	N/A	N/A	40.51	40.51
<i>Offsite Subtotal</i>				78.40	78.40
Total	206.89	109.69	97.20	133.62	23.93

This Analysis further presents that the proposed Criteria Refinement would be at least equivalent to the existing Criteria as it applies to Effects on Habitats, Effects on Covered Species, Effects on Core Areas, Effects on Linkages and Constrained Linkages, Effects on Non-Contiguous Habitat Blocks, Effects on MSHCP Conservation Area Configuration and Management, Effects on Ecotones, and Acreage Contributed to the MSHCP Conservation Area.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Beaumont Pointe Specific Plan (the “Project”) represents approximately 539.9 acres in unincorporated Riverside County, California [Exhibit 1 – Regional Map] and is located within the City of Beaumont’s Sphere of Influence (SOI). The 78.40-acre “offsite” proposed conservation area is also within unincorporated Riverside County but is outside of the City’s SOI. The Project would require annexation of the Project site into City of Beaumont from unincorporated Riverside County. The Project site is located within Sections 1, 2, and 12 of Township 3 South and Range 2 West of the U.S. Geological Survey (USGS) 7.5” quadrangle map El Casco, California (dated 1967 and photorevised in 1979) [Exhibit 2A – Vicinity Map]. The City of Beaumont is located east of the City of Moreno Valley and unincorporated Riverside County, west of the City of Banning and unincorporated Riverside County, north of the City of San Jacinto and unincorporated Riverside County, and south of the City of Calimesa and

unincorporated Riverside County. California State Route (SR-60) abuts the Project site to the north, Interstate 10 (I-10) is located approximately 1.5 miles to the north of the site, and California State Route 79 (Highway -79) is located approximately 1.5 miles to the east of the site.

At the local scale, the Project site is located west of Jack Rabbit Trail and south of SR-60. The Project site includes 11 individual parcels plus a portion of Jack Rabbit Trail, including Assessor Parcel Numbers (APNs): 422-060-002, 422-060-005, 422-060-009, 422-060-010, 422-060-016, 422-060-017, 422-060-018, 422-060-021, 422-060-022, 422-170-005, and 422-170-008. The four parcels for the proposed offsite conservation include 422-170-007, 422-170-009, 422-170-010, and 422-170-011. Tables 2-1 and 2-2 list the APNs for the Project site and the offsite conservation, respectively, including the associated Area Plan Sub-Unit and Independent Cell/Cell Group. Exhibit 2B depicts the Assessor’s Parcels.

Table 2-1. APNs for the Project Site

Project APNs	Project Sub-Unit	Independent Cell/Cell Group
422-060-002*	SU1 – Protrero/Badlands	933, 936
422-060-005*	SU1 – Protrero/Badlands	933
422-060-009	SU1 – Protrero/Badlands	1030, 1032
422-060-010*	SU1 – Protrero/Badlands	1030, 1032
422-060-016	N/A	N/A
422-060-017	N/A	N/A
422-060-018	N/A	N/A
422-060-021	SU1 – Protrero/Badlands	1032
422-060-022*	SU1 – Protrero/Badlands	1032, 1125, Cell Group A’
422-170-005*	SU1 – Protrero/Badlands	1125
422-170-008	SU1 – Protrero/Badlands	1125
Jack Rabbit Trail Easement	N/A	N/A

* - All or a portion of the parcel is described for conservation.

Table 2-2. APNs for the Offsite Conservation Parcels

Offsite Conservation APNs	Project Sub-Unit	Cell Group
422-170-007	SU3 – Badlands North	A’
422-170-009	SU3 – Badlands North	A’
422-170-010*	SU3 – Badlands North	A’
422-170-011	SU3 – Badlands North	A’

* - A portion of this APN is in an undescribed portion of Cell Group A’; the majority is outside of (but adjacent to) the Criteria Area.

The boundaries for the APNs, MSHCP Criteria Cells, existing Public/Quasi-Public (PQP) Conserved Lands, and Jack Rabbit Trail right-of-way (ROW) as depicted in the Riverside

County GIS files are not fully accurate relative to the surveyed boundaries for the Project. The acreages referenced throughout this document are based on the actual surveyed boundaries. Appendix B provides a discussion of the GIS analysis and internal adjustments made by GLA to the Criteria Cells and PQP Conserved Lands to match with the surveyed boundaries.

2.2 Project Description

The Project Applicant (Beaumont Pointe Partners, LLC) proposes to develop a recreational/entertainment commercial development of approximately 246,000 square feet (SF) of general commercial uses in addition to a 125-room hotel and approximately 4,995,000 SF of industrial and warehouse uses. The Project will be developed in at least four phases with buildout expected by 2027.

As summarized in table 2-3 below, the Project site contains 263.39 acres of proposed open space, including 124.70 acres designated as “Project Maintained Open Space” (Planning Area [PA] 9) consisting of open space to be managed by the Project, and 152.42 acres designated as “Conservation Land” (PA 10) that would be conserved as natural habitat to support Reserve Assembly as required by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Portions of the 124.70 acres in PA 9 will be impacted by remedial grading, improved with manufactured slopes, and/or used for wildfire fuel modification purposes. Disturbed areas within the Project Maintained Open Space will be re-planted with native vegetation to the greatest extent possible and will serve as a buffer between the development footprint and the proposed Additional Reserve Lands (ARL). The Project Applicant is also proposing to conserve 78.40 acres of land located outside of the Project boundary for MSHCP Reserve Assembly. Altogether, a total of 230.82 acres is proposed for conservation in support of MSHCP Reserve Assembly. The Project’s Land Use Plan (LUP) is attached as Appendix A and is also represented in Exhibit 3 [Site Plan Map].

Table 2-3. Additional Reserve Lands and Other Open Space (in acres)

	Additional Reserve Lands	Project Maintained Open Space	Total Open Space
Planning Area 9	0	124.70	124.70
Planning Area 10	152.42	0	152.42
Offsite Conservation	78.40	0	78.40
Total	230.82	124.70	355.52

The Project would construct four main roadways for on-site circulation, including 4th Street, Jack Rabbit Trail, Entertainment Avenue, and Industrial Way. 4th Street would be constructed along the southern boundary of the Project site from Jack Rabbit Trail at the easterly edge of the Project site and would extend from its current proposed terminus to the east at Jack Rabbit Trail, culminating at a cul-de-sac at the western edge of PA 7, with a 40-foot private access road continuing along the southern boundary of PA 8.

Jack Rabbit Trail road is an existing two-lane road that runs from the Jack Rabbit Trail/SR-60 off-ramp, through the Project site and continuing further south to eventually connect to Gilman Springs Road in the Hemet area. The Project would re-route the section of Jack Rabbit Trail road from the SR-60 off-ramp to 4th Street to connect with the existing Jack Rabbit Trail at the south edge of the Project site. Entertainment Avenue would be constructed as a curvilinear street connecting Jack Rabbit Trail and 4th Street south of PA 2 and PA 3, on the west side of PA 1. Industrial Way, a private access road, would be constructed along the northern boundary of the Project site from Entertainment Avenue culminating at the western edge of PA 7.

Regional access to the Project site would be provided from SR-60 at Potrero Boulevard and I-10 at Beaumont Avenue. Local access to the Project site would be provided from the future extension of 4th Street from Jack Rabbit Trail to Potrero Boulevard currently under construction as part of the Hidden Canyon project; 4th Street between Jack Rabbit Trail and Potrero Boulevard is planned as an industrial collector with a 78-foot right-of-way and 56-foot curb-to-curb, which is consistent with the width of 4th Street and the eastern end of the Project site. Until an SR-60 /Jack Rabbit Trail interchange is constructed, access from the Project site to the SR-60 via Jack Rabbit Trail is proposed to be restricted, with the northerly portion of Jack Rabbit Trail to the SR-60/Jack Rabbit Trail interchange utilized as secondary emergency egress (and fire and emergency vehicle ingress) only.

The Project's fuel modification limits will partially extend in the Project Maintained Open Space (PA 9) but will not encroach into the existing MSHCP Conservation Area or the ARL proposed by the Project. The fuel modification limits are depicted on Exhibit 3.

3.0 CRITERIA REFINEMENT

3.1 Proposed Core 3

The Project site is located within Criteria Cells 933, 936, 1030, 1032, and 1125 of Subunit 1 (Potrero/Badlands) of The Pass Area Plan, and with "offsite" proposed conservation located within Cell Group A' of Subunit 3 (Badlands North) of the Reche Canyon/Badlands Area Plan. For each of these Cells and the one Cell Group, lands described for conservation will contribute to the assembly of Proposed Core 3. The MSHCP defines a Core as "a block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species." Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the overall MSHCP Plan Area. The Proposed Core consists mainly of private lands but also contains a few Public/Quasi-Public parcels including De Anza Cycle Park. The Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. Exhibits 4A and 4B provide the general area of Proposed Core 3, which includes existing Conserved Lands and lands that are described for conservation but have not yet been conserved, and also depict the Beaumont Pointe Project site, which is located along the northeastern edge of the Proposed Core, south of the State Route 60.

Specific Linkages are not identified as part of Proposed Core 3; however, the overall area identified for the Proposed Core supports wildlife movement and therefore functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core. Exhibit 4A notes that the general wildlife movement through the Core is northwest to southeast, although it is acknowledged that movement occurs throughout the Core lands, including through and alongside the Project site. However, the Project site itself is not recognized as a specific MSHCP Linkage. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest Core Areas identified for the MSHCP. As noted above, the Proposed Core is contiguous with Existing Core H (Lake Perris/Mystic Lake) and Existing Core K (San Jacinto Mountains), thus greatly enlarging the functional area of the Core. The Core has both a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by existing land uses, including agricultural use.

As the Proposed Core covers a large area, the MSHCP identifies a number of Planning Species that would utilize portions of the Core for live-in and movement habitat, including southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), cactus wren (*Campylorhynchus brunneicapillus*), loggerhead shrike (*Lanius ludovicianus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), Stephens' kangaroo rat (*Dipodomys stephensi*), bobcat (*Lynx rufus*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), mountain lion (*Puma concolor*), Nevin's barberry (*Berberis nevinii*). Not all of these species have the potential to occur at the Project site, and therefore not all are relevant to this analysis. However, those applicable species are discussed in this document. The MSHCP notes that management of edge conditions will be necessary in the Badlands to maintain high quality habitat for these species. The proposed Project site will have approximately 10,000 linear feet of edge adjacent to the existing and proposed Conserved Lands. As such, the Project will implement measures to address the Guidelines Pertaining to Urban/Wildlands Interface (MSHCP Volume I, Section 6.1.4) for the management of edge factors such as lighting, noise, urban runoff, toxics, and unauthorized access.

Regarding lighting, the MSHCP states that “night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.” Lighting associated with the Project will be designed for consistency with the MSHCP. Chapter 8.50 of the City of Beaumont Municipal Code addresses outdoor lighting for development projects. The ordinance states the intent to “establish regulation and standards which will reduce light pollution generated by residential, commercial and industrial lighting fixtures and devices, minimize light pollution which has a detrimental effect on the environment and the enjoyment of the night sky, reduce and minimize lighting and lighting practices which cause unnecessary illumination of adjacent properties, correct problems of glare and light trespass, and reduce energy use.” The ordinance promotes shielding and limits the type and intensity of the light fixtures depending on the extent of shielding. In addition, the Project proponent is performing a lighting study and developing a conceptual lighting plan to demonstrate that there will be no offsite lighting trespass into the adjacent MSHCP Conservation Area.

3.2 Reserve Assembly and Criteria Refinement

Volume I, Section 6.5 (Criteria Refinement Process [CRP]) of the MSHCP states that individual public and private projects within the Plan Area are expected to be designed and implemented in accordance with the Criteria for each Area Plan presented in *Volume I, Section 3.2* of the MSHCP document. The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands (ARL) to be acquired within the MSHCP Criteria Area. Projects located within the Criteria Area must be evaluated to determine if lands within those properties are described to contribute to Reserve Assembly. Criteria Refinements are an important part of the Reserve Assembly process to achieve goals for Covered Species, Covered Habitats, etc. However, in cases where refinements to the Criteria are desirable to facilitate Reserve Assembly, including for development projects that would otherwise be inconsistent with the existing Criteria, the CRP described in *Volume I, Section 6.5* shall apply. Criteria Refinements may be initiated by Local Permittees, or at the request of private entities to Local Permittees if agreed to by the applicable Local Permittee, either for purposes of correcting minor discrepancies or inaccuracies or for evaluating alternative conservation proposals involving single or multiple landowners and jurisdictions that are of equivalent or superior benefit to Covered Species. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the Refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species conservation goals. However, the CRP cannot be used for Criteria changes that would result in a reduction in the amount of lands conserved relative to the minimum acreages described by the Criteria. A Criteria Refinement can be approved with lesser conservation in one or more Cells provided that the decrease is made up with other lands in the Criteria Area not described by the Criteria that satisfy the goals for Covered Habitats, Covered Species, etc., or with lands outside of the Criteria Area that similarly satisfy the goals.

The Project site is located within Criteria Cells 933, 936, 1030, 1032, and 1125 of Subunit 1 (Potrero/Badlands) of The Pass Area Plan, and the offsite proposed conservation (offsite replacement lands) is located within Cell Group A' of Subunit 3 (Badlands North) of the Reche Canyon/Badlands Area Plan. The boundary separating the two Area Plans is depicted on Exhibit 2B. As stated in the MSHCP (Volume I, Section 3.3.1, page 3-114), "the County's General Plan Area Plan boundaries were selected to provide the broad organizational framework for the Criteria" and that "while these boundaries are not biologically based, they related specifically to County planning boundaries and to the boundaries of incorporated Cities within the MSHCP Plan Area. The Area Plan framework for the criteria-based approach was selected to structure implementation strategies around established planning boundaries." Although the Project site and the "offsite" proposed conservation are divided between the two Area Plans on the basis of general planning boundaries, the intent of the proposed Criteria Refinement is to allow for a development project that establishes a biological equivalency with its proposed conservation. The following analysis describes that although the Project would not satisfy the minimum Criteria for some of the individual Cells, additional lands are proposed for conservation that would overall not just exceed the minimum conservation goal for the combined Cells and Cell Group but would also exceed the midpoint of the described conservation range.

Each Independent Cell and Cell Group has specific Criteria that describes the amount of each Cell or Cell Group to be conserved, the intended location of the conservation within the Cell or Group, specific Habitat types that are to be conserved, and any applicable Cores or Linkages that conserved land is to support. The acreage of described conservation is based on a percentage of the Cell or Cell Group, expressed either as a specific percentage goal or as a percentage range. The acreage of described conservation for each Cell or Group is calculated using the percentage goal and the gross acreage of the Cell or Cell Group. The Criteria for the five Cells associated with the Project (933, 936, 1030, 1032 and 1125) are included in *Volume I, Section 3.3.10* of the MSHCP, and are also provided below in Table 3-1. Oftentimes a portion of a Cell or Cell Group will contain lands that were conserved prior to the adoption of the MSHCP (i.e., PQP lands). In those cases, the amount of lands described for conservation by the Cell Criteria is not based on the net acreage of the Cell or Cell Group minus the PQP lands, but instead the percentage and location goals take into account the PQP lands and the Criteria focus on other parts of the Cell or Cell Group that are not yet conserved. The Project is associated with three Criteria Cells (933, 1030 and 1032) where portions of the Cells contain PQP conserved lands. For example, the southwestern portion of Cell 933 contains PQP lands and the Criteria for Cell 933 describes 20% to 30% of the Cell to be conserved within the southeastern portion of Cell. The amount of lands described for conservation in Cell 933 is calculated by multiplying the described conservation percentage with the gross Cell acreage (157.16 acres based on GLA’s adjustment of the Cell boundaries), with a resulting conservation range of approximately 31 acres to 47 acres (approximate midrange goal of 37.85 acres based on GLA’s hand-drawn representation as an approximation of the Criteria).

Table 3-1. Cell Criteria for The Pass Area Plan

Cell	Criteria
933	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and water. Areas conserved within this Cell Group will be connected to chaparral and wetland habitat proposed for conservation in Cell #936 to the east. Conservation within this Cell Group will range from 20%-30% focusing on the southeastern portion of the cell.
936	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on grassland, chaparral, and coastal sage scrub. Areas conserved within this Cell Group will be connected to uplands proposed for conservation in Cells #933 and #1030 to the west and south. Conservation within this Cell Group will range from 10%-20% focusing on the southwestern portion of the Cell Group.
1030	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral, coastal sage scrub, and grassland. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cells #1032 and #936 to the east and north. Conservation within this Cell will range from 15%-25% focusing on the northeastern portion of the Cell.
1032	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral, coastal sage scrub, and

Cell	Criteria
	grassland. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cells #1030 and #1125 to the west and southeast, and to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group A' in the Reche Canyon/Badlands Area Plan to the south. Conservation within this Cell will range from 45%-55% focusing on the southwestern portion of the Cell.
1125	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral and coastal sage scrub. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cell #1032 to the northwest and in Cell Group A' in the Reche Canyon/Badlands Area Plan to the west and south. Conservation within this Cell will range from 15%-25% focusing on the northwestern portion of the Cell ⁴ .

Based on the described percentage ranges for each Cell, the approximate range of described conservation for all five Cells is 166 to 247 acres. Applying the approximate midrange goals to all five Cells associated with the Project site, the total described conservation is approximately 206.89 acres (see Table 3-2 below). The Project proposes a total of 230.82 acres of conservation to support Reserve Assembly for Proposed Core 3 [Exhibit 5 – Reserve Assembly Analysis Map], including 152.42 acres onsite (97.20 acres of described lands to be conserved and 55.22 acres of onsite replacement lands) and 78.40 acres of offsite replacement lands. The 152.42 acres of onsite conservation includes 151.06 acres associated with the five onsite Criteria Cells (930, 936, 1030, 1032 and 1125) and 1.36 acres located outside of the Criteria Area (adjacent to Cell 1032 and Cell 1125). However, as shown below in Table 3-2, the onsite conservation of 152.42 acres does not satisfy the midrange goals for Cells 936, 1030, 1032, and 1125, resulting in a conservation deficit of 54.47 acres for the onsite portion [Exhibit 5 – Reserve Assembly Analysis Map]. To offset the conservation deficit, approximately 78.40 acres of offsite conservation is proposed, including 37.89 acres of undescribed lands in Cell Group A' and 40.51 acres of undescribed lands located outside of (but adjacent to) the Criteria Area. As such, a Criteria Refinement is needed to approve the alternate conservation proposal. Section 5 of this document provides an equivalency analysis demonstrating that the proposed Criteria Refinement will satisfy the existing Criteria goals for Covered Habitats and Covered Species; contribute to the assembly of Proposed Core 3; will not affect Linkages, Non-Contiguous Habitat Blocks, or Ecotones; will provide a configuration that will support the management of adjacent Conserved Lands; and will sufficiently conserve lands to result in a net increase of ARL compared with the existing Criteria.

⁴ Cell 1125 is shared between the Pass Area Plan and the Reche Canyon/Badlands Area Plan. The total acreage of Cell 1125 is approximately 156.39 acres. Within the Reche Canyon/Badlands Area Plan only a portion of Cell 1125 is included within Cell Group A' along with the entirety of Cell 1126, with a total acreage of Cell Group A' of approximately 244.51 acres. However, although the Area Plan boundary shows only the remaining portion of Cell 1125 to be geographically within the Pass Area Plan, the percentage range goal identified by the Cell Criteria is intended to be applied to the gross acreage of the Cell (personal communication with the RCA) and not just the portion within the Pass Area Plan boundary.

Table 3-2. Summary of Project Conservation for The Pass Area Plan (in acres)

Criteria Cell	Total Cell Acreage⁵	Described Conservation⁶	Described Lands – Impact	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
933	157.16	37.85	16.04	21.81	47.03	30.99
936	163.01	25.51	24.19	1.32	0.00	(24.19)
1030	152.71	30.25	13.72	16.53	0.16	(13.56)
1032	162.83	81.76	42.75	39.01	5.54	(37.21)
1125	156.39	31.52	12.99	18.53	0.00	(12.99)
No Cell	N/A	N/A	N/A	N/A	1.36	1.36
Total		206.89	109.69	97.20	54.09	(55.60)

The remainder of the lands proposed for conservation (all offsite) are within the Reche Canyon/Badlands Area Plan. A portion of the proposed conservation consists of undescribed lands within Cell Group A', with the remainder consisting of undescribed lands located outside of the Criteria Area (south of Cell Group A'). Cell Group A' is irregularly shaped, consisting of the entirety of Cell 1126 and a portion of Cell 1125, for a total of 244.51 acres. The Cell Criteria in *Volume I, Section 3.3.11* for the Reche Canyon/Badlands Area Plan, describes the conservation of 55 percent to 65 percent (approximately 134 to 159 acres) in the western portion of the Cell Group, corresponding to a midrange goal of approximately 146.74 acres. Approximately 154.26 acres in the western part of Cell Group A' are already protected as RCA Conserved Lands. The Project proponent owns 37.89 acres of undescribed lands in the eastern portion of Cell Group A' adjacent to the existing Conserved Lands that is available for conservation. Combining the existing Conserved Lands (154.26 acres) and proposed replacement conservation (37.89 acres), the total conservation for Cell Group A' would be 192.15 acres. Table 3-3 summarizes Cell Group A' for the Reche Canyon/Badlands Area Plan.

⁵ The Criteria Cell acreages are based on GLA's redrawing of the Criteria Cell boundaries using Project boundaries that are based on the ALTA survey.

⁶ The described conservation acreages presented in Table 3-2 are an approximation of the midrange goals stated by the Criteria based on GLA's hand-drawn representation of the described conservation areas in GIS. In addition, since the Cell acreages presented in Table 3-2 are based on adjustments made by GLA to address boundary inaccuracies with County GIS data, it is understood that there is a margin of error in the acreages of about one to two acres.

Table 3-3. Summary of Cell Group A' Conservation for The Reche Canyon/Badlands Area Plan (in acres)

Cell Group	Total Cell Group Acreage	Described Conservation	Existing RCA Conserved Lands	Proposed Conservation (Offsite)	Total Conservation Cell Group A'
A' (Cell 1125)	244.51	146.74	154.26	37.89	192.15

In addition to lands within the Project site, the Project proponent owns another 40.51 acres of undescribed lands that are outside of the Criteria Area, south of Cell Group A' [Exhibit 5]. Altogether, the Project proposes approximately 230.82 acres of conservation, including 152.42 acres onsite (1.36 acres located outside of the Criteria Area) and 78.40 acres offsite (37.89 acres within Cell Group A' and 40.51 acres located outside of the Criteria Area). Combining both the onsite and offsite conservation, including 133.62 acres of replacement conservation to offset impacts to 109.69 acres of described lands, the proposed conservation exceeds described conservation identified by the Cell Criteria. Table 3-4 summarizes the combined conservation proposed for the Project.

Table 3-4. Summary of Proposed Versus Described Conservation (in acres)

	Proposed Conservation	Described Conservation	Conservation Surplus or (Deficit)
Onsite (Cells 933, 936, 1030, 1032, 1125)	152.42	206.89	(54.47)
<i>Onsite Subtotal</i>	<i>152.42</i>	<i>206.89</i>	<i>(54.47)</i>
Offsite (Cell Group A')	37.89	N/A	37.89
Offsite Lands not in Criteria Area	40.51	N/A	40.51
<i>Offsite Subtotal</i>	<i>78.40</i>	<i>N/A</i>	<i>78.40</i>
Totals	230.82	206.89	23.93

3.3 Need and Rationale for the Criteria Refinement

The objective of the proposed Project is to develop within the City of Beaumont a 540-acre mixed-use project featuring 246 acres of industrial uses and 30 acres of commercial uses. Based on the changing retail model, with increasing retail goods being purchased on-line and delivered directly to the consumers, there is a significant demand for warehouse and distribution centers throughout southern California. There is a particularly strong demand for such facilities on or near major transportation routes such as SR-60 and I-10.

Modern warehouse and distribution facilities require large industrial buildings (600,000 to 1,400,000 square feet) in rectangular configurations with long bays of loading docks on opposite sides of the buildings and ample parking areas for truck storage and employees. The facilities also require large water quality treatment basins and a road circulation system that provides access to all sides of the buildings for trucks, employees, and fire/emergency services.

The Beaumont Pointe property has significant topographic constraints, including a major ridge that runs generally from the southeast to the northwest through the property. The Project proponent considered several conceptual grading and design layouts to find the right balance between generating enough development area to make the project economically viable, while preserving as much of the described open space as possible. In order to create the large flat pads necessary for the industrial buildings, the majority of the site must be graded, including remedial grading within PA9 that will become open space managed by the Project. An additional 230.82 acres of lands are proposed as ARL to support Reserve Assembly for Proposed Core 3.

Achieving the conservation goals under a strict adherence to the existing Cell Criteria would create a checkerboard type of conservation plan across the southern half of the property which would make it impossible to develop the site to satisfy the goals of the Project. The requested adjustments to the Cell Criteria are necessary and appropriate to allow an economically viable project to be developed at the property while still achieving the overall Reserve Assembly goals for Proposed Core 3, including accommodating wildlife movement along the southwestern edge of the Project site.

4.0 EXISTING CONDITIONS

4.1 Vegetation Communities/Land Uses

This section describes the vegetation mapping for the overall Project site and the offsite conservation area, including using GLA's vegetation mapping from 2020 as well providing the vegetation mapping from the 1994 MSHCP Rough Step baseline. Table 4-1 provides a summary of vegetation communities/land use types for the Study Area using GLA's vegetation mapping, followed by descriptions of the vegetation communities. In addition, Table 4-2 provides a summary using the Rough Step baseline. The overall Study Area (Project site and the proposed offsite conservation area) contains three native vegetation communities, including chaparral, Riversidean sage scrub, and southern mixed riparian, one non-native vegetation community

(non-native grassland), and disturbed/developed areas [Exhibit 6A – Vegetation Map]. Exhibit 6B provides the vegetation mapping from the 1994 MSHCP Rough Step baseline.

Table 4-1. Summary of Vegetation/Land Use Types for the Study Area (GLA 2020 Vegetation Mapping) [in acres]

Vegetation Community/ Land Use Type	Project Site	Offsite Conservation Parcel	Jack Rabbit Trail Easement	Total
Chaparral	1.73	0.15	0	1.88
Riversidean Sage Scrub	102.65	33.63	1.07	137.35
Southern Riparian Scrub	1.01	0.22	0	1.23
Non-Native Grassland	415.93	44.40	2.24	462.56
Disturbed	17.39	0	0.04	17.43
Developed	1.16	0	0.85	2.01
Total	539.87	78.40	4.19	622.46

Chaparral

Approximately 1.88 acres of chaparral occurs within the Study Area. This plant community is distinguishable from the Riversidean sage scrub due to the dominance of shrubs and trees rather than sub-shrubs, including sugar bush (*Rhus ovata*) and toyon (*Heteromeles arbutifolia*). Other evergreen shrubs include scrub oak (*Quercus berberidifolia*) and redberry buckthorn (*Rhamnus crocea*). Sage scrub species intermixed with the evergreen shrubs include black sage (*Salvia mellifera*) and California sagebrush (*Artemisia californica*). The understory is dominated with non-native grasses and summer forbs.

Riversidean Sage Scrub

The Study Area supports approximately 137.35 acres of Riversidean Sage Scrub, which more specifically is the Riversidean Sage Scrub subassociation, primarily along the southwestern boundary of the site, but also with scattered patches in the northeastern portion of the site. This plant community is comprised with a mosaic of dominant plant species, all of which are sub-shrubs, including California buckwheat (*Eriogonum fasciculatum*), California sagebrush, black sage, Palmer’s goldenbush (*Ericameria palmeri*), and brittlebush (*Encelia farinosa*). Chaparral yucca (*Hesperoyucca whipplei*) and Mojave yucca (*Yucca schidigera*) also occur sporadically within this vegetation community.

Southern Riparian Scrub

The Study Area supports approximately 1.23 acres of southern riparian scrub, which occurs in several patches within canyons along the southwestern portion of the site. These areas are dominated with species including mule fat (*Baccharis salicifolia*), sand bar willow (*Salix exigua*), yellow willow (*Salix lutea*), western sycamore (*Platanus racemosa*), and narrowleaf cattail (*Typha domingensis*).

Non-Native Grassland

The majority of the Study Area, accounting for approximately 462.56 acres, consists of non-native grassland. This plant community is present throughout the site, primarily on flat and gentle-sloping areas within the northeastern portion of the Project site, adjacent to State Route 60, which was easily accessed by cattle during previous grazing practices. Non-native grassland species have also extended into the southwestern portion of the site due to the adjacent disturbance. These areas are dominated with non-native species such as foxtail brome (*Bromus madritensis*), ripgut grass (*Bromus diandrus*), slender oat (*Avena barbata*), Russian thistle (*Salsola tragus*), summer mustard (*Hirschfeldia incana*), and doveweed (*Croton setiger*). Other commonly occurring species in this vegetation community include common sandaster (*Corethrogyne filaginifolia*), prickly lettuce (*Lactuca serriola*), longstem buckwheat (*Eriogonum elongatum*), California buckwheat, deerweed (*Acmispon glaber*), stinknet (*Oncosiphon piluliferum*), tree tobacco (*Nicotiana glauca*), and common sunflower (*Helianthus annuus*). Scattered elderberry (*Sambucus nigra* ssp. *caerulea*) trees also occur sporadically throughout the non-native grassland community.

Disturbed

Disturbed areas account for 17.43 acres throughout the Study Area. This land use type consists of unpaved access roads which are scattered throughout the site, the majority of which occur within the linear northeastern portion of the Study Area, adjacent to State Route 60. Disturbed areas are generally devoid of vegetation; however, some ruderal species occur sporadically in these areas.

Developed

The existing Jack Rabbit Trail Road accounts for approximately 2.01 acres in the southernmost portion of the Study Area, dividing the proposed offsite conservation. This area is considered developed because it consists of a paved road and is devoid of vegetation.

Table 4-2. Summary of Vegetation/Land Use Types for the Study Area (1994 MSHCP Rough Step Vegetation Mapping) [in acres]

Vegetation Community/ Land Use Type	Project Site	Offsite Conservation Parcel	Jack Rabbit Trail Easement	Total
Chaparral	112.54	31.67	2.67	156.88
Riversidean Sage Scrub	143.91	46.73	1.52	192.16
Coast Live Oak Woodland	0.41	0	0	0.41
Non-Native Grassland	283.01	0	0	283.01
Total	539.87	78.40	4.19	622.46

4.2 Wildlife Movement

As discussed above in Section 3.1, the MSHCP identifies Proposed Core 3 as extending from northwest to southeast, which is bisected by SR-60. As such, the SR-60 provides a constraint to movement for wildlife through Proposed Core 3. *Volume I, Section 7.5.2* of the MSHCP provides guidelines for the construction of wildlife crossings associated with roadway projects. The MSHCP notes undercrossing structures of varying sizes should be included in a long road alignment to accommodate small, medium, and large wildlife, with multiple undercrossings for each size group depending on the length of the roadway. The California Department of Transportation (Caltrans) is currently constructing the SR-60 Truck Lanes Project which extends for approximately 4.75 miles from approximately Gilman Springs Road on the west to a point about one mile east of the western limits of the Project site. The Caltrans work is expected to be completed by the time that construction of the Beaumont Pointe Project would begin, so that certain Project components including proposed fencing would tie in consistently with the SR-60 improvements.

As part of the SR-60 improvements, Caltrans is constructing eight all-weather undercrossing structures specifically for wildlife, including two 20-foot-tall by 20-foot wide box culverts to accommodate larger wildlife (mule deer, mountain lion, and bobcat) and six smaller undercrossings. The smaller structures consist of a combination of corrugated metal pipes (CMPs), reinforced concrete pipes (RCPs) and arch concrete pipes (ACPs). Three of the eight undercrossings are being constructed for the section of the SR-60 improvements that abut the northern Project boundary, including one 60-inch pipe at the western end of the Project site, one of the 20-foot by 20-foot culverts approximately 0.50 mile along the Project boundary east of the 20-foot by 20-foot box culvert, and one 36-inch pipe another 0.50-mile to the east of the box culvert. Wildlife expected to occur at the Project site with the potential to use these three features include medium to large-sized mammals such as mule deer, mountain lion, bobcat and coyote, smaller mammals such as gray fox, raccoon and rodents, and other smaller wildlife such as reptiles and amphibians. The specific MSHCP Planning Species with a potential for using the culverts would be mountain lion, bobcat, Stephens' kangaroo rat, and Los Angeles pocket mouse. The remaining five Caltrans undercrossings are being constructed west of the Project site, with the second 20-foot by 20-foot culvert located approximately one-mile west of the Project site. Exhibit 9A depicts the locations of all eight of the proposed undercrossings associated with the SR-60 project.

As discussed above, the Project has been designed to pull back the western development edge to the maximum extent feasible in Cell 933 to provide a wildlife movement buffer relative to the 20-foot by 20-foot culvert that Caltrans constructed under the SR-60. In addition, the SR-60 improvements include a wildlife fence along both the northern and southern edges of the SR-60 to minimize wildlife from entering the roadway and direct wildlife to the areas north and south of the freeway. The eastern terminus of the SR-60 fence is being constructed just east of the proposed 36-inch pipe culvert [Exhibit 9B]. The proposed Beaumont Pointe Project will similarly construct a wildlife fence along the western and southern edges of the Project site to prevent wildlife from entering the Project site from the adjacent Conservation Area. The fence will be constructed approximately along the boundary between the proposed ARL and the Project's Maintained Open Space, although the exact location will vary depending on the

topography. The Project's fence will tie into the SR-60 fence at the easternmost proposed wildlife CMP and will extend west and then south/southeast around the Project to direct wildlife in the northwesterly/southeasterly direction. The wildlife fencing along the Project boundary will include one-way swing gates opening into the MSHCP conservation area for any wildlife that enter the Project site from the north and east trying to escape into the adjacent conserved lands. In addition to the wildlife fence, the Project will also include six-foot tubular steel security fencing along the northern boundary abutting the SR-60 ROW, beginning from the wildlife fence on the west and extending east to the Project's entry point. Wildlife that either cross over or under the SR-60 east of the Caltrans wildlife fence terminus will be forced to the west or east along the security fence. A swing gate will be installed to the west along the section of lateral (north-south) wildlife fence connecting to the SR-60 fence, allowing wildlife to escape the freeway ROW towards the Conservation Area. Details of the wildlife fence proposed for the Project will be provided as part of the Joint Project Review (JPR) process. As noted above, the Project's night lighting will be designed to prevent spillage into the MSHCP Conservation Area along the western and southern development boundary.

GLA biologists evaluated the Project site for wildlife movement, including data collection from the overall site in 2019 and a survey of existing culverts along the adjacent SR-60 in 2020. The 2019 study used a variety of methods, including remote cameras, incidental observations of wildlife, and documentation of scat and tracks, and roadkill detections. The results of the study indicated that the Project site provides live-in and/or local movement habitat for seven medium-to large-sized mammal species: bobcat, coyote, mule deer, American badger, raccoon, gray fox, and mountain lion. The 2018 study found that most of the unpaved roads within the site are utilized for movement, which extend through the ridges and canyons. While reviewing the SR-60 culverts, GLA biologists looked for signs of wildlife use (direct observation of animals, animal sign, presence of roadkill, and documented the condition of each culvert (dimensions, sight distance, and movement constraints). GLA documented a total of 18 culverts under the portion of the SR-60 adjacent to the Project site boundary. All of the existing culverts consisted of CMPs constructed to convey stormwater under the freeway and not specifically for wildlife use. The CMP sizes varied between 24 and 48-inches in diameter and those that were identified as having "line-of-sight" to the other side of the freeway were between 70 and 100-feet long. The majority of the culverts were heavily blocked by dried vegetation such as mustard and tumbleweed, which would deter relatively larger wildlife (medium-sized mammals) from using the CMPs. Small mammal scat and tracks were observed at two culverts and coyote scat was noted near one of the culverts, but it is unknown if coyote would use the small CMP culverts or would cross the roadway.

While it is acknowledged that some of the existing freeway culverts would be used by wildlife, and that other wildlife would cross the surface of the roadway, the MSHCP does not recognize a specific Existing or Proposed Linkage as crossing the freeway along the Project boundary or specifically through the middle of the Project site. Instead the focus of crossing is expected to be to west where middle of Proposed Core 3 is to be located. As noted on Exhibit 4A and 4B, the proposed Project site extends along the eastern edge of Proposed Core 3 and the lands described for conservation through the Cell Criteria are intended to support the management of that edge. The lands described for the Project site are not specifically intended to accommodate movement, although as noted above, the site supports the local movement of wildlife including the lateral

movement of wildlife into the adjacent badlands. Since the SR-60 Truck Lanes Project is to construct a 20-foot by 20-foot box culvert near the western end of the Beaumont Pointe Project site, the Beaumont Pointe Project will construct its wildlife fence at that location consistent with the terminus of the proposed SR-60 wildlife fence to maintain the Project's western/southwestern edge as the eastern limit for wildlife movement matching with the eastern edge of Proposed Core 3. As noted above, the Project will construct one-way swing gates along various parts of the fence, anticipating that wildlife may still enter the site from the north and east, and will need opportunities to connect to the Proposed Core 3 open space. The location of the 20-foot by 20-foot box culvert will coincide with the transition between the Project's Maintained Open Space and the proposed ARL. The topography of the manufactured slope extending down from the Project site will provide a barrier that is expected to direct wildlife either from the culvert to the south/southeast, or from the south/southeast to the culvert. At this location the Project's wildlife fence is expected to be constructed at the top of the manufactured slope to provide additional buffer between the developed portion of the Project and the culvert.

5.0 EQUIVALENCY ANALYSIS

The following provides an equivalency analysis of the proposed Criteria Refinement as it applies to the following:

- Effects on Habitats
- Effects on Covered Species
- Effects on Core Areas
- Effects on Linkages and Constrained Linkages
- Effects on Non-Contiguous Habitat Blocks
- Effects on MSHCP Conservation Area Configuration and Management
- Effects on Ecotones
- Acreage Contributed to the MSHCP Conservation Area
- Ownership of Mitigation Property

5.1 Effects on Habitats

This MSHCP defines Habitats as “the combination of environmental conditions of a specific place providing for the needs of a species or a population of such species.” The term “habitat” is often synonymous with “vegetation community”, although the intent of evaluating “effects on habitats” is to also address the functions and values associated with the vegetation communities in addition to demonstrating an equivalency with acreages conserved.

The MSHCP Cell Criteria identifies habitats/vegetation communities described for conservation to the benefit of various Covered Species present or with the potential to occur. The Criteria Cells associated with the Project site describe three Habitat types intended to be conserved throughout the Cells, including chaparral, coastal sage scrub, and grasslands. The habitat accounts described in Volume II, Section C of the MSHCP recognize two subassociations of grasslands (Valley and Foothill Grassland and Non-Native Grassland). The Project site and offsite conservation lands (offsite replacement) contain only non-native grasslands and do not

supports native grasslands (i.e., Valley and Foothill Grassland). As such, all reference to grasslands in this document pertain to Non-Native Grasslands. This section evaluates and compares the total amount of Habitats (vegetation communities) that are described for conservation by the Cell Criteria, including described areas to be conserved by the Project, described areas to be impacted by the Project, and areas proposed for conservation in replacement for the impacts. As required by the MSHCP, all lands to be proposed as replacement for impacts must not be described for conservation by the current Cell Criteria. The comparisons provided below address the vegetation mapping performed by GLA in 2020 as well as the MSHCP 1994 Rough Step vegetation baseline. The 2020 GLA mapping is being used to evaluate the actual impacts to vegetation communities (Habitats) described for conservation as a result of the proposed Project and to compare those impacts with undescribed lands proposed as replacement conservation. The purpose of using the 1994 Rough Step vegetation baseline is to demonstrate that the proposed Criteria Refinement would still satisfy the local Rough Step requirements for the described Habitats.

Included in the evaluation of the effects of the project on Habitats are those vegetation communities with the potential to support certain Covered Species, including those associated with the aforementioned chaparral, coastal sage scrub (Riversidean sage scrub), and grassland Habitats, as well as species associated with riparian/riverine areas, vernal pools and other ephemeral ponding features, and any other microhabitats that could be associated with the broader vegetation communities at the Project site.

5.1.1 Vegetation Communities to be Impacted and Conserved by the Project (GLA 2020 Vegetation Mapping)

Based on the conservation midpoint for the Criteria Cells (as depicted in Table 1-1), the MSHCP Criteria for Cells 933, 936, 1030, 1032, and 1125 describes approximately 206.89 acres of total conservation. Altogether the Project proposes to conserve 230.82 acres, including 152.42 acres onsite (97.20 acres of described lands and 55.22 acres of undescribed replacement lands) and 78.40 acres of offsite undescribed replacement lands. Of the 206.89 acres of lands described for conservation, approximately 109.69 acres would be impacted by the proposed Project, including 0.21 acre of chaparral, 24.40 acres of Riversidean sage scrub, and 82.13 acres of non-native grassland. In addition, the Project would impact 0.03 acre of southern riparian scrub, 2.78 acres of disturbed areas and 0.15 acre of developed areas associated with the existing Jack Rabbit Trail Road. To offset the impacts to described lands, the Project proposes to conserve approximately 133.62 acres of undescribed lands, including the 55.22 acres onsite and 78.40 acres offsite. The replacement lands include 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, 86.01 acres of non-native grassland, 0.22 acre of southern riparian scrub, and 1.22 acres of disturbed areas. Table 5-1 provides a comparison of vegetation communities using GLA's 2020 vegetation mapping for the total lands described for conservation by the MSHCP and proposed to be impacted versus the total lands proposed for conservation by the Project.

Table 5-1. Comparison of Conservation Lands Described by the MSHCP and Project Proposed Conservation Lands (GLA 2020 Vegetation Mapping) [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0.00	0.22	1.20
Disturbed	3.48	2.78	0.70	1.22	0.00	1.92
Developed	0.15	0.15	0.00	0.00	0.00	0.00
Total	206.89	109.69	97.20	55.22	78.40	230.82

The 133.62 acres of proposed replacement lands include 33.72 acres in Cell 933, 0.17 acre in Cell 1030, 5.93 acres in Cell 1032, 37.89 acres in the eastern portion of Cell Group A', and 41.87 acres of lands that are outside of (but adjacent to) Criteria Cells (1.36 acres onsite and 40.51 acres offsite). Exhibit 5 identifies the areas described by the MSHCP Cell Criteria that would be impacted by the Project, as well as the areas proposed for replacement (onsite and offsite) and the remaining described areas that would be conserved by the Project. Exhibit 8A provides the 2020 vegetation mapping relative to the proposed impacts and conservation.

The Project would conserve a total of 79.43 acres of scrub vegetation (1.28 acres of chaparral and 78.15 acres of Riversidean sage scrub), which is an increase of 21.56 acres of total scrub vegetation versus what the MSHCP describes for conservation. The Project would result in a slight increase (3.88 acres) in non-native grassland conserved (148.26 acres of conservation versus 144.38 acres of described lands). However, as discussed below in Section 5.1.2, approval of the proposed Criteria Refinement associated with the Project, which is located in Rough Step Unit 2, would not cause Rough Step Unit 2 to become out of balance for any of the vegetation communities identified for this Rough Step Unit.

The 133.62 acres of proposed replacement lands will be at least equivalent in biological functions and values compared with the 109.69 acres of described lands to be impacted. Particularly the scrub communities (chaparral and Riversidean sage scrub) in the replacement lands have a similar species composition (native shrubs and forbs) and shrub cover/density compared with the described lands to be impacted, as well as a relative composition of non-native grasses and forbs. The grassland communities, in the context of their relative non-native species composition and disturbance level, is also similar when comparing the proposed

replacement lands with the described lands to be impacted. The replacement lands compared with the impacted lands will provide at least equivalent biological functions as it pertains to wildlife breeding, foraging, and dispersal. The replacement habitat provides at least equivalent opportunities for avian live-in habitat as well as for fossorial animals (reptiles and small mammals). Foraging opportunities are provided for herbivores as well as supporting predator/prey dynamics for insectivorous and carnivorous animals (reptiles, birds, and mammals).

5.1.2 Vegetation Communities to be Impacted and Conserved by the Project (1994 MSHCP Rough Step Vegetation Mapping)

Using the vegetation mapping from the 1994 MSHCP Rough Step baseline, the MSHCP Cell Criteria describes the following for conservation: chaparral (70.60 acres), Riversidean sage scrub (93.08 acres), and non-native grassland (43.20 acres). The proposed Project would impact 28.31 acres of chaparral, 44.62 acres of Riversidean sage scrub, and 36.76 acres of non-native grassland. In comparison, the Project would conserve 97.58 acres of chaparral (55.29 acres of replacement), 110.71 acres of Riversidean sage scrub (62.25 acres of replacement) and 22.53 acres of non-native grassland (16.09 acres of replacement). Table 5-2 provides a comparison of vegetation communities using GLA’s 2020 vegetation mapping for the total lands described for conservation by the MSHCP versus the total lands proposed for conservation by the Project.

Table 5-2. Comparison of Conservation Lands Described by the MSHCP and Project Proposed Conservation Lands (MSHCP 1994 Rough Step Vegetation Mapping) [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	70.60	28.31	42.29	23.62	31.67	97.58
Riversidean Sage Scrub	93.08	44.62	48.46	15.52	46.73	110.71
Non-Native Grassland	43.20	36.76	6.44	16.09	0.00	22.53
Total	206.89	109.69	97.20	55.22	78.40	230.82

The proposed Criteria Refinement will conserve 97.58 acres of chaparral versus 70.60 acres described, for an increase of 26.98 acres, and 110.71 acres of Riversidean sage scrub versus 93.08 acres described, for an increase of 17.63 acres. The proposed Criteria Refinement would result in a decrease in non-native grassland conserved (22.53 acres versus 43.20 acres) based on the 1994 Rough Step mapping. However, approval of the proposed Criteria Refinement associated with the Project, which is located in Rough Step Unit 2, would not cause Rough Step

Unit 2 to become out of balance for any of the vegetation communities identified for this Rough Step Unit. Although the 2020 Annual Report has not been finalized, the remaining development allowance as of the end of 2020 in Rough Step Unit 2 are as follows: 2050.65 acres of coastal sage scrub, 2254.98 acres of grasslands, 36.27 acres of riparian scrub, woodland, and forest, 38.73 acres of Riversidean sage scrub and 58.14 acres of woodlands and forests. This unit remains in Rough Step for 2020. The Project will impact 28.31 acres of chaparral, 44.62 acres of Riversidean sage scrub, and 36.76 acres of non-native grassland. The Criteria Refinement proposes to conserve/replace 55.29 acres of chaparral, 62.25 acres of Riversidean sage scrub, and 16.09 acres of non-native grassland. Furthermore, based on the actual site conditions confirmed through GLA's 2020 vegetation mapping, the Project would conserve 148.26 acres of grassland (Table 5-1 above), which exceeds the amount described based on the Rough Step mapping.

5.1.3 MSHCP Riparian/Riverine Areas and Vernal Pools

MSHCP Volume I, Section 6.1.2 describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area.

Riparian/Riverine Areas

The MSHCP defines riparian/riverine areas as follows:

- *Lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The overall Study Area contains 3.80 acres of riparian/riverine areas, including 1.23 acres of riparian habitat (Southern Riparian Scrub) and 2.57 acres of unvegetated riverine areas consisting of ephemeral drainage features [Exhibit 7 – Riparian/Riverine Areas Map]. Of the 3.80-acre total, approximately 0.39 acre is within the described conservation areas to be impacted, 1.65 acres are within undescribed conservation (replacement) lands, and 1.70 acres within described lands to be conserved, with the remainder (0.06 acre) associated with the Project footprint outside of the Criteria Area. The riparian areas within the Project site and the offsite conservation (replacement) lands do not contain suitable habitat for species with survey requirements pursuant to MSHCP Section 6.1.2, including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), as the riparian habitat lacks the appropriate vertical structure, density, width, and hydrology (for some species). The riverine areas are narrow, ephemeral drainage features that generally do not provide habitat for most Covered Species based on a combination of factors such as soil suitability, flow disturbance, and vegetation suitability. Furthermore, the unvegetated riverine features are not mapped as distinct vegetation communities, but instead as part of the surrounding scrub or grassland habitats. To that extent, the riverine areas are generally part of broader live-in habitats identified for certain Covered Species discussed below in Section 5.2, but the specific riverine features do not provide unique habitat opportunities for the Covered Species.

The overall Project will impact 0.42 acre of riparian/riverine areas, including 0.03 acre of riparian habitat and 0.39 acre of unvegetated streambed. Impacts to riparian/riverine areas will require approval through the Determination of Biologically Equivalent or Superior Preservation (DBESP) process, including mitigation to offset the loss of functions and values associated with the resources. The intended mitigation would consist of the purchasing of wetland/riparian habitat establishment and/or rehabilitation credits from an approved mitigation bank/in-lieu fee program at an acceptable ratio (minimum 1:1) to establish that with mitigation, the Project would be equivalent or superior to the existing condition.

Vernal Pools

The MSHCP defines vernal pools as follows:

- *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 wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.*

The Project site does not contain vernal pools. The site does not contain any depressions (natural or artificial) that would inundate long enough to support resources associated with vernal pools and based on the overall badland topography of much of the site, the topography generally does not exist to support vernal pools. The soils mapped within the site are categorized as sandy loam soils, which are generally not associated with vernal pools, and direct observations of the soils within the site showed a lack of clay soil components that would restrict water from draining down into the subsoil. Furthermore, many of the dirt roads at the site are utilized for operations and maintenance of various utilities (i.e., Southern California Edison transmission towers and a SoCal Gas transmission pipeline), and as such artificial features such vehicle tire ruts that can, over time, develop characteristics of vernal pools, do not occur at the Project site. In addition, no plants were observed within the Project site that are associated with vernal pools and similar habitats that experience prolonged inundation.

Fairy Shrimp

Through Section 6.1.2, the MSHCP requires surveys for three species of fairy shrimp where suitable habitat is present, including the vernal pool fairy shrimp (*Branchinecta lynchi*), Riverside fairy shrimp (*Streptocephalus woottonii*), and the Santa Rosa Plateau fairy shrimp

(*Lindieriella santarosae*). In assessing the presence of potential habitat for fairy shrimp, the MSHCP states the following:

- *For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.*

The Project site does not contain any depression features that support inundation for fairy shrimp, including the above-referenced species. As noted above for vernal pools, the site does not contain any depressions (natural or artificial) that would inundate long enough to support fairy shrimp and based on the overall badland topography of much of the site, the topography generally does not exist to support such features. The soils mapped within the site are categorized as sandy loam soils, which are generally not associated with vernal pools, and direct observations of the soils within the site showed a lack of clay soil components that would restrict water from draining down into the subsoil. Furthermore, many of the dirt roads at the site are utilized for operations and maintenance of various utilities (i.e., Southern California Edison transmission towers and a SoCal Gas transmission pipeline), and as such artificial features such as vehicle tire ruts that might support fairy shrimp, do not occur at the Project site.

5.2 Effects on Covered Species

This section of the Criteria Refinement Analysis evaluates the effects of the Criteria Refinement on Covered Species, including the focal Planning Species for the relevant Criteria Cells, and additional Covered Species that have been detected at the Project site or have the potential to occur.

5.2.1 Planning Species

Section 3.2.3 of the MSHCP identifies the following Planning Species for Proposed Core 3: southern California rufous-crowned sparrow, Bell's sage sparrow, cactus wren, loggerhead shrike, San Bernardino kangaroo rat, Stephens' kangaroo rat, bobcat, Los Angeles pocket mouse, mountain lion, and Nevin's barberry. The proposed Criteria Refinement will support those species with a potential to occur at the Project site. The following analysis discusses the Planning Species that do or do not have a potential to occur at the site and compares the lands described for conservation by the MSHCP versus what will be conserved by the Project and how the proposed conservation of land under this analysis supports each species, as applicable. Maps depicting live-in habitat for scrub and grassland species are provided as Exhibits 8A and 8B.

Southern California Rufous-Crowned Sparrow

The southern California rufous-crowned sparrow has a potential to occur at the Project site. MSHCP objectives for the rufous-crowned sparrow include the conservation of primary habitat (Riversidean sage scrub, Riversidean alluvial fan sage scrub, and desert scrubs) and secondary habitat (grassland and chaparral) in the Riverside Lowland, Santa Ana Mountains, and San Jacinto Foothills Bioregions.

Approximately 202.25 acres of the onsite lands described for conservation by the MSHCP Cell Criteria contains habitats with the potential to support the rufous-crowned sparrow, including chaparral, Riversidean sage scrub, and grassland. From the vegetation acreages provided in Table 5-1 above, the Project will impact approximately 106.74 acres of the described habitats but will conserve 132.18 acres of lands in replacement supporting the described habitats, including 54.00 acres onsite and 78.18 acres offsite. In addition, the Project will conserve the remaining 95.51 acres of onsite lands described by the Cell Criteria, suitable to support the rufous-crowned sparrow. Altogether the Project will conserve 227.69 acres of live-in habitat (149.51 acres onsite and 78.18 acres offsite), including 132.18 acres of undescribed lands (replacement) to offset impacts to 106.74 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as nesting, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the rufous-crowned sparrow. Table 5-3 summarizes the comparison of live-in habitat for the lands described for conservation versus the lands proposed for conservation by the Project.

Table 5-3. Comparison of Live-In Habitat for the Southern California Rufous-Crowned Sparrow [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Total	202.25	106.74	95.51	54.00	78.18	227.69

Bell's Sage Sparrow

The Bell's sage sparrow has a potential to occur at the Project site. MSHCP objectives for the sage sparrow include the conservation of suitable habitat (Riversidean sage scrub, chaparral, and desert scrubs) in the Riverside lowland, Santa Ana Mountains, Desert Transition, and San Jacinto foothills Bioregions.

Approximately 57.87 acres of the onsite lands described for conservation by the MSHCP Cell Criteria contains habitats with the potential to support the Bell's sage sparrow, including chaparral and Riversidean sage scrub. From the vegetation acreages provided in Table 5-1

above, the Project will impact approximately 24.61 acres of the described habitats but will conserve 46.17 acres of lands in replacement supporting the described habitats, including 12.39 acres onsite and 33.78 acres offsite. In addition, the Project will conserve the remaining onsite lands described by the Cell Criteria, which includes 33.26 acres of chaparral and Riversidean sage scrub habitats suitable to support the Bell’s sage sparrow. Altogether the Project will conserve 79.43 acres of live-in habitat (45.65 acres onsite and 33.78 acres offsite), including 46.17 acres of undescribed lands (replacement) to offset impacts to 24.61 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as nesting, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the Bell’s sage sparrow. Table 5-4 summarizes the comparison of live-in habitat for the lands described for conservation versus the lands proposed for conservation by the Project.

Table 5-4. Comparison of Live-In Habitat for Bell’s Sage Sparrow [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Total	57.87	24.61	33.26	12.39	33.78	79.43

Cactus Wren

MSHCP objectives for the cactus wren include the conservation of suitable habitat (desert scrub, Riversidean alluvial fan sage scrub, and Riversidean sage scrub) within the Riverside Lowland and San Jacinto Foothill Bioregions, with an objective to conserve micro-habitat (i.e. cactus patches) to support nesting. The Project site does not contain cactus scrub and therefore does not contain the micro-habitat needed to support breeding cactus wrens. As such, the Project site is generally not expected to provide live-in habitat for the cactus wren. However, the Project site contains Riversidean sage scrub and, with its location at the edge of Proposed Core 3, the Project site could support the dispersal of cactus wrens through the Core from the standpoint that shrubs could provide temporary shelter, and the scrub/grassland habitats could provide foraging opportunities for dispersing cactus wrens. In this context, the Project would impact 24.61 acres of scrub habitats described for conservation versus 46.17 acres of undescribed (replacement) lands supporting scrub habitats, with the replacement scrub being at least equivalent in terms of overall quality (native species composition, density and cover, and the relative quantity of non-native species). Therefore, the proposed Criteria Refinement would at least be equivalent in the

context of potential cactus wren dispersal habitat compared with the conservation of lands as described by the current Cell Criteria.

Loggerhead Shrike

The loggerhead shrike has a potential to occur at the Project site. MSHCP objectives for the loggerhead shrike include the conservation of suitable foraging and nesting habitat including agriculture, grassland, cismontane alkali marsh, playa and vernal pool, desert scrubs, Riversidean alluvial fan sage scrub, Riversidean sage scrub, peninsular juniper woodland and scrub, riparian scrub, woodland and forest, and oak woodlands and forest.

Approximately 202.25 acres of the onsite lands described for conservation by the MSHCP Cell Criteria contains habitats with the potential to support the loggerhead shrike, including chaparral, Riversidean sage scrub, and grassland. From the vegetation acreages provided in Table 5-1 above, the Project will impact approximately 106.74 acres of the described habitats but will conserve 132.18 acres of lands in replacement supporting the described habitats, including 54.00 acres onsite and 78.18 acres offsite. In addition, the Project will conserve the remaining 95.51 acres of onsite lands described by the Cell Criteria, suitable to support the loggerhead shrike. Altogether the Project will conserve 227.69 acres of live-in habitat (149.51 acres onsite and 78.18 acres offsite), including 132.18 acres of undescribed lands (replacement) to offset impacts to 106.74 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as nesting, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the loggerhead shrike. Table 5-5 summarizes the comparison of live-in habitat for the lands described for conservation versus the lands proposed for conservation by the Project.

Table 5-5. Comparison of Live-In Habitat for the Loggerhead Shrike [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Total	202.25	106.74	95.51	54.00	78.18	227.69

San Bernardino Kangaroo Rat

The San Bernardino kangaroo rat (SBKR) does not occur at the Project site due to a lack of suitable habitat and is not considered as a Planning Species for the portion of Proposed Core 3 corresponding to the Project site. Furthermore, the Project is not located within the MSHCP survey area for SBKR and is not required to address SBKR on a project-specific level. As such, the Criteria Refinement would not affect the SBKR.

Stephens' Kangaroo Rat

The Stephens' kangaroo rat (SKR) has a potential to occur at the Project site. The Project site is located just outside of the SKR Habitat Conservation Plan (SKR HCP) and so coverage would be applied through the MSHCP. The MSHCP identifies two "biological issues and considerations" addressing SKR for The Pass Area Plan, including 1) Conserve Potrero Creek and associated alluvial fan sage scrub for maintenance of key species such as the Stephens' kangaroo rat, Los Angeles pocket mouse and arroyo toad; and 2) Maintain Core Area in Potrero Valley for Stephens' kangaroo rat. The Reche Canyon/Badlands Area Plan has one biological issue/consideration for SKR: Maintain linkage area to San Jacinto Wildlife Area for Stephens' kangaroo rat. The Project site is not associated with these areas and therefore these "biological issues and considerations" are not applicable to the Project. As such, the Criteria Refinement would not affect the SKR in the context of the stated goals. Regardless, the Project will conserve 148.26 acres of grassland habitat (103.86 acres onsite and 44.40 acres offsite), versus 144.38 acres described by the MSHCP Cell Criteria. The Project will impact 82.13 acres of grassland habitat described for conservation but will conserve 86.01 acres of grassland in replacement (41.61 acres on site and 44.40 acres offsite), in addition to the remaining grassland habitat (62.25 acres) that is described by the Cell Criteria.

Los Angeles Pocket Mouse

The Los Angeles pocket mouse (LAPM) might have a very low potential for occurrence at the Project site, but generally is not expected to occur due to a lack of habitat suitability. The MSHCP identifies as a "biological issue and consideration for both The Pass Area Plan and Reche Canyon/Badlands Area Plan to "determine presence of potential Core Area for Los Angeles pocket mouse in San Timoteo Creek and tributaries and Badlands." However, the Project site is located just outside of the MSHCP survey area for LAPM and is not expected to address LAPM on a project-specific level. Furthermore, the lands described by Cell Criteria for the Project site are concentrated in the upslope areas and ridgelines that are not suitable habitat for LAPM. As such, the Criteria Refinement would not affect the LAPM.

Bobcat

As discussed above, bobcat was confirmed present at the Project site during the biological studies (tracks observed and remote camera detection). The Project site represents live-in habitat for the bobcat as well as to support local movement through the site. Both the Reche Canyon/Badlands Area Plan and The Pass Area Plan includes a biological issue and consideration to maintain a Core Area for bobcat. The proposed conservation lands and

configuration will support the bobcat in a manner equivalent to the lands described by the Cell Criteria.

Regarding live-in habitat, approximately 206.74 acres of the onsite lands described for conservation by the MSHCP Cell Criteria represents live-in habitat for bobcats, including chaparral, Riversidean sage scrub, grassland, and riparian scrub, as well as disturbed areas (dirt roads) that facilitate local movement. As summarized in Table 5-6 below, the Project will impact approximately 109.55 acres of potential live-in habitat but will conserve 133.62 acres of lands in replacement supporting the described habitats, including 55.22 acres onsite and 78.40 acres offsite. In addition, the Project will conserve the remaining onsite lands described by the Cell Criteria, which includes 97.20 acres of potential live-in habitat. Altogether the Project will conserve 230.82 acres of live-in habitat (152.42 acres onsite and 78.40 acres offsite), including 133.62 acres of undescribed lands (replacement) to offset impacts to 109.55 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as breeding, foraging, and movement. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the bobcat.

Table 5-6. Comparison of Live-In Habitat for the Bobcat [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.4	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0	0.22	1.2
Disturbed	3.48	2.78	0.70	1.22	0	1.92
Total	206.74	109.55	97.20	55.22	78.40	230.82

Regarding wildlife movement, the described conservation within the Project site would add to edge of Proposed Core 3, which overall is to support bobcat movement. Since specific linkages have not been identified through the portion of the Project site proposed for development, the majority of the Project site is not critical for bobcat movement to support the Proposed Core 3 goals. As such, the critical aspect of conservation at the Project site is the configuration of open

space along the southeastern edge so that movement is accommodated without Project-related edge effects interfering with the movement goals for Proposed Core 3. As discussed above, the Project will construct wildlife fencing to complement fencing to be constructed as part of the SR-60 improvements. The Project fencing will connect to SR-60 fencing that will extend to the easternmost wildlife crossings to be constructed by Caltrans at the western end of the Beaumont Pointe Project site. The Project fencing will extend along the western and southwestern boundary of the Project site and will include one-way swing gates that will allow any bobcats entering the site from the north and east to exist the Project site into the adjacent conserved lands associated with Proposed Core 3. The Criteria Refinement will support the goals for bobcat in an equivalent manner to the existing Cell Criteria.

Mountain Lion

As discussed above, the mountain lion was confirmed using the Project site during the biological studies (tracks observed). The Project site is considered part of a broader territory for mountain lions and support the local movement through the badlands. Two “biological issues and considerations” are identified for The Pass Area Plan relating to the mountain lion, including 1) maintain large blocks of habitat for large mammal movement between the northern and southern sections of the San Bernardino National Forest, and 2) maintain Core and Linkage habitat for mountain lion. The latter is also identified for the Reche Canyon/Badlands Area Plan.

The proposed Criteria Refinement will support the goals for mountain lion by conserving lands that will expand the edge of Proposed Core 3 in a manner that is consistent with the conservation identified by the Cell Criteria. Similar to the bobcat, approximately 206.74 acres of the onsite lands described for conservation by the MSHCP Cell Criteria represents live-in habitat for the mountain lion, including chaparral, Riversidean sage scrub, grassland, riparian scrub, and disturbed areas (dirt roads) that facilitate local movement. As summarized below in Table 5-7, the Project will impact approximately 109.55 acres of potential live-in habitat but will conserve 133.62 acres of lands in replacement supporting the described habitats, including 55.22 acres onsite and 78.40 acres offsite. In addition, the Project will conserve the remaining onsite lands described by the Cell Criteria, which includes 97.20 acres of potential live-in habitat for the mountain lion. Altogether the Project will conserve 230.82 acres of live-in habitat (152.42 acres onsite and 78.40 acres offsite), including 133.62 acres of undescribed lands (replacement) to offset impacts to 109.55 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as breeding, foraging, and movement. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the mountain lion.

Table 5-7. Comparison of Live-In Habitat for the Mountain Lion [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.4	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0	0.22	1.2
Disturbed	3.48	2.78	0.70	1.22	0	1.92
Total	206.74	109.55	97.20	55.22	78.40	230.82

Regarding wildlife movement, the described conservation within the Project site would add to edge of Proposed Core 3, which overall is to support mountain lion movement. Since specific linkages have not been identified through the portion of the Project site proposed for development, the majority of the Project site is not critical for mountain lion movement to support the Proposed Core 3 goals. As such, the critical aspect of conservation at the Project site is the configuration of open space along the southeastern edge so that movement is accommodated without Project-related edge effects interfering with the movement goals for Proposed Core 3. As discussed above, the Project will construct wildlife fencing to complement fencing to be constructed as part of the SR-60 improvements. The Project fencing will connect to SR-60 fencing that will extend to the easternmost wildlife crossings to be constructed by Caltrans at the western end of the Beaumont Pointe Project site. The Project fencing will extend along the western and southwestern boundary of the Project site and will include one-way swing gates that will allow mountain lions entering the site from the north and east to exist the Project site into the adjacent conserved lands associated with Proposed Core 3. The Criteria Refinement will support the goals for the mountain lion in an equivalent manner to the existing Cell Criteria.

Nevin’s Barberry

Nevin’s barberry was not detected at the Project site during focused plant surveys and is not expected to occur due to a lack of suitable habitat. Nevin’s barberry is not considered as a Planning Species for the portion of Proposed Core 3 corresponding to the Project site. Furthermore, the Project is not located within the MSHCP survey area for Nevin’s barberry and is not required to address the species on a project-specific level. As such, the Criteria Refinement would not affect Nevin’s barberry.

5.2.2 Other Covered Species

In addition to those Covered Species specifically addressed for the Pass Area Plan and the Reche Canyon/Badlands Area Plan, i.e., the Planning Species addressed above in Section 5.2.1, the MSHCP identifies other Covered Species for which habitat assessments/surveys are required based on a Project site's occurrence in one or more designated survey areas and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and the aforementioned species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and designated fairy shrimp (MSHCP *Volume I, Section 6.1.2*).

Section 6.1.2 Species

As discussed above in Section 5.1.3 of this document, *MSHCP Volume I, Section 6.1.2* describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The MSHCP requires surveys for least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, vernal pool fairy shrimp, Riverside fairy shrimp, and Santa Rosa Plateau fairy shrimp if suitable habitat is present. However, as noted above the Project site and offsite conservation (replacement) lands do not contain suitable habitat for these species. As such, the undescribed lands to be conserved in replacement for the described lands to be impacted (i.e., the proposed Criteria Refinement) would not have an effect (positive or negative) on the *Section 6.1.2* species compared with conservation that would occur following the existing Cell Criteria.

In addition to the above referenced species, *Section 6.1.2* identifies other species that are to be protected through the implementation of the *Section 6.1.2* procedures, including the following:

- **Amphibians** – arroyo toad, mountain yellow-legged frog, California red-legged frog
- **Birds** – bald eagle, peregrine falcon
- **Fish** – Santa Ana sucker
- **Plants** – Brand's phacelia, California Orcutt grass, California black walnut, Coulter's matilija poppy, Engelmann oak, Fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, Orcutt's brodiaea, Parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crownscale, San Miguel savory, Santa Ana River woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, vernal barley

The Project site does not contain suitable habitat for any of the above-referenced species, and therefore these species are not relevant to the proposed Criteria Refinement, i.e., the proposed Criteria Refinement would not have an effect (positive or negative) on the *Section 6.1.2* species compared with conservation that would occur based on the existing Cell Criteria.

Section 6.1.3 Species

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 is located within the NEPSSA 8, which addresses the following species: many-stemmed dudleya (*Dudley multicaulis*) and Yucaipa onion (*Allium marvinii*). Focused plant surveys were conducted for the Project site in April and May 2020. No special-status plants were detected during the surveys, including any of the *Section 6.1.3* species. As such, the *Section 6.1.3* species are not relevant to the proposed Criteria Refinement, i.e., the proposed Criteria Refinement would not have an effect (positive or negative) on the *Section 6.1.3* species compared with conservation that would occur following the existing Cell Criteria.

Section 6.3.2 Species

In addition to the species identified through *Section 6.1.2* and *Section 6.1.3* of the MSHCP, *Section 6.3.2* identifies additional species to be addressed for individual projects based on the occurrence in one or more survey areas, including the Criteria Area Plant Species Survey Area (CAPSSA), burrowing owl survey area, amphibian survey areas (arroyo toad, California red-legged frog and mountain yellow-legged frog) and mammal survey areas (Aguanga kangaroo rat, San Bernardino kangaroo rat and Los Angeles pocket mouse). The Project site is within the burrowing owl survey area but is not within the CAPSSA or any of the amphibian or mammal survey areas.

The Project site contains potentially suitable habitat for the burrowing owl (*Athene cunicularia*), including the presence of suitable burrows. However, focused burrowing owl surveys were conducted in July and August 2019, and no burrowing owls were detected at the site. Regarding the *Section 6.3.2* amphibian species, the Project site does not support the arroyo toad, California red-legged frog and mountain yellow-legged frog due to the lack of suitable habitat. Regarding the *Section 6.3.2* mammal species, the Project site does not contain suitable habitat for the Aguanga kangaroo rat or the San Bernardino kangaroo rat. As noted above in *Section 5.1.2*, the Los Angeles pocket mouse might have a very low potential for occurrence at the Project site, but generally is not expected to occur due to a lack of habitat suitability.

In summary, the *Section 6.3.2* species are not relevant to the proposed Criteria Refinement, i.e., the proposed Criteria Refinement would not have an effect (positive or negative) on the *Section 6.1.3* species compared with conservation that would occur following the existing Cell Criteria.

Other MSHCP Covered Species

The Project site has a potential to support other MSHCP Covered Species that are not identified as Planning Species for the Pass Area Plan or the Reche Canyon/Badlands Area Plan, and do not have project-specific conservation requirements such as pursuant to *Section 6.1.2*, *6.1.3*, or *6.3.2*. These include the coast horned lizard, coast patch-nosed snake, coastal whiptail, red-diamond rattlesnake (detected at the site), coastal California gnatcatcher, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, and San Diego desert woodrat. These species would

utilize similar live-in habitats (scrub and grasslands) as discussed above for species such as the rufous-crowned sparrow and loggerhead shrike. As noted above, the Project will conserve 227.69 acres of scrub and grassland habitats (149.51 acres onsite and 78.18 acres offsite), including 132.18 acres of undescribed lands (replacement) to offset impacts to 106.74 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as breeding, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for these species.

5.3 Effects on Core Areas

The MSHCP defines a “Core” as a “block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.” The proposed Criteria Refinement will support the assembly of Proposed Core 3 in a manner consistent with the existing Cell Criteria. As depicted in Exhibit 4, the Project site is located at the edge of Proposed Core 3 and the intent of conserved lands at the Project site is to expand the edge of Proposed Core 3. As presented above in Section 5.1, the Project will impact 109.69 acres of lands described for conservation by the MSHCP Cell Criteria. The Project will offset those impacts with 133.62 acres of replacement lands that are not described by the Cell Criteria, including 55.22 acres onsite and 78.40 acres offsite (See Table 5-8 below). In addition, the Project will conserve the remaining 97.20 acres of onsite lands described by the Cell Criteria, for a combined conservation area of 230.82 acres, compared with a total of 206.89 acres described by the MSHCP. The Project’s onsite conservation includes 151.06 acres within the Criteria Area (Cells 933, 936, 1030, 1032, and 1125) and 1.36 acres onsite that are not part of a Criteria Cell (but adjacent to Cells). Of the offsite lands, approximately 37.89 acres are in Cell 1125 of Cell Group A’, and 40.51 acres are not a part of a Criteria Cell but are adjacent to Cell Group A’. Although the Project does not achieve minimum described acreage for some of the individual Cells, the Project proposes an overall greater amount of conservation than is described, including the expansion of conservation to the northwest and the southeast into undescribed lands that will extend the conserved edge. The conservation of undescribed lands in the northwestern portion of Cell 933 will extend conservation to SR-60 to link up with the undercrossing constructed as part of the freeway improvements.

Table 5-8. Comparison of Described Conservation Lands to be Impacted and Proposed Replacement Lands for Proposed Core 3 [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0.00	0.22	1.20
Disturbed	3.48	2.78	0.70	1.22	0.00	1.92
Developed	0.15	0.15	0.00	0.00	0.00	0.00
Total	206.89	109.69	97.20	55.22	78.40	230.82

5.4 Effects on Linkages and Constrained Linkages

The Project site is not associated with a Linkage or a Constrained Linkage, instead the Project is associated with the edge of Proposed Core 3 and the proposed conservation would expand the edge of Proposed Core 3 consistent with the intent of the existing Cell Criteria. Although Proposed Core 3 does not represent a specific Linkage, Proposed Core 3 is a very large Core that in addition to providing extensive live-in habitat also facilitates the movement of wildlife to connect to existing Cores and other habitat areas to the northwest, southwest, and southeast. Other Linkages connect to Proposed Core 3, but these do not coincide with the Project site. As described above in Section 5.1 (and Section 5.3) the Project will impact 109.69 acres of lands described for conservation by the MSHCP Cell Criteria. However, the Project will conserve 133.62 acres of lands in replacement that are not described for conservation by the MSHCP, including 55.22 acres onsite and 78.40 acres offsite. As noted above, the onsite replacement lands include the northwestern portion of Cell 933 that is important to connect the conservation area to SR-60 where Caltrans is constructing undercrossings (including a 20-foot-by-20-foot culvert) as part of the Caltrans freeway improvements (depicted on Exhibits 9A and 9B). As referenced above in Section 1.0 of this document, the Wildlife Agency comment letter noted that the 20-foot-by-20-foot culvert was constructed to enable large mammal movement between the interior of the Proposed Core 3 and the area north of SR-60 and the San Bernardino National Forest. The comment letter further noted the importance of maintaining a wide enough canyon to the west of the development footprint to allow appropriate topography for wildlife movement and to allow for an appropriate buffer from the proposed development to minimize edge effects. In consideration of these comments and the stated importance of the wildlife undercrossing, the development footprint has been revised to pull back farther from the undercrossing and canyon

in order to further facilitate movement. The proposed revisions will increase the conservation in Cell 933 by just over 19 acres, for a total of 68.84 acres in the Cell, including 47.03 acres of the Cell that are currently undescribed for conservation by the Cell Criteria that will connect areas described for conservation with the SR-60 wildlife undercrossing. As acknowledged by the Wildlife Agencies this undescribed area is important to maintain the wildlife connection.

The offsite lands include a portion of Cell Group A' (37.89 acres) that is not described for conservation and approximately 40.51 acres of undescribed lands south of Cell Group A' that is outside of the Criteria Area but that includes native scrub habitat that would extend the conservation across Jack Rabbit Trail to the southeast. As discussed above, the Project will support the movement of wildlife through Proposed Core 3 by constructing a wildlife fence that will be consistent with fencing to be constructed as part of SR-60 improvements. The Project fencing will connect with SR-60 fencing at the location of wildlife undercrossings being constructed by Caltrans. The Project fencing will extend along the western and southwestern boundaries of the Project site to maintain the eastern edge of Proposed Core 3 along the Project's development boundary. The proposed fencing will support movement through Proposed Core 3 by preventing wildlife from entering the development footprint from the Conserved Lands and direct wildlife to move around and way from the Project site.

5.5 Effects on Non-Contiguous Habitat Blocks

The MSHCP defines a "Non-Contiguous Habitat Block" as a "block of Habitat not connected to other Habitat areas via a Linkage or Constrained Linkage." The proposed Criteria Refinement will not affect any Non-Contiguous Habitat Blocks, as none are associated with the Project site or directly associated with Proposed Core 3.

5.6 Effects on MSHCP Conservation Area Configuration and Management

The existing Cell Criteria corresponding to the Project site describes lands that would expand the eastern edge of Proposed Core 3. Based on the amount of lands described by the Criteria and the locations within the Cells, the Criteria allows for the development of lands at the Project site between the edge of Proposed Core 3 and SR-60. The proposed Criteria Refinement would allow a larger (wider) area to be developed by the Project, but the resulting amount of edge (perimeter) would be similar to that which would be allowed with the existing Criteria. The proposed Project will construct pads that will slope down to the Conservation Area to the west and southwest and slope up to the south to ridges on the edge of badlands. As noted above, a wildlife fence would be constructed along the entire western and southwestern edge of the Project's disturbance footprint demarcating the proposed Conservation Area. The configuration of the proposed Project edge along with the fence will assist in the management of the adjacent conserved lands by providing access to the open space and a minimized edge to maintain. One or more gates will be constructed along the fence allowing access from the Project site to the open space. Regarding the fenced edge, to the extent feasible the final open space edge and corresponding fence will be configured to minimize the amount of edge/perimeter to be managed. Furthermore, the Project will provide the RCA with access to the proposed Conservation Area limits at different locations, including vehicle access to a small area of conservation associated with Cell 936.

5.7 Effects on Ecotones

Ecotones are defined by the MSHCP as areas of adjoining vegetation communities generally characterized by greater biological diversity. Ecotones are transitional areas between two different vegetation communities where in the area of overlap between the two communities there is often greater biological diversity since the transitional areas exhibits aspects of both communities. An example of an ecotonal area is a grassland community transitioning a scrub community. As described above in Section 5.1.2 (and summarized in Table 5-2), the 1994 vegetation mapping data used for the MSHCP Rough Step baseline identified grassland areas abutting a contiguous block of scrub habitat (Riversidean sage scrub and chaparral) [Exhibit 8B], creating the appearance of a distinct ecotonal area where one community transitions to the other. However, in actuality the site consists predominately of grassland habitat with patches of scrub vegetation (mainly Riversidean sage scrub) occurring in the upslope areas intermixed amongst the grassland habitat [Exhibit 8A]. Areas that were mapped for the 1994 baseline as Riversidean sage scrub area mostly grassland, and areas mapped as chaparral are mostly Riversidean sage scrub. As such, the scattering of scrub “islands” in a broader “sea” of grassland does not provide the typical ecotonal effect as is represented with one community transitioning to another along a defined community boundary. However, where the grassland “sea” meets the scrub “islands”, an ecotonal effect may occur on a micro-scale.

The Project proposes to impact 106.74 acres of described lands supporting grassland and scrub habitats, including 0.21 acre of chaparral, 24.40 acres of Riversidean sage scrub, and 82.13 acres of grassland. In replacement for these impacts, the Project proposes to conserve 132.18 acres of undescribed lands in a similar patchy configuration/distribution as with the described lands, containing 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, and 86.01 acres of grasslands. In that context, the proposed Criteria Refinement through the replacement conservation lands, including in the northwestern corner of Cell 933 (onsite) and the proposed offsite conservation, will provide at least an equivalent distribution of scrub patches intermixed with the surrounding grasslands compared with the lands described for conservation by the current Cell Criteria, and in doing so will maintain the degree of diversity where the grassland and scrub communities overlap.

5.8 Acreage Contributed to the MSHCP Conservation Area

The MSHCP requires for Criteria Refinements that projects contribute an equal or greater acreage to the Conservation Area compared with impacts proposed by projects. As summarized above in Table 5-1, the Project proposes to conserve 133.62 acres of undescribed lands in replacement for impacts to 109.69 acres described for conservation by the Criteria for Cells 933, 936, 1030, 1032, and 1125. Overall, the Project would conserve 230.82 acres compared with 206.89 acres described by the Cell Criteria [Exhibit 5], resulting in a greater amount of conservation compared with the existing Criteria. In addition to the greater amount of lands to be conserved by the Project, and based on the discussion above in Effects on Habitats (Section 5.1) and Effects on Covered Species (Section 5.2), the proposed replacement lands are of an equivalent or higher quality than the lands to be impacted. Therefore, approval of the Criteria Refinement would result in superior preservation of lands that will contribute to the MSHCP Conservation Area.

5.9 Ownership of Mitigation Property

The MSHCP requires for Criteria Refinements that project applicants have control over lands to be used as replacement (i.e., for mitigation) for described conservation lands to be impacted by the Project. The Applicant for the Beaumont Pointe Specific Plan proposes to conserve 230.82 acres of lands, including 133.62 acres of undescribed lands as replacement for impacts to 109.69 acres described for conservation by the Cell Criteria. The 133.62 acres of replacement lands include 55.22 acres onsite, and 78.40 acres of offsite lands that are contiguous with the onsite conserved lands. The Project will conserve an additional 97.20 acres of onsite lands described by the Cell Criteria, that combined with the 133.62 acres of replacement lands provide the 230.82 acres to be conserved overall by the Project. The Applicant owns all lands to be conserved, including the 133.62 acres of undescribed lands proposed to replace the 109.69 acres of described to be impacted.

6.0 CONCLUSION

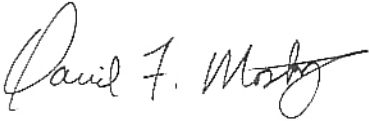
Volume I, Section 6.5 (Criteria Refinement Process [CRP]) of the MSHCP states that individual public and private projects within the Plan Area are expected to be designed and implemented in accordance with the Criteria for each Area Plan presented in *Volume I, Section 3.2* of the MSHCP document. In cases where refinements to the Criteria are desirable to facilitate Reserve Assembly, resulting in adjustments to the Criteria, the CRP described in *Volume I, Section 6.5* shall apply. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the Refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species conservation goals. Furthermore, the CRP cannot be used for Criteria changes that would result in reductions in the Criteria Area.

As demonstrated above in Section 3.0, the proposed Project would conserve lands in a configuration that is overall consistent with the intent of the existing Cell Criteria and would collectively conserve an amount of land (230.82 acres) within The Pass Area Plan and the Reche Canyon/Badlands Area Plan that meets the mid-range of conservation identified by the Cell Criteria. As demonstrated in Section 5.1, the Project will conserve an equivalent amount of the described vegetation communities (Riversidean sage scrub, chaparral, and non-native grassland) compared with the existing Cell Criteria, including proposed undescribed (replacement) lands to offset impacts to described lands. As demonstrated in Section 5.2, the proposed conservation will support the applicable Covered Species in the manner intended along the edge of Proposed Core 3. As discussed above, the Project has been designed to pull back the western development edge to the maximum extent feasible in Cell 933 to provide a wildlife movement buffer relative to the 20-foot by 20-foot culvert that Caltrans constructed under the SR-60. In addition, the Project will construct a wildlife fence along the western and southwestern boundary of the site that will be connect to and be consistent with fencing proposed along SR-60 as part of the freeway improvements by Caltrans. The Project fencing will connect with SR-60 fencing where Caltrans has constructed new undercrossings specifically to accommodate wildlife, for the collective purpose of managing wildlife movement along the edge of Proposed Core 3. Overall, the proposed Criteria Refinement would support the Reserve Assembly goals for Proposed Core 3 consistent with intent of the existing Cell Criteria for independent Cells 933, 936, 1030, 1032

and 1125 (The Pass Area Plan) and Cell Group A' (Reche Canyon/Badlands Area Plan), and the conservation proposed by the Criteria Refinement would at least be equivalent to the conservation intended based on the current Cell Criteria.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



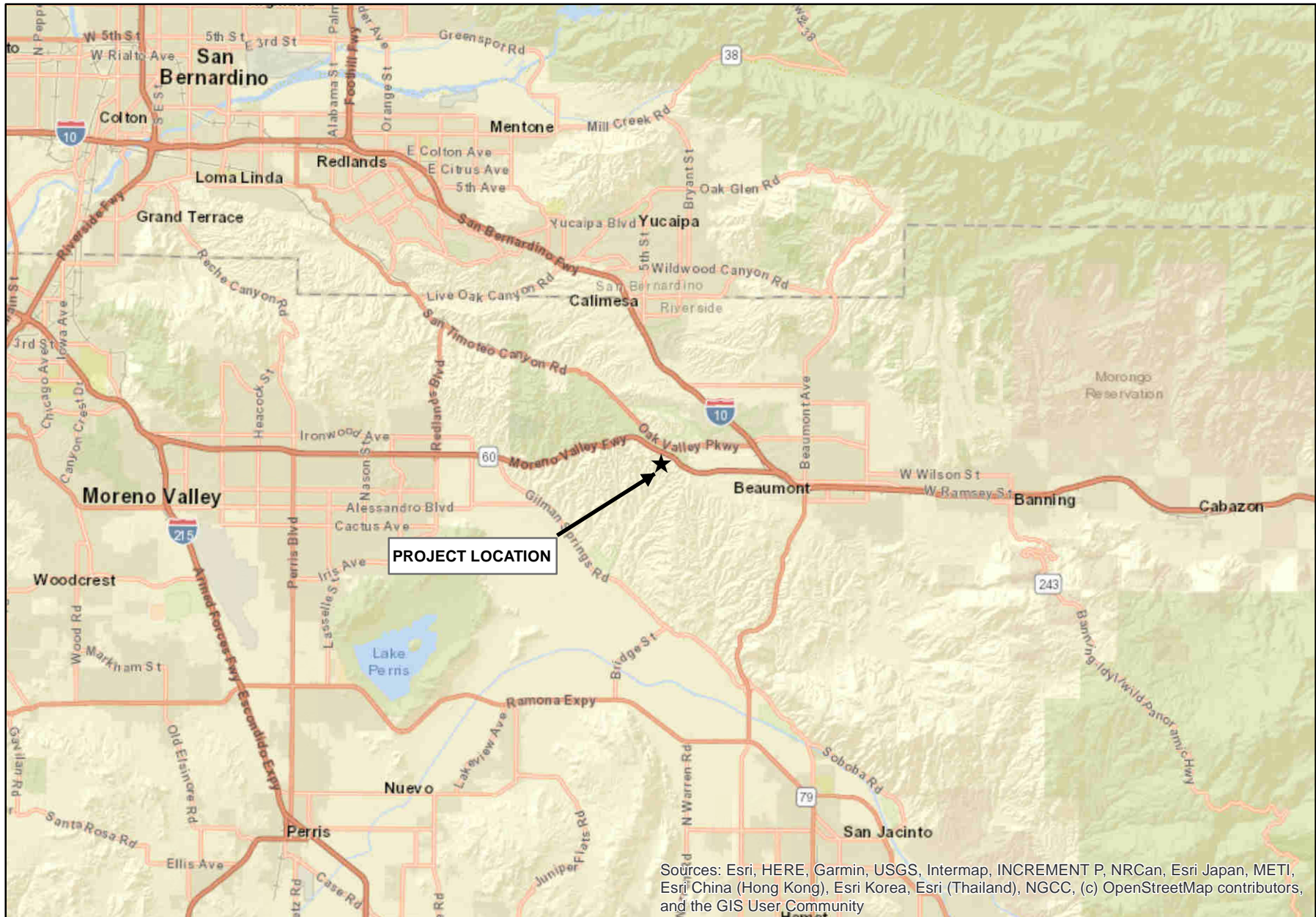
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DATE:

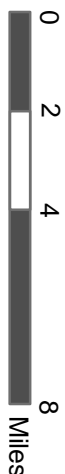
9/2/22

p:1390-01j.criteria refinement_FINAL.docx

Source: ESRI World Street Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



BEAUMONT POINTE

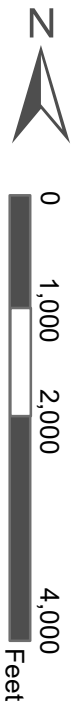
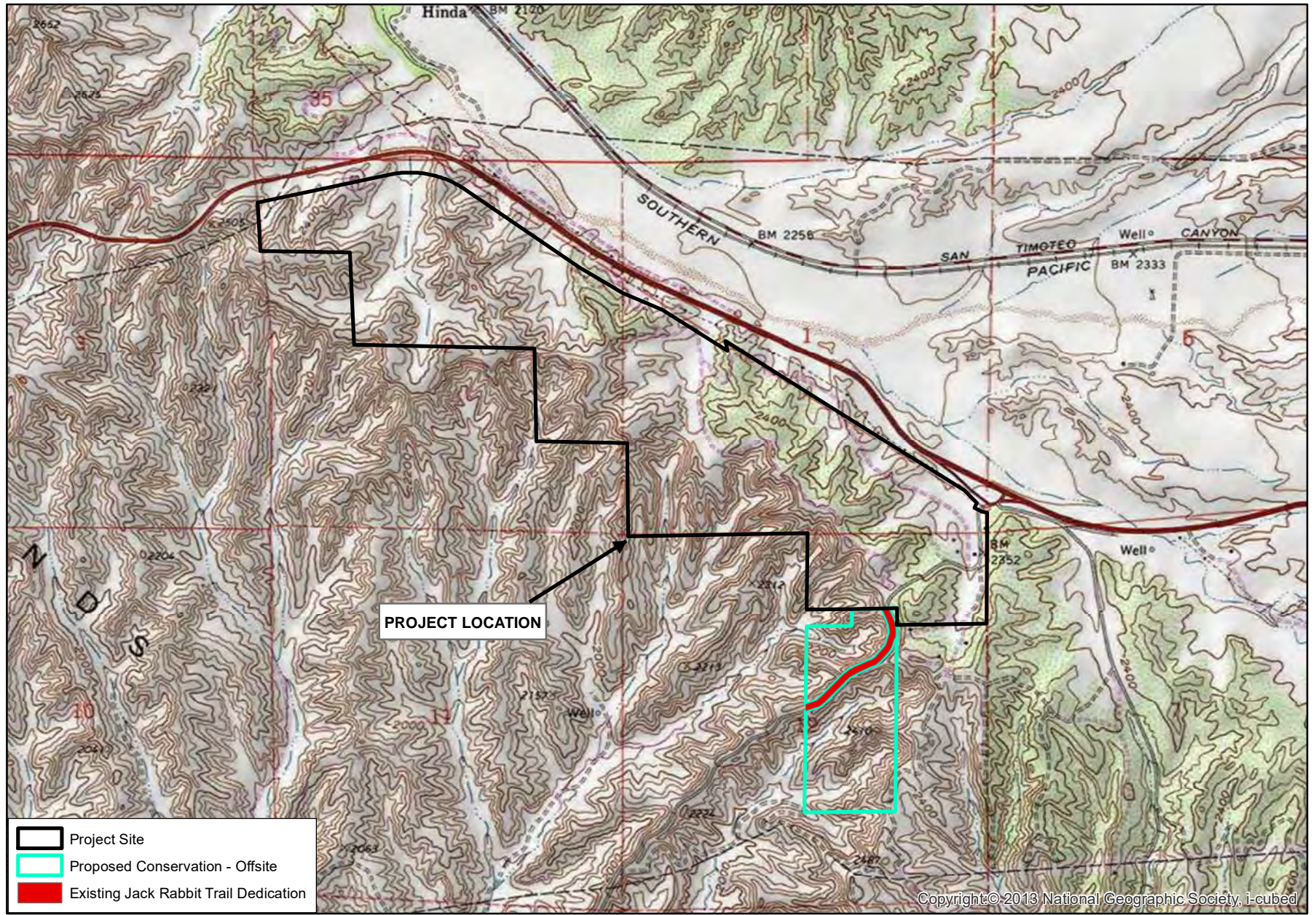
Regional Map

GLENN LUKOS ASSOCIATES



Exhibit 1

Adapted from USGS El Casco, CA quadrangle



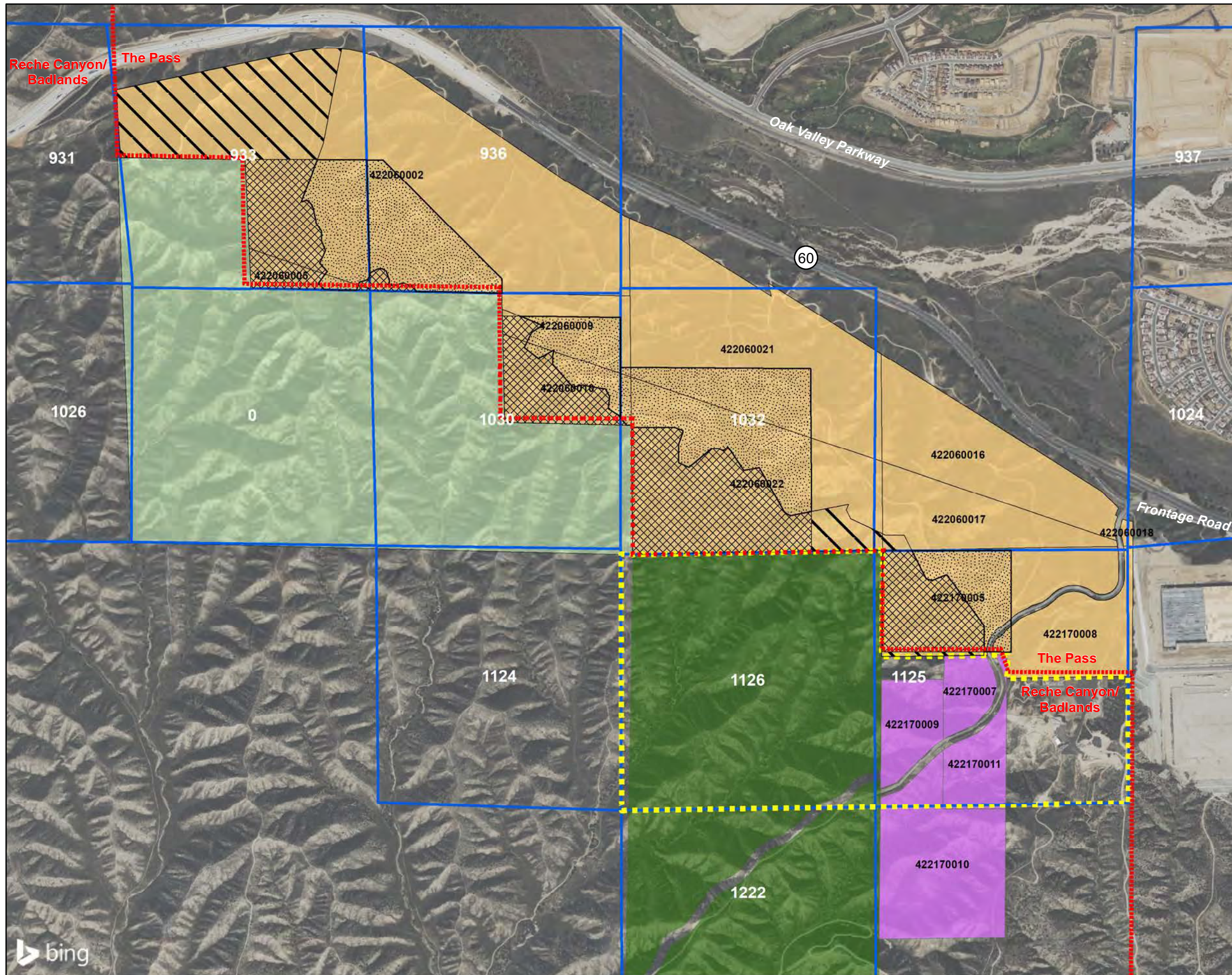
BEAUMONT POINTE

Vicinity Map

GLENN LUKOS ASSOCIATES

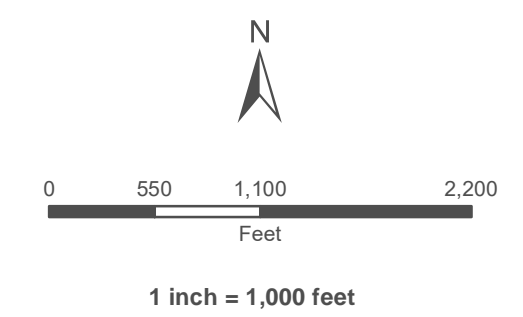


Exhibit 2A



- Area Plan Boundary
- Criteria Cells
- Cell Group A'
- PQP Conserved Lands
- RCA MSHCP Conserved Lands
- Onsite Parcels
- Undescribed Lands – Offsite Replacement (78.40 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)


The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

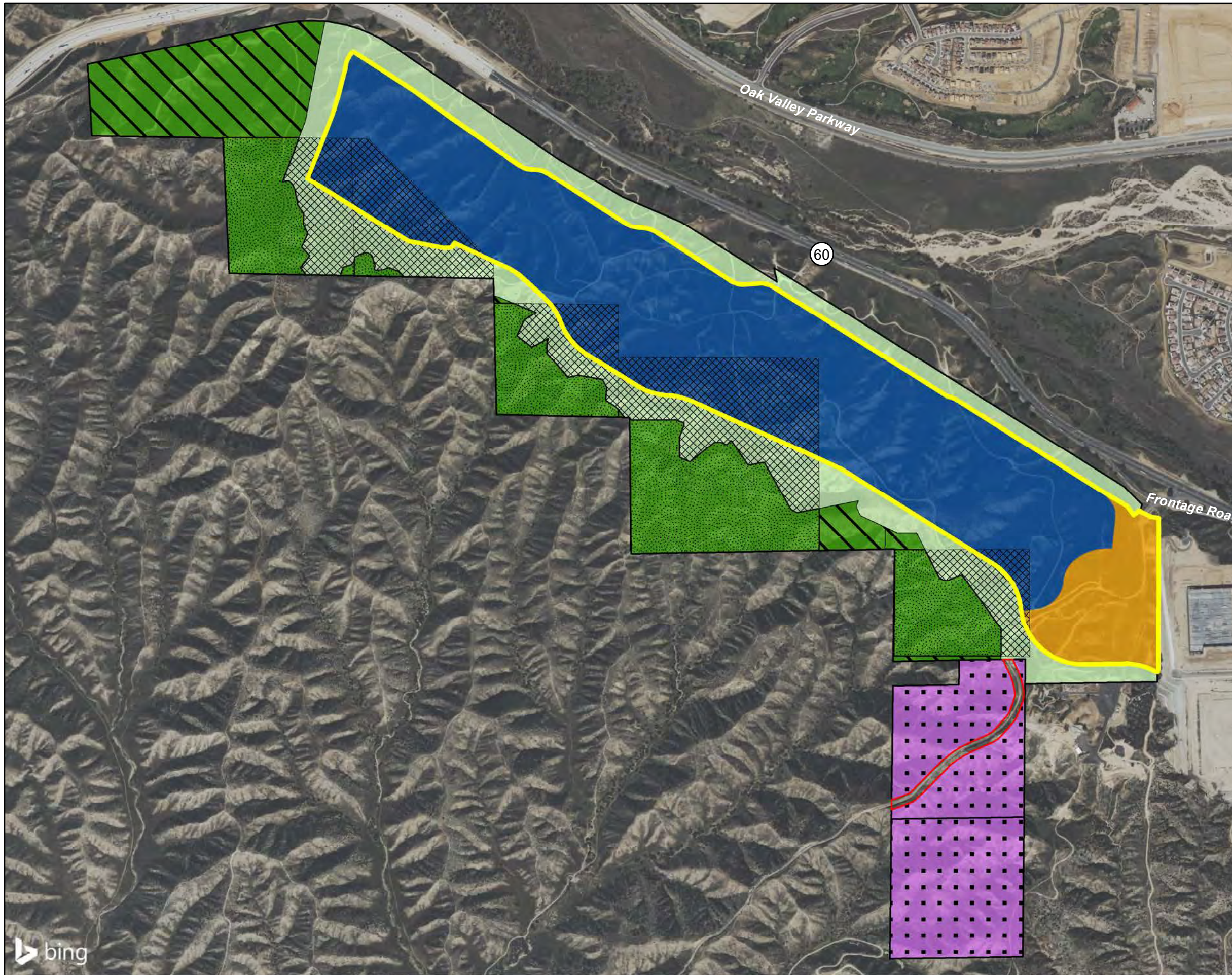














BEAUMONT POINTE
Assessor's Parcel Map

GLENN LUKOS ASSOCIATES

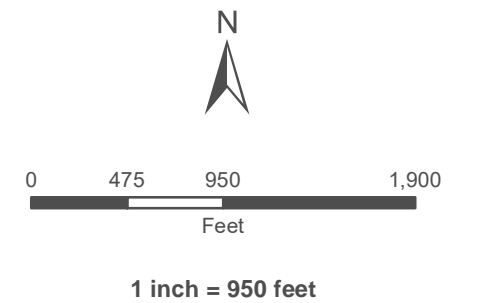
Exhibit 2B



-  Project Site
-  Existing Jack Rabbit Trail Dedication (4.19 ac.)
-  Fuel Modification Limits
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)
-  Industrial
-  General Commercial
-  Project Maintained Open Space
-  Proposed MSHCP Conservation (Onsite) (152.42 ac.)
-  Proposed MSHCP Conservation (Offsite) (78.40 ac.)

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

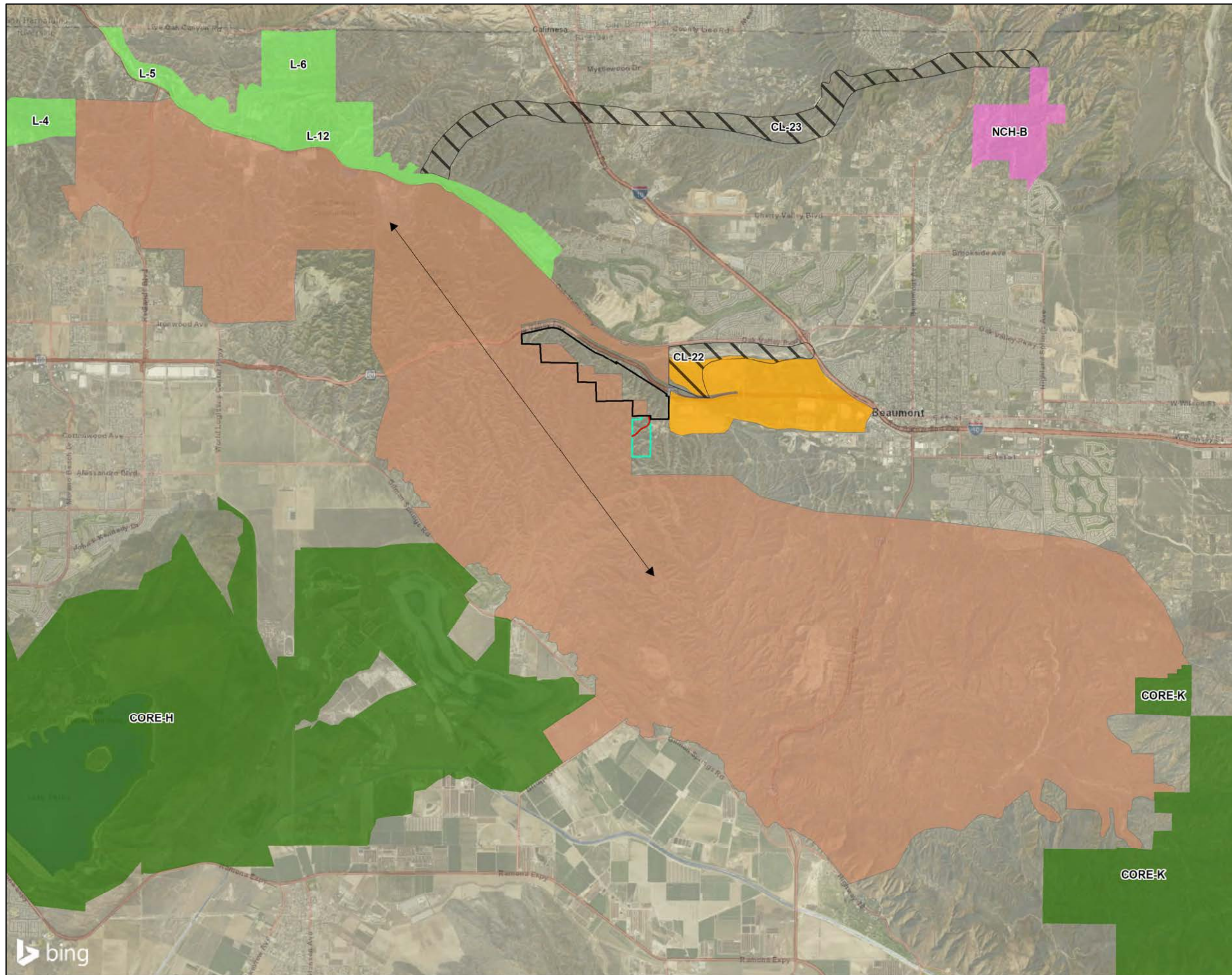












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 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

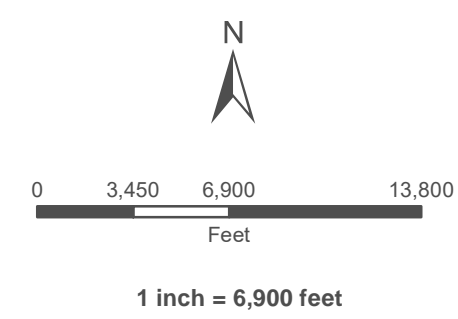
BEAUMONT POINTE
 Site Plan Map

GLENN LUKOS ASSOCIATES 

Exhibit 3



-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  Existing Core
-  Linkage
-  Non-Contiguous Habitat Block
-  Constrained Linkage
-  General Direction of Wildlife Movement



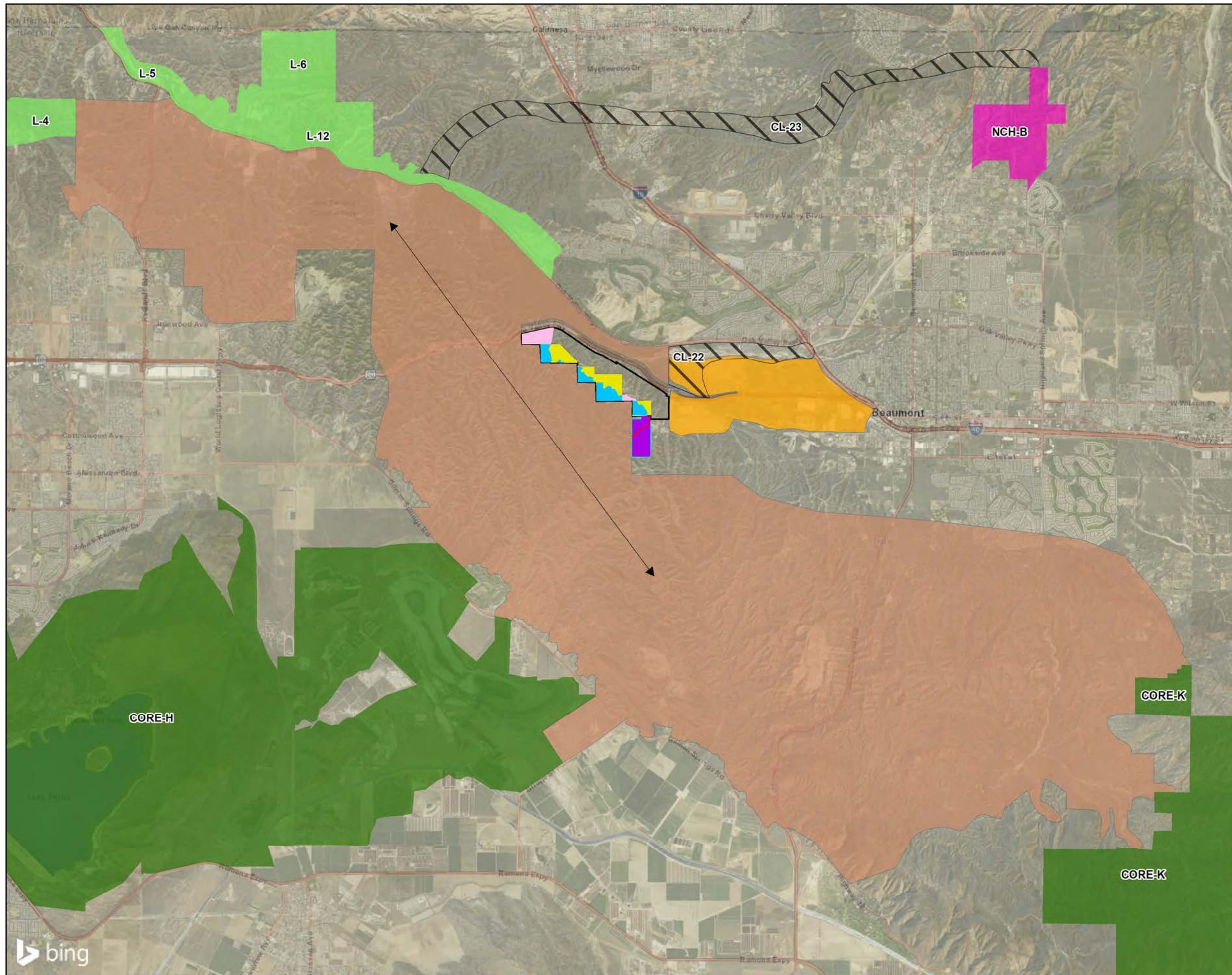
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 Date Prepared: August 29, 2022










BEAUMONT POINTE
 Proposed Core 3 Map

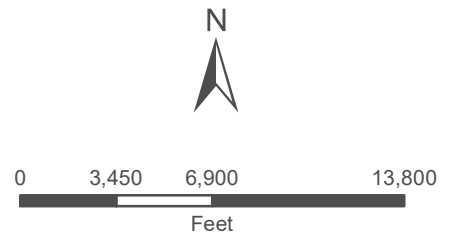
GLENN LUKOS ASSOCIATES 

Exhibit 4A





-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  Existing Core
-  Linkage
-  Non-Contiguous Habitat Block
-  Constrained Linkage
-  General Direction of Wildlife Movement



1 inch = 6,900 feet

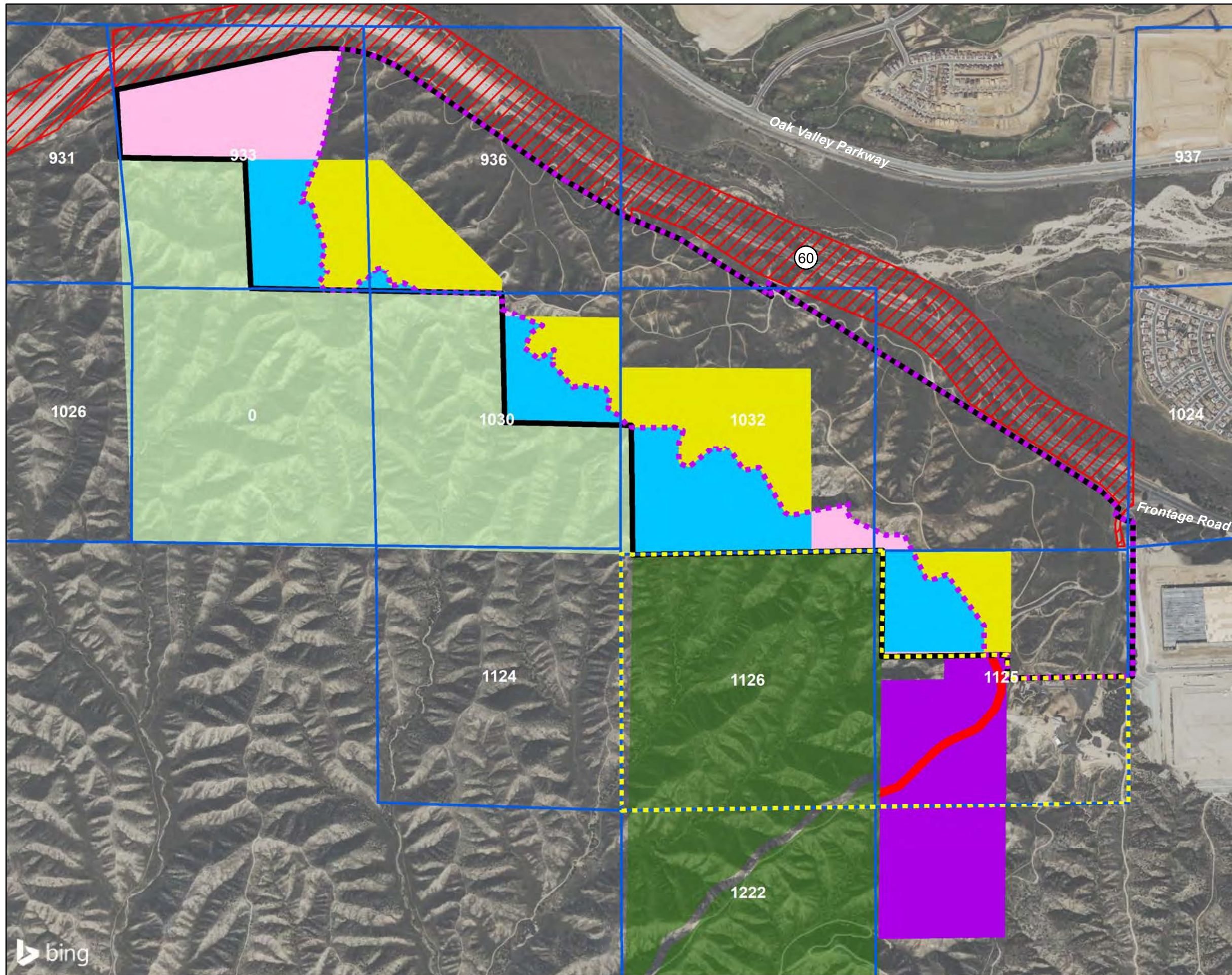
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022













BEAUMONT POINTE
 Proposed Criteria Refinement

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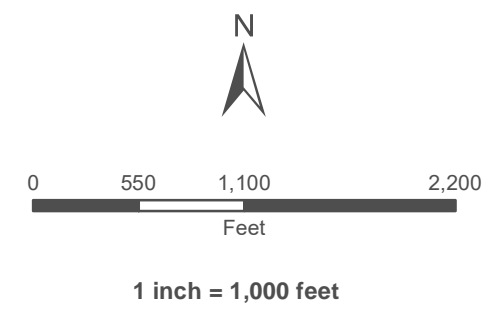
Exhibit 4B





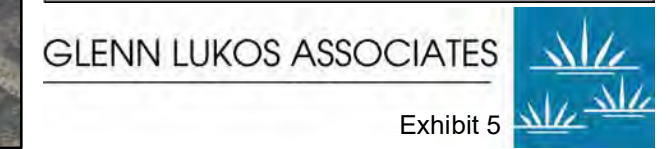
-  Project Site
-  Existing Jack Rabbit Trail Dedication (4.19 ac.)
-  Proposed Impact Footprint
-  60 Freeway Easement
-  Cell Group A'
-  Criteria Cells
-  PQP Conserved Lands
-  RCA MSHCP Conserved Lands
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)

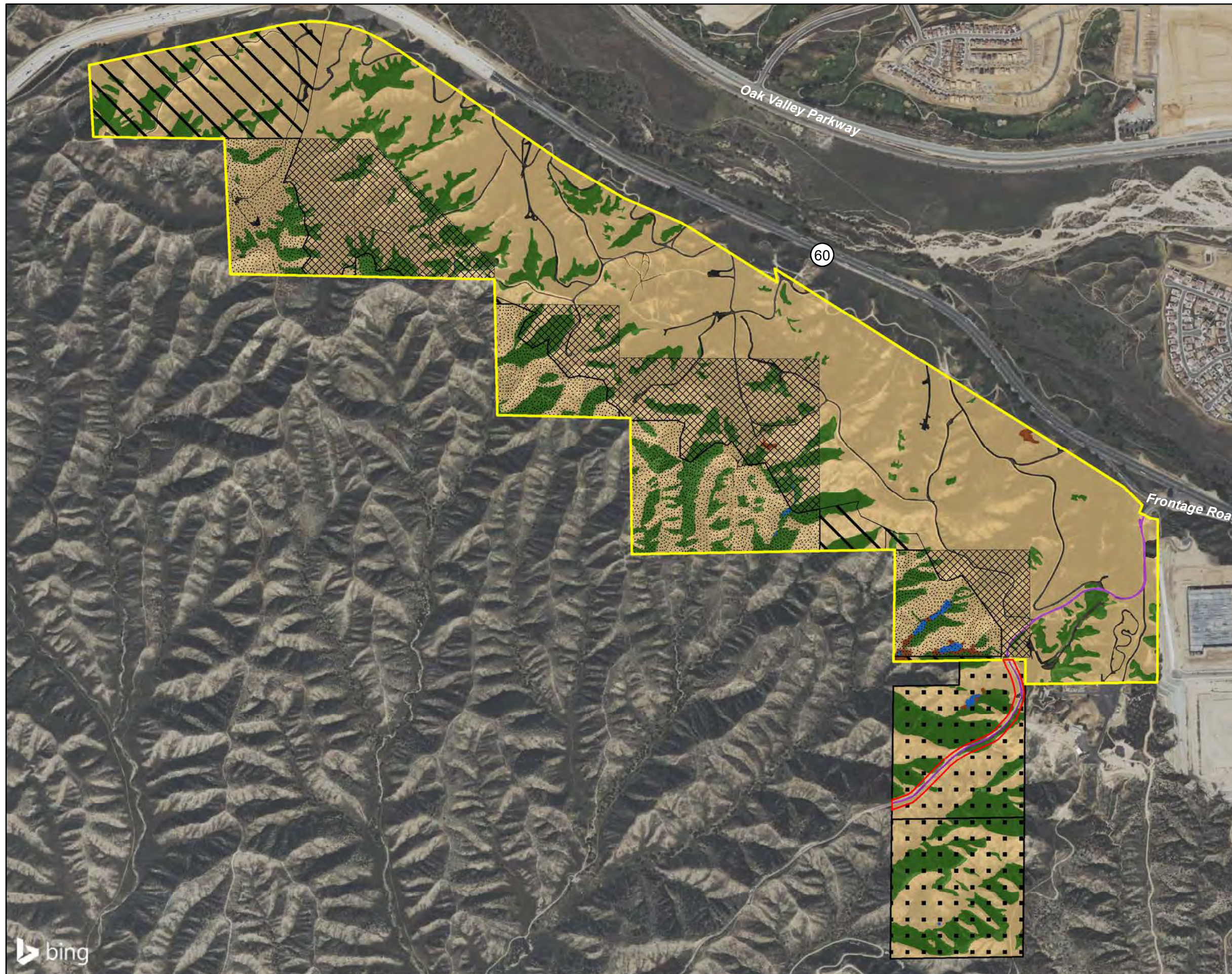
The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

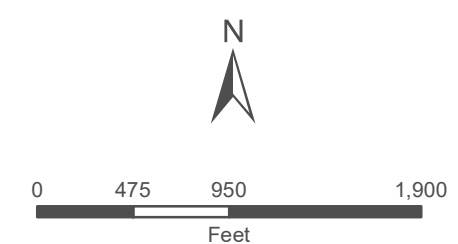
BEAUMONT POINTE
 Reserve Assembly Analysis Map





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Chaparral
- Riversidean Sage Scrub
- Disturbed
- Jack Rabbit Trail Road
- Non-Native Grassland
- Southern Riparian Scrub

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



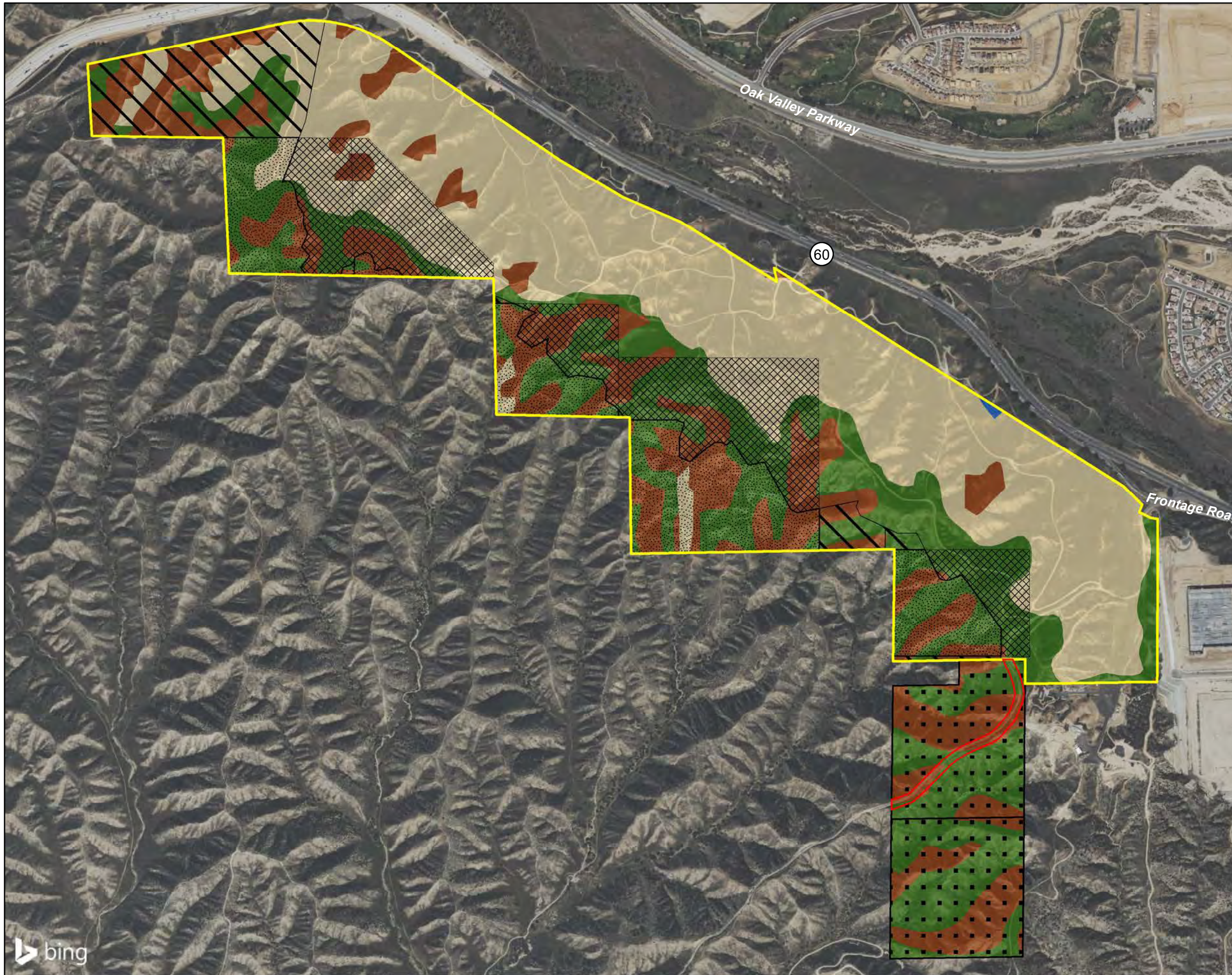
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

BEAUMONT POINTE
 Vegetation Impact/Conservation Comparison (GLA Baseline)

GLENN LUKOS ASSOCIATES

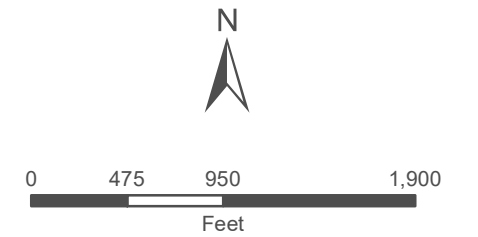
Exhibit 6A





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Chaparral
- Coast Live Oak Woodland
- Non-native Grassland
- Riversidean Sage Scrub

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

BEAUMONT POINTE

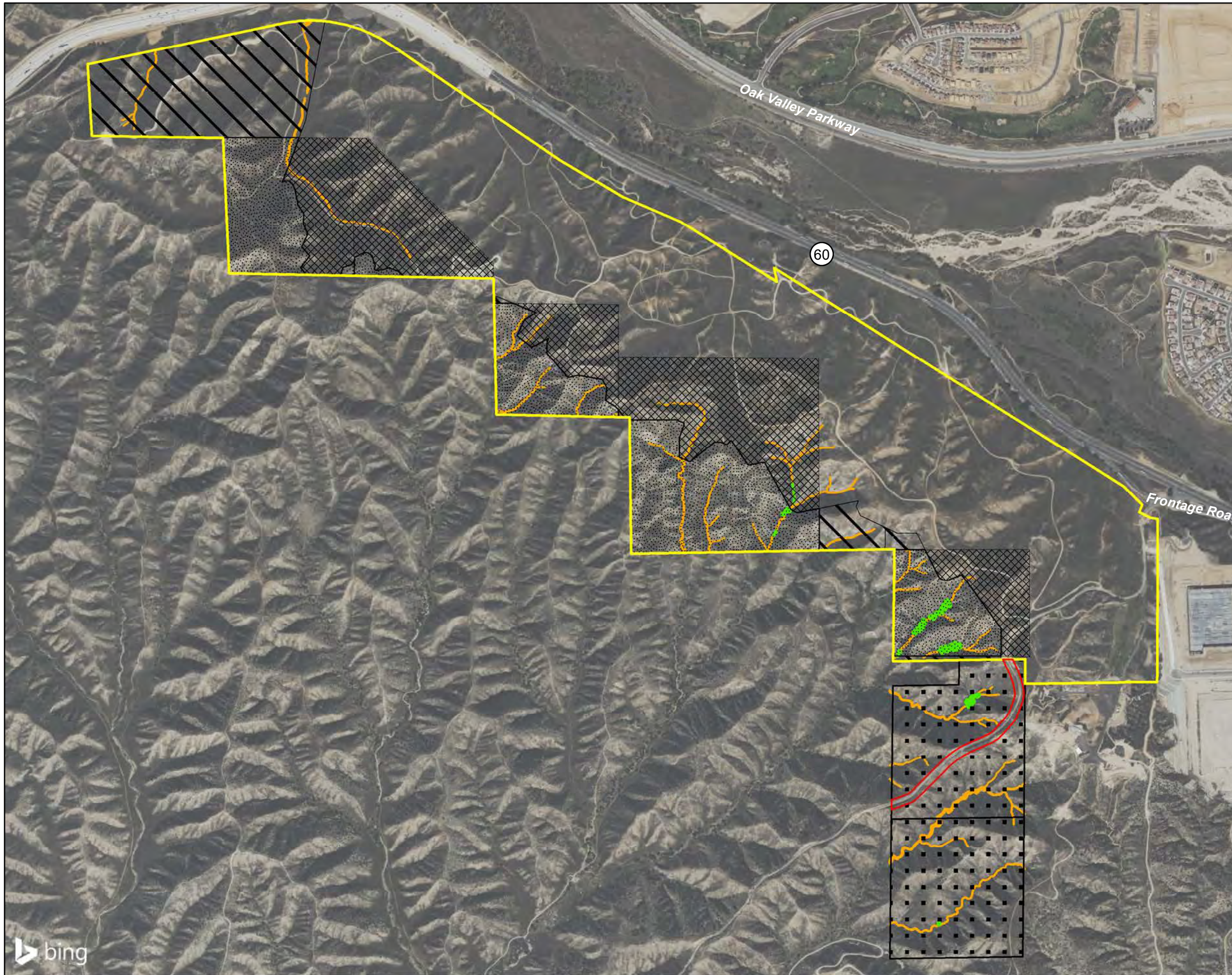
Vegetation Impact/Conservation Comparison (1994 Rough Step)

GLENN LUKOS ASSOCIATES



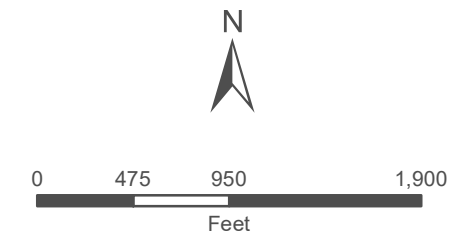
Exhibit 6B





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- MSHCP Riverine (2.57 ac.)
- MSHCP Riparian (1.23 ac.)

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



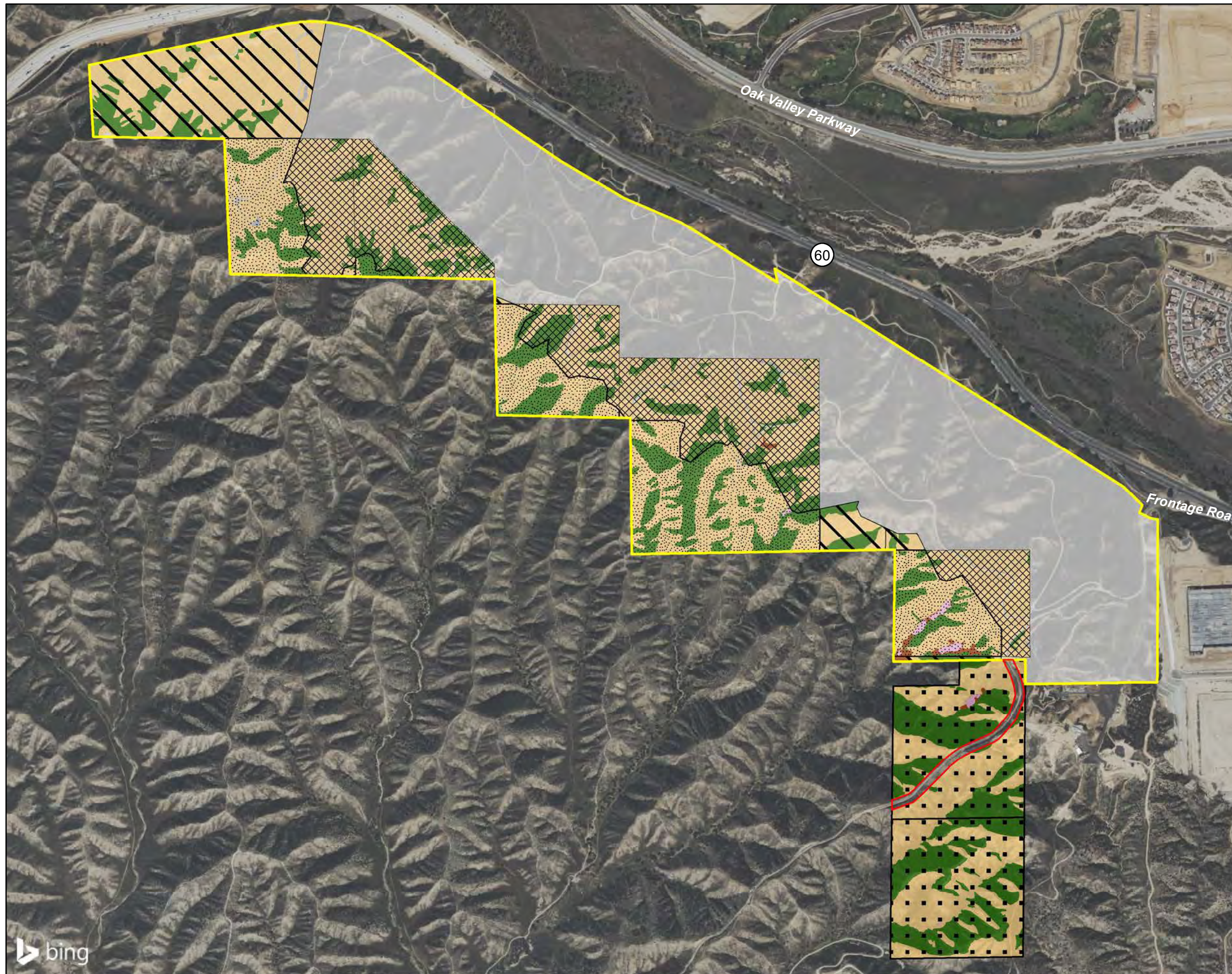
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 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

BEAUMONT POINTE
 MSHCP Riparian/Riverine Areas Map

GLENN LUKOS ASSOCIATES

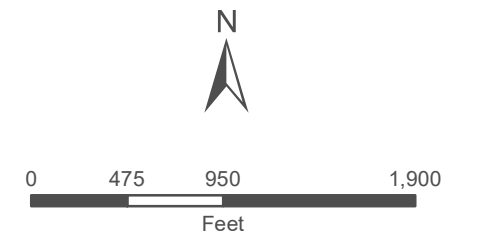
Exhibit 7





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Proposed Impacts – Not Described for Conservation
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Chaparral
- Non-Native Grassland
- Riversidean Sage Scrub
- Southern Riparian Scrub

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 24, 2022

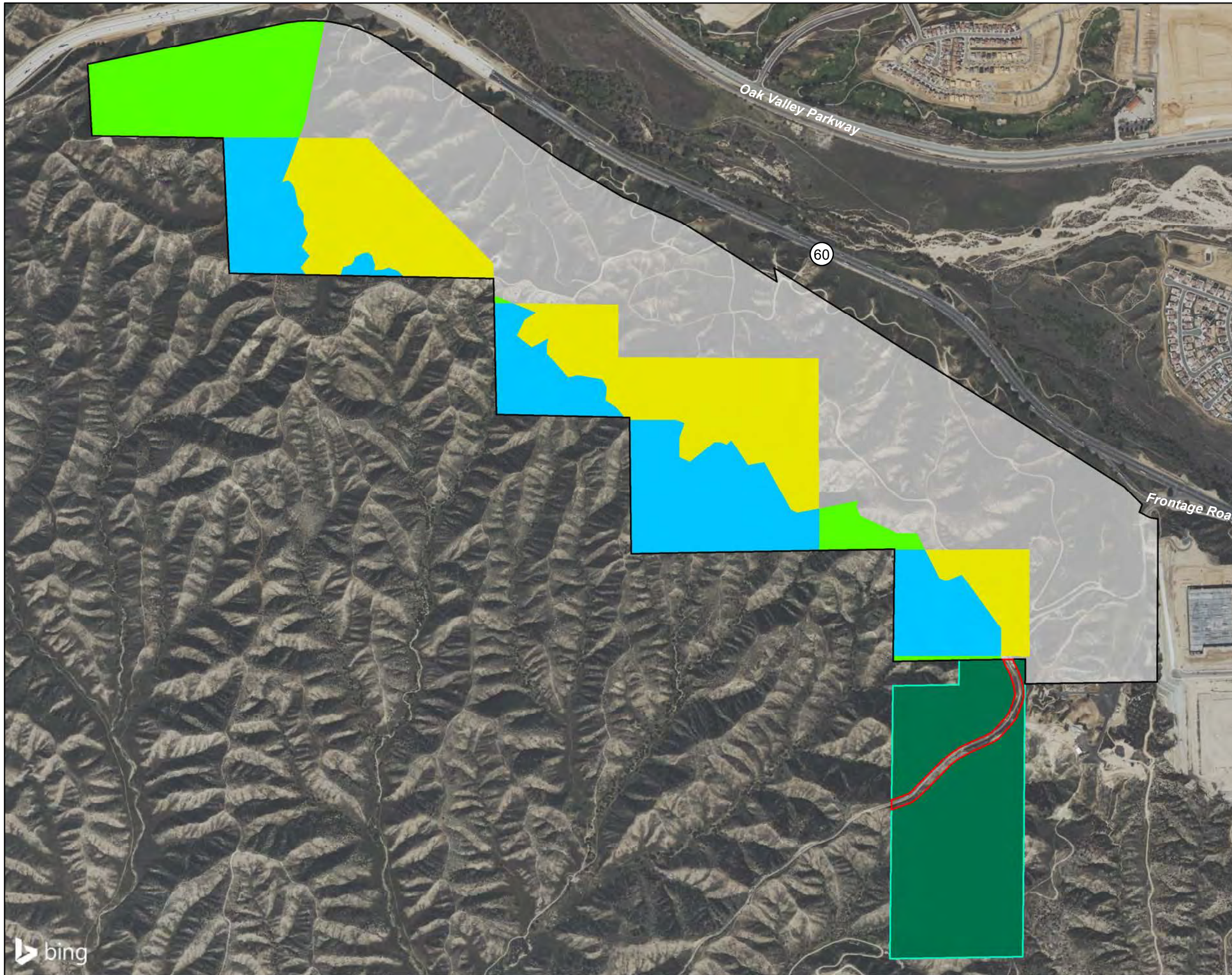
BEAUMONT POINTE
 Live-In Habitat for Scrub/Grassland Species Map

GLENN LUKOS ASSOCIATES



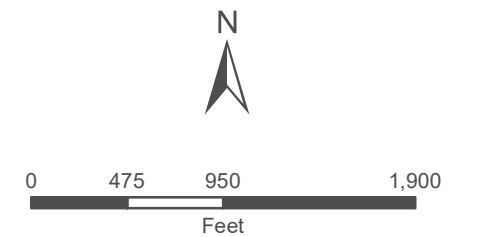
Exhibit 8A





- Project Site
- Proposed MSHCP Conservation (Offsite)
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Live-in Habitat Proposed for Conservation (97.20 ac.)
- Described Live-in Habitat to be Impacted (109.69 ac.)
- Replacement Live-in Habitat Conservation - Onsite Replacement (55.22 ac.)
- Replacement Live-in Habitat Conservation - Offsite Replacement (78.40 ac.)
- Proposed Impacts - Not Described for Conservation

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

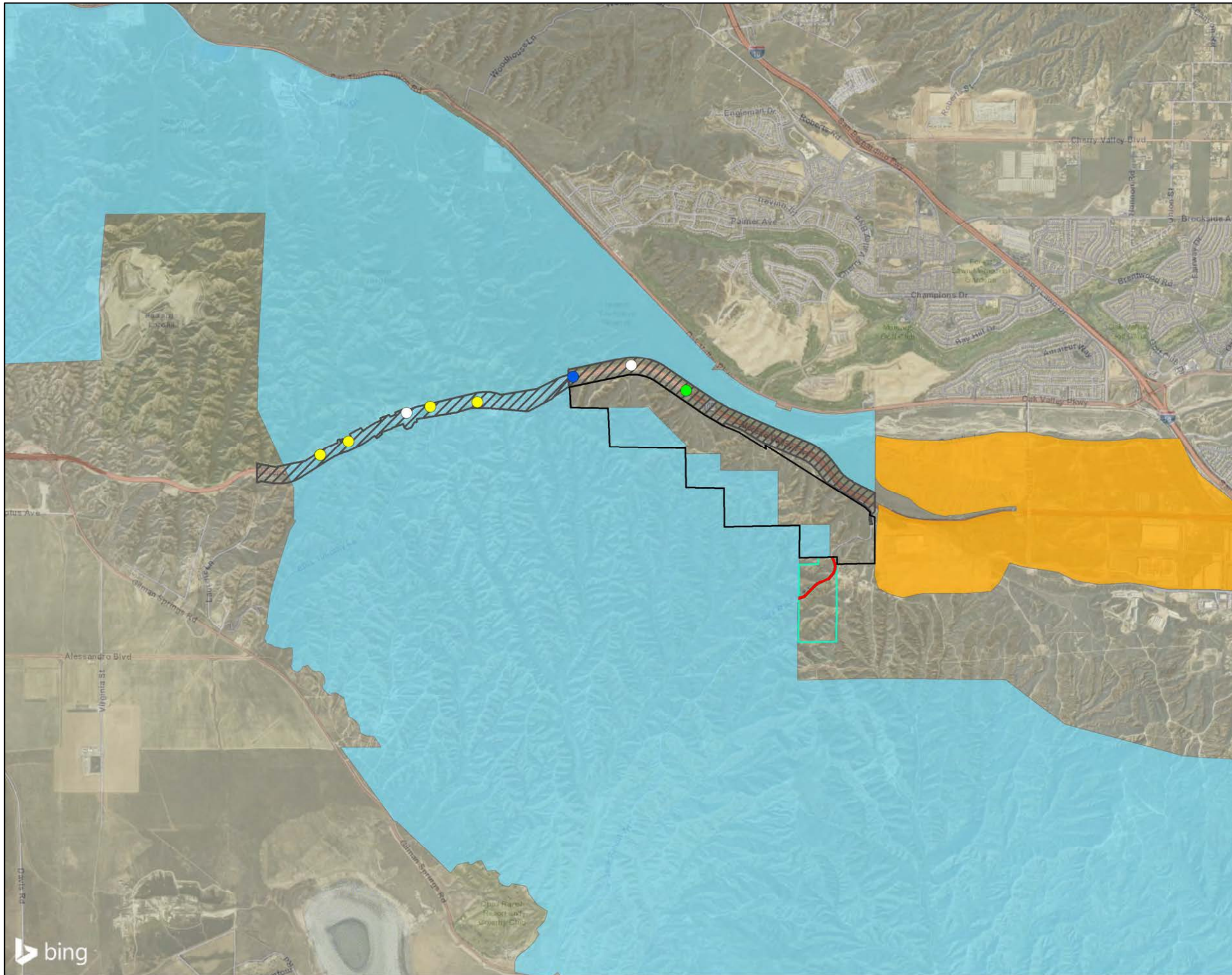


Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

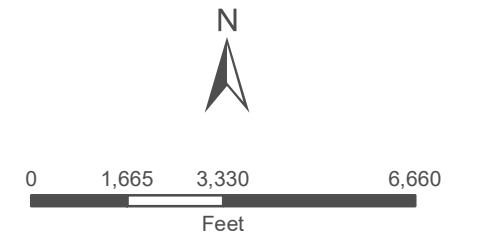
BEAUMONT POINTE
 Live-In Habitat for Scrub/Grassland Species Map

GLENN LUKOS ASSOCIATES

Exhibit 8B



- Project Site
- Proposed Conservation - Offsite
- Existing Jack Rabbit Trail Dedication
- 60 Freeway
- Existing/Planned Developments
- Proposed Core 3 (Approximate)
- CalTrans 20'x20' Culvert
- CalTrans Arch Concrete Pipe (ACP)
- CalTrans Corrugated Metal Pipe (CMP)
- CalTrans Reinforced Concrete Pipe (RCP)



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

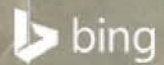
BEAUMONT POINTE

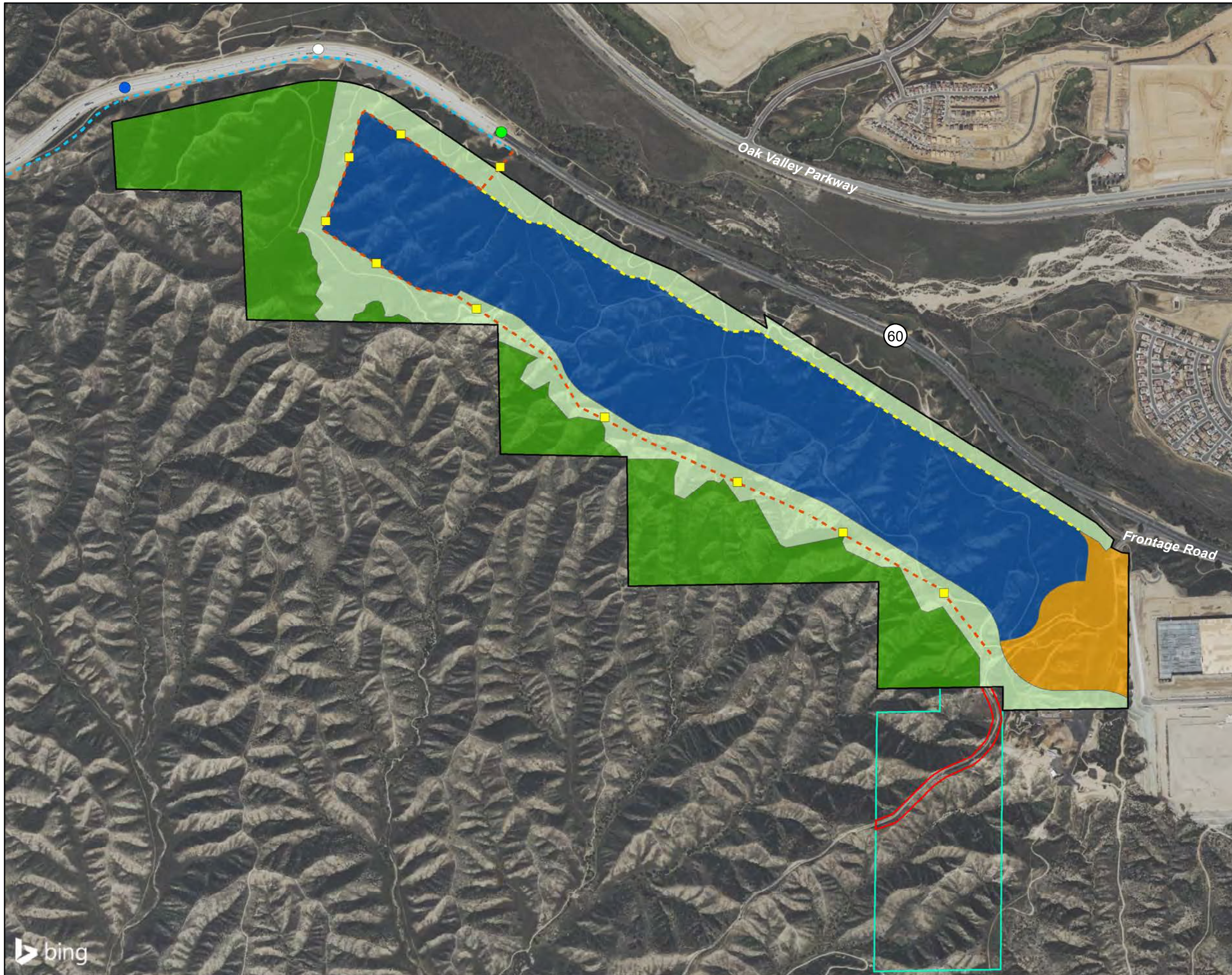
Proposed SR-60 Wildlife Crossings Map

GLENN LUKOS ASSOCIATES

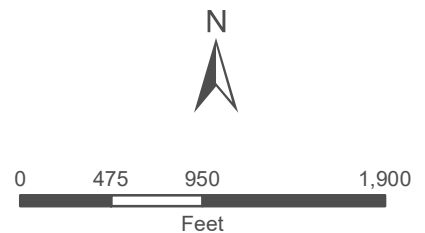


Exhibit 9A





- Project Site
 - Existing Jack Rabbit Trail Dedication
 - Proposed Conservation - Offsite
 - Onsite Conservation
 - Project Maintained Open Space
 - Industrial
 - General Commercial
- Proposed Wildlife Crossings (CalTrans)**
- CalTrans 20'x20' Culvert
 - CalTrans Corrugated Metal Pipe (CMP)
 - CalTrans Reinforced Concrete Pipe (RCP)
- Proposed Fencing**
- - - SR-60 Wildlife Fence
 - - - Beaumont Pointe Wildlife Fence
 - - - Beaumont Pointe Security Fence
 - Wildlife Gate



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 24, 2022

BEAUMONT POINTE
 Proposed Fencing and SR-60 Crossings Map

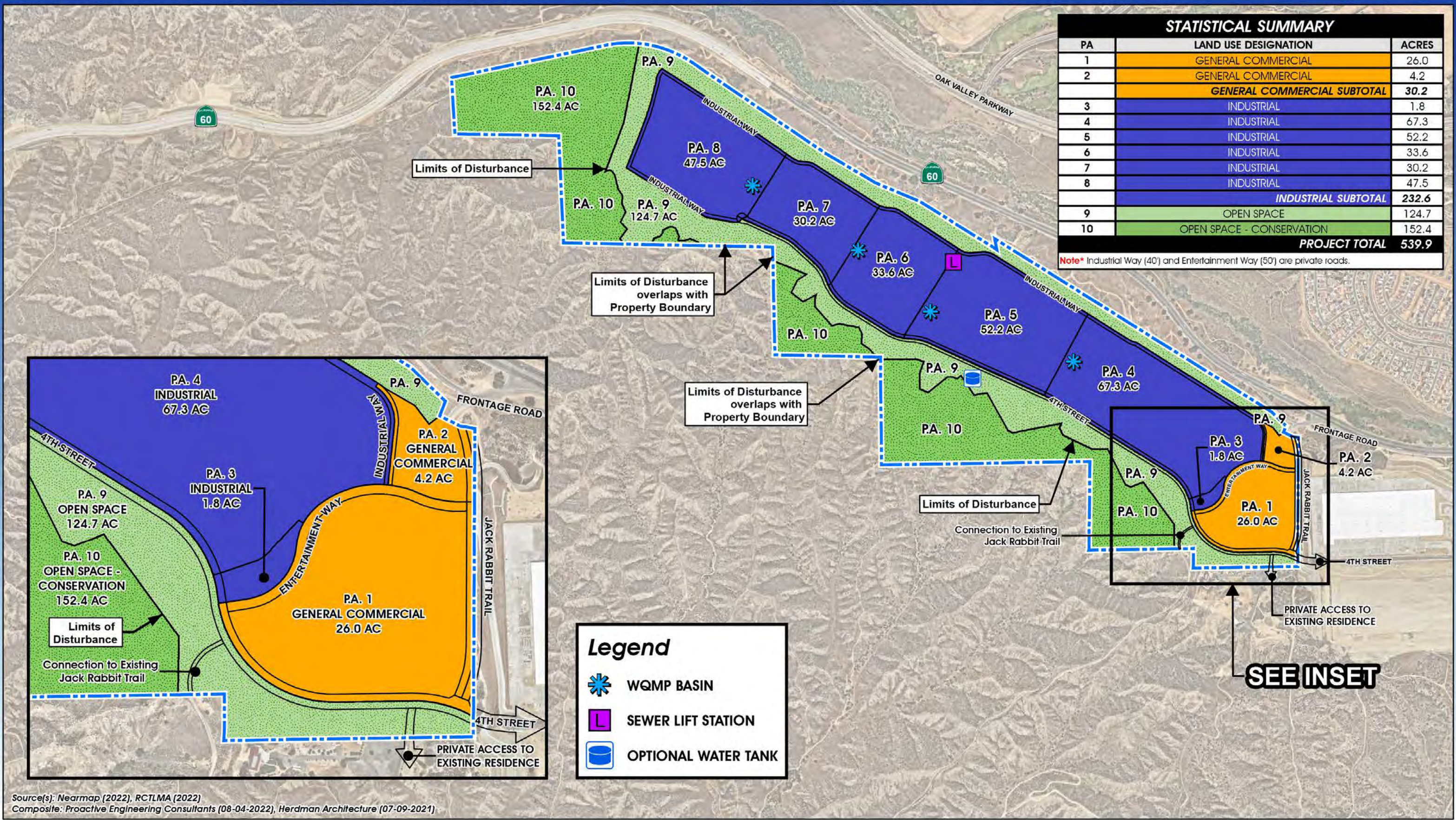
GLENN LUKOS ASSOCIATES

Exhibit 9B



STATISTICAL SUMMARY		
PA	LAND USE DESIGNATION	ACRES
1	GENERAL COMMERCIAL	26.0
2	GENERAL COMMERCIAL	4.2
GENERAL COMMERCIAL SUBTOTAL		30.2
3	INDUSTRIAL	1.8
4	INDUSTRIAL	67.3
5	INDUSTRIAL	52.2
6	INDUSTRIAL	33.6
7	INDUSTRIAL	30.2
8	INDUSTRIAL	47.5
INDUSTRIAL SUBTOTAL		232.6
9	OPEN SPACE	124.7
10	OPEN SPACE - CONSERVATION	152.4
PROJECT TOTAL		539.9

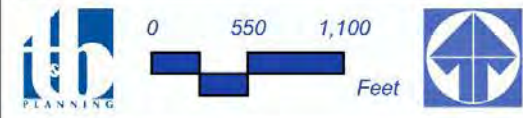
Note* Industrial Way (40') and Entertainment Way (50') are private roads.



Source(s): Nearmap (2022), RCTLMA (2022)
 Composite: Proactive Engineering Consultants (08-04-2022), Herdman Architecture (07-09-2021)

BEAUMONT POINTE SPECIFIC PLAN

JOB NUMBER: 1095-003
 DATE: 08-10-2022



LAND USE PLAN

APPENDIX B – GIS ANALYSIS AND BOUNDARY INACCURACIES

This document discusses inaccuracies with geographic information systems (GIS)-based boundaries and data utilized by the County of Riverside and the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) versus the boundaries utilized for analysis for the Beaumont Pointe Specific Plan that are based on the more accurate American Land Title Association (ALTA) surveys. The GIS-based boundaries that have inaccuracies include the Assessor's Parcels, MSHCP Criteria Cells, and Public/Quasi-Public (PQP) Conserved Lands. In addition, the County GIS boundaries depict an incorrect right-of-way (ROW) alignment for Jack Rabbit Trail Road, which results in incorrect boundaries depicted for the parcels adjoining the ROW within the Project proponent's ownership. The following discusses these inaccuracies and how these have been corrected/adjusted for the Beaumont Pointe Specific Plan Criteria Refinement Analysis.

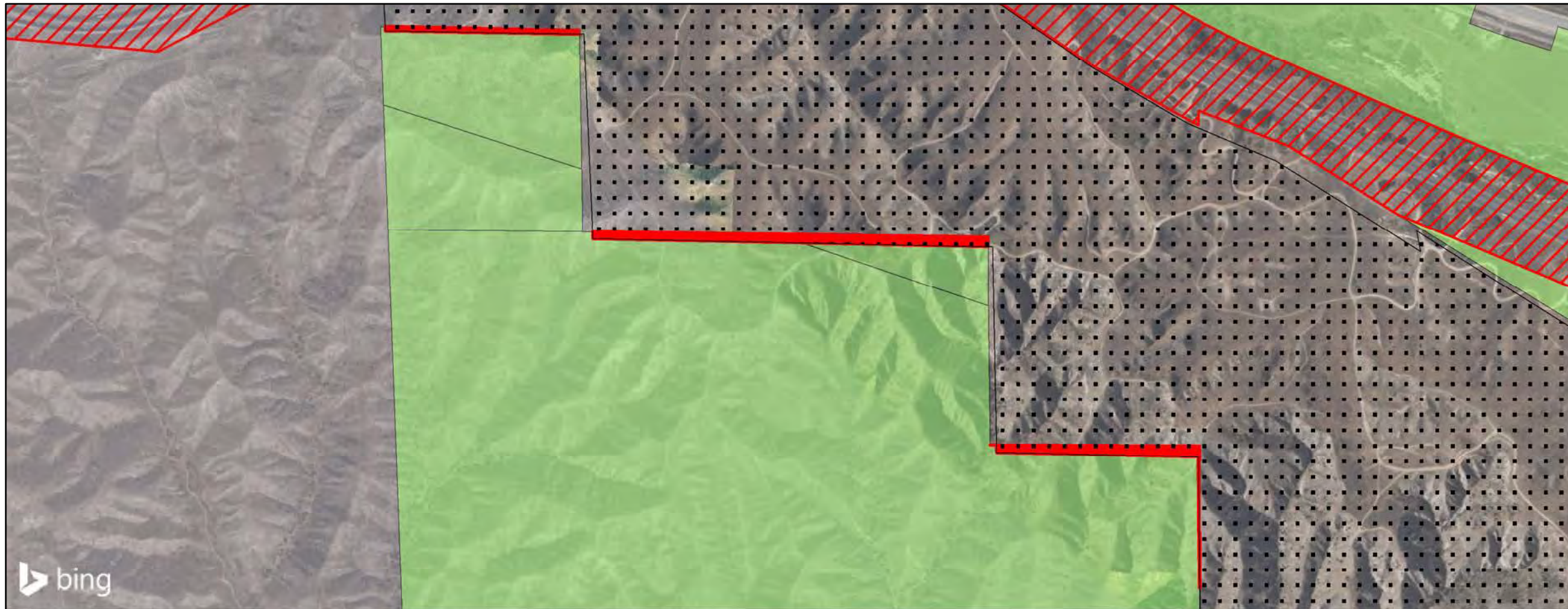
MSHCP Layers






The GIS-based boundaries utilized by the County and Regional Conservation Authority (RCA) for the MSHCP are incorrect for portions of the PQP Conserved Lands and Criteria Cells coinciding with the Project site. A block of Bureau of Land Management (BLM) lands occurring adjacent to the Project site is designated as PQP Conserved Lands. The BLM lands are adjacent to five parcels associated with the Project site, including APN# 422-060-002, 422-060-005, 422-060-009, 422-060-010 and 422-060-022. However, the boundary of the BLM lands and the adjoining parcels is incorrectly drawn compared with the ALTA survey boundary, resulting in slight areas of overlap between the PQP Conserved Land boundary and the ALTA survey boundary for the Project site. To correct this overlap, GLA re-drew the PQP boundary to match with the ALTA survey boundary for the Project site, for use solely with analyses related to the Beaumont Pointe Specific Plan. Exhibit 1 depicts the incorrect alignment of the PQP boundary and the resulting overlap with the Project site boundary, as well as the adjusted boundary for the PQP lands.

The boundaries for Criteria Cells 933, 936, 1030, 1032, 1125 and 1126, and Cell Group A' do not display correctly relative to the ALTA survey boundary for the Project site, as portions of the Cell and Cell Group boundaries are intended to align with the individual parcel boundaries. In one example, Cells 936, 1030 and 1032 are shifted west and north relative to correct parcel boundaries. In another example, Cell 1126 is intended to be exclusively part of Cell Group A' of the Reche Canyon/Badlands Area Plan and not part of the Pass Area Plan. However, as the County/RCA GIS boundaries are drawn, a small portion of Cell 1126 is depicted outside of (north of) Cell Group A'. To correct these inaccuracies, GLA re-drew the edges of those Cells that correspond with parcels associated with the Project, and re-drew the edges of Cell 1126 and 1032, and re-drew the boundary of Cell Group A', so that Cell 1126 is fully within Cell Group A' and Cell 1032 adjoins the Cell Group. Exhibit 2 displays the original and adjusted boundaries for the Criteria Cell and Cell Group relative to the Project and parcel boundaries.

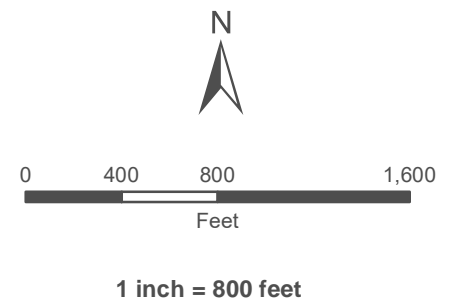
Assessor's Parcels and Jack Rabbit Trail

The County GIS data depicts inaccurate boundaries for the Assessor's Parcels corresponding to the Project site and the proposed offsite conservation areas, which result in incorrect boundary locations as well as incorrect acreages for the parcels. The Criteria Refinement Analysis utilizes boundaries for the overall Project site and individual Assessor's Parcels based on the ALTA survey. The total Project site acreage is 539.9 acres, which includes 11 individual parcels (APN# 422-060-002, 422-060-005, 422-060-009, 422-060-010, 422-060-016, 422-060-017, 422-060-018, 422-060-021, 422-060-022, 422-170-005, and 422-170-008) plus the onsite portion of the existing Jack Rabbit Trail. The proposed offsite conservation lands total 78.40 acres, consisting of four parcels (APN# 422-170-007, 422-170-009, 422-170-010, and 422-170-011), but excluding the offsite Jack Rabbit Trail ROW adjacent to these four parcels. The County GIS data depicts a ROW boundary for Jack Rabbit Trail that does not match the dedicated ROW identified by the ALTA survey. The Criteria Refinement Analysis utilizes the correct boundaries for the four parcels and road ROW based on the ALTA survey. Exhibit 3 depicts the incorrect boundaries Jack Rabbit Trail ROW and the four adjoining parcels, as well as the correct boundaries based on the ALTA survey.



-  Project Site
-  60 Freeway Easement
-  PQP Overlap with Project Boundary
-  PQP Conserved Lands
-  PQP Conserved Lands - GLA Modified

bing



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 18, 2021

BEAUMONT POINTE

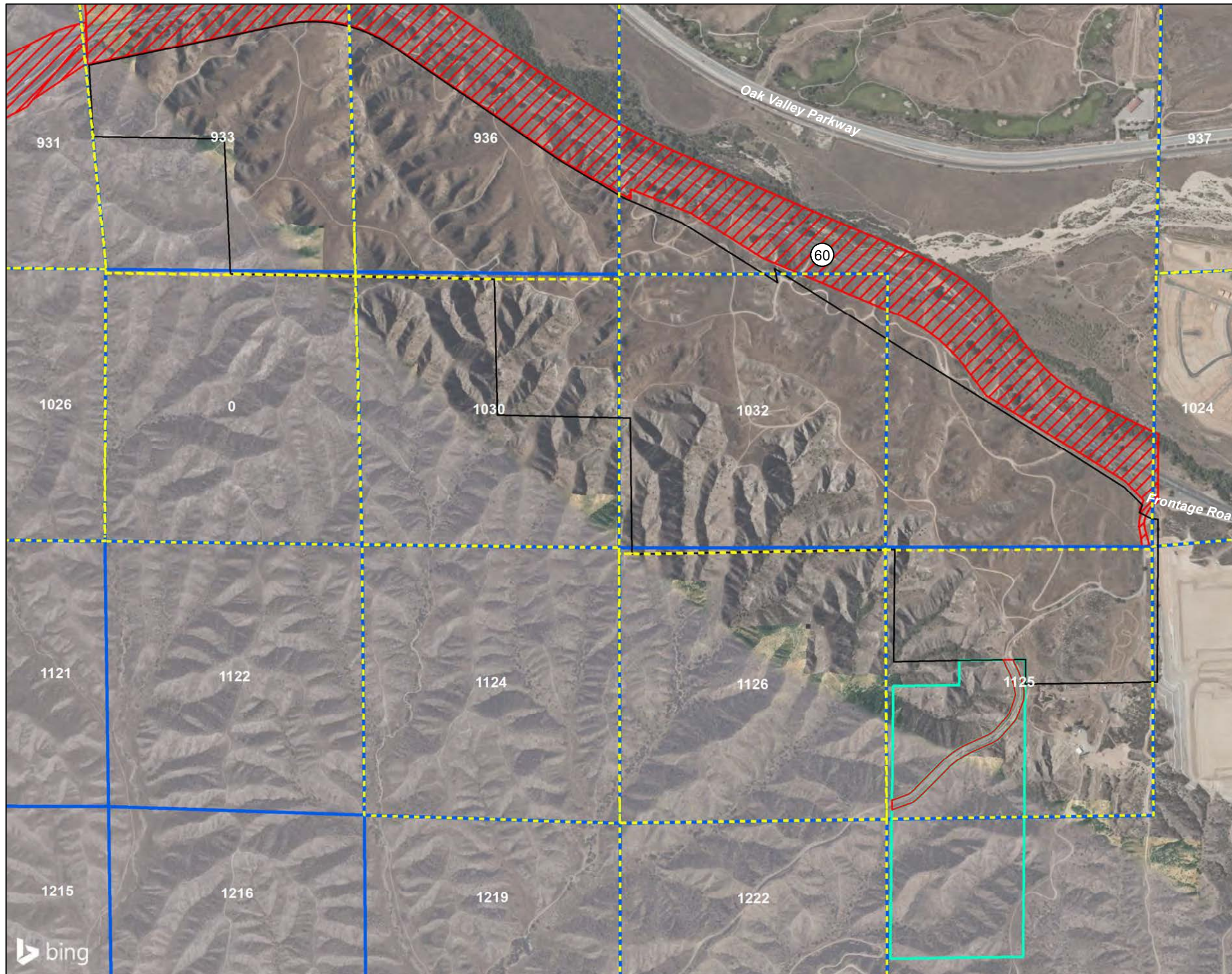
PQP Conserved Land Boundary Overlap











GLENN LUKOS ASSOCIATES

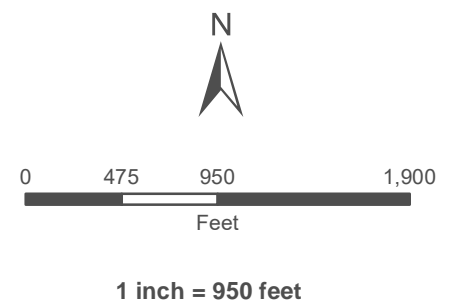


Exhibit 1

bing



-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  CriteriaCells_ForCriteriaRefinementOnly
-  PQP Overlap with Project Boundary
-  60 Freeway Easement
-  PQP Conserved Lands
-  RCA MSHCP Conserved Lands
-  Criteria Cells
-  Criteria Cells - GLA Modified



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 18, 2021

BEAUMONT POINTE

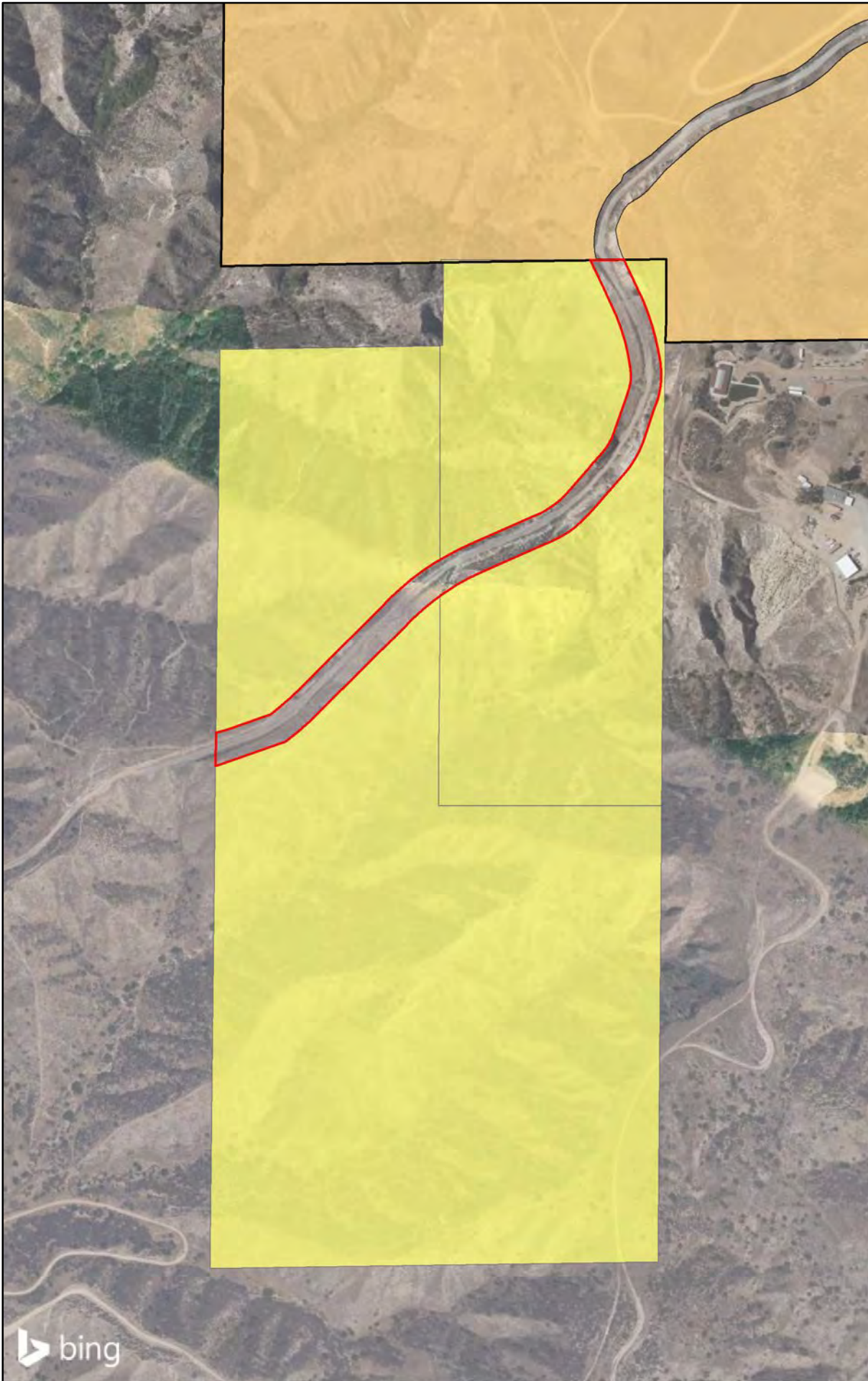
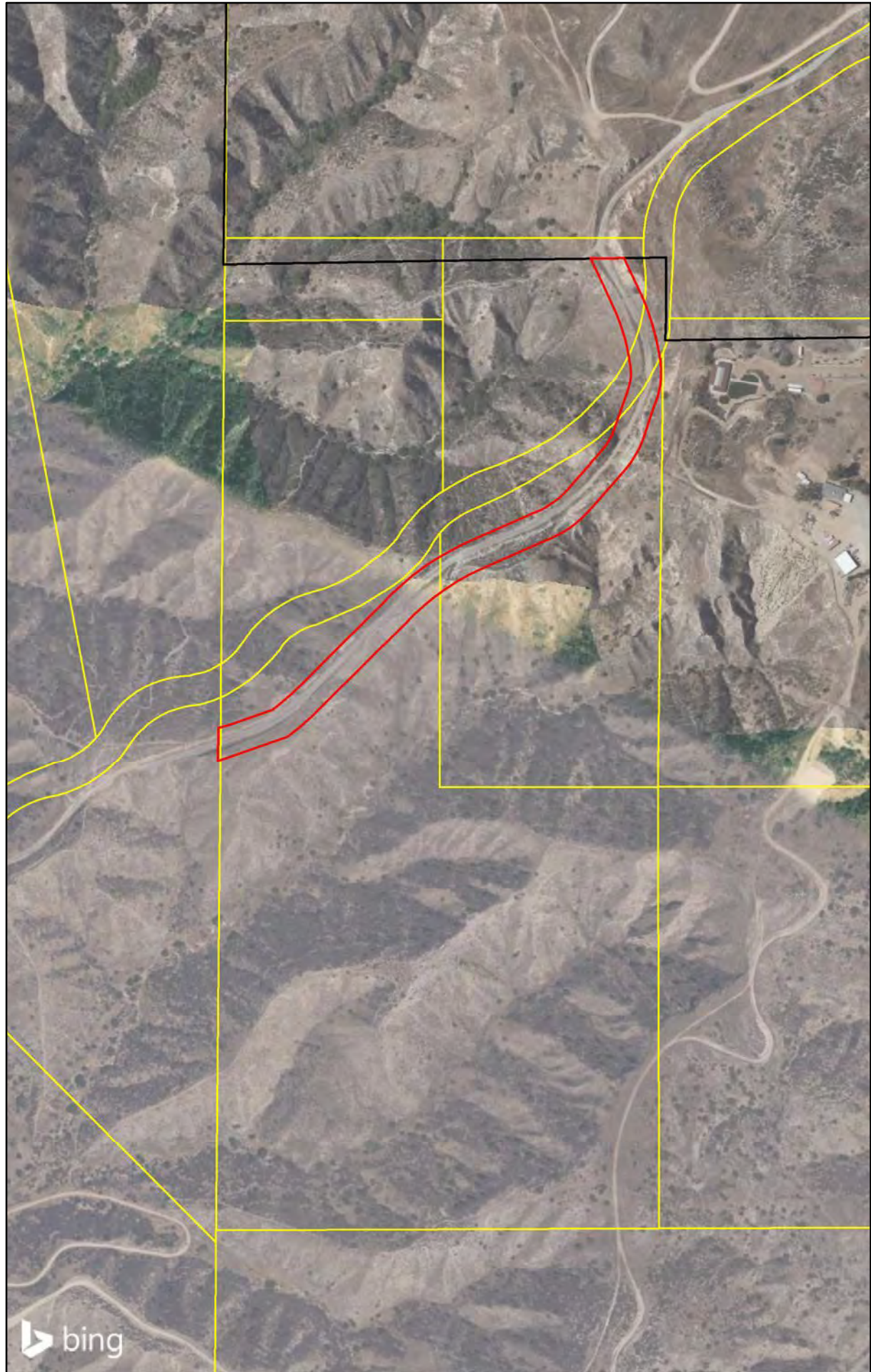
Criteria Cells Boundary Overlap

GLENN LUKOS ASSOCIATES

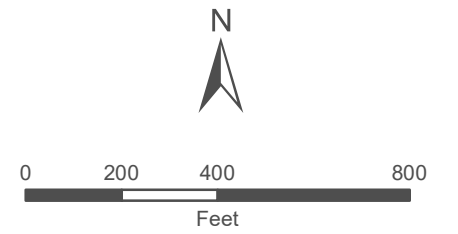


Exhibit 2





- Project Site
- Existing Jack Rabbit Trail Dedication
- Riverside County Parcels
- Onsite Parcels - ALTA Survey
- Offsite Parcels - ALTA Survey



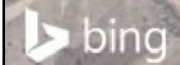
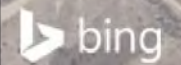
1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 18, 2021

BEAUMONT POINTE
 JRTS County ROW Boundary Overlap

GLENN LUKOS ASSOCIATES

Exhibit 3





Criteria Refinement Review Findings

CR #: 21-03-09-01

Date: 09.09.2022

Permittee:	City of Beaumont
Case Information:	Beaumont Pointe Specific Plan
Project Site Acreage:	539.87 acres¹ (includes all on-site components)
On-Site Conservation:	152.42 acres (97.20 acres described² conserved land; 55.22 acres undescrbed Replacement Lands³)
Off-Site Conservation:	78.40 acres of Replacement Lands

Consistency Statement for Criteria Refinement: *Based on the equivalency analysis set forth by Section 6.5 of the MSHCP, included herein, the proposed project is consistent with the MSHCP based on the equivalent and/or superior biological value of the proposed conservation of on-site Conservation and on-site/off-site Replacement Lands.*

Applicable Core/Linkage - Project Site: _____ Proposed Core 3

Applicable Core/Linkage – Conservation/Replacement Lands: _____ Proposed Core 3

Area Plan: _____ The Pass Area and Reche Canyon/Badlands

List of APNs for Development and On-Site Conservation Parcels (The Pass Area Plan)

APN	Project Sub-Unit	Independent Cell/Cell Group
422-060-002*	SU1 – Potrero/Badlands	933, 936
422-060-005*	SU1 – Potrero/Badlands	933
422-060-009	SU1 – Potrero/Badlands	1030, 1032
422-060-010*	SU1 – Potrero/Badlands	1030, 1032
422-060-016	N/A	N/A
422-060-017	N/A	N/A
422-060-018	N/A	N/A
422-060-021	SU1 – Potrero/Badlands	1032
422-060-022*	SU1 – Potrero/Badlands	1032, 1125**, Cell Group A’
422-170-005*	SU1 – Potrero/Badlands	1125
422-170-008	SU1 – Potrero/Badlands	1125
Jack Rabbit Trail Easement	N/A	N/A

*All or a portion of the parcel is described for conservation. **A portion of Cell 1125 is independent of a Cell Group in The Pass Area Plan and a portion is located within Cell Group A’ in the Reche Canyon/Badlands Area Plan.

¹ Note that acreages presented in the Criteria Refinement Analysis and in these Findings may vary slightly due to rounding.
² “Described” refers to lands described for conservation by the MSHCP Criteria, whereas “undescrbed” refers to land not described for conservation per MSHCP Criteria.
³ “Replacement Land” refers to lands being proposed for conservation, inside or outside of Cells, that are not described for conservation per MSHCP Criteria. As required by the MSHCP, lands proposed as replacement for impacts to described conservation land must not be described for conservation by MSHCP Cell or Cell Group Criteria. Specific to this proposed Criteria Refinement, some of the proposed “undescrbed” Replacement Lands are located on-site while others are located off-site, but are adjacent to lands that are existing conservation lands (i.e., Additional Reserve Lands or Public/Quasi-Public).



Criteria Refinement Review Findings

CR #: 21-03-09-01

Date: 09.09.2022

List of APNs for Off-site Conservation Parcels (Reche Canyon/Badlands Area Plan)

APN	Project Sub-Unit	Cell Group*
422-170-007	SU3 – Badlands North	A'
422-170-009	SU3 – Badlands North	A'
422-170-010**	SU3 – Badlands North	A'
422-170-011	SU3 – Badlands North	A'

*Cell Group A' consists of two Cells (1125 and 1126), of which a portion of Cell 1125 is located both in this Cell Group A' of Reche Canyon/Badlands Area Plan and as an Independent Cell in The Pass Area Plan.

**A portion of this APN is not described for conservation, and the majority is outside of (but adjacent to) the Criteria Area.

Project Information

To address Reserve Assembly concerns associated with the proposed Beaumont Point Specific Plan, and on behalf of the City of Beaumont, the applicant (Beaumont Point Partners, LLC) is proposing a Criteria Refinement (CR) as described in the document titled “Criteria Refinement Analysis, Beaumont Point Specific Plan/Proposed Core 3, Western Riverside County” (*CR Analysis*). A *CR Analysis* was prepared by Glenn Lukos Associates (GLA) dated February 8, 2022 with a subsequent revision, dated September 2, 2022. The revised *CR Analysis* addressed comments from U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) during their 60-day comment period. Namely, the CR needed to provide additional open space lands to support the California State Route 60 wildlife culvert at the northwest end of the development. The revisions presented in these Findings reflect modifications to address this comment.

Project Location and Project Description

The Beaumont Pointe Specific Plan (project) site represents approximately 539.87 acres and is located within the City of Beaumont’s (City) Sphere of Influence (SOI), and would require annexation from unincorporated Riverside County into the City. The City is located east of the City of Moreno Valley and unincorporated Riverside County, west of the City of Banning, north of the City of San Jacinto, and south of the City of Calimesa (*CR Analysis* Exhibits 1 and 2A). California State Route (SR-) 60 abuts the project site to the north, Interstate 10 (I-10) is located approximately 1.5 miles to the north of the site, and SR-79 is located approximately 1.5 miles to the east of the site. Some acreage proposed for conservation is located “off-site” and is also within unincorporated Riverside County, but is outside of the City’s SOI. *CR Analysis* Exhibit 2B specifically depicts the Assessor Parcels listed above.

The project applicant proposes development of 246 acres of industrial facilities and 30 acres of commercial facilities (*CR Analysis* Exhibit 3). Specifically, the project proposes to develop a recreational/entertainment commercial development of approximately 246,000 square feet (SF) of general commercial uses in addition to a 125-room hotel and approximately 4,995,000 SF of industrial and warehouse uses. Development of these facilities will also require large water quality treatment basins and a road circulation system that provides access to all sides of the buildings for trucks, employees, and fire/emergency services. Regional access to the project site would be provided from SR-60 at Potrero Boulevard and I-10 at Beaumont



Criteria Refinement Review Findings

CR #: 21-03-09-01

Date: 09.09.2022

Avenue. The project includes the construction of four main roadways for on-site circulation, including 4th Street, Jack Rabbit Trail, Entertainment Avenue, and Industrial Way. The project will be developed in at least four phases with buildout anticipated in 2027.

The project site also contains approximately 263.40 acres of proposed open space, including 124.70 acres designated as “Project Maintained Open Space” (Planning Area [PA] 9) consisting of open space to be managed by the project, and 152.42 acres designated as “Conservation Land” (PA 10) that would be conserved as natural habitat to support Reserve Assembly as required by the MSHCP. Portions of the 124.70 acres in PA 9 will be impacted by remedial grading, improved with manufactured slopes, and/or used for wildfire fuel modification purposes. Disturbed areas within the project-maintained Open Space will be re-planted with native vegetation to the greatest extent possible and will serve as a buffer between the development footprint and the lands proposed for conservation. This privately maintained 124.70 acres of open space is not part of this Criteria Refinement, and will not be discussed further below. The project’s fuel modification limits and manufactured slopes (PA 9) will not encroach into the existing MSHCP Conservation Area (e.g., RCA-owned lands), lands proposed for on-site conservation by the project, nor the on-site undescribed Replacement Lands proposed by the project. Fuel modification limits are depicted on *CR Analysis* Exhibit 3. All proposed road improvements occur within the project site; there are no road or other off-site improvements.

The project will construct wildlife fencing to complement fencing constructed as part of the SR-60 improvements. Project fencing would extend along the western and southwestern boundary of the site and will connect to SR-60 fencing (to be constructed by Caltrans) that will extend to the easternmost wildlife crossings at the western end of the project site. Furthermore, project fencing will include one-way swing gates that will allow medium- and large-sized mammals entering the site from the north and east to exit the project site into the adjacent conserved lands associated with Proposed Core 3. Fencing plans will be reviewed and approved by RCA and the Wildlife Agencies⁴ during the future Joint Project Review (JPR) process and/or prior to any ground disturbance associated with the proposed project.

The boundaries for the Assessors Parcels, MSHCP Criteria Cells, existing Public/Quasi-Public (PQP) Conserved Lands, and Jack Rabbit Trail Right-Of-Way (ROW), as depicted in the Riverside County GIS files, are not fully accurate relative to the boundaries based on the more accurate American Land Title Association (ALTA) surveys⁵. The acreages referenced throughout the *CR Analysis* and in these Findings are based on actual civil-surveyed boundaries. *CR Analysis* Appendix B provides a discussion of the GIS analysis and internal adjustments made by GLA to the Criteria Cells and PQP Conserved Lands to match with the ALTA survey results.

⁴ “Wildlife Agencies” collectively refers to the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.

⁵ This is a specialized boundary survey that adheres to strict standards developed by the American Land Title Association (ALTA), the National Society of Professional Surveyors (NSPS), and the American Congress on Surveying and Mapping (ACSM). Source: geoforward.com



Criteria Refinement Review Findings

CR #: 21-03-09-01

Date: 09.09.2022

Reserve Assembly – Criteria Description

The project site is located within Criteria Cells 933, 936, 1030, 1032, and 1125 of Subunit 1 (Potrero/Badlands) of The Pass Area Plan, and with “off-site” proposed conservation located within Cell Group A’ of Subunit 3 (Badlands North) of the Reche Canyon/Badlands Area Plan. For each of these Cells and the one Cell Group, lands described for conservation will contribute to the assembly of Proposed Core 3. The MSHCP defines a Core as “a block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.” Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the overall MSHCP Plan Area. Proposed Core 3 consists mainly of private lands but also contains a few Public/Quasi-Public parcels including De Anza Cycle Park. This Proposed Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. *CR Analysis* Exhibits 4A and 4B provide the general area of Proposed Core 3, which includes existing Conserved Lands and lands that are targeted for conservation but have not yet been conserved. This Proposed Core has both a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by existing land uses, including agricultural use.

Although specific Linkages are not identified as part of Proposed Core 3, the overall area identified for Proposed Core 3 supports wildlife movement and therefore functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core. *CR Analysis* Exhibits 4A and 4B also depict general wildlife movement through the Core as northwest-southeast, although movement occurs throughout the Core lands, including through and alongside the project site. For more information regarding wildlife movement, refer below to *Effects on Core Areas* in these Findings.

Per MSHCP Volume I, Section 3.3.10, the applicable criteria description (herein referred to as “MSHCP Criteria”) for each Cell and Cell Group A’ in Proposed Core 3, subject to the proposed project impacts, is presented in Table 1.

Table 1. Cell and Cell Group Criteria for Proposed Development, On-site Conservation, and On- and Off-site Replacement Lands

Cell/ Cell Group	Criteria
933	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and water. Areas conserved within this Cell Group will be connected to chaparral and wetland habitat proposed for conservation in Cell 936 to the east. Conservation within this Cell Group will range from 20%-30% focusing on the southeastern portion of the Cell.



Criteria Refinement Review Findings

CR #: 21-03-09-01

Date: 09.09.2022

936	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on grassland, chaparral, and coastal sage scrub. Areas conserved within this Cell Group will be connected to uplands proposed for conservation in Cells 933 and 1030 to the west and south. Conservation within this Cell Group will range from 10%-20% focusing on the southwestern portion of the Cell Group.
1030	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral, coastal sage scrub, and grassland. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cells 1032 and 936 to the east and north. Conservation within this Cell will range from 15%-25% focusing on the northeastern portion of the Cell.
1032	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral, coastal sage scrub, and grassland. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cells 1030 and 1125 to the west and southeast, and to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group A' in the Reche Canyon/Badlands Area Plan to the south. Conservation within this Cell will range from 45%-55% focusing on the southwestern portion of the Cell.
1125 (Independent)	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral and coastal sage scrub. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cell 1032 to the northwest and in Cell Group A' in the Reche Canyon/Badlands Area Plan to the west and south. Conservation within this Cell will range from 15%-25% focusing on the northwestern portion of the Cell.
Cell Group A' (1125, 1126)	Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and grassland habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups Y to the west and B' to the south and in Cell 1125 in the Pass Area Plan to the north and to chaparral, coastal sage scrub, and grassland habitat proposed for conservation in Cell 1032 in the Pass Area Plan also to the north. Conservation within this Cell Group will range from 55%-65% of the Cell Group focusing in the western portion of the Cell Group.

Notes:

- Cell 1125 is shared between the Pass Area Plan and the Reche Canyon/Badlands Area Plan. The total acreage of Cell 1125 is approximately 156.39 acres. Within the Reche Canyon/Badlands Area Plan, only a portion of Cell 1125 is included within Cell Group A' along with the entirety of Cell 1126, with the Cell Group A' size being approximately 244.51 acres. However, although the Area Plan boundary shows only the remaining portion of Cell 1125 to be geographically within the Pass Area Plan, the percentage range goal identified by the Cell Criteria is intended to be applied to the gross acreage of the Cell and not just the portion within the Pass Area Plan boundary.
- The project site also extends into Cell 1126, but no on- or off-site development or privately maintained open space is proposed in this Cell. Instead, 78.40 acres of additional Replacement Lands (not described for Conservation in the MSHCP criteria) are proposed in this Cell.

Criteria Refinement Introduction

Criteria Refinements may be initiated by Permittees, or at the request of private entities to Permittees if agreed to by the applicable Permittee, either for the purpose of correcting minor discrepancies or inaccuracies or for evaluating a proposed alternative conservation configuration that is of equivalent or superior benefit to Covered Species. As part of any Criteria Refinement, Replacement Lands must be proposed that are quantitatively and qualitatively equivalent or superior to the land impacted by a project



Criteria Refinement Review Findings

CR #: 21-03-09-01

Date: 09.09.2022

that is described for conservation. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species objectives.

As discussed below, the proposed project would not satisfy the minimum criteria for some of the individual Cells. However, additional lands are proposed for conservation/replacement that would not just exceed the minimum conservation goal for the combined independent Cells and Cell Group A', but would also exceed the mid-range goal of the targeted conservation range. Furthermore, as described below in the *Equivalency Requirements* section, the project is proposing an alternative conservation configuration that would shift conservation to the west, along the "northwest to southwest" side of the proposed project site, and would still functionally contribute to Proposed Core 3. This conservation configuration would provide equivalent or superior biological value as compared to leaving the project site undeveloped and ultimately conserved consistent with the applicable MSHCP Criteria and policies.

Purpose of Criteria Refinement

The project site is located within five Cells (933, 936, 1030, 1032, and 1125) of the Pass Area Plan. The described conservation range for the portion of the project site coinciding with these Cells in Proposed Core 3 is approximately 166 to 247 acres. The collective mid-range goal for these five Cells is 206.89 acres⁶. The acreage of described conservation for each Cell or Group was calculated using the percentage goal and the gross acreage of the Cell or Cell Group. Three of Criteria Cells (933, 1030 and 1032) contain PQP Lands. In those cases, the acreage of lands described for conservation by the Cell Criteria was not based on the net acreage of the Cell or Cell Group minus the PQP lands, but instead the percentage and location goals taking into account the PQP Lands and the Criteria focus on other parts of the Cell or Cell Group that are not yet conserved. For example, the southwestern portion of Cell 933 contains PQP lands, and the Criteria for Cell 933 describes 20% to 30% of the Cell to be conserved within the southeastern portion of Cell. The acreage of lands described for conservation in Cell 933 was calculated by multiplying the described conservation percentage with the gross Cell acreage (157.16 acres based on GLA's adjustment of the Cell boundaries; refer to *CR Analysis* Appendix B, GIS Analysis and Boundary Inaccuracies), with a resulting conservation range of approximately 31 to 47 acres (approximate mid-range goal of 37.85 acres based on GLA's GIS-drawn representation as an approximation of the Criteria).

Within the approximate 539.87-acre project site, 109.69 acres of lands described for conservation by MSHCP Criteria (in the five Cells mentioned previously) will be impacted (Findings Exhibit A). Also, within the 539.87-acre project site, 152.42 acres are proposed for on-site conservation/replacement. This 152.42 acres includes a combination of 97.20 acres (described on-site conservation), 55.22 acres

⁶ The described conservation acreages presented in *CR Analysis* are an approximation of the mid-range acreage goals stated by the MSHCP Criteria based on GLA's representation of the described conservation areas in GIS. In addition, given that the acreages are based on adjustments made by GLA to address boundary inaccuracies with County GIS data, it is understood that there may be a margin of error in the acreages of approximately one to two acres.



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(undescribed on-site Replacement Lands), as well as 1.36 acres (undescribed on-site Replacement Lands) located outside of Cells, but directly adjacent to Cells 1125 and 1032 (*CR Analysis* Exhibit 5).

The combined on-site described lands and on-site undescribed Replacement Lands will result in a surplus of conservation acreage in Cell 933, but this is still not enough acreage in Cells 936, 1030, 1032, and 1125 to offset the impacts to 109.69 acres of described lands, thus resulting in an overall conservation deficit of 54.47 acres in The Pass Area Plan. In other words, even with the conveyance of 152.42 on-site acres of described and undescribed lands, this amount of land still does not meet the mid-range acreage goal (206.89 acres) for these four Cells. Refer to *CR Analysis* Table 3-2 for a summary depiction of Cell goals, acreages described for conservation, on-site lands to be conserved/replaced, and the resulting conservation acreage deficit.

To address the 54.47-acre deficit, the project proposes 37.89 acres of off-site Replacement Lands (undescribed) within Cell Group A' (consisting of two Cells, 1125 and 1126) located within The Reche Canyon/Badlands Area Plan. The project also proposes another 40.51 acres of off-site Replacement Lands that are not located within the Criteria Area, but are directly adjacent to Cell Group A'. The proposed off-site undescribed Replacement Lands in Cell Group A', along with the additional adjacent off-site undescribed Replacement Lands to the north in Cell 933 (collectively totaling 78.40 acres), are intended to offset the 54.47-acre deficit caused by impacts to lands described for conservation in Cells 926, 1030, 1032, and 1125.

Collectively, the project proposes conveyance of approximately 230.82 acres of lands described by MSHCP Criteria and undescribed Replacement Lands to the Reserve as follows:

- 152.42 on-site acres (includes 97.20 acres described in Cells, 53.86 acres undescribed Replacement Lands within Cells, and 1.36 acres undescribed Replacement Lands located outside of the Criteria Area), and
- 78.40 off-site acres (37.89 acres described within Cell Group A' and 40.51 acres of undescribed Replacement Lands located outside of the Criteria Area).

Based on the text above, Table 2 provides a summary of the acreages of impacts to MSHCP described lands resulting from development of the proposed project, as well as the acreages proposed to provide an equivalent or superior refinement of the applicable MSHCP Criteria.

Table 2. Summary of Impacts, Proposed On-site Conservation, and Proposed On-and Off-site Replacement Lands (in acres)

Criteria Cell	Described Conservation	Project Impacts to Described Lands	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
<i>ON-SITE</i>					
933	37.85	16.04	21.81	47.03	30.99
936	25.51	24.19	1.32	0.00	(24.19)
1030	30.25	13.72	16.53	0.16	(13.56)



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Criteria Cell	Described Conservation	Project Impacts to Described Lands	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
1032	81.76	42.75	39.01	5.54	(37.21)
1125	31.52	12.99	18.53	1.13	(11.86)
No Cell	N/A	N/A	N/A	1.36	1.36
<i>On-site Subtotal</i>	206.89	109.69	97.20	55.22	(54.47)
<i>On-site Total</i>			152.42 (on-site conservation/replacement)		
<i>OFF-SITE</i>					
Cell 1125	N/A	N/A	N/A	37.89	37.89
Not in Cell/Cell Group	N/A	N/A	N/A	40.51	40.51
<i>Off-site Total</i>				78.40	78.40
Total	206.89	109.69	97.20	133.62	23.93

Combining the on-site conservation (described), on-site Replacement Lands (undescribed), and off-site Replacement Lands (undescribed), including 133.62 acres of undescribed Replacement Lands (55.22 on-site acres plus 78.40 off-site acres) to offset impacts to 109.69 acres of on-site described lands, the proposed conservation would exceed described conservation by approximately 23.93 acres. A similar perspective would be to compare the 206.89 acres of described lands to the 230.82 acres of total conservation that will ultimately result with approval of this Criteria Refinement, also resulting in an approximate 23.93-acre gain.

Specific to Cell Group A’, this Cell Group covers approximately 244.51 acres and encompasses some of the proposed Replacement Lands (37.89 acres). The described conservation range for Cell Group A’ is approximately 134 to 159 acres (55% to 65%), or specifically, 146.74 acres is the mid-range acreage goal. Within the 244.51-acre Cell Group A’, there are approximately 154.26 acres already conserved (i.e., existing RCA Conserved Land also referred to as existing Additional Reserve Lands [ARL]). Therefore, approval of this Criteria Refinement would result in the total conservation (existing described lands, proposed described lands, and undescribed lands) in Cell Group A’ of 192.15 acres (refer to *CR Analysis* Table 3-3).

According to the *CR Analysis*, achieving the conservation goals under a strict adherence to the existing MSHCP Criteria would create a checkerboard conservation configuration across the southern half of the property, and make it impossible to develop the site to satisfy the goals of the proposed project. Based on the discussion above, approval of a Criteria Refinement is being requested to support the proposed alternative conservation configuration shifted to along the “northwest to southwest” side of proposed development. Through the Criteria Refinement process, the requested adjustments to the MSHCP Criteria would allow an economically viable project to be developed while still achieving the overall Reserve Assembly goals for Proposed Core 3, including accommodating wildlife movement along the western side



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of the project site in Cell 933 that is also relative to an alignment with the 20-foot by 20-foot culvert (i.e., undercrossing) constructed by Caltrans under SR-60 (refer to *Effects on Core Areas* below).

Equivalency Requirements pursuant to Section 6.5 of the MSHCP

The following sections are based on information provided in the *CR Analysis*. These sections provide the required equivalency analysis which compares the area impacted on the proposed project site (by development) to the area(s) being proposed and on- and off-site Replacement Lands (undescribed). The areas proposed as on-site conservation (described) also factor into parts of the discussion where they support the alternative conservation configuration, including ensuring connectivity between existing conserved lands and those proposed for conservation/replacement.

The equivalency requirements address the following categories: 1) effects on habitats; 2) effects on covered species; 3) effects on core areas (including wildlife movement due to one of Proposed Core 3's intended functions regarding the facilitation of wildlife movement); 4) effects on linkages and constrained linkages; 5) effects on non-contiguous habitat blocks; 6) effects on MSHCP configuration and management; 7) effects on ecotones and other conditions affecting species diversity; 8) equivalent or greater acreage; and 9) control over mitigation property being offered under the equivalency analysis.

1) EFFECTS ON HABITATS

The MSHCP Criteria identifies habitats/vegetation communities described for conservation to benefit Covered Species present or with the potential to occur. The Criteria Cells associated with the project site include three Habitat types intended to be conserved throughout the Cells, specifically chaparral, coastal sage scrub, and grassland⁷. Refer to *CR Analysis* Section 5.1 for a detailed evaluation and comparison regarding the total amount of Habitats (vegetation communities) described for conservation by the applicable MSHCP Criteria, including described areas to be impacted by the project, on-site described areas to be conserved by the project, and undescribed areas (both on- and off-site) proposed as Replacement Lands.

Note that the evaluations/comparisons used in this section of these Findings were performed using current vegetation mapping (2020) as well as using MSHCP 1994 Rough Step vegetation baseline. The 2020 mapping was used to evaluate the actual impacts to vegetation communities (Habitats) resulting from the proposed project, and the purpose of using the 1994 Rough Step vegetation baseline was to demonstrate that the proposed Criteria Refinement would still satisfy the applicable Rough Step requirements for the described Habitats.

⁷ The habitat accounts described in MSHCP Volume II, Section C, recognize two subassociations of grasslands (Valley and Foothill Grassland and Non-Native Grassland). The project site and off-site conservation lands (i.e., off-site Replacement) contain only non-native grasslands and do not support native grasslands. As such, all references to grasslands pertain to non-native grasslands.



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Included in the evaluation of the effects of the project on Habitats are those vegetation communities with the potential to support certain Covered Species, including those associated with the aforementioned chaparral, coastal sage scrub (Riversidean sage scrub), and grassland Habitats, as well as species associated with riparian/riverine areas, vernal pools and other ephemeral ponding features, and any other microhabitats that could be associated with the broader vegetation communities on the project site.

2020 Vegetation Communities

Based on the vegetation communities mapped in 2020 (Findings Exhibit C2), and as further described in *CR Analysis* Section 5.1.1, the proposed project would impact 109.69 acres described for conservation, which include the following communities: chaparral (0.21 acre), Riversidean sage scrub (24.40 acres), and non-native grassland (82.13 acres). In addition, the project would impact 0.03 acre of southern riparian scrub, 2.78 acres of disturbed areas, and 0.15 acre of developed areas associated with the existing on-site segment of Jack Rabbit Trail Road (*CR Analysis* Exhibit 6A, Table 5-1). The project proposes conveyance of 133.62 acres of undescribed Replacement Lands (55.22 on-site acres and 78.40 off-site acres), which include the following communities: 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, 86.01 acres of non-native grassland, 0.22 acre of southern riparian scrub, and 1.22 acres of disturbed areas.

Overall, approval of the Criteria Refinement would conserve a total of 79.43 acres of scrub vegetation (1.28 acres chaparral and 78.15 acres Riversidean sage scrub), which is an increase of 21.56 acres as compared to the lands described for conservation that would be impacted. The Criteria Refinement would also result in a slight increase (3.88 acres) in non-native grassland conserved (86.01 acres on the Replacement Lands as compared to 82.13 acres of impacted grasslands that are described for conservation). Furthermore, the Replacement Lands would at least be equivalent in biological functions and values as compared with the lands to be impacted. Also, refer below to *2 Effects on Covered Species* of these Findings, as well as *CR Analysis* Section 5.2, for additional details regarding the species supported by these vegetation communities.



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Rough Step 1994 Vegetation Communities

The proposed project site as well as the land proposed to be conveyed to the Reserve, are located within Rough Step Unit 2 (Findings Exhibit C1). Based on the 1994 vegetation communities, and as further described in *CR Analysis* Section 5.1.2, Exhibit 6B, and Table 5-2, the proposed project would impact 109.69 acres described for conservation, which include the following communities: 28.31 acres chaparral, 44.62 acres Riversidean sage scrub, and 36.76 acres non-native grassland. Based on the 1994 vegetation communities, the project proposes conveyance of 133.62 acres of undescribed Replacement Lands, which includes the following 1994 communities: 55.29 acres of chaparral, 62.25 acres of Riversidean sage scrub, and 16.09 acres of non-native grassland. Approval of the Criteria Refinement would result in Replacement Lands that would conserve a total of approximately 117.54 acres of scrub vegetation (chaparral and Riversidean sage scrub), which is an increase of 43.99 acres as compared to the 1994 mapped vegetation communities on lands described for conservation that would be impacted by the proposed project. Approval of the Criteria Refinement would result in a decrease in 1994 mapped non-native grassland conserved (16.09 acres of Replacement Lands as compared to 36.76 acres of lands described for conservation that would be impacted).

Although the 2021 Annual Report has not been finalized, the remaining development allowance as of the end of 2021 is preliminary as follows: 2,100.15 acres of coastal sage scrub, 2,268.88 acres of grasslands, 32.45 acres of riparian scrub, woodland, and forest, 38.73 acres of Riversidean alluvial fan sage scrub and 58.12 acres of woodlands and forests. As of the end of 2021, this unit remains in Rough Step.

Overall (conservation of both described and undescribed areas), approval of the proposed Criteria Refinement would conserve the following 1994 mapped vegetation communities: 97.58 acres of chaparral versus 70.60 acres described, for an increase of 26.98 acres, and 110.71 acres of Riversidean sage scrub versus 93.08 acres described, for an increase of 17.63 acres. The proposed Criteria Refinement would result in a decrease in 1994 mapped non-native grassland conserved (22.53 acres versus 43.20 acres). However, approval of the proposed Criteria Refinement would not cause Rough Step Unit 2 to go out of balance for any of the vegetation communities identified for this Rough Step Unit. A project-specific Rough Step analysis will also be included as part of the future JPR process.

The total proposed 1994 vegetation conserved would be at least equivalent in biological value compared to the total area of vegetation described (also based on 1994 vegetation) by the MSHCP, when considering the combined conservation of vegetation communities along with the Covered Species discussed below in *2 Effects on Covered Species*.

Riparian/Riverine/Vernal Pools

Using the 2020 vegetation mapping, the overall project site contains 3.80 acres of riparian/riverine areas, including 1.23 acres of riparian habitat (Southern Riparian Scrub) and 2.57 acres of unvegetated riverine areas consisting of ephemeral drainage features (*CR Analysis* Exhibit 7). Of the 3.80-acre total, approximately 0.42 acre would be impacted (0.39 acre impacted within described conservation, and 0.03 acre impacted



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outside of the Criteria Area). The remainder would be conserved (1.65 acres within undescribed Replacement Lands, and 1.70 acres within described conserved lands) to be conserved. In other words, 1.65 acres of undescribed lands that contain these riparian/riverine features would offset impacts to the described lands that contain these features. Furthermore, mitigation proposed for the 0.42 acre of impact will be included in a *Determination of Biologically Equivalent or Superior Preservation* document as part of the future JPR process.

Regarding functions and values of these impacted riparian/riverine features, the riparian areas on the project site do not contain suitable habitat for riparian bird species pursuant to MSHCP Section 6.1.2, as the riparian habitat lacks the appropriate vertical structure, density, width, and hydrology (for these species). The riverine areas are narrow, ephemeral drainage features that generally do not provide habitat for most Covered Species based on a combination of factors such as soil suitability, flow disturbance, and vegetation suitability. Furthermore, the unvegetated riverine features are not mapped as distinct vegetation communities, but instead as part of the surrounding scrub or grassland habitats. To that extent, the riverine areas are generally part of broader live-in Habitats identified for certain Covered Species as discussed below under *2 Effects on Covered Species*, but the specific riverine features do not provide unique Habitat opportunities for the Covered Species.

The project site does not contain vernal pools or any depressions (natural or artificial) that would inundate long enough to support resources that would provide habitat for vernal pool species, such as fairy shrimp. Based on this information and the overall badland topography and soils mapped within the project site (Findings Exhibit D), habitat to support vernal pool species is lacking and will not be discussed further.

Habitats Summary

In summary, approval of the Criteria Refinement would result in the conservation of lands that would be equivalent or superior in acreages of Habitats provided, as well as providing equivalent or superior biological functions and values as compared to the described lands to be impacted. Also, refer below to *2 Effects on Covered Species* of these Findings, as well as *CR Analysis* Section 5.2, for additional details regarding the species supported by the Habitats both impacted and proposed to be conserved/replaced as described above.

2) EFFECTS ON COVERED SPECIES

Planning Species

MSHCP Section 3.2.3 identifies a number of Planning Species for Proposed Core 3 that would utilize portions of the Core for live-in and movement habitat. Planning Species include Nevin's barberry (*Berberis nevinii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), loggerhead shrike (*Lanius ludovicianus*), Bell's sage sparrow (*Amphispiza belli belli*), cactus wren (*Campylorhynchus brunneicapillus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), Los Angeles pocket mouse



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(*Perognathus longimembris brevinasus*), Stephens' kangaroo rat (*Dipodomys stephensi*), bobcat (*Lynx rufus*), and mountain lion (*Puma concolor*). Not all of these species have the potential to occur on the project site.

The following analysis discusses the Planning Species that do or do not have a potential to occur at the project site and compares the lands described for conservation by the MSHCP versus what will be conserved/replaced by the project and how the alternative conservation configuration will support these species, if applicable. Figures depicting live-in habitat for Planning Species, expected to be associated with the project site and Replacement Lands, are provided in *CR Analysis* Exhibits 8A and 8B.

Plant Species

The only plant species included in the list of Planning Species for Proposed Core 3 is Nevin's barberry. This plant species was not detected on the project site during focused plant surveys and is not expected to occur due to a lack of suitable habitat. Furthermore, Nevin's barberry is not considered as a Planning Species for the portion of Proposed Core 3 corresponding to the areas that would be impacted by development of the project site⁸. In addition, the project site is not located within the MSHCP survey area for this species, and the project would not be required to address it on a project-specific level.

Avian Species

Based on the *CR Analysis* and the presence of suitable vegetation communities, three of the avian Planning Species, specifically southern California rufous-crowned sparrow, loggerhead shrike, and Bell's sage sparrow have a potential to occur on the project site. Due to the lack of cactus scrub patches, cactus wren is not expected to nest within the project site, but the site could support movement of this species through existing Riversidean sage scrub.

Southern California Rufous-crowned Sparrow and Loggerhead Shrike. Because the habitat conditions, including vegetation communities, are similar, these two species are being discussed together. Approximately 202.25 acres of the project described for conservation contain habitats with the potential to support these two species, including chaparral, Riversidean sage scrub, and grassland. Development of the project site will impact approximately 106.74 acres of these habitats, but will conserve 132.18 acres of these same habitats on the Replacement Lands, including 54.00 on-site acres and 78.18 off-site acres. The project will also conserve the remaining 95.51 on-site acres of these vegetation communities in areas described for conservation. Refer to *CR Analysis* Table 5-3 (Southern California Rufous-Crowned Sparrow) and Table 5-5 (Loggerhead Shrike) for a more detailed acreage comparison of impacted live-in habitat for these species, as compared to the Replacement Lands proposed for conservation by the project. Collectively, this results in 227.69 acres (including 132.18 acres of undescribed Replacement Lands) of suitable live-in habitat associated with chaparral, Riversidean sage scrub,

⁸ Nevin's barberry is listed more specifically in SU3 – Badlands North of Reche/Badlands AP, in which the project is proposing conservation, not impacts.



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and grassland habitats suitable to offset impacts to 106.74 acres of described lands. While the non-native grassland acreage proposed for conservation is slightly less than the acreage being impacted, the live-in habitat for these species in the proposed Replacement Lands is of at least equivalent quality relative to native/non-native plant species composition, cover and density, and functions and values, such as nesting, foraging, and dispersal.

Bell's Sage Sparrow. Approximately 57.87 acres of the project site described for conservation contain habitats with the potential to support Bell's sage sparrow, including chaparral and Riversidean sage scrub. Development of the project site will impact approximately 24.61 acres of these habitats, but will conserve 46.17 acres of these same habitats on the Replacement Lands, including 12.39 on-site acres and 33.78 off-site acres. The project will also conserve the remaining 33.26 on-site acres of these vegetation communities in the areas described for conservation. Refer to *CR Analysis* Table 5-4 for a more detailed acreage comparison of impacted live-in habitat for this species, as compared to the Replacement Lands proposed for conservation by the project. Collectively, this will result in 79.43 acres (including 46.17 acres of undescribed Replacement Lands) of suitable live-in habitat associated with chaparral and Riversidean sage scrub, suitable to offset impacts to 24.61 acres of described lands. The live-in habitat in the proposed Replacement Lands is of at least equivalent quality relative to native/non-native plant species composition, cover and density, and functions and values, such as nesting, foraging, and dispersal.

Cactus Wren. MSHCP objectives for the cactus wren include the conservation of suitable habitat (desert scrub, Riversidean alluvial fan sage scrub, and Riversidean sage scrub) within the Riverside Lowland and San Jacinto Foothill Bioregions, with an objective to conserve micro-habitat (i.e., cactus patches) to support nesting. The project site does not contain cactus scrub, and therefore, does not contain the micro-habitat needed to support breeding cactus wrens. As such, the project site is generally not expected to provide live-in habitat for the cactus wren. However, the project site contains Riversidean sage scrub and, with its location at the edge of Proposed Core 3, the project site could support the dispersal of cactus wrens through the Core from the standpoint that shrubs could provide temporary shelter, and the scrub/grassland habitats could provide foraging opportunities for dispersing cactus wrens. In this context, the project would impact 24.61 acres of scrub habitats described for conservation versus 46.17 acres of undescribed Replacement Lands supporting scrub habitats, with the replacement scrub being at least equivalent in terms of overall quality (native species composition, density and cover, and the relative quantity of non-native species). Therefore, the Replacement Lands would at least be equivalent in providing potential cactus wren dispersal habitat as compared to the impacted lands described by the applicable MSHCP Criteria.

Small Mammals

San Bernardino Kangaroo Rat (SBKR). This species does not occur on the project site due to a lack of suitable habitat and is not considered as a Planning Species for the portion of Proposed Core 3 corresponding to the project site. Furthermore, the project site is not located within the MSHCP survey area for SBKR, and the project would not be required to address SBKR on a project-specific level.

Los Angeles Pocket Mouse (LAPM). This species has a very low potential to occur on the project site, and is generally not expected to occur due to a lack of habitat suitability. Per the MSHCP, a biological issue and



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consideration for both The Pass Area Plan and Reche Canyon/Badlands Area Plan is to “determine presence of potential Core Area for Los Angeles pocket mouse in San Timoteo Creek and tributaries and Badlands.” The project site is located just outside of the MSHCP survey area for this species, and the project would not be required to address LAPM on a project-specific level. Furthermore, the lands described by the applicable MSHCP Criteria for the project site are concentrated in the upslope areas and ridgelines that are not suitable habitat for LAPM.

Stephens’ Kangaroo Rat (SKR). This species has a potential to occur on the project site. The project site is located just outside of the SKR Habitat Conservation Plan (HCP); therefore, take coverage would be granted from the MSHCP. The MSHCP identifies two biological issues and considerations for addressing this species for The Pass Area Plan, including 1) Conserve Potrero Creek and associated alluvial fan sage scrub for maintenance of key species, and 2) Maintain Core Area in Potrero Valley for SKR. The Reche Canyon/Badlands Area Plan has one biological issue/consideration for SKR: Maintain linkage area to San Jacinto Wildlife Area for SKR. The project site is not associated with this area, and therefore, these biological issues and considerations are not applicable to the project. Nevertheless, the project will conserve 86.01 acres of grasslands suitable for SKR in the Replacement Lands, including 41.61 on-site acres and 44.40 off-site acres suitable for SKR. In addition, the project will conserve the remaining grassland habitat (62.65 acres described for conservation by applicable MSHCP Criteria.

Large Mammals

Bobcat. This species was confirmed present on the project site during the biological studies (tracks observed and remote camera detection). The project site provides live-in habitat for bobcat as well as supports local movement through the site. Both the Reche Canyon/Badlands Area Plan and The Pass Area Plan include a biological issue and consideration to maintain a Core Area for bobcat.

Regarding live-in habitat, approximately 206.74 acres of the project site described for conservation provide suitable live-in habitat for bobcat, including chaparral, Riversidean sage scrub, grassland, and riparian scrub, as well as smaller disturbed areas (dirt roads) that may facilitate local movement. Development of the project will impact approximately 109.55 acres of potential live-in habitat, but will conserve 133.62 acres of Replacement Lands supporting the described vegetation communities, including 55.22 on-site acres and 78.40 off-site acres. In addition, the project will also conserve the remaining 97.20 on-site acres of these vegetation communities in the areas described for conservation. Refer to *CR Analysis* Table 5-6 for a more detailed acreage comparison of impacted live-in habitat for bobcat, as compared to the Replacement Lands proposed for conservation by the project. Collectively, this will result in 230.82 acres (including 133.62 acres of undescribed Replacement Lands) of suitable live-in habitat to offset impacts to 109.55 acres of described lands. The live-in habitat for bobcat in the proposed Replacement Lands would at least be of equivalent quality, as compared to impacted described land, relevant to native/non-native plant species composition, cover and density, habitat quality, and functions and values, such as breeding, foraging, and movement.

Regarding wildlife movement, and as discussed further below in *Effects on Core Areas*, the described conservation land within the project site would add to the edge of Proposed Core 3 and support bobcat movement. Given that specific linkages have not been identified through the portion of the project site proposed for development, the



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majority of the project site was not considered critical for bobcat movement to support Proposed Core 3 goals. If the project adheres to the described MSHCP conservation criteria, there would not be a connection to the existing box culvert under the SR-60. The project proposes an alternative conservation configuration, including the expansion of conservation along the “northwest to southeast” side of the proposed development, with an appropriate buffer between conserved lands and proposed development, with connectivity to other adjacent existing and proposed conserved lands, and with connectivity to the existing culvert at SR-60. The alternative conservation configuration would also provide the same level of topographic relief to facilitate movement of bobcat, as compared to the lands within the project site. As also discussed in *Effects on Core Areas* below, the project will construct wildlife fencing to complement fencing constructed as part of the SR-60 improvements. Wildlife fencing will be located around the northern extent of the project site and extend along the western boundary. Fencing will include one-way swing gates that will allow bobcats entering the site from the north and east to exit the project site into the adjacent conserved lands associated with Proposed Core 3.

Mountain Lion. This species was confirmed using the project site during the biological studies (tracks observed). The project site is considered part of a broader territory for mountain lions and support the local movement through the Badlands. Specific to mountain lion, the MSHCP identifies two “biological issues and considerations” for The Pass Area Plan, including 1) maintain large blocks of habitat for large mammal movement between the northern and southern sections of the San Bernardino National Forest, and 2) maintain Core and Linkage habitat for mountain lion. The latter is also identified for the Reche Canyon/Badlands Area Plan.

Regarding live-in habitat, and similar to bobcat discussed above, approximately 206.74 acres of the project site described for conservation provide suitable live-in habitat for mountain lion. Refer to *CR Analysis* Table 5-7 for a more detailed acreage comparison of impacted live-in habitat for mountain lion (presented the same as for bobcat), as compared to the Replacement Lands proposed for conservation by the project. Collectively, this will result in 230.82 acres (including 133.62 acres of undescribed Replacement Lands) of suitable live-in habitat to offset impacts to 109.55 acres of described lands. The live-in habitat for mountain lion in the proposed Replacement Lands would at least be of equivalent quality, as compared to impacted described land, relevant to native/non-native plant species composition, cover and density, habitat quality, and functions and values, such as breeding, foraging, and movement.

Regarding wildlife movement, and as discussed further below in *Effects on Core Areas*, and similar to the discussion regarding bobcat above, the described conservation land within the project site would add to edge of Proposed Core 3 and support mountain lion movement. Given that specific linkages have not been identified through the portion of the project site proposed for development, the majority of the project site was not considered critical for mountain lion movement to support Proposed Core 3 goals. If the project adheres to the described MSHCP conservation criteria, there would not be a connection to the existing box culvert under the SR-60. The project proposes an alternative conservation configuration, including the expansion of conservation along the “northwest to southeast” side of the proposed development, with an appropriate buffer between conserved lands and proposed development, and connectivity to other adjacent existing and proposed conserved lands. The alternative conservation configuration would also provide the same level of topographic relief to



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facilitate movement of mountain lion, as compared to the lands within the project site. As also discussed in *Effects on Core Areas* below, the project will construct wildlife fencing, including one-way swing gates, that will complement fencing constructed as part of the SR-60 improvements.

Other Covered Species

In addition to the Planning Species specifically addressed above for the Pass Area Plan and the Reche Canyon/Badlands Area Plan, the MSHCP identifies other Covered Species for which habitat assessments/surveys are required based on a project site's location in one or more designated survey areas and/or based on the presence of suitable habitat. A discussion of other species is provided below, consistent with MSHCP Volume I, Section 6.1.2 *Riparian/Riverine Areas and Vernal Pools*, Section 6.1.3 *Protection of Narrow Endemic Plant Species Survey Areas*, and Section 6.3.2 *Additional Survey Needs and Procedures*.

Section 6.1.2 Species. As discussed above in 1 *Effects on Habitats*, and in *CR Analysis* Section 5.1.3, the project site does not contain suitable habitat for least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, or listed fairy shrimp species. Vegetation communities on the Replacement Lands are similar to those on the proposed project site. As such, approval of the Criteria Refinement would not have a positive or negative effect on these species.

In addition to these species, Section 6.1.2 identifies other species that are to be protected, including the following:

- Amphibians – arroyo toad, mountain yellow-legged frog, California red-legged frog
- Birds – bald eagle, peregrine falcon
- Fish – Santa Ana sucker
- Plants – Brand's phacelia, California Orcutt grass, California black walnut, Coulter's matilija poppy, Engelmann oak, Fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, Orcutt's brodiaea, Parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crowscale, San Miguel savory, Santa Ana River woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, vernal barley

The project site does not contain suitable habitat for any of the above-referenced species. Because vegetation communities on the described impacted lands as compared to the undescribed Replacement Lands are similar, approval of the Criteria Refinement would not be expected to have either a positive or negative effect on these Section 6.1.2 species.

Section 6.1.3 Species. The project site is located within Narrow Endemic Plant Species Survey Area (NEPSSA) 8, which addresses the following species: many-stemmed dudleya and Yucaipa onion. Focused plant surveys were conducted on the project site in April and May 2020, and no special-status plants including the two NEPSSA species were found. Because the vegetations communities on the described impacted lands as compared to the undescribed Replacement Lands are similar, approval of the Criteria Refinement would not be expected to have either a positive or negative effect on these Section 6.1.3 species.



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Section 6.3.2 Species. Section 6.3.2 identifies additional species to be addressed for individual projects located within one or more survey areas, including plants associated with a Criteria Area Species Survey Area (CASSA), burrowing owl survey area, amphibian survey areas (arroyo toad, California red-legged frog and mountain yellow-legged frog) and mammal survey areas (Aguanga kangaroo rat [AKR], SBKR, and LAPM). The project site is located within the burrowing owl survey area, but is not within a CASSA or any of the amphibian or small mammal survey areas.

The project site contains potentially suitable habitat for the burrowing owl, including the presence of suitable burrows, but no burrowing owls were detected on the site during focused surveys (July and August 2019). In addition, the project site does not support the arroyo toad, California red-legged frog, or mountain yellow-legged frog due to the lack of suitable habitat. Furthermore, the project site does not contain suitable habitat for AKR or SBKR. As noted above, LAPM has a very low potential for occurrence at the project site, and is not expected to occur due to a lack of suitable habitat.

Because the vegetations communities on the described impacted lands as compared to the undescribed Replacement Lands are similar, approval of the Criteria Refinement would not be expected to have either a positive or negative effect on Section 6.3.2 species.

Other Miscellaneous Covered Species. The project site has a potential to support other Covered Species that are not identified as Planning Species for the Pass Area Plan or the Reche Canyon/Badlands Area Plan, and do not have project-specific conservation requirements, such as those pursuant to Sections 6.1.2, 6.1.3, or 6.3.2. These include the coast horned lizard, coast patch-nosed snake, coastal whiptail, red-diamond rattlesnake (detected at the site), coastal California gnatcatcher, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, and San Diego desert woodrat. These species would utilize similar live-in habitats (scrub and grasslands) as that discussed above for species such as the rufous-crowned sparrow and loggerhead shrike. Because the vegetations communities on the described impacted lands as compared to the undescribed Replacement Lands are similar, approval of the Criteria Refinement would not be expected to have either a positive or negative effect on these species.

Covered Species Summary

Based on the above discussion as well as information provided in the *CR Analysis*, approval of the Criteria Refinement would not affect Nevin's barberry or any other plant species covered under MSHCP Section 6.1.2, 6.1.3, or 6.3.2. For avian species, approval of the Criteria Refinement would provide equivalent or superior acreages and quality of live-in habitat. For small mammals, approval of the Criteria Refinement would not affect SBKR, LAPM, SKR, or AKR. Regarding large mammals, approval of the Criteria Refinement will support live-in habitat and wildlife movement for bobcat and mountain lion in a manner described by MSHCP Criteria. The ultimate conservation configuration would be shifted to along the "northwest to southwest" side of the proposed development, provide connectivity to adjacent existing and proposed conserved lands, and would provide a buffer between proposed development and existing conserved lands. Overall, the vegetation communities and associated species are similar between the impacted lands and the Replacement Lands. As such,



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the proposed Replacement Lands are at least equivalent as compared to the impacted lands, relevant to native/non-native plant species composition, cover and density, habitat quality, and functions and values, such as breeding, foraging, and movement.

Based on all the above, approval of the Criteria Refinement with its proposed on-site conservation land and on- and off-site Replacement Lands would provide an equivalent or superior configuration related to assemblage and function of Proposed Core 3, including wildlife movement, as compared to leaving the project site undeveloped and ultimately conserved.

3) EFFECTS ON CORE AREAS (AS IDENTIFIED ON THE MSHCP CORE AND LINKAGE MAP, FIGURE 3-2)

The MSHCP defines a “Core” as a “block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.” As discussed in *CR Analysis* Section 5.3, the proposed Criteria Refinement will support the assembly of Proposed Core 3 in a manner generally consistent with the existing MSHCP Criteria. As depicted in *CR Analysis* Exhibit 4A, the project site is located in the eastern area of Proposed Core 3. When evaluating potential effects on Core Areas resulting from a Criteria Refinement, the evaluation should include both quantitative (e.g., acreages) and qualitative (e.g., functions and values, including live-in habitat and wildlife movement).

Quantitative

The proposed project will impact 109.69 acres of the 206.89 acres of lands described for conservation by the MSHCP Criteria in this area of Proposed Core 3. The project proposes to conserve 97.20 acres of on-site lands described by MSHCP Criteria. The project further proposes to offset the remaining impacts with Replacement Lands that are not described in the MSHCP Criteria, including 55.22 on-site acres and 78.40 off-site acres (refer Table 2 above), for a combined conservation area of 230.82 acres, as compared to the 206.89 acres described by the MSHCP. This results in an overall acreage surplus of 23.93 acres to contribute to the Reserve, specific to Proposed Core 3.

Qualitative

When evaluating effects on Cores, functions and values of the Core should be considered. As stated in MSHCP Section 3, within Proposed Core 3, “important Live-In and movement Habitat is provided for Bell’s sage sparrow, loggerhead shrike, cactus wren, Stephens’ kangaroo rat, southern California rufous-crowned sparrow, and mountain lion, which have key populations in the Badlands. For a discussion regarding habitats and associated species, refer above to 1 *Effects on Habitats* and 2 *Effects on Covered Species*. In addition to providing Live-In Habitat for Covered Species, Proposed Core 3 is also intended to function similar to a linkage with the intent to facilitate wildlife movement.

The MSHCP identifies Proposed Core 3 as extending from northwest to southeast, which is bisected by SR-60. As such, the SR-60 provides a constraint to movement for wildlife through Proposed Core 3. MSHCP



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Volume I, Section 7.5.2 provides guidelines for the construction of wildlife crossings associated with roadway projects. The MSHCP notes undercrossing structures of varying sizes should be included in a long road alignment to accommodate small, medium, and large wildlife, with multiple undercrossings for each size group depending on the length of the roadway. Caltrans is currently constructing the SR-60 Truck Lanes project which extends for approximately 4.75 miles from approximately Gilman Springs Road on the west to a point about one mile east of the western limits of the project site. The 20-foot by 20-foot box culvert (i.e., undercrossing) has already been constructed as part of this broader Caltrans project. The Caltrans work is expected to be completed by the time construction of the proposed Beaumont Pointe project would begin.

Wildlife expected to occur at the proposed project site with the potential to use the SR-60 undercrossing structures include medium to large-sized mammals, such as mule deer, mountain lion, bobcat and coyote, smaller mammals such as gray fox, raccoon and rodents, and other smaller wildlife such as reptiles and amphibians. The specific MSHCP Planning Species with a potential for using the undercrossing structures would be mountain lion, bobcat, Stephens' kangaroo rat, and Los Angeles pocket mouse (with the latter having a very low potential to occur on the project site, and is generally not expected to occur due to a lack of habitat suitability).

The proposed project site was evaluated (by GLA) for wildlife movement, including a survey of existing culverts along the adjacent SR-60. The results of the study indicated that the project site provides live-in and/or local movement habitat for seven medium- to large-sized mammal species: bobcat, coyote, mule deer, American badger, raccoon, gray fox, and mountain lion. While it is acknowledged that some of the existing freeway undercrossings would be used by wildlife, and that other wildlife would cross the surface of the roadway, the MSHCP does not recognize a specific Existing or Proposed Linkage crossing the freeway along the project boundary or specifically through the middle of the project site. Instead, the focus of crossing is expected to be to the west where the middle of Proposed Core 3 is intended. Given that the SR-60 Truck Lanes project has constructed a 20-foot by 20-foot box culvert (i.e., undercrossing) near the western end of the project site, the project has been designed to pull back the western development edge to the maximum extent feasible in Cell 933 to provide a wildlife movement buffer relative to this undercrossing. This design will increase the conservation in Cell 933 by just over 19 acres, for a total of 68.84 acres in the Cell, including 47.03 acres of the Cell that are currently undescribed for conservation in the Cell Criteria but will connect areas described for conservation with the SR-60 wildlife undercrossing. In addition, the project will construct its wildlife fence to maintain the project's northern/western boundary as the eastern limit for wildlife movement matching with the eastern edge of Proposed Core 3. Refer to *CR Analysis* Section 4.2 and Exhibits 9A and 9B for details regarding the Caltrans SR-60 undercrossings and fencing, as well as wildlife fencing proposed by the project and its tie-in to the SR-60 fencing. Details regarding the proposed project's wildlife fencing will be provided as part of the future JPR process.

Core Areas Summary

Although the project does not achieve minimum described acreage for some of the individual Cells, and the resulting conserved lands would not be in the exact location as the MSHCP describes in the applicable



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Criteria, the project proposes an overall greater amount of acreage to be conveyed to Proposed Core 3 than is described in the MSHCP Criteria. Furthermore, the proposed Criteria Refinement will support the assembly of Proposed Core 3 in a manner consistent with the existing applicable MSHCP Criteria. The proposed project site is located at the edge of Proposed Core 3 and the intent of the conservation configuration proposed in the Criteria Refinement is to expand the edge of Proposed Core 3. Approval of the proposed Criteria Refinement would result in a conservation configuration shifted to along the “northwest to southwest” side of the proposed development, adjacent to existing conserved lands, would provide a buffer between proposed development and existing conserved lands, and would provide a larger (wider) area to be developed by the project to the east closer to existing roadways. Conservation of undescribed lands in the northwestern portion of Cell 933 will also extend conservation to SR-60 to link up with the undercrossing constructed as part of the freeway improvements. The proposed conservation configuration would also provide the same level of topographic relief to facilitate movement of wildlife, as compared to the lands within the project site.

Based on the discussion above, approval of the Criteria Refinement with its proposed on-site conservation land and on- and off-site Replacement Lands would provide an equivalent or superior configuration related to the assemblage and function of Proposed Core 3, including wildlife movement, as compared to leaving the project site undeveloped and ultimately conserved.

4) EFFECTS ON LINKAGES AND CONSTRAINED LINKAGES (as identified on the MSHCP Core and Linkage Map, *Figure 3-2*)

The project site is not associated with a Linkage or a Constrained Linkage; instead, the project is associated with the edge of Proposed Core 3. Other Linkages connect to Proposed Core 3, but these do not coincide with the project site. Proposed on-site conservation and undescribed Replacement Lands (both on-site and off-site) would expand Core 3 consistent with the intent of the applicable MSHCP Criteria. Although Proposed Core 3 does not represent a specific Linkage, Core 3 is a very large Core that, in addition to providing extensive live-in habitat, also facilitates the movement of wildlife to connect to existing Cores and other habitat areas to the northwest, southwest, and southeast. Refer to discussion above in *Effects on Core Areas* relative to wildlife movement. Approval of the proposed Criteria Refinement will not affect any Linkages, as none are associated with the project site nor directly associated with Proposed Core 3 in the area of the project site. As such, Linkages will not be discussed further as part of these Findings.

5) EFFECTS ON NON-CONTIGUOUS HABITAT BLOCKS (AS IDENTIFIED ON THE MSHCP CORE AND LINKAGE MAP, *FIGURE 3-2*)

The MSHCP defines a “Non-Contiguous Habitat Block” as a “block of Habitat not connected to other Habitat areas via a Linkage or Constrained Linkage.” Approval of the proposed Criteria Refinement will not affect any Non-Contiguous Habitat Blocks, as none are associated with the project site nor directly associated with Proposed Core 3. As such, Non-Contiguous Habitat Blocks will not be discussed further as part of these Findings.



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6) EFFECTS ON MSHCP CONSERVATION AREA CONFIGURATION AND MANAGEMENT (SUCH AS INCREASES OR DECREASES IN EDGE)

The applicable MSHCP Criteria corresponding to the project site describe lands that would expand the eastern side of Proposed Core 3 along SR-60. Specifically, based on the amount and location of lands described by the Criteria, the Criteria targets development of lands at the project site between the eastern side of Proposed Core 3 and SR-60. With approval of the Criteria Refinement, development would occur along SR-60, and conservation would occur along and adjacent to the western and southern portions of the proposed development, as well as provide an appropriate buffer to facilitate wildlife movement through the area northwest of the project site. The proposed project would construct pads that will slope down to the existing and proposed conservation areas to the west and southwest and slope up to the south to ridges on the edge of the Badlands area.

Per the MSHCP, “edge effects” are defined as “adverse direct and indirect effects to species, Habitats and Vegetation Communities along the natural urban/wildlands interface. May include predation by meso-predators (including native and non-native predators), invasion by exotic species, noise, lighting, urban runoff, and other anthropogenic impacts (trampling of vegetation, trash and toxic materials dumping, etc.)” The MSHCP notes that management of edge conditions will be necessary in the Badlands to maintain high quality habitat for Covered species. The proposed project site will have approximately 10,000 linear feet of edge adjacent to the existing and proposed conserved areas. As such, the project will implement measures to address the Guidelines Pertaining to Urban/Wildlands Interface (MSHCP Volume I, Section 6.1.4) for the management of edge effects, such as lighting, noise, urban runoff, toxics, and unauthorized access.

Regarding lighting, the MSHCP states that “night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.” Lighting associated with the project will be designed for consistency with the MSHCP. Chapter 8.50 of the City of Beaumont Municipal Code addresses outdoor lighting for development projects. The ordinance states the intent to “establish regulation and standards which will reduce light pollution generated by residential, commercial and industrial lighting fixtures and devices, minimize light pollution which has a detrimental effect on the environment and the enjoyment of the night sky, reduce and minimize lighting and lighting practices which cause unnecessary illumination of adjacent properties, correct problems of glare and light trespass, and reduce energy use.” The ordinance promotes shielding and limits the type and intensity of the light fixtures depending on the extent of shielding. In addition, the project applicant is performing a lighting study and developing a conceptual lighting plan to demonstrate that there will be no off-site lighting trespass into the adjacent MSHCP Conservation Area. This would be further evaluated as part of the future JPR process.

As noted above in the *Project Description* of these Findings, a wildlife fence would be constructed along the entire western and southwestern sides of the project’s disturbance footprint demarcating the proposed reconfigured Reserve. The configuration of the proposed project along with straight linear fencing is



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expected to assist in the management of the adjacent conserved lands by providing a reasonable buffer between development and the proposed on-site conservation lands, and a reasonable buffer between the fencing and the conserved lands on the west/southwest side of the project site. In addition, one or more gates will be constructed along the fence allowing access from the project site to the open space and conserved areas. The open space edge and corresponding fence will be placed to minimize the amount of edge/perimeter to be managed, and this fencing will be subject to the review and approval of RCA and the Wildlife Agencies.

Ultimately, approval the proposed Criteria Refinement would result in a shift of the conservation configuration to along the “northwest to southwest” side of the proposed development, adjacent to existing conserved lands, would provide a buffer between proposed development and existing conserved lands, and would provide a larger (wider) area to be developed by the project to the east closer to existing roadways. As such, the resulting amount of edge (perimeter) would be similar as compared to leaving the project site undeveloped and ultimately conserved. Furthermore, the project will provide the RCA with access to the proposed Conservation Area limits at different locations, including vehicle access to a small area of conservation land associated with Cell 936. Approval of the Criteria Refinement would result in an equivalent or superior Reserve configuration with less management efforts necessary to control edge effects.

7) EFFECTS ON ECOTONES (defined as areas of adjoining Vegetation Communities, generally characterized by greater biological diversity) AND OTHER CONDITIONS AFFECTING SPECIES DIVERSITY (such as invasion by exotics)

Ecotones are defined by the MSHCP as areas of adjoining vegetation communities generally characterized by greater biological diversity. More specifically, ecotones are transitional areas between two different vegetation communities where, in the area of overlap between the two communities, there is often greater biological diversity given that the transitional areas exhibit aspects of both communities. As described in *CR Analysis* Section 5.1.2 (and depicted on Exhibit 6B), the 1994 vegetation mapping data used for the MSHCP Rough Step baseline identified grassland areas abutting a contiguous block of scrub habitat (Riversidean sage scrub and chaparral), creating the appearance of a distinct ecotonal area where one community transitions to the other. However, the site actually consists predominately of grassland habitat with patches of scrub vegetation (mainly Riversidean sage scrub) occurring in the upslope areas intermixed amongst the grassland habitat (*CR Analysis* Exhibit 6A). Areas that were mapped for the 1994 baseline as Riversidean sage scrub area are mostly grassland, and areas mapped as chaparral are mostly Riversidean sage scrub. Existing vegetation conditions on the project site primarily consist of non-native grassland with patches of intermixed sage scrub and chaparral vegetation increasing southwest in the upslope areas of the project site. As such, the current existing on-site conditions of scattered scrub “islands” in a broader “sea” of grassland does not provide the typical ecotonal effect as is represented with one community transitioning to another along a defined community boundary. However, where the grassland “sea” meets the scrub “islands”, an ecotonal effect may occur on a micro-scale.



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The project proposes to impact 106.74 acres of described lands supporting grassland and scrub habitats, including 0.21 acre of chaparral, 24.40 acres of Riversidean sage scrub, and 82.13 acres of grassland. To offset these impacts, the project proposes to conserve 132.18 acres of undescribed lands in a similar patchy configuration/distribution as with the described lands, containing 0.32 acre of chaparral, 45.89 acres of Riversidean sage scrub, and 86.01 acres of grasslands. In that context, the proposed Criteria Refinement through proposed on-site conservation and on- and off-site Replacement Lands, including the northwestern corner of Cell 933 (on-site), will provide at least an equivalent distribution of scrub patches intermixed with the surrounding grasslands compared with the lands described for conservation per MSHCP Criteria. In doing so, this Criteria Refinement will maintain the degree of diversity where the grassland and scrub communities overlap. As such, approval of the Criteria Refinement would result in similar (equivalent) ecotonal effects as compared to leaving the project site undeveloped and ultimately conserved.

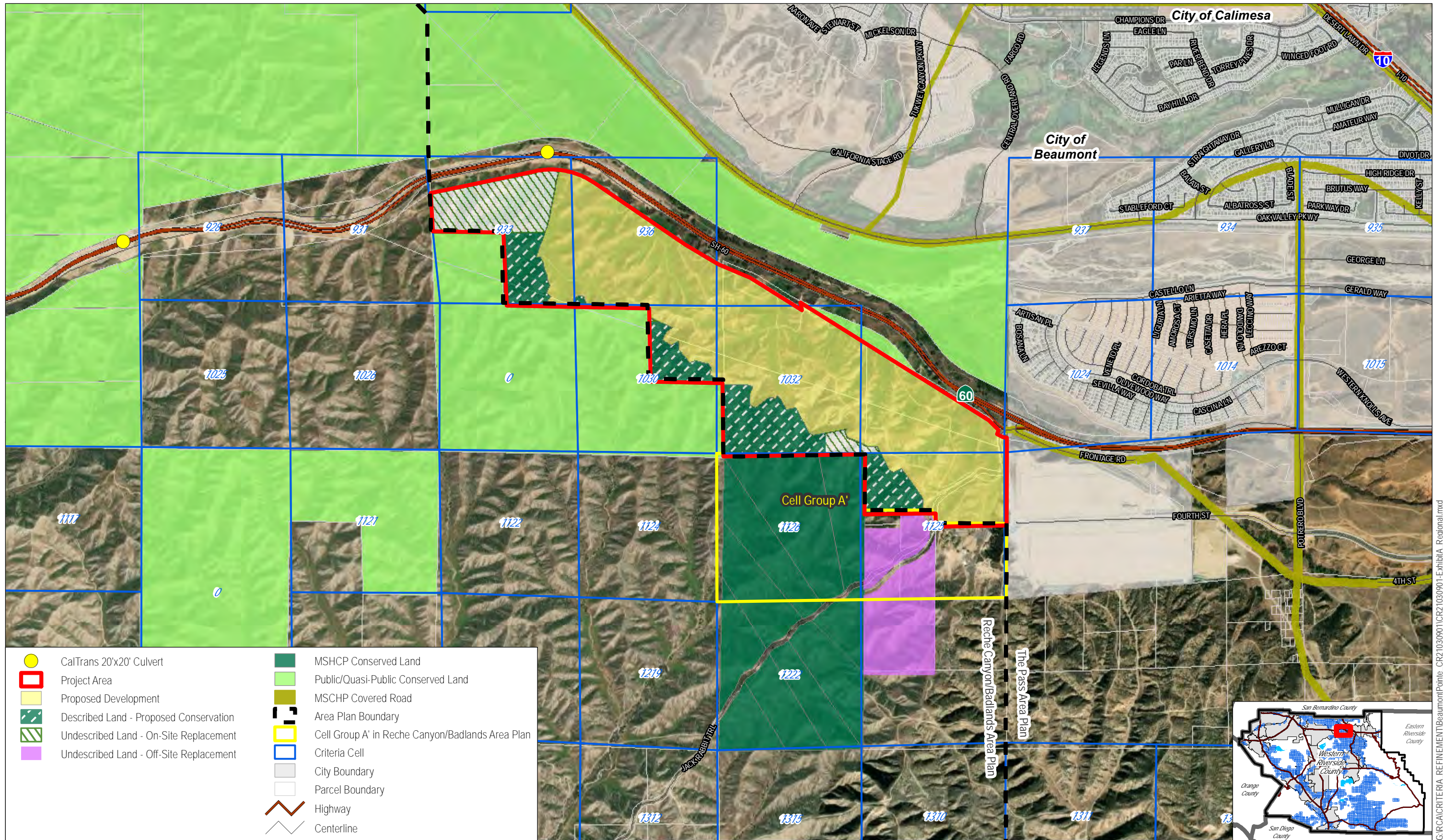
8) EQUIVALENT OR GREATER ACREAGE CONTRIBUTED TO THE MSHCP CONSERVATION AREA

For Criteria Refinements, the MSHCP requires that projects contribute an equal or greater acreage to the Reserve using lands not described for conservation (i.e., Replacement Lands) to offset impacts proposed by projects in areas described for conservation. As described above under *Purpose of the Criteria Refinement* of these Findings, and summarized in *CR Analysis* Tables 5-1 and 5-3, the project proposes to conserve 133.62 acres of lands to replace impacts to 109.69 acres of lands described for conservation in Cells 933, 936, 1030, 1032, and 1125. Overall, the project would conserve 230.82 acres compared with 206.89 acres described by MSHCP Criteria (refer to *CR Analysis* Exhibit 5), resulting in a greater amount of conservation compared with the collective mid-range goal for the Criteria Cells. Therefore, approval of the Criteria Refinement would result in equivalent or greater acreage being contributed to the MSHCP Conservation Area as compared to leaving the project site undeveloped and ultimately conserved.



9) APPLICANT MUST DEMONSTRATE AGREEMENTS OR CONTROL OVER MITIGATION PROPERTY BEING OFFERED UNDER THE EQUIVALENCY ANALYSIS

For Criteria Refinements, the MSHCP requires that project applicants have control over lands to be used as Replacement Lands (i.e., mitigation) to offset impacts to described conservation lands impacted by the project. The project applicant owns all 230.82 acres proposed for conservation as part of this Criteria Refinement. Specifically, this includes the 97.20 on-site acres of lands to be conserved as described by the applicable MSHCP Criteria. In addition, the project applicant owns the 133.62 acres (55.22 on-site acres and 78.40 off-site acres) of Replacement Lands, contiguous with the on-site conserved lands.

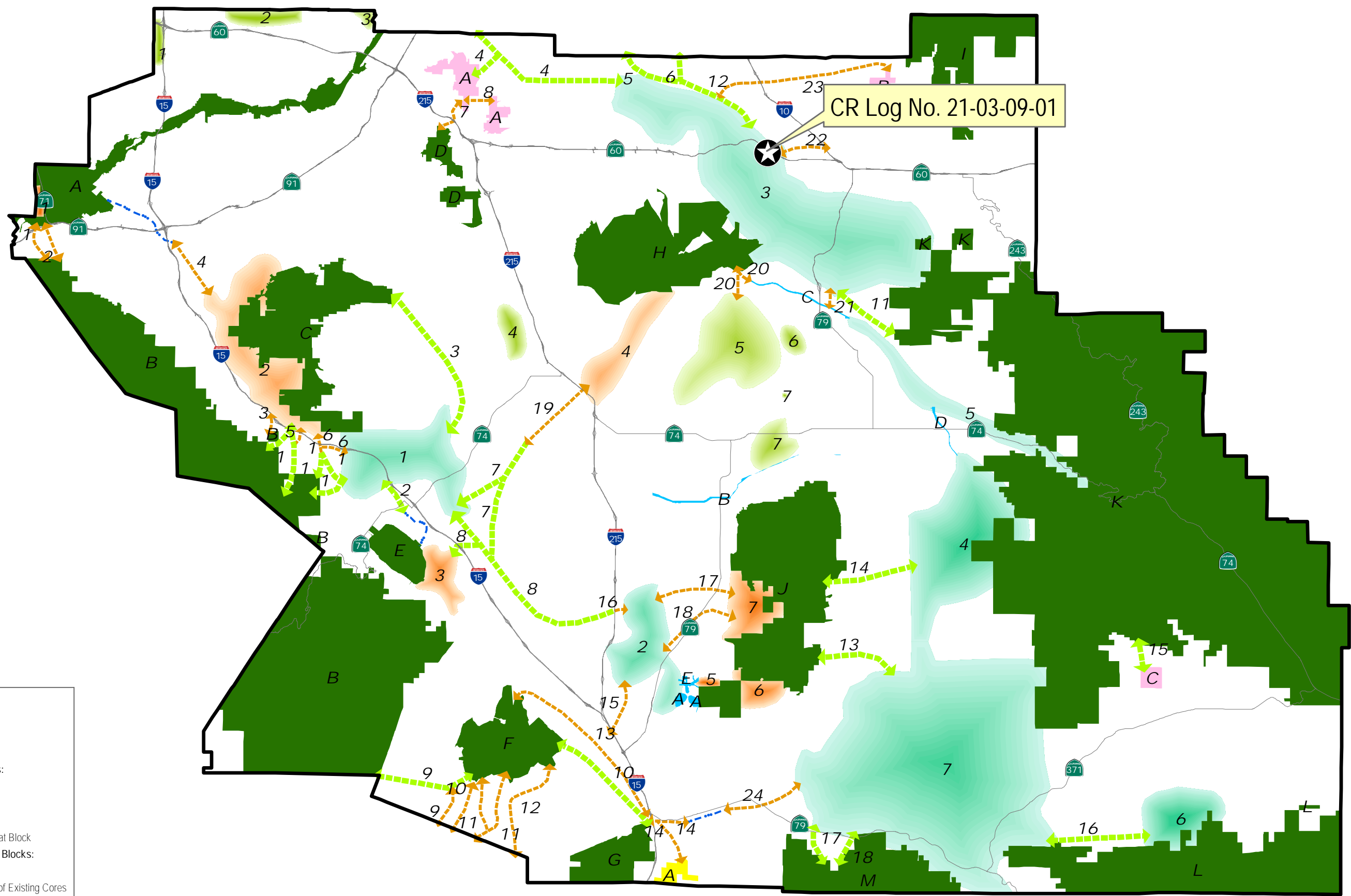
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SOURCE: Western Riverside County Regional Conservation Authority 2022; County of Riverside 2022; Esri Basemap 2022. Map created on 9/8/2022.


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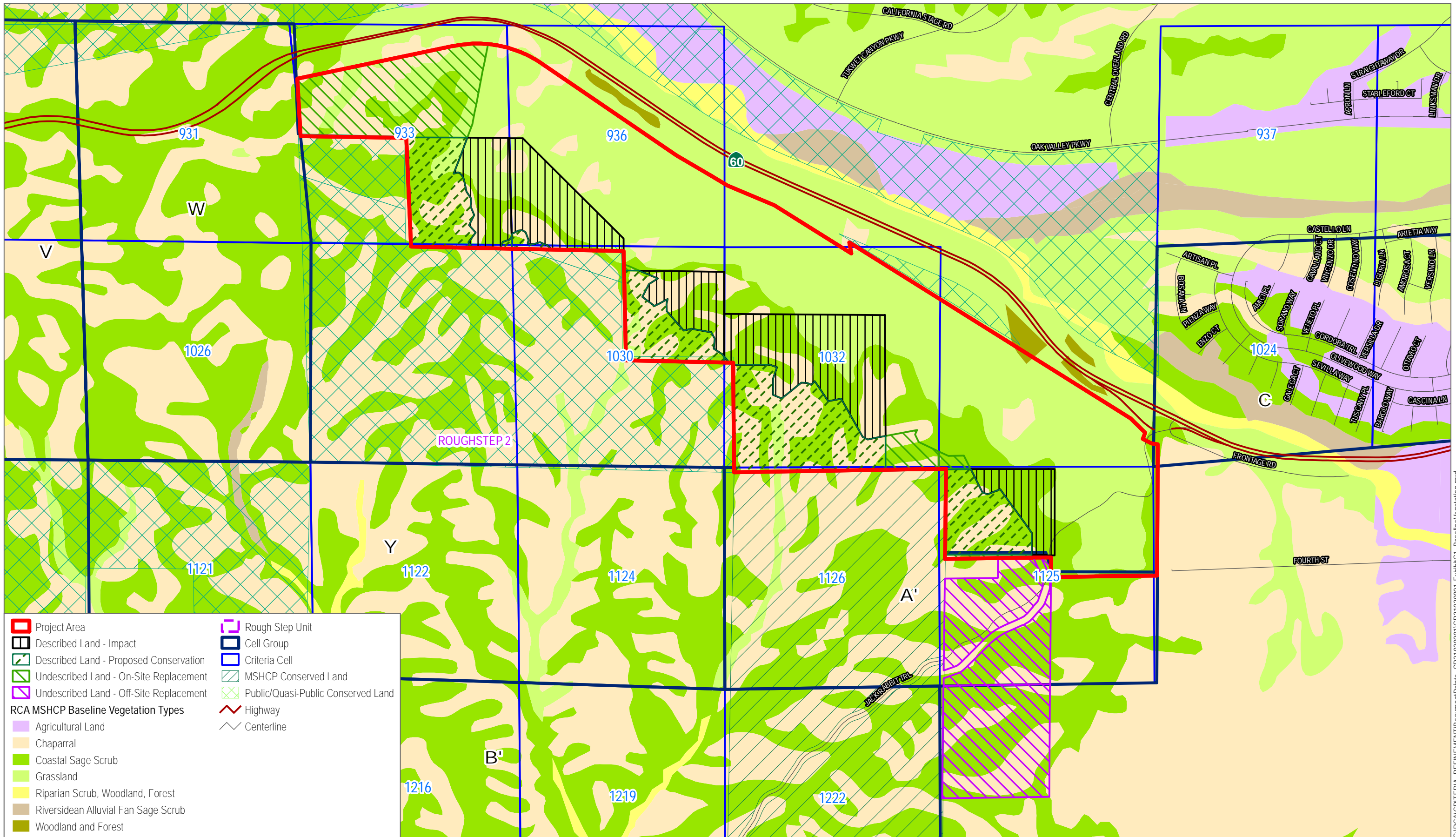
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- Proposed Linkages:**
- Constrained Linkage
 - Linkage
 - Existing Channel
- Existing Cores & Linkages:**
- Constrained Linkage
 - Core
 - Linkage
 - Noncontiguous Habitat Block
- Proposed Cores & Habitat Blocks:**
- Core
 - Proposed Extension of Existing Cores
 - Noncontiguous Habitat Block



SOURCE: Western Riverside County Regional Conservation Authority (WRC-RCA). Map created on 5/24/2021

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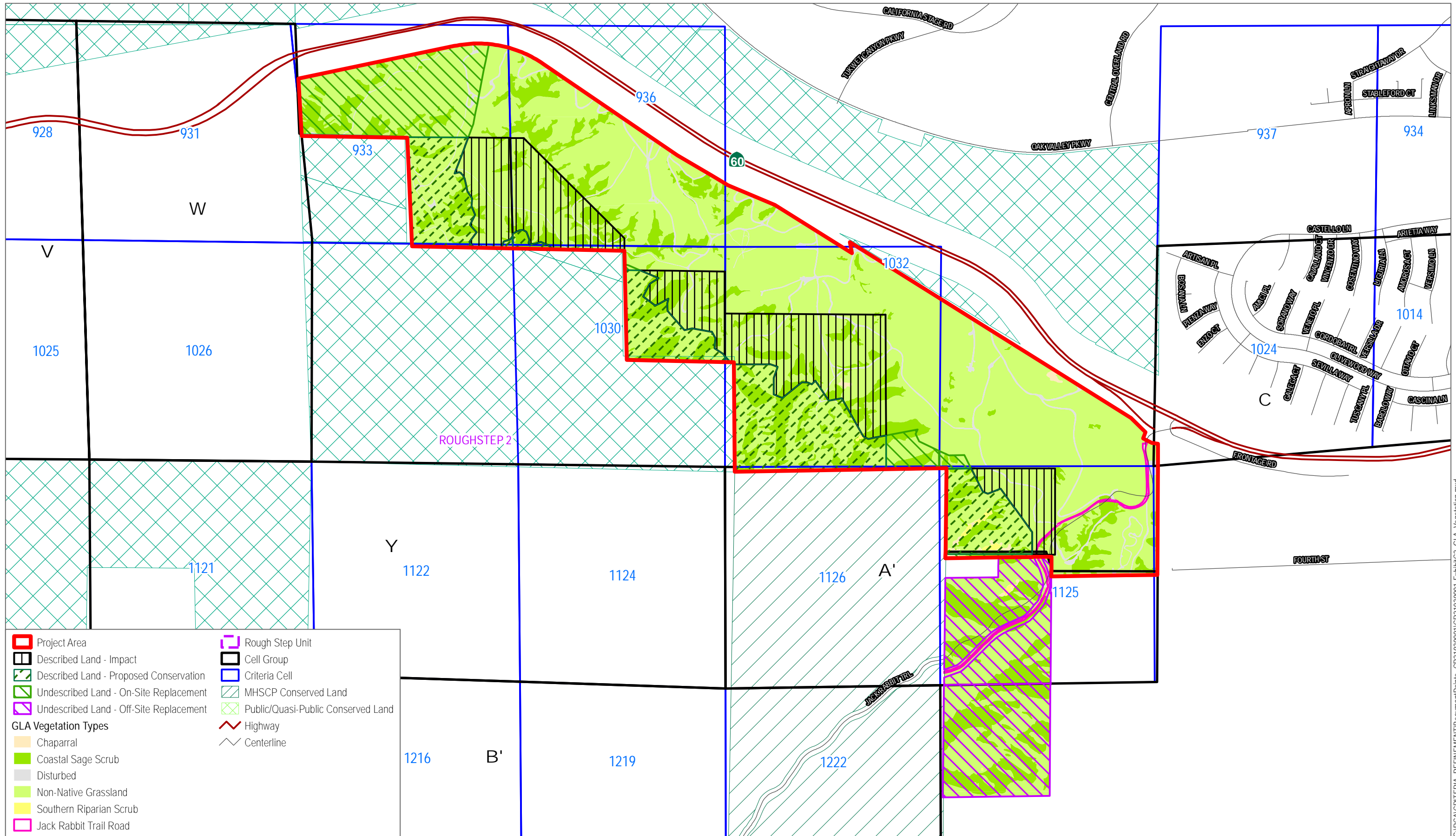
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SOURCE: WRC-RCA MSHCP Baseline Vegetation (1994). Map created on 9/8/2022.



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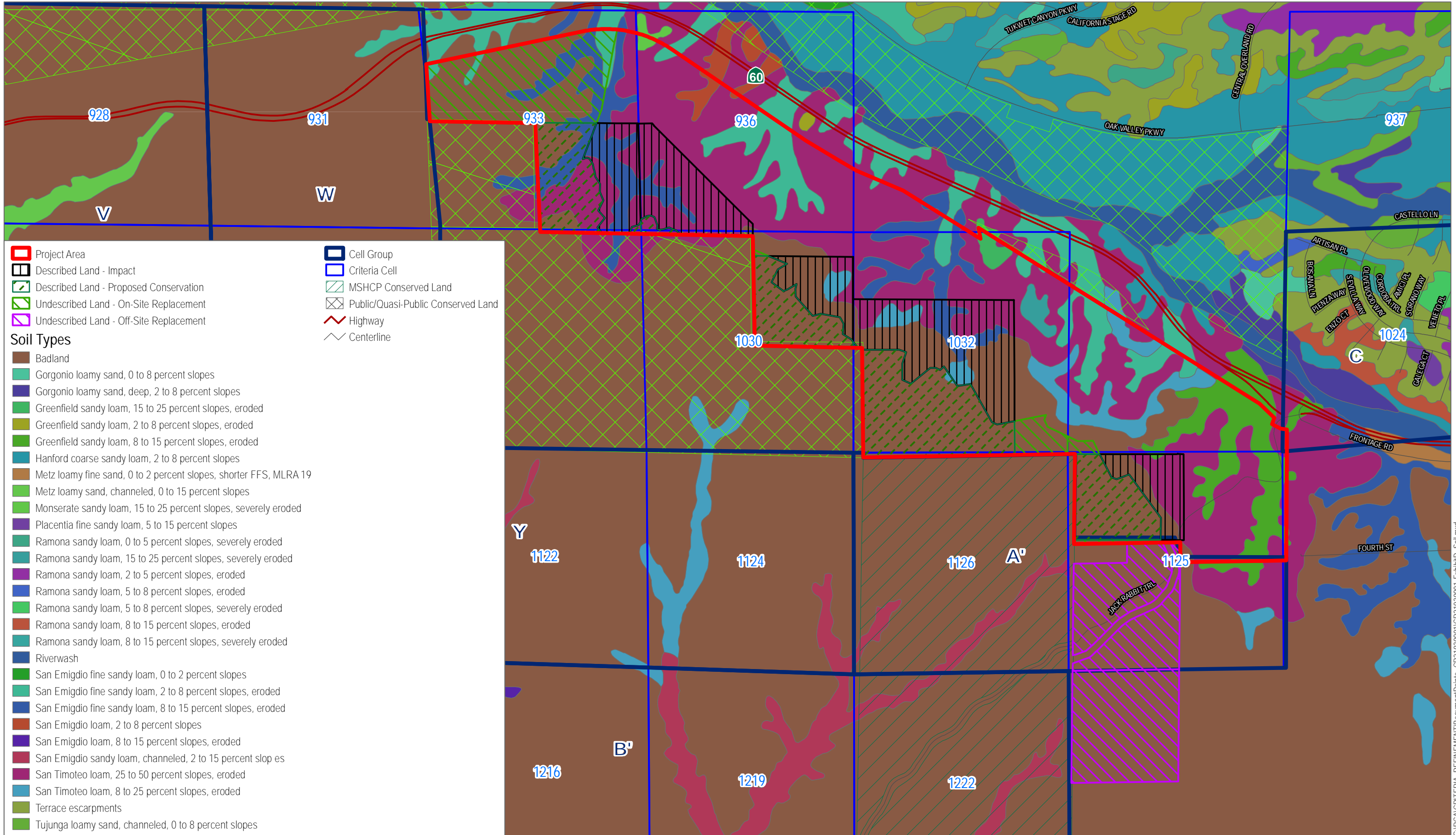


SOURCE: WRC-RCA MSHCP Baseline Vegetation (1994). Map created on 9/8/2022.





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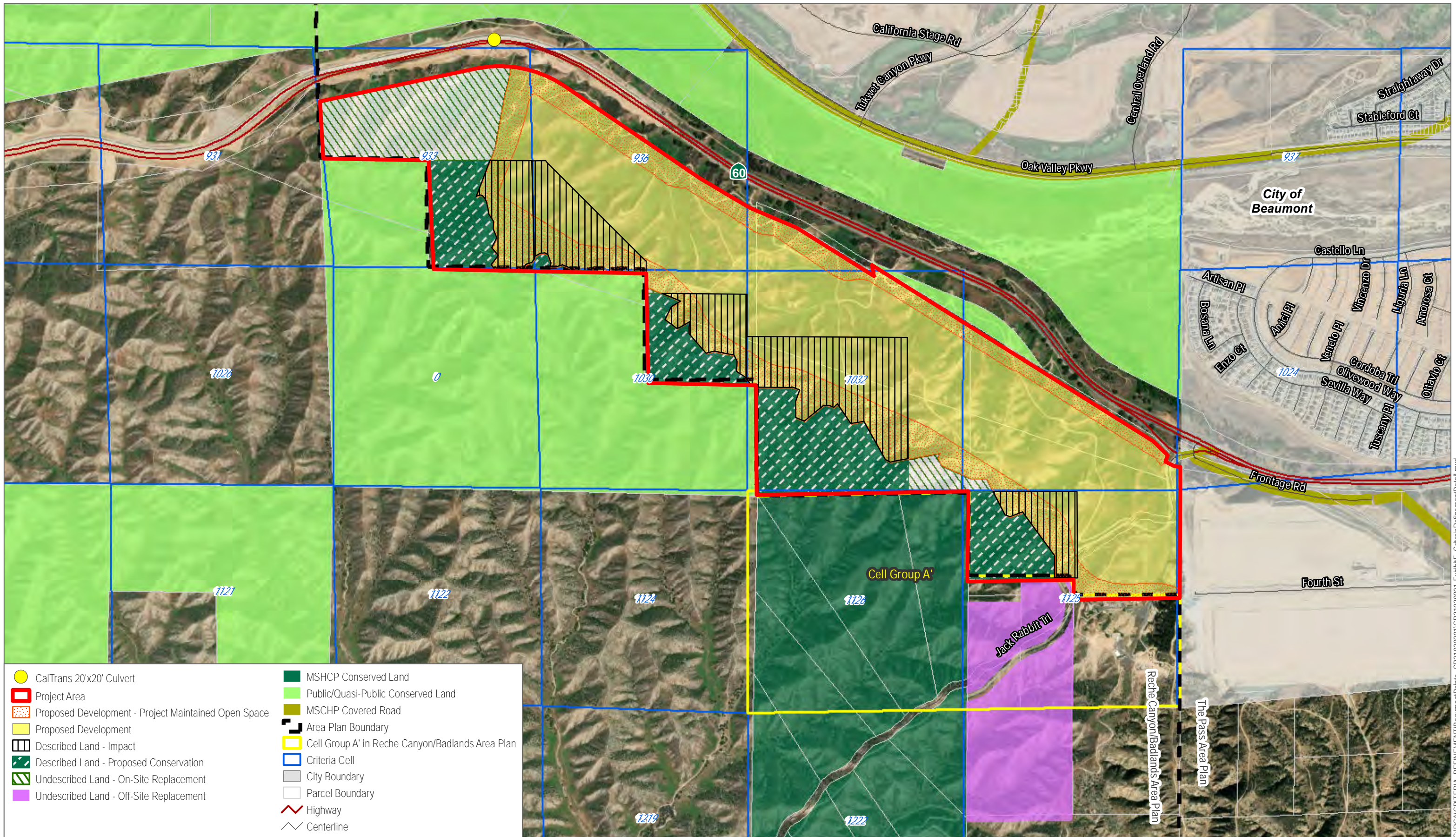
SOURCE: Western Riverside County Regional Conservation Authority 2022; County of Riverside 2022; USDA/NRCS Soils 2017


 Regional Conservation Authority
 Western Riverside County


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CalTrans 20'x20' Culvert	MSHCP Conserved Land
Project Area	Public/Quasi-Public Conserved Land
Proposed Development - Project Maintained Open Space	MSCHP Covered Road
Proposed Development	Area Plan Boundary
Described Land - Impact	Cell Group A' in Reche Canyon/Badlands Area Plan
Described Land - Proposed Conservation	Criteria Cell
Undescribed Land - On-Site Replacement	City Boundary
Undescribed Land - Off-Site Replacement	Parcel Boundary
	Highway
	Centerline

SOURCE: Western Riverside County Regional Conservation Authority 2022; County of Riverside 2022; 2020 Esri Basemap. Map created on 9/8/2022.

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**CRITERIA REFINEMENT ANALYSIS
(CRITERIA REFINEMENT 21-03-09-01)**

**BEAUMONT POINTE SPECIFIC PLAN/
PROPOSED CORE 3**

WESTERN RIVERSIDE COUNTY, CALIFORNIA

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February 8, 2022
[Revised September 2, 2022]

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1.0 INTRODUCTION

On behalf of the City of Beaumont and the Applicant (Beaumont Pointe Partners, LLC), Glenn Lukos Associates, Inc. (GLA) has prepared this Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Criteria Refinement Process (CRP) analysis to modify the Criteria identified for Criteria Cells associated with lands to be developed as part of the Beaumont Pointe Specific Plan. The Beaumont Pointe Specific Plan (the “Project”) is located in the MSHCP Criteria Area. The term “Criteria Area” as defined by the MSHCP is the area comprised of Cells depicted on Figure 3-1 of the MSHCP. This refers to the collection of Criteria Cells and Cell Groups that describe lands for conservation to support assembly of the MSHCP Reserve, i.e., “Reserve Assembly”. Specifically, the Project site is within portions of independent Cells 933, 936, 1030, 1032, and 1125 (The Pass Area Plan) where lands are described for conservation to support the assembly of Proposed Core 3¹, with proposed offsite conservation lands located in a portion of Cell Group A’ (Reche Canyon/Badlands Area Plan). Exhibit 2B depicts boundary line for the two Area Plans.

GLA transmitted an initial CRP analysis to the RCA on February 8, 2022. Based on GLA’s analysis, the RCA completed Criteria Refinement Review Findings to support the Criteria Refinement (#21-03-09-01), which were transmitted to the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), referred to jointly as the Wildlife Agencies, on March 11, 2022. The Wildlife Agencies provided a comment letter to the City of Beaumont on May 12, 2022. The following is an excerpt of the comments from the Wildlife Agencies’ letter:

The Beaumont Pointe Specific Plan development site is located in the Potrero/Badlands Subunit (Subunit 1) of The Pass Area Plan. The MSHCP Planning Species for the Potrero/Badlands Subunit include mountain lion, bobcat, the threatened Stephen’s kangaroo rat, Bell’s sparrow, and Southern California rufous-crowned sparrow, among other species. The maintenance of large blocks of Habitat for large mammal movement between the northern and southern sections of the San Bernardino National Forest, and Core and Linkage habitat for mountain lion are among the identified Biological Issues and Considerations (Section 3.2.3) for this Subunit.

To accommodate the wildlife movement considerations mentioned above, the California Department of Transportation and the Riverside County Transportation Commission expended significant local, State, and federal dollars to construct a wildlife crossing beneath State Route 60 (Highway 60) at the northwest end of the Project site to enabling large mammal movement between the interior of the Proposed Core 3 and the area north of Highway 60 and the San Bernardino National Forest. Public funds were expended identifying a location for this mammal crossing that is biologically appropriate (usable by mountain lions and bobcats), technically feasible (buildable), be financially feasible and would not constrain or jeopardize traffic flow on Highway 60. Years of effort went

¹ Proposed Core 3 associated with the Project site is not to be confused with the Proposed Extension of Existing Core 3. Proposed Core 3 represents an entirely new Core area, whereas the Proposed Extension of Existing Core 3 is an extension of Existing Core E located near Lake Elsinore.

into selecting a feasible location, and then designing this undercrossing so that it would function to enable large mammal movement between Proposed Core 3 and the area north of Highway 60.

If the Project is built with the current design, the existing wildlife crossing would direct wildlife into a small north-south trending valley which terminates at a steep ridgeline with topography that does not facilitate animal movement into the interior of Proposed Core 3. We are concerned that mountain lion and bobcat use of the corridor would be inhibited by the narrowness of the canyon and the proximity of Project activities (the sights and sounds of people, moving vehicles, nighttime lighting, and noise on the Project site). Edge effects from adjacent development or disturbed areas can be biologically significant for distances of at least 300 meters within corridor areas (Beier 2018). Large mammals tend to be guided by terrain when moving across large landscapes such as utilizing valley and canyon bottoms preferentially over steep slopes. Mountain lions prefer relatively wide buffers between their movement corridors and nearby human activity, and in general wildlife corridors should be at least 2 km wide where feasible (Beier 2018).

To avoid the degradation of the existing large mammal crossing, the Wildlife Agencies request that the development footprint be modified to pull out of Criteria Cell 933 (approximately 34 acres) and include the larger connecting valley in the Criteria Refinement conservation strategy so that large mammals can traverse the valley southward into Proposed Core 3 and northward to the wildlife undercrossing. We understand that the proposed development footprint might shift to accommodate this change. We also acknowledge that some of the area in Criteria Cell 933 where we have requested avoidance is not described for conservation, however, the public investment in the Highway 60 undercrossing and the benefit to the MSHCP Conservation scenario should not be eroded by the Project.

GLA's initial CRP analysis proposed 213.03 acres of total conservation, including 49.55 acres in Cell 933. As noted by the above-referenced comments, the Wildlife Agencies requested that the proposed development footprint be revised to further pull away from the existing (recently constructed) large mammal crossing under State Route 60 (SR-60) within Cell 933. The Wildlife Agencies requested that the development footprint be pulled out of Cell 933 altogether, which, per their comment letter, would have increased the conservation in Cell 933 by another 34 acres compared with the initial Project proposal. On June 8, 2022, the Project Proponent transmitted to the RCA their proposed design revisions to address the Wildlife Agencies' comments, which the RCA then transmitted to the Wildlife Agencies. The proposed revisions do not pull the development footprint entirely out of Cell 933 (the revisions will increase the conservation by approximately 19 acres instead of 34 acres). However, the Wildlife Agencies agreed with the proposed project design revisions conserving the additional 19 acres in Cell 933 and indicated that the Project Proponent could move forward on submitting a revised CRP analysis to the RCA for finalization². The following CRP analysis is based on the revised Project design that was reviewed by the Wildlife Agencies.

² The RCA notified the Project Proponent and the City of Beaumont via email on July 21, 2022, which also confirmed that same day via email by the Wildlife Agencies.

Approximately 206.89 acres of the Project site is described for conservation based on the Cell Criteria³ for Cells 933, 936, 1030, 1032, and 1125. Of the 206.89 acres of lands described for conservation within these Cells, the Project will impact 109.69 acres and conserve 97.20 acres. In addition, the Project will conserve another 55.22 acres of undescribed lands (onsite) within these Cells. All undescribed lands to be conserved are referred to in this analysis as “replacement lands”. As such, the impacts and conservation are presented in the following four categories, which are depicted on multiple exhibits [Exhibit 2B, 3, 4B, 5, 6A, 6B, 7 and 8A]:

- Described Lands – Impact (109.69 acres)
- Described Lands – Proposed Conservation (97.20 acres)
- Undescribed Lands – Onsite Replacement (55.22 acres)
- Undescribed Lands – Offsite Replacement (78.40 acres)

The combined onsite conservation of described lands and replacement lands will result in a surplus of conservation in Cell 933 but are not enough to offset the impacts to 109.69 acres of described lands, resulting in an overall conservation deficit of 54.47 acres for Cells 936, 1030, 1032, and 1125. However, another 78.40 acres of offsite undescribed lands (replacement) will be conserved, including 37.89 acres in Cell Group A’ and the 40.51 acres that are not within a Criteria Cell, but adjacent to Cell Group A’, resulting in an overall conservation surplus of 23.93 acres for the Project. Table 1-1 below summarizes the proposed impacts and conservation. The areas of proposed impact and conservation (described and undescribed lands) are also depicted on Exhibit 5 [Reserve Assembly Analysis Map].

³ For a number of reasons, the MSHCP does not provide exact and specific areas to represent “described conservation” based on the stated Criteria for each Cell Group and independent Cell. As such, the actual acreages presented in this *Analysis* to represent MSHCP “described conservation” are based on GLA’s hand-drawn GIS interpretation of the Cell Criteria as an approximation of the midrange goal of the described percentage range. For example, the Criteria for Cell 933 describes a conservation range of 20% to 30%, resulting in a conservation midrange of 25%. As presented in Appendix B of this *Analysis*, GLA adjusted the boundaries of the applicable Criteria Cells for GIS analysis due to discrepancies between existing County GIS and more accurate property survey boundaries, and to correct apparent errors in the initial establishment of the Criteria Cells. As a result, the acreages presented in this *Analysis* are close to but are not an exact representation of the midrange percentages (in some cases slightly less and in others slightly greater). Table 1-1 below presents an overall conservation surplus of 23.93 acres, although the actual surplus may be within a margin of error of one to two acres.

Table 1-1. Summary of Proposed Impacts and Conservation (in acres)

Criteria Cell	Described Conservation	Described Lands – Impact	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
<i>Onsite</i>					
933	37.85	16.04	21.81	47.03	30.99
936	25.51	24.19	1.32	0.00	(24.19)
1030	30.25	13.72	16.53	0.16	(13.56)
1032	81.76	42.75	39.01	5.54	(37.21)
1125	31.52	12.99	18.53	1.13	(11.86)
No Cell	N/A	N/A	N/A	1.36	1.36
<i>Onsite Subtotal</i>	206.89	109.69	97.20	55.22	(54.47)
			152.42 (onsite conservation)		
<i>Offsite</i>					
Cell 1125	N/A	N/A	N/A	37.89	37.89
No Cell	N/A	N/A	N/A	40.51	40.51
<i>Offsite Subtotal</i>				78.40	78.40
Total	206.89	109.69	97.20	133.62	23.93

This Analysis further presents that the proposed Criteria Refinement would be at least equivalent to the existing Criteria as it applies to Effects on Habitats, Effects on Covered Species, Effects on Core Areas, Effects on Linkages and Constrained Linkages, Effects on Non-Contiguous Habitat Blocks, Effects on MSHCP Conservation Area Configuration and Management, Effects on Ecotones, and Acreage Contributed to the MSHCP Conservation Area.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Beaumont Pointe Specific Plan (the “Project”) represents approximately 539.9 acres in unincorporated Riverside County, California [Exhibit 1 – Regional Map] and is located within the City of Beaumont’s Sphere of Influence (SOI). The 78.40-acre “offsite” proposed conservation area is also within unincorporated Riverside County but is outside of the City’s SOI. The Project would require annexation of the Project site into City of Beaumont from unincorporated Riverside County. The Project site is located within Sections 1, 2, and 12 of Township 3 South and Range 2 West of the U.S. Geological Survey (USGS) 7.5” quadrangle map El Casco, California (dated 1967 and photorevised in 1979) [Exhibit 2A – Vicinity Map]. The City of Beaumont is located east of the City of Moreno Valley and unincorporated Riverside County, west of the City of Banning and unincorporated Riverside County, north of the City of San Jacinto and unincorporated Riverside County, and south of the City of Calimesa and

unincorporated Riverside County. California State Route (SR-60) abuts the Project site to the north, Interstate 10 (I-10) is located approximately 1.5 miles to the north of the site, and California State Route 79 (Highway -79) is located approximately 1.5 miles to the east of the site.

At the local scale, the Project site is located west of Jack Rabbit Trail and south of SR-60. The Project site includes 11 individual parcels plus a portion of Jack Rabbit Trail, including Assessor Parcel Numbers (APNs): 422-060-002, 422-060-005, 422-060-009, 422-060-010, 422-060-016, 422-060-017, 422-060-018, 422-060-021, 422-060-022, 422-170-005, and 422-170-008. The four parcels for the proposed offsite conservation include 422-170-007, 422-170-009, 422-170-010, and 422-170-011. Tables 2-1 and 2-2 list the APNs for the Project site and the offsite conservation, respectively, including the associated Area Plan Sub-Unit and Independent Cell/Cell Group. Exhibit 2B depicts the Assessor’s Parcels.

Table 2-1. APNs for the Project Site

Project APNs	Project Sub-Unit	Independent Cell/Cell Group
422-060-002*	SU1 – Protrero/Badlands	933, 936
422-060-005*	SU1 – Protrero/Badlands	933
422-060-009	SU1 – Protrero/Badlands	1030, 1032
422-060-010*	SU1 – Protrero/Badlands	1030, 1032
422-060-016	N/A	N/A
422-060-017	N/A	N/A
422-060-018	N/A	N/A
422-060-021	SU1 – Protrero/Badlands	1032
422-060-022*	SU1 – Protrero/Badlands	1032, 1125, Cell Group A’
422-170-005*	SU1 – Protrero/Badlands	1125
422-170-008	SU1 – Protrero/Badlands	1125
Jack Rabbit Trail Easement	N/A	N/A

* - All or a portion of the parcel is described for conservation.

Table 2-2. APNs for the Offsite Conservation Parcels

Offsite Conservation APNs	Project Sub-Unit	Cell Group
422-170-007	SU3 – Badlands North	A’
422-170-009	SU3 – Badlands North	A’
422-170-010*	SU3 – Badlands North	A’
422-170-011	SU3 – Badlands North	A’

* - A portion of this APN is in an undescribed portion of Cell Group A’; the majority is outside of (but adjacent to) the Criteria Area.

The boundaries for the APNs, MSHCP Criteria Cells, existing Public/Quasi-Public (PQP) Conserved Lands, and Jack Rabbit Trail right-of-way (ROW) as depicted in the Riverside

County GIS files are not fully accurate relative to the surveyed boundaries for the Project. The acreages referenced throughout this document are based on the actual surveyed boundaries. Appendix B provides a discussion of the GIS analysis and internal adjustments made by GLA to the Criteria Cells and PQP Conserved Lands to match with the surveyed boundaries.

2.2 Project Description

The Project Applicant (Beaumont Pointe Partners, LLC) proposes to develop a recreational/entertainment commercial development of approximately 246,000 square feet (SF) of general commercial uses in addition to a 125-room hotel and approximately 4,995,000 SF of industrial and warehouse uses. The Project will be developed in at least four phases with buildout expected by 2027.

As summarized in table 2-3 below, the Project site contains 263.39 acres of proposed open space, including 124.70 acres designated as “Project Maintained Open Space” (Planning Area [PA] 9) consisting of open space to be managed by the Project, and 152.42 acres designated as “Conservation Land” (PA 10) that would be conserved as natural habitat to support Reserve Assembly as required by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Portions of the 124.70 acres in PA 9 will be impacted by remedial grading, improved with manufactured slopes, and/or used for wildfire fuel modification purposes. Disturbed areas within the Project Maintained Open Space will be re-planted with native vegetation to the greatest extent possible and will serve as a buffer between the development footprint and the proposed Additional Reserve Lands (ARL). The Project Applicant is also proposing to conserve 78.40 acres of land located outside of the Project boundary for MSHCP Reserve Assembly. Altogether, a total of 230.82 acres is proposed for conservation in support of MSHCP Reserve Assembly. The Project’s Land Use Plan (LUP) is attached as Appendix A and is also represented in Exhibit 3 [Site Plan Map].

Table 2-3. Additional Reserve Lands and Other Open Space (in acres)

	Additional Reserve Lands	Project Maintained Open Space	Total Open Space
Planning Area 9	0	124.70	124.70
Planning Area 10	152.42	0	152.42
Offsite Conservation	78.40	0	78.40
Total	230.82	124.70	355.52

The Project would construct four main roadways for on-site circulation, including 4th Street, Jack Rabbit Trail, Entertainment Avenue, and Industrial Way. 4th Street would be constructed along the southern boundary of the Project site from Jack Rabbit Trail at the easterly edge of the Project site and would extend from its current proposed terminus to the east at Jack Rabbit Trail, culminating at a cul-de-sac at the western edge of PA 7, with a 40-foot private access road continuing along the southern boundary of PA 8.

Jack Rabbit Trail road is an existing two-lane road that runs from the Jack Rabbit Trail/SR-60 off-ramp, through the Project site and continuing further south to eventually connect to Gilman Springs Road in the Hemet area. The Project would re-route the section of Jack Rabbit Trail road from the SR-60 off-ramp to 4th Street to connect with the existing Jack Rabbit Trail at the south edge of the Project site. Entertainment Avenue would be constructed as a curvilinear street connecting Jack Rabbit Trail and 4th Street south of PA 2 and PA 3, on the west side of PA 1. Industrial Way, a private access road, would be constructed along the northern boundary of the Project site from Entertainment Avenue culminating at the western edge of PA 7.

Regional access to the Project site would be provided from SR-60 at Potrero Boulevard and I-10 at Beaumont Avenue. Local access to the Project site would be provided from the future extension of 4th Street from Jack Rabbit Trail to Potrero Boulevard currently under construction as part of the Hidden Canyon project; 4th Street between Jack Rabbit Trail and Potrero Boulevard is planned as an industrial collector with a 78-foot right-of-way and 56-foot curb-to-curb, which is consistent with the width of 4th Street and the eastern end of the Project site. Until an SR-60 /Jack Rabbit Trail interchange is constructed, access from the Project site to the SR-60 via Jack Rabbit Trail is proposed to be restricted, with the northerly portion of Jack Rabbit Trail to the SR-60/Jack Rabbit Trail interchange utilized as secondary emergency egress (and fire and emergency vehicle ingress) only.

The Project's fuel modification limits will partially extend in the Project Maintained Open Space (PA 9) but will not encroach into the existing MSHCP Conservation Area or the ARL proposed by the Project. The fuel modification limits are depicted on Exhibit 3.

3.0 CRITERIA REFINEMENT

3.1 Proposed Core 3

The Project site is located within Criteria Cells 933, 936, 1030, 1032, and 1125 of Subunit 1 (Potrero/Badlands) of The Pass Area Plan, and with "offsite" proposed conservation located within Cell Group A' of Subunit 3 (Badlands North) of the Reche Canyon/Badlands Area Plan. For each of these Cells and the one Cell Group, lands described for conservation will contribute to the assembly of Proposed Core 3. The MSHCP defines a Core as "a block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species." Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the overall MSHCP Plan Area. The Proposed Core consists mainly of private lands but also contains a few Public/Quasi-Public parcels including De Anza Cycle Park. The Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. Exhibits 4A and 4B provide the general area of Proposed Core 3, which includes existing Conserved Lands and lands that are described for conservation but have not yet been conserved, and also depict the Beaumont Pointe Project site, which is located along the northeastern edge of the Proposed Core, south of the State Route 60.

Specific Linkages are not identified as part of Proposed Core 3; however, the overall area identified for the Proposed Core supports wildlife movement and therefore functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core. Exhibit 4A notes that the general wildlife movement through the Core is northwest to southeast, although it is acknowledged that movement occurs throughout the Core lands, including through and alongside the Project site. However, the Project site itself is not recognized as a specific MSHCP Linkage. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest Core Areas identified for the MSHCP. As noted above, the Proposed Core is contiguous with Existing Core H (Lake Perris/Mystic Lake) and Existing Core K (San Jacinto Mountains), thus greatly enlarging the functional area of the Core. The Core has both a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by existing land uses, including agricultural use.

As the Proposed Core covers a large area, the MSHCP identifies a number of Planning Species that would utilize portions of the Core for live-in and movement habitat, including southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), cactus wren (*Campylorhynchus brunneicapillus*), loggerhead shrike (*Lanius ludovicianus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), Stephens' kangaroo rat (*Dipodomys stephensi*), bobcat (*Lynx rufus*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), mountain lion (*Puma concolor*), Nevin's barberry (*Berberis nevinii*). Not all of these species have the potential to occur at the Project site, and therefore not all are relevant to this analysis. However, those applicable species are discussed in this document. The MSHCP notes that management of edge conditions will be necessary in the Badlands to maintain high quality habitat for these species. The proposed Project site will have approximately 10,000 linear feet of edge adjacent to the existing and proposed Conserved Lands. As such, the Project will implement measures to address the Guidelines Pertaining to Urban/Wildlands Interface (MSHCP Volume I, Section 6.1.4) for the management of edge factors such as lighting, noise, urban runoff, toxics, and unauthorized access.

Regarding lighting, the MSHCP states that “night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.” Lighting associated with the Project will be designed for consistency with the MSHCP. Chapter 8.50 of the City of Beaumont Municipal Code addresses outdoor lighting for development projects. The ordinance states the intent to “establish regulation and standards which will reduce light pollution generated by residential, commercial and industrial lighting fixtures and devices, minimize light pollution which has a detrimental effect on the environment and the enjoyment of the night sky, reduce and minimize lighting and lighting practices which cause unnecessary illumination of adjacent properties, correct problems of glare and light trespass, and reduce energy use.” The ordinance promotes shielding and limits the type and intensity of the light fixtures depending on the extent of shielding. In addition, the Project proponent is performing a lighting study and developing a conceptual lighting plan to demonstrate that there will be no offsite lighting trespass into the adjacent MSHCP Conservation Area.

3.2 Reserve Assembly and Criteria Refinement

Volume I, Section 6.5 (Criteria Refinement Process [CRP]) of the MSHCP states that individual public and private projects within the Plan Area are expected to be designed and implemented in accordance with the Criteria for each Area Plan presented in *Volume I, Section 3.2* of the MSHCP document. The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands (ARL) to be acquired within the MSHCP Criteria Area. Projects located within the Criteria Area must be evaluated to determine if lands within those properties are described to contribute to Reserve Assembly. Criteria Refinements are an important part of the Reserve Assembly process to achieve goals for Covered Species, Covered Habitats, etc. However, in cases where refinements to the Criteria are desirable to facilitate Reserve Assembly, including for development projects that would otherwise be inconsistent with the existing Criteria, the CRP described in *Volume I, Section 6.5* shall apply. Criteria Refinements may be initiated by Local Permittees, or at the request of private entities to Local Permittees if agreed to by the applicable Local Permittee, either for purposes of correcting minor discrepancies or inaccuracies or for evaluating alternative conservation proposals involving single or multiple landowners and jurisdictions that are of equivalent or superior benefit to Covered Species. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the Refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species conservation goals. However, the CRP cannot be used for Criteria changes that would result in a reduction in the amount of lands conserved relative to the minimum acreages described by the Criteria. A Criteria Refinement can be approved with lesser conservation in one or more Cells provided that the decrease is made up with other lands in the Criteria Area not described by the Criteria that satisfy the goals for Covered Habitats, Covered Species, etc., or with lands outside of the Criteria Area that similarly satisfy the goals.

The Project site is located within Criteria Cells 933, 936, 1030, 1032, and 1125 of Subunit 1 (Potrero/Badlands) of The Pass Area Plan, and the offsite proposed conservation (offsite replacement lands) is located within Cell Group A' of Subunit 3 (Badlands North) of the Reche Canyon/Badlands Area Plan. The boundary separating the two Area Plans is depicted on Exhibit 2B. As stated in the MSHCP (Volume I, Section 3.3.1, page 3-114), "the County's General Plan Area Plan boundaries were selected to provide the broad organizational framework for the Criteria" and that "while these boundaries are not biologically based, they related specifically to County planning boundaries and to the boundaries of incorporated Cities within the MSHCP Plan Area. The Area Plan framework for the criteria-based approach was selected to structure implementation strategies around established planning boundaries." Although the Project site and the "offsite" proposed conservation are divided between the two Area Plans on the basis of general planning boundaries, the intent of the proposed Criteria Refinement is to allow for a development project that establishes a biological equivalency with its proposed conservation. The following analysis describes that although the Project would not satisfy the minimum Criteria for some of the individual Cells, additional lands are proposed for conservation that would overall not just exceed the minimum conservation goal for the combined Cells and Cell Group but would also exceed the midpoint of the described conservation range.

Each Independent Cell and Cell Group has specific Criteria that describes the amount of each Cell or Cell Group to be conserved, the intended location of the conservation within the Cell or Group, specific Habitat types that are to be conserved, and any applicable Cores or Linkages that conserved land is to support. The acreage of described conservation is based on a percentage of the Cell or Cell Group, expressed either as a specific percentage goal or as a percentage range. The acreage of described conservation for each Cell or Group is calculated using the percentage goal and the gross acreage of the Cell or Cell Group. The Criteria for the five Cells associated with the Project (933, 936, 1030, 1032 and 1125) are included in *Volume I, Section 3.3.10* of the MSHCP, and are also provided below in Table 3-1. Oftentimes a portion of a Cell or Cell Group will contain lands that were conserved prior to the adoption of the MSHCP (i.e., PQP lands). In those cases, the amount of lands described for conservation by the Cell Criteria is not based on the net acreage of the Cell or Cell Group minus the PQP lands, but instead the percentage and location goals take into account the PQP lands and the Criteria focus on other parts of the Cell or Cell Group that are not yet conserved. The Project is associated with three Criteria Cells (933, 1030 and 1032) where portions of the Cells contain PQP conserved lands. For example, the southwestern portion of Cell 933 contains PQP lands and the Criteria for Cell 933 describes 20% to 30% of the Cell to be conserved within the southeastern portion of Cell. The amount of lands described for conservation in Cell 933 is calculated by multiplying the described conservation percentage with the gross Cell acreage (157.16 acres based on GLA’s adjustment of the Cell boundaries), with a resulting conservation range of approximately 31 acres to 47 acres (approximate midrange goal of 37.85 acres based on GLA’s hand-drawn representation as an approximation of the Criteria).

Table 3-1. Cell Criteria for The Pass Area Plan

Cell	Criteria
933	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and water. Areas conserved within this Cell Group will be connected to chaparral and wetland habitat proposed for conservation in Cell #936 to the east. Conservation within this Cell Group will range from 20%-30% focusing on the southeastern portion of the cell.
936	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on grassland, chaparral, and coastal sage scrub. Areas conserved within this Cell Group will be connected to uplands proposed for conservation in Cells #933 and #1030 to the west and south. Conservation within this Cell Group will range from 10%-20% focusing on the southwestern portion of the Cell Group.
1030	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral, coastal sage scrub, and grassland. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cells #1032 and #936 to the east and north. Conservation within this Cell will range from 15%-25% focusing on the northeastern portion of the Cell.
1032	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral, coastal sage scrub, and

Cell	Criteria
	grassland. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cells #1030 and #1125 to the west and southeast, and to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group A' in the Reche Canyon/Badlands Area Plan to the south. Conservation within this Cell will range from 45%-55% focusing on the southwestern portion of the Cell.
1125	Conservation within this Cell will contribute to assembly of Proposed Core 3. Conservation within this Cell will focus on chaparral and coastal sage scrub. Areas conserved within this Cell will be connected to uplands proposed for conservation in Cell #1032 to the northwest and in Cell Group A' in the Reche Canyon/Badlands Area Plan to the west and south. Conservation within this Cell will range from 15%-25% focusing on the northwestern portion of the Cell ⁴ .

Based on the described percentage ranges for each Cell, the approximate range of described conservation for all five Cells is 166 to 247 acres. Applying the approximate midrange goals to all five Cells associated with the Project site, the total described conservation is approximately 206.89 acres (see Table 3-2 below). The Project proposes a total of 230.82 acres of conservation to support Reserve Assembly for Proposed Core 3 [Exhibit 5 – Reserve Assembly Analysis Map], including 152.42 acres onsite (97.20 acres of described lands to be conserved and 55.22 acres of onsite replacement lands) and 78.40 acres of offsite replacement lands. The 152.42 acres of onsite conservation includes 151.06 acres associated with the five onsite Criteria Cells (930, 936, 1030, 1032 and 1125) and 1.36 acres located outside of the Criteria Area (adjacent to Cell 1032 and Cell 1125). However, as shown below in Table 3-2, the onsite conservation of 152.42 acres does not satisfy the midrange goals for Cells 936, 1030, 1032, and 1125, resulting in a conservation deficit of 54.47 acres for the onsite portion [Exhibit 5 – Reserve Assembly Analysis Map]. To offset the conservation deficit, approximately 78.40 acres of offsite conservation is proposed, including 37.89 acres of undescribed lands in Cell Group A' and 40.51 acres of undescribed lands located outside of (but adjacent to) the Criteria Area. As such, a Criteria Refinement is needed to approve the alternate conservation proposal. Section 5 of this document provides an equivalency analysis demonstrating that the proposed Criteria Refinement will satisfy the existing Criteria goals for Covered Habitats and Covered Species; contribute to the assembly of Proposed Core 3; will not affect Linkages, Non-Contiguous Habitat Blocks, or Ecotones; will provide a configuration that will support the management of adjacent Conserved Lands; and will sufficiently conserve lands to result in a net increase of ARL compared with the existing Criteria.

⁴ Cell 1125 is shared between the Pass Area Plan and the Reche Canyon/Badlands Area Plan. The total acreage of Cell 1125 is approximately 156.39 acres. Within the Reche Canyon/Badlands Area Plan only a portion of Cell 1125 is included within Cell Group A' along with the entirety of Cell 1126, with a total acreage of Cell Group A' of approximately 244.51 acres. However, although the Area Plan boundary shows only the remaining portion of Cell 1125 to be geographically within the Pass Area Plan, the percentage range goal identified by the Cell Criteria is intended to be applied to the gross acreage of the Cell (personal communication with the RCA) and not just the portion within the Pass Area Plan boundary.

Table 3-2. Summary of Project Conservation for The Pass Area Plan (in acres)

Criteria Cell	Total Cell Acreage⁵	Described Conservation⁶	Described Lands – Impact	Described Lands – Proposed Conservation	Undescribed Lands – Replacement	Conservation Surplus or (Deficit)
933	157.16	37.85	16.04	21.81	47.03	30.99
936	163.01	25.51	24.19	1.32	0.00	(24.19)
1030	152.71	30.25	13.72	16.53	0.16	(13.56)
1032	162.83	81.76	42.75	39.01	5.54	(37.21)
1125	156.39	31.52	12.99	18.53	0.00	(12.99)
No Cell	N/A	N/A	N/A	N/A	1.36	1.36
Total		206.89	109.69	97.20	54.09	(55.60)

The remainder of the lands proposed for conservation (all offsite) are within the Reche Canyon/Badlands Area Plan. A portion of the proposed conservation consists of undescribed lands within Cell Group A', with the remainder consisting of undescribed lands located outside of the Criteria Area (south of Cell Group A'). Cell Group A' is irregularly shaped, consisting of the entirety of Cell 1126 and a portion of Cell 1125, for a total of 244.51 acres. The Cell Criteria in *Volume I, Section 3.3.11* for the Reche Canyon/Badlands Area Plan, describes the conservation of 55 percent to 65 percent (approximately 134 to 159 acres) in the western portion of the Cell Group, corresponding to a midrange goal of approximately 146.74 acres. Approximately 154.26 acres in the western part of Cell Group A' are already protected as RCA Conserved Lands. The Project proponent owns 37.89 acres of undescribed lands in the eastern portion of Cell Group A' adjacent to the existing Conserved Lands that is available for conservation. Combining the existing Conserved Lands (154.26 acres) and proposed replacement conservation (37.89 acres), the total conservation for Cell Group A' would be 192.15 acres. Table 3-3 summarizes Cell Group A' for the Reche Canyon/Badlands Area Plan.

⁵ The Criteria Cell acreages are based on GLA's redrawing of the Criteria Cell boundaries using Project boundaries that are based on the ALTA survey.

⁶ The described conservation acreages presented in Table 3-2 are an approximation of the midrange goals stated by the Criteria based on GLA's hand-drawn representation of the described conservation areas in GIS. In addition, since the Cell acreages presented in Table 3-2 are based on adjustments made by GLA to address boundary inaccuracies with County GIS data, it is understood that there is a margin of error in the acreages of about one to two acres.

Table 3-3. Summary of Cell Group A' Conservation for The Reche Canyon/Badlands Area Plan (in acres)

Cell Group	Total Cell Group Acreage	Described Conservation	Existing RCA Conserved Lands	Proposed Conservation (Offsite)	Total Conservation Cell Group A'
A' (Cell 1125)	244.51	146.74	154.26	37.89	192.15

In addition to lands within the Project site, the Project proponent owns another 40.51 acres of undescribed lands that are outside of the Criteria Area, south of Cell Group A' [Exhibit 5]. Altogether, the Project proposes approximately 230.82 acres of conservation, including 152.42 acres onsite (1.36 acres located outside of the Criteria Area) and 78.40 acres offsite (37.89 acres within Cell Group A' and 40.51 acres located outside of the Criteria Area). Combining both the onsite and offsite conservation, including 133.62 acres of replacement conservation to offset impacts to 109.69 acres of described lands, the proposed conservation exceeds described conservation identified by the Cell Criteria. Table 3-4 summarizes the combined conservation proposed for the Project.

Table 3-4. Summary of Proposed Versus Described Conservation (in acres)

	Proposed Conservation	Described Conservation	Conservation Surplus or (Deficit)
Onsite (Cells 933, 936, 1030, 1032, 1125)	152.42	206.89	(54.47)
<i>Onsite Subtotal</i>	<i>152.42</i>	<i>206.89</i>	<i>(54.47)</i>
Offsite (Cell Group A')	37.89	N/A	37.89
Offsite Lands not in Criteria Area	40.51	N/A	40.51
<i>Offsite Subtotal</i>	<i>78.40</i>	<i>N/A</i>	<i>78.40</i>
Totals	230.82	206.89	23.93

3.3 Need and Rationale for the Criteria Refinement

The objective of the proposed Project is to develop within the City of Beaumont a 540-acre mixed-use project featuring 246 acres of industrial uses and 30 acres of commercial uses. Based on the changing retail model, with increasing retail goods being purchased on-line and delivered directly to the consumers, there is a significant demand for warehouse and distribution centers throughout southern California. There is a particularly strong demand for such facilities on or near major transportation routes such as SR-60 and I-10.

Modern warehouse and distribution facilities require large industrial buildings (600,000 to 1,400,000 square feet) in rectangular configurations with long bays of loading docks on opposite sides of the buildings and ample parking areas for truck storage and employees. The facilities also require large water quality treatment basins and a road circulation system that provides access to all sides of the buildings for trucks, employees, and fire/emergency services.

The Beaumont Pointe property has significant topographic constraints, including a major ridge that runs generally from the southeast to the northwest through the property. The Project proponent considered several conceptual grading and design layouts to find the right balance between generating enough development area to make the project economically viable, while preserving as much of the described open space as possible. In order to create the large flat pads necessary for the industrial buildings, the majority of the site must be graded, including remedial grading within PA9 that will become open space managed by the Project. An additional 230.82 acres of lands are proposed as ARL to support Reserve Assembly for Proposed Core 3.

Achieving the conservation goals under a strict adherence to the existing Cell Criteria would create a checkerboard type of conservation plan across the southern half of the property which would make it impossible to develop the site to satisfy the goals of the Project. The requested adjustments to the Cell Criteria are necessary and appropriate to allow an economically viable project to be developed at the property while still achieving the overall Reserve Assembly goals for Proposed Core 3, including accommodating wildlife movement along the southwestern edge of the Project site.

4.0 EXISTING CONDITIONS

4.1 Vegetation Communities/Land Uses

This section describes the vegetation mapping for the overall Project site and the offsite conservation area, including using GLA's vegetation mapping from 2020 as well providing the vegetation mapping from the 1994 MSHCP Rough Step baseline. Table 4-1 provides a summary of vegetation communities/land use types for the Study Area using GLA's vegetation mapping, followed by descriptions of the vegetation communities. In addition, Table 4-2 provides a summary using the Rough Step baseline. The overall Study Area (Project site and the proposed offsite conservation area) contains three native vegetation communities, including chaparral, Riversidean sage scrub, and southern mixed riparian, one non-native vegetation community

(non-native grassland), and disturbed/developed areas [Exhibit 6A – Vegetation Map]. Exhibit 6B provides the vegetation mapping from the 1994 MSHCP Rough Step baseline.

Table 4-1. Summary of Vegetation/Land Use Types for the Study Area (GLA 2020 Vegetation Mapping) [in acres]

Vegetation Community/ Land Use Type	Project Site	Offsite Conservation Parcel	Jack Rabbit Trail Easement	Total
Chaparral	1.73	0.15	0	1.88
Riversidean Sage Scrub	102.65	33.63	1.07	137.35
Southern Riparian Scrub	1.01	0.22	0	1.23
Non-Native Grassland	415.93	44.40	2.24	462.56
Disturbed	17.39	0	0.04	17.43
Developed	1.16	0	0.85	2.01
Total	539.87	78.40	4.19	622.46

Chaparral

Approximately 1.88 acres of chaparral occurs within the Study Area. This plant community is distinguishable from the Riversidean sage scrub due to the dominance of shrubs and trees rather than sub-shrubs, including sugar bush (*Rhus ovata*) and toyon (*Heteromeles arbutifolia*). Other evergreen shrubs include scrub oak (*Quercus berberidifolia*) and redberry buckthorn (*Rhamnus crocea*). Sage scrub species intermixed with the evergreen shrubs include black sage (*Salvia mellifera*) and California sagebrush (*Artemisia californica*). The understory is dominated with non-native grasses and summer forbs.

Riversidean Sage Scrub

The Study Area supports approximately 137.35 acres of Riversidean Sage Scrub, which more specifically is the Riversidean Sage Scrub subassociation, primarily along the southwestern boundary of the site, but also with scattered patches in the northeastern portion of the site. This plant community is comprised with a mosaic of dominant plant species, all of which are sub-shrubs, including California buckwheat (*Eriogonum fasciculatum*), California sagebrush, black sage, Palmer’s goldenbush (*Ericameria palmeri*), and brittlebush (*Encelia farinosa*). Chaparral yucca (*Hesperoyucca whipplei*) and Mojave yucca (*Yucca schidigera*) also occur sporadically within this vegetation community.

Southern Riparian Scrub

The Study Area supports approximately 1.23 acres of southern riparian scrub, which occurs in several patches within canyons along the southwestern portion of the site. These areas are dominated with species including mule fat (*Baccharis salicifolia*), sand bar willow (*Salix exigua*), yellow willow (*Salix lutea*), western sycamore (*Platanus racemosa*), and narrowleaf cattail (*Typha domingensis*).

Non-Native Grassland

The majority of the Study Area, accounting for approximately 462.56 acres, consists of non-native grassland. This plant community is present throughout the site, primarily on flat and gentle-sloping areas within the northeastern portion of the Project site, adjacent to State Route 60, which was easily accessed by cattle during previous grazing practices. Non-native grassland species have also extended into the southwestern portion of the site due to the adjacent disturbance. These areas are dominated with non-native species such as foxtail brome (*Bromus madritensis*), ripgut grass (*Bromus diandrus*), slender oat (*Avena barbata*), Russian thistle (*Salsola tragus*), summer mustard (*Hirschfeldia incana*), and doveweed (*Croton setiger*). Other commonly occurring species in this vegetation community include common sandaster (*Corethrogyne filaginifolia*), prickly lettuce (*Lactuca serriola*), longstem buckwheat (*Eriogonum elongatum*), California buckwheat, deerweed (*Acmispon glaber*), stinknet (*Oncosiphon piluliferum*), tree tobacco (*Nicotiana glauca*), and common sunflower (*Helianthus annuus*). Scattered elderberry (*Sambucus nigra* ssp. *caerulea*) trees also occur sporadically throughout the non-native grassland community.

Disturbed

Disturbed areas account for 17.43 acres throughout the Study Area. This land use type consists of unpaved access roads which are scattered throughout the site, the majority of which occur within the linear northeastern portion of the Study Area, adjacent to State Route 60. Disturbed areas are generally devoid of vegetation; however, some ruderal species occur sporadically in these areas.

Developed

The existing Jack Rabbit Trail Road accounts for approximately 2.01 acres in the southernmost portion of the Study Area, dividing the proposed offsite conservation. This area is considered developed because it consists of a paved road and is devoid of vegetation.

Table 4-2. Summary of Vegetation/Land Use Types for the Study Area (1994 MSHCP Rough Step Vegetation Mapping) [in acres]

Vegetation Community/ Land Use Type	Project Site	Offsite Conservation Parcel	Jack Rabbit Trail Easement	Total
Chaparral	112.54	31.67	2.67	156.88
Riversidean Sage Scrub	143.91	46.73	1.52	192.16
Coast Live Oak Woodland	0.41	0	0	0.41
Non-Native Grassland	283.01	0	0	283.01
Total	539.87	78.40	4.19	622.46

4.2 Wildlife Movement

As discussed above in Section 3.1, the MSHCP identifies Proposed Core 3 as extending from northwest to southeast, which is bisected by SR-60. As such, the SR-60 provides a constraint to movement for wildlife through Proposed Core 3. *Volume I, Section 7.5.2* of the MSHCP provides guidelines for the construction of wildlife crossings associated with roadway projects. The MSHCP notes undercrossing structures of varying sizes should be included in a long road alignment to accommodate small, medium, and large wildlife, with multiple undercrossings for each size group depending on the length of the roadway. The California Department of Transportation (Caltrans) is currently constructing the SR-60 Truck Lanes Project which extends for approximately 4.75 miles from approximately Gilman Springs Road on the west to a point about one mile east of the western limits of the Project site. The Caltrans work is expected to be completed by the time that construction of the Beaumont Pointe Project would begin, so that certain Project components including proposed fencing would tie in consistently with the SR-60 improvements.

As part of the SR-60 improvements, Caltrans is constructing eight all-weather undercrossing structures specifically for wildlife, including two 20-foot-tall by 20-foot wide box culverts to accommodate larger wildlife (mule deer, mountain lion, and bobcat) and six smaller undercrossings. The smaller structures consist of a combination of corrugated metal pipes (CMPs), reinforced concrete pipes (RCPs) and arch concrete pipes (ACPs). Three of the eight undercrossings are being constructed for the section of the SR-60 improvements that abut the northern Project boundary, including one 60-inch pipe at the western end of the Project site, one of the 20-foot by 20-foot culverts approximately 0.50 mile along the Project boundary east of the 20-foot by 20-foot box culvert, and one 36-inch pipe another 0.50-mile to the east of the box culvert. Wildlife expected to occur at the Project site with the potential to use these three features include medium to large-sized mammals such as mule deer, mountain lion, bobcat and coyote, smaller mammals such as gray fox, raccoon and rodents, and other smaller wildlife such as reptiles and amphibians. The specific MSHCP Planning Species with a potential for using the culverts would be mountain lion, bobcat, Stephens' kangaroo rat, and Los Angeles pocket mouse. The remaining five Caltrans undercrossings are being constructed west of the Project site, with the second 20-foot by 20-foot culvert located approximately one-mile west of the Project site. Exhibit 9A depicts the locations of all eight of the proposed undercrossings associated with the SR-60 project.

As discussed above, the Project has been designed to pull back the western development edge to the maximum extent feasible in Cell 933 to provide a wildlife movement buffer relative to the 20-foot by 20-foot culvert that Caltrans constructed under the SR-60. In addition, the SR-60 improvements include a wildlife fence along both the northern and southern edges of the SR-60 to minimize wildlife from entering the roadway and direct wildlife to the areas north and south of the freeway. The eastern terminus of the SR-60 fence is being constructed just east of the proposed 36-inch pipe culvert [Exhibit 9B]. The proposed Beaumont Pointe Project will similarly construct a wildlife fence along the western and southern edges of the Project site to prevent wildlife from entering the Project site from the adjacent Conservation Area. The fence will be constructed approximately along the boundary between the proposed ARL and the Project's Maintained Open Space, although the exact location will vary depending on the

topography. The Project's fence will tie into the SR-60 fence at the easternmost proposed wildlife CMP and will extend west and then south/southeast around the Project to direct wildlife in the northwesterly/southeasterly direction. The wildlife fencing along the Project boundary will include one-way swing gates opening into the MSHCP conservation area for any wildlife that enter the Project site from the north and east trying to escape into the adjacent conserved lands. In addition to the wildlife fence, the Project will also include six-foot tubular steel security fencing along the northern boundary abutting the SR-60 ROW, beginning from the wildlife fence on the west and extending east to the Project's entry point. Wildlife that either cross over or under the SR-60 east of the Caltrans wildlife fence terminus will be forced to the west or east along the security fence. A swing gate will be installed to the west along the section of lateral (north-south) wildlife fence connecting to the SR-60 fence, allowing wildlife to escape the freeway ROW towards the Conservation Area. Details of the wildlife fence proposed for the Project will be provided as part of the Joint Project Review (JPR) process. As noted above, the Project's night lighting will be designed to prevent spillage into the MSHCP Conservation Area along the western and southern development boundary.

GLA biologists evaluated the Project site for wildlife movement, including data collection from the overall site in 2019 and a survey of existing culverts along the adjacent SR-60 in 2020. The 2019 study used a variety of methods, including remote cameras, incidental observations of wildlife, and documentation of scat and tracks, and roadkill detections. The results of the study indicated that the Project site provides live-in and/or local movement habitat for seven medium- to large-sized mammal species: bobcat, coyote, mule deer, American badger, raccoon, gray fox, and mountain lion. The 2018 study found that most of the unpaved roads within the site are utilized for movement, which extend through the ridges and canyons. While reviewing the SR-60 culverts, GLA biologists looked for signs of wildlife use (direct observation of animals, animal sign, presence of roadkill, and documented the condition of each culvert (dimensions, sight distance, and movement constraints). GLA documented a total of 18 culverts under the portion of the SR-60 adjacent to the Project site boundary. All of the existing culverts consisted of CMPs constructed to convey stormwater under the freeway and not specifically for wildlife use. The CMP sizes varied between 24 and 48-inches in diameter and those that were identified as having "line-of-sight" to the other side of the freeway were between 70 and 100-feet long. The majority of the culverts were heavily blocked by dried vegetation such as mustard and tumbleweed, which would deter relatively larger wildlife (medium-sized mammals) from using the CMPs. Small mammal scat and tracks were observed at two culverts and coyote scat was noted near one of the culverts, but it is unknown if coyote would use the small CMP culverts or would cross the roadway.

While it is acknowledged that some of the existing freeway culverts would be used by wildlife, and that other wildlife would cross the surface of the roadway, the MSHCP does not recognize a specific Existing or Proposed Linkage as crossing the freeway along the Project boundary or specifically through the middle of the Project site. Instead the focus of crossing is expected to be to west where middle of Proposed Core 3 is to be located. As noted on Exhibit 4A and 4B, the proposed Project site extends along the eastern edge of Proposed Core 3 and the lands described for conservation through the Cell Criteria are intended to support the management of that edge. The lands described for the Project site are not specifically intended to accommodate movement, although as noted above, the site supports the local movement of wildlife including the lateral

movement of wildlife into the adjacent badlands. Since the SR-60 Truck Lanes Project is to construct a 20-foot by 20-foot box culvert near the western end of the Beaumont Pointe Project site, the Beaumont Pointe Project will construct its wildlife fence at that location consistent with the terminus of the proposed SR-60 wildlife fence to maintain the Project's western/southwestern edge as the eastern limit for wildlife movement matching with the eastern edge of Proposed Core 3. As noted above, the Project will construct one-way swing gates along various parts of the fence, anticipating that wildlife may still enter the site from the north and east, and will need opportunities to connect to the Proposed Core 3 open space. The location of the 20-foot by 20-foot box culvert will coincide with the transition between the Project's Maintained Open Space and the proposed ARL. The topography of the manufactured slope extending down from the Project site will provide a barrier that is expected to direct wildlife either from the culvert to the south/southeast, or from the south/southeast to the culvert. At this location the Project's wildlife fence is expected to be constructed at the top of the manufactured slope to provide additional buffer between the developed portion of the Project and the culvert.

5.0 EQUIVALENCY ANALYSIS

The following provides an equivalency analysis of the proposed Criteria Refinement as it applies to the following:

- Effects on Habitats
- Effects on Covered Species
- Effects on Core Areas
- Effects on Linkages and Constrained Linkages
- Effects on Non-Contiguous Habitat Blocks
- Effects on MSHCP Conservation Area Configuration and Management
- Effects on Ecotones
- Acreage Contributed to the MSHCP Conservation Area
- Ownership of Mitigation Property

5.1 Effects on Habitats

This MSHCP defines Habitats as “the combination of environmental conditions of a specific place providing for the needs of a species or a population of such species.” The term “habitat” is often synonymous with “vegetation community”, although the intent of evaluating “effects on habitats” is to also address the functions and values associated with the vegetation communities in addition to demonstrating an equivalency with acreages conserved.

The MSHCP Cell Criteria identifies habitats/vegetation communities described for conservation to the benefit of various Covered Species present or with the potential to occur. The Criteria Cells associated with the Project site describe three Habitat types intended to be conserved throughout the Cells, including chaparral, coastal sage scrub, and grasslands. The habitat accounts described in Volume II, Section C of the MSHCP recognize two subassociations of grasslands (Valley and Foothill Grassland and Non-Native Grassland). The Project site and offsite conservation lands (offsite replacement) contain only non-native grasslands and do not

supports native grasslands (i.e., Valley and Foothill Grassland). As such, all reference to grasslands in this document pertain to Non-Native Grasslands. This section evaluates and compares the total amount of Habitats (vegetation communities) that are described for conservation by the Cell Criteria, including described areas to be conserved by the Project, described areas to be impacted by the Project, and areas proposed for conservation in replacement for the impacts. As required by the MSHCP, all lands to be proposed as replacement for impacts must not be described for conservation by the current Cell Criteria. The comparisons provided below address the vegetation mapping performed by GLA in 2020 as well as the MSHCP 1994 Rough Step vegetation baseline. The 2020 GLA mapping is being used to evaluate the actual impacts to vegetation communities (Habitats) described for conservation as a result of the proposed Project and to compare those impacts with undescribed lands proposed as replacement conservation. The purpose of using the 1994 Rough Step vegetation baseline is to demonstrate that the proposed Criteria Refinement would still satisfy the local Rough Step requirements for the described Habitats.

Included in the evaluation of the effects of the project on Habitats are those vegetation communities with the potential to support certain Covered Species, including those associated with the aforementioned chaparral, coastal sage scrub (Riversidean sage scrub), and grassland Habitats, as well as species associated with riparian/riverine areas, vernal pools and other ephemeral ponding features, and any other microhabitats that could be associated with the broader vegetation communities at the Project site.

5.1.1 Vegetation Communities to be Impacted and Conserved by the Project (GLA 2020 Vegetation Mapping)

Based on the conservation midpoint for the Criteria Cells (as depicted in Table 1-1), the MSHCP Criteria for Cells 933, 936, 1030, 1032, and 1125 describes approximately 206.89 acres of total conservation. Altogether the Project proposes to conserve 230.82 acres, including 152.42 acres onsite (97.20 acres of described lands and 55.22 acres of undescribed replacement lands) and 78.40 acres of offsite undescribed replacement lands. Of the 206.89 acres of lands described for conservation, approximately 109.69 acres would be impacted by the proposed Project, including 0.21 acre of chaparral, 24.40 acres of Riversidean sage scrub, and 82.13 acres of non-native grassland. In addition, the Project would impact 0.03 acre of southern riparian scrub, 2.78 acres of disturbed areas and 0.15 acre of developed areas associated with the existing Jack Rabbit Trail Road. To offset the impacts to described lands, the Project proposes to conserve approximately 133.62 acres of undescribed lands, including the 55.22 acres onsite and 78.40 acres offsite. The replacement lands include 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, 86.01 acres of non-native grassland, 0.22 acre of southern riparian scrub, and 1.22 acres of disturbed areas. Table 5-1 provides a comparison of vegetation communities using GLA's 2020 vegetation mapping for the total lands described for conservation by the MSHCP and proposed to be impacted versus the total lands proposed for conservation by the Project.

Table 5-1. Comparison of Conservation Lands Described by the MSHCP and Project Proposed Conservation Lands (GLA 2020 Vegetation Mapping) [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0.00	0.22	1.20
Disturbed	3.48	2.78	0.70	1.22	0.00	1.92
Developed	0.15	0.15	0.00	0.00	0.00	0.00
Total	206.89	109.69	97.20	55.22	78.40	230.82

The 133.62 acres of proposed replacement lands include 33.72 acres in Cell 933, 0.17 acre in Cell 1030, 5.93 acres in Cell 1032, 37.89 acres in the eastern portion of Cell Group A', and 41.87 acres of lands that are outside of (but adjacent to) Criteria Cells (1.36 acres onsite and 40.51 acres offsite). Exhibit 5 identifies the areas described by the MSHCP Cell Criteria that would be impacted by the Project, as well as the areas proposed for replacement (onsite and offsite) and the remaining described areas that would be conserved by the Project. Exhibit 8A provides the 2020 vegetation mapping relative to the proposed impacts and conservation.

The Project would conserve a total of 79.43 acres of scrub vegetation (1.28 acres of chaparral and 78.15 acres of Riversidean sage scrub), which is an increase of 21.56 acres of total scrub vegetation versus what the MSHCP describes for conservation. The Project would result in a slight increase (3.88 acres) in non-native grassland conserved (148.26 acres of conservation versus 144.38 acres of described lands). However, as discussed below in Section 5.1.2, approval of the proposed Criteria Refinement associated with the Project, which is located in Rough Step Unit 2, would not cause Rough Step Unit 2 to become out of balance for any of the vegetation communities identified for this Rough Step Unit.

The 133.62 acres of proposed replacement lands will be at least equivalent in biological functions and values compared with the 109.69 acres of described lands to be impacted. Particularly the scrub communities (chaparral and Riversidean sage scrub) in the replacement lands have a similar species composition (native shrubs and forbs) and shrub cover/density compared with the described lands to be impacted, as well as a relative composition of non-native grasses and forbs. The grassland communities, in the context of their relative non-native species composition and disturbance level, is also similar when comparing the proposed

replacement lands with the described lands to be impacted. The replacement lands compared with the impacted lands will provide at least equivalent biological functions as it pertains to wildlife breeding, foraging, and dispersal. The replacement habitat provides at least equivalent opportunities for avian live-in habitat as well as for fossorial animals (reptiles and small mammals). Foraging opportunities are provided for herbivores as well as supporting predator/prey dynamics for insectivorous and carnivorous animals (reptiles, birds, and mammals).

5.1.2 Vegetation Communities to be Impacted and Conserved by the Project (1994 MSHCP Rough Step Vegetation Mapping)

Using the vegetation mapping from the 1994 MSHCP Rough Step baseline, the MSHCP Cell Criteria describes the following for conservation: chaparral (70.60 acres), Riversidean sage scrub (93.08 acres), and non-native grassland (43.20 acres). The proposed Project would impact 28.31 acres of chaparral, 44.62 acres of Riversidean sage scrub, and 36.76 acres of non-native grassland. In comparison, the Project would conserve 97.58 acres of chaparral (55.29 acres of replacement), 110.71 acres of Riversidean sage scrub (62.25 acres of replacement) and 22.53 acres of non-native grassland (16.09 acres of replacement). Table 5-2 provides a comparison of vegetation communities using GLA’s 2020 vegetation mapping for the total lands described for conservation by the MSHCP versus the total lands proposed for conservation by the Project.

Table 5-2. Comparison of Conservation Lands Described by the MSHCP and Project Proposed Conservation Lands (MSHCP 1994 Rough Step Vegetation Mapping) [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	70.60	28.31	42.29	23.62	31.67	97.58
Riversidean Sage Scrub	93.08	44.62	48.46	15.52	46.73	110.71
Non-Native Grassland	43.20	36.76	6.44	16.09	0.00	22.53
Total	206.89	109.69	97.20	55.22	78.40	230.82

The proposed Criteria Refinement will conserve 97.58 acres of chaparral versus 70.60 acres described, for an increase of 26.98 acres, and 110.71 acres of Riversidean sage scrub versus 93.08 acres described, for an increase of 17.63 acres. The proposed Criteria Refinement would result in a decrease in non-native grassland conserved (22.53 acres versus 43.20 acres) based on the 1994 Rough Step mapping. However, approval of the proposed Criteria Refinement associated with the Project, which is located in Rough Step Unit 2, would not cause Rough Step

Unit 2 to become out of balance for any of the vegetation communities identified for this Rough Step Unit. Although the 2020 Annual Report has not been finalized, the remaining development allowance as of the end of 2020 in Rough Step Unit 2 are as follows: 2050.65 acres of coastal sage scrub, 2254.98 acres of grasslands, 36.27 acres of riparian scrub, woodland, and forest, 38.73 acres of Riversidean sage scrub and 58.14 acres of woodlands and forests. This unit remains in Rough Step for 2020. The Project will impact 28.31 acres of chaparral, 44.62 acres of Riversidean sage scrub, and 36.76 acres of non-native grassland. The Criteria Refinement proposes to conserve/replace 55.29 acres of chaparral, 62.25 acres of Riversidean sage scrub, and 16.09 acres of non-native grassland. Furthermore, based on the actual site conditions confirmed through GLA's 2020 vegetation mapping, the Project would conserve 148.26 acres of grassland (Table 5-1 above), which exceeds the amount described based on the Rough Step mapping.

5.1.3 MSHCP Riparian/Riverine Areas and Vernal Pools

MSHCP Volume I, Section 6.1.2 describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area.

Riparian/Riverine Areas

The MSHCP defines riparian/riverine areas as follows:

- *Lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The overall Study Area contains 3.80 acres of riparian/riverine areas, including 1.23 acres of riparian habitat (Southern Riparian Scrub) and 2.57 acres of unvegetated riverine areas consisting of ephemeral drainage features [Exhibit 7 – Riparian/Riverine Areas Map]. Of the 3.80-acre total, approximately 0.39 acre is within the described conservation areas to be impacted, 1.65 acres are within undescribed conservation (replacement) lands, and 1.70 acres within described lands to be conserved, with the remainder (0.06 acre) associated with the Project footprint outside of the Criteria Area. The riparian areas within the Project site and the offsite conservation (replacement) lands do not contain suitable habitat for species with survey requirements pursuant to MSHCP Section 6.1.2, including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), as the riparian habitat lacks the appropriate vertical structure, density, width, and hydrology (for some species). The riverine areas are narrow, ephemeral drainage features that generally do not provide habitat for most Covered Species based on a combination of factors such as soil suitability, flow disturbance, and vegetation suitability. Furthermore, the unvegetated riverine features are not mapped as distinct vegetation communities, but instead as part of the surrounding scrub or grassland habitats. To that extent, the riverine areas are generally part of broader live-in habitats identified for certain Covered Species discussed below in Section 5.2, but the specific riverine features do not provide unique habitat opportunities for the Covered Species.

The overall Project will impact 0.42 acre of riparian/riverine areas, including 0.03 acre of riparian habitat and 0.39 acre of unvegetated streambed. Impacts to riparian/riverine areas will require approval through the Determination of Biologically Equivalent or Superior Preservation (DBESP) process, including mitigation to offset the loss of functions and values associated with the resources. The intended mitigation would consist of the purchasing of wetland/riparian habitat establishment and/or rehabilitation credits from an approved mitigation bank/in-lieu fee program at an acceptable ratio (minimum 1:1) to establish that with mitigation, the Project would be equivalent or superior to the existing condition.

Vernal Pools

The MSHCP defines vernal pools as follows:

- *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 wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.*

The Project site does not contain vernal pools. The site does not contain any depressions (natural or artificial) that would inundate long enough to support resources associated with vernal pools and based on the overall badland topography of much of the site, the topography generally does not exist to support vernal pools. The soils mapped within the site are categorized as sandy loam soils, which are generally not associated with vernal pools, and direct observations of the soils within the site showed a lack of clay soil components that would restrict water from draining down into the subsoil. Furthermore, many of the dirt roads at the site are utilized for operations and maintenance of various utilities (i.e., Southern California Edison transmission towers and a SoCal Gas transmission pipeline), and as such artificial features such vehicle tire ruts that can, over time, develop characteristics of vernal pools, do not occur at the Project site. In addition, no plants were observed within the Project site that are associated with vernal pools and similar habitats that experience prolonged inundation.

Fairy Shrimp

Through Section 6.1.2, the MSHCP requires surveys for three species of fairy shrimp where suitable habitat is present, including the vernal pool fairy shrimp (*Branchinecta lynchi*), Riverside fairy shrimp (*Streptocephalus woottonii*), and the Santa Rosa Plateau fairy shrimp

(*Lindieriella santarosae*). In assessing the presence of potential habitat for fairy shrimp, the MSHCP states the following:

- *For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.*

The Project site does not contain any depression features that support inundation for fairy shrimp, including the above-referenced species. As noted above for vernal pools, the site does not contain any depressions (natural or artificial) that would inundate long enough to support fairy shrimp and based on the overall badland topography of much of the site, the topography generally does not exist to support such features. The soils mapped within the site are categorized as sandy loam soils, which are generally not associated with vernal pools, and direct observations of the soils within the site showed a lack of clay soil components that would restrict water from draining down into the subsoil. Furthermore, many of the dirt roads at the site are utilized for operations and maintenance of various utilities (i.e., Southern California Edison transmission towers and a SoCal Gas transmission pipeline), and as such artificial features such as vehicle tire ruts that might support fairy shrimp, do not occur at the Project site.

5.2 Effects on Covered Species

This section of the Criteria Refinement Analysis evaluates the effects of the Criteria Refinement on Covered Species, including the focal Planning Species for the relevant Criteria Cells, and additional Covered Species that have been detected at the Project site or have the potential to occur.

5.2.1 Planning Species

Section 3.2.3 of the MSHCP identifies the following Planning Species for Proposed Core 3: southern California rufous-crowned sparrow, Bell's sage sparrow, cactus wren, loggerhead shrike, San Bernardino kangaroo rat, Stephens' kangaroo rat, bobcat, Los Angeles pocket mouse, mountain lion, and Nevin's barberry. The proposed Criteria Refinement will support those species with a potential to occur at the Project site. The following analysis discusses the Planning Species that do or do not have a potential to occur at the site and compares the lands described for conservation by the MSHCP versus what will be conserved by the Project and how the proposed conservation of land under this analysis supports each species, as applicable. Maps depicting live-in habitat for scrub and grassland species are provided as Exhibits 8A and 8B.

Southern California Rufous-Crowned Sparrow

The southern California rufous-crowned sparrow has a potential to occur at the Project site. MSHCP objectives for the rufous-crowned sparrow include the conservation of primary habitat (Riversidean sage scrub, Riversidean alluvial fan sage scrub, and desert scrubs) and secondary habitat (grassland and chaparral) in the Riverside Lowland, Santa Ana Mountains, and San Jacinto Foothills Bioregions.

Approximately 202.25 acres of the onsite lands described for conservation by the MSHCP Cell Criteria contains habitats with the potential to support the rufous-crowned sparrow, including chaparral, Riversidean sage scrub, and grassland. From the vegetation acreages provided in Table 5-1 above, the Project will impact approximately 106.74 acres of the described habitats but will conserve 132.18 acres of lands in replacement supporting the described habitats, including 54.00 acres onsite and 78.18 acres offsite. In addition, the Project will conserve the remaining 95.51 acres of onsite lands described by the Cell Criteria, suitable to support the rufous-crowned sparrow. Altogether the Project will conserve 227.69 acres of live-in habitat (149.51 acres onsite and 78.18 acres offsite), including 132.18 acres of undescribed lands (replacement) to offset impacts to 106.74 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as nesting, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the rufous-crowned sparrow. Table 5-3 summarizes the comparison of live-in habitat for the lands described for conservation versus the lands proposed for conservation by the Project.

Table 5-3. Comparison of Live-In Habitat for the Southern California Rufous-Crowned Sparrow [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Total	202.25	106.74	95.51	54.00	78.18	227.69

Bell's Sage Sparrow

The Bell's sage sparrow has a potential to occur at the Project site. MSHCP objectives for the sage sparrow include the conservation of suitable habitat (Riversidean sage scrub, chaparral, and desert scrubs) in the Riverside lowland, Santa Ana Mountains, Desert Transition, and San Jacinto foothills Bioregions.

Approximately 57.87 acres of the onsite lands described for conservation by the MSHCP Cell Criteria contains habitats with the potential to support the Bell's sage sparrow, including chaparral and Riversidean sage scrub. From the vegetation acreages provided in Table 5-1

above, the Project will impact approximately 24.61 acres of the described habitats but will conserve 46.17 acres of lands in replacement supporting the described habitats, including 12.39 acres onsite and 33.78 acres offsite. In addition, the Project will conserve the remaining onsite lands described by the Cell Criteria, which includes 33.26 acres of chaparral and Riversidean sage scrub habitats suitable to support the Bell’s sage sparrow. Altogether the Project will conserve 79.43 acres of live-in habitat (45.65 acres onsite and 33.78 acres offsite), including 46.17 acres of undescribed lands (replacement) to offset impacts to 24.61 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as nesting, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the Bell’s sage sparrow. Table 5-4 summarizes the comparison of live-in habitat for the lands described for conservation versus the lands proposed for conservation by the Project.

Table 5-4. Comparison of Live-In Habitat for Bell’s Sage Sparrow [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Total	57.87	24.61	33.26	12.39	33.78	79.43

Cactus Wren

MSHCP objectives for the cactus wren include the conservation of suitable habitat (desert scrub, Riversidean alluvial fan sage scrub, and Riversidean sage scrub) within the Riverside Lowland and San Jacinto Foothill Bioregions, with an objective to conserve micro-habitat (i.e. cactus patches) to support nesting. The Project site does not contain cactus scrub and therefore does not contain the micro-habitat needed to support breeding cactus wrens. As such, the Project site is generally not expected to provide live-in habitat for the cactus wren. However, the Project site contains Riversidean sage scrub and, with its location at the edge of Proposed Core 3, the Project site could support the dispersal of cactus wrens through the Core from the standpoint that shrubs could provide temporary shelter, and the scrub/grassland habitats could provide foraging opportunities for dispersing cactus wrens. In this context, the Project would impact 24.61 acres of scrub habitats described for conservation versus 46.17 acres of undescribed (replacement) lands supporting scrub habitats, with the replacement scrub being at least equivalent in terms of overall quality (native species composition, density and cover, and the relative quantity of non-native species). Therefore, the proposed Criteria Refinement would at least be equivalent in the

context of potential cactus wren dispersal habitat compared with the conservation of lands as described by the current Cell Criteria.

Loggerhead Shrike

The loggerhead shrike has a potential to occur at the Project site. MSHCP objectives for the loggerhead shrike include the conservation of suitable foraging and nesting habitat including agriculture, grassland, cismontane alkali marsh, playa and vernal pool, desert scrubs, Riversidean alluvial fan sage scrub, Riversidean sage scrub, peninsular juniper woodland and scrub, riparian scrub, woodland and forest, and oak woodlands and forest.

Approximately 202.25 acres of the onsite lands described for conservation by the MSHCP Cell Criteria contains habitats with the potential to support the loggerhead shrike, including chaparral, Riversidean sage scrub, and grassland. From the vegetation acreages provided in Table 5-1 above, the Project will impact approximately 106.74 acres of the described habitats but will conserve 132.18 acres of lands in replacement supporting the described habitats, including 54.00 acres onsite and 78.18 acres offsite. In addition, the Project will conserve the remaining 95.51 acres of onsite lands described by the Cell Criteria, suitable to support the loggerhead shrike. Altogether the Project will conserve 227.69 acres of live-in habitat (149.51 acres onsite and 78.18 acres offsite), including 132.18 acres of undescribed lands (replacement) to offset impacts to 106.74 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as nesting, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the loggerhead shrike. Table 5-5 summarizes the comparison of live-in habitat for the lands described for conservation versus the lands proposed for conservation by the Project.

Table 5-5. Comparison of Live-In Habitat for the Loggerhead Shrike [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Total	202.25	106.74	95.51	54.00	78.18	227.69

San Bernardino Kangaroo Rat

The San Bernardino kangaroo rat (SBKR) does not occur at the Project site due to a lack of suitable habitat and is not considered as a Planning Species for the portion of Proposed Core 3 corresponding to the Project site. Furthermore, the Project is not located within the MSHCP survey area for SBKR and is not required to address SBKR on a project-specific level. As such, the Criteria Refinement would not affect the SBKR.

Stephens' Kangaroo Rat

The Stephens' kangaroo rat (SKR) has a potential to occur at the Project site. The Project site is located just outside of the SKR Habitat Conservation Plan (SKR HCP) and so coverage would be applied through the MSHCP. The MSHCP identifies two "biological issues and considerations" addressing SKR for The Pass Area Plan, including 1) Conserve Potrero Creek and associated alluvial fan sage scrub for maintenance of key species such as the Stephens' kangaroo rat, Los Angeles pocket mouse and arroyo toad; and 2) Maintain Core Area in Potrero Valley for Stephens' kangaroo rat. The Reche Canyon/Badlands Area Plan has one biological issue/consideration for SKR: Maintain linkage area to San Jacinto Wildlife Area for Stephens' kangaroo rat. The Project site is not associated with these areas and therefore these "biological issues and considerations" are not applicable to the Project. As such, the Criteria Refinement would not affect the SKR in the context of the stated goals. Regardless, the Project will conserve 148.26 acres of grassland habitat (103.86 acres onsite and 44.40 acres offsite), versus 144.38 acres described by the MSHCP Cell Criteria. The Project will impact 82.13 acres of grassland habitat described for conservation but will conserve 86.01 acres of grassland in replacement (41.61 acres on site and 44.40 acres offsite), in addition to the remaining grassland habitat (62.25 acres) that is described by the Cell Criteria.

Los Angeles Pocket Mouse

The Los Angeles pocket mouse (LAPM) might have a very low potential for occurrence at the Project site, but generally is not expected to occur due to a lack of habitat suitability. The MSHCP identifies as a "biological issue and consideration for both The Pass Area Plan and Reche Canyon/Badlands Area Plan to "determine presence of potential Core Area for Los Angeles pocket mouse in San Timoteo Creek and tributaries and Badlands." However, the Project site is located just outside of the MSHCP survey area for LAPM and is not expected to address LAPM on a project-specific level. Furthermore, the lands described by Cell Criteria for the Project site are concentrated in the upslope areas and ridgelines that are not suitable habitat for LAPM. As such, the Criteria Refinement would not affect the LAPM.

Bobcat

As discussed above, bobcat was confirmed present at the Project site during the biological studies (tracks observed and remote camera detection). The Project site represents live-in habitat for the bobcat as well as to support local movement through the site. Both the Reche Canyon/Badlands Area Plan and The Pass Area Plan includes a biological issue and consideration to maintain a Core Area for bobcat. The proposed conservation lands and

configuration will support the bobcat in a manner equivalent to the lands described by the Cell Criteria.

Regarding live-in habitat, approximately 206.74 acres of the onsite lands described for conservation by the MSHCP Cell Criteria represents live-in habitat for bobcats, including chaparral, Riversidean sage scrub, grassland, and riparian scrub, as well as disturbed areas (dirt roads) that facilitate local movement. As summarized in Table 5-6 below, the Project will impact approximately 109.55 acres of potential live-in habitat but will conserve 133.62 acres of lands in replacement supporting the described habitats, including 55.22 acres onsite and 78.40 acres offsite. In addition, the Project will conserve the remaining onsite lands described by the Cell Criteria, which includes 97.20 acres of potential live-in habitat. Altogether the Project will conserve 230.82 acres of live-in habitat (152.42 acres onsite and 78.40 acres offsite), including 133.62 acres of undescribed lands (replacement) to offset impacts to 109.55 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as breeding, foraging, and movement. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the bobcat.

Table 5-6. Comparison of Live-In Habitat for the Bobcat [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.4	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0	0.22	1.2
Disturbed	3.48	2.78	0.70	1.22	0	1.92
Total	206.74	109.55	97.20	55.22	78.40	230.82

Regarding wildlife movement, the described conservation within the Project site would add to edge of Proposed Core 3, which overall is to support bobcat movement. Since specific linkages have not been identified through the portion of the Project site proposed for development, the majority of the Project site is not critical for bobcat movement to support the Proposed Core 3 goals. As such, the critical aspect of conservation at the Project site is the configuration of open

space along the southeastern edge so that movement is accommodated without Project-related edge effects interfering with the movement goals for Proposed Core 3. As discussed above, the Project will construct wildlife fencing to complement fencing to be constructed as part of the SR-60 improvements. The Project fencing will connect to SR-60 fencing that will extend to the easternmost wildlife crossings to be constructed by Caltrans at the western end of the Beaumont Pointe Project site. The Project fencing will extend along the western and southwestern boundary of the Project site and will include one-way swing gates that will allow any bobcats entering the site from the north and east to exist the Project site into the adjacent conserved lands associated with Proposed Core 3. The Criteria Refinement will support the goals for bobcat in an equivalent manner to the existing Cell Criteria.

Mountain Lion

As discussed above, the mountain lion was confirmed using the Project site during the biological studies (tracks observed). The Project site is considered part of a broader territory for mountain lions and support the local movement through the badlands. Two “biological issues and considerations” are identified for The Pass Area Plan relating to the mountain lion, including 1) maintain large blocks of habitat for large mammal movement between the northern and southern sections of the San Bernardino National Forest, and 2) maintain Core and Linkage habitat for mountain lion. The latter is also identified for the Reche Canyon/Badlands Area Plan.

The proposed Criteria Refinement will support the goals for mountain lion by conserving lands that will expand the edge of Proposed Core 3 in a manner that is consistent with the conservation identified by the Cell Criteria. Similar to the bobcat, approximately 206.74 acres of the onsite lands described for conservation by the MSHCP Cell Criteria represents live-in habitat for the mountain lion, including chaparral, Riversidean sage scrub, grassland, riparian scrub, and disturbed areas (dirt roads) that facilitate local movement. As summarized below in Table 5-7, the Project will impact approximately 109.55 acres of potential live-in habitat but will conserve 133.62 acres of lands in replacement supporting the described habitats, including 55.22 acres onsite and 78.40 acres offsite. In addition, the Project will conserve the remaining onsite lands described by the Cell Criteria, which includes 97.20 acres of potential live-in habitat for the mountain lion. Altogether the Project will conserve 230.82 acres of live-in habitat (152.42 acres onsite and 78.40 acres offsite), including 133.62 acres of undescribed lands (replacement) to offset impacts to 109.55 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as breeding, foraging, and movement. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for the mountain lion.

Table 5-7. Comparison of Live-In Habitat for the Mountain Lion [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.4	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0	0.22	1.2
Disturbed	3.48	2.78	0.70	1.22	0	1.92
Total	206.74	109.55	97.20	55.22	78.40	230.82

Regarding wildlife movement, the described conservation within the Project site would add to edge of Proposed Core 3, which overall is to support mountain lion movement. Since specific linkages have not been identified through the portion of the Project site proposed for development, the majority of the Project site is not critical for mountain lion movement to support the Proposed Core 3 goals. As such, the critical aspect of conservation at the Project site is the configuration of open space along the southeastern edge so that movement is accommodated without Project-related edge effects interfering with the movement goals for Proposed Core 3. As discussed above, the Project will construct wildlife fencing to complement fencing to be constructed as part of the SR-60 improvements. The Project fencing will connect to SR-60 fencing that will extend to the easternmost wildlife crossings to be constructed by Caltrans at the western end of the Beaumont Pointe Project site. The Project fencing will extend along the western and southwestern boundary of the Project site and will include one-way swing gates that will allow mountain lions entering the site from the north and east to exist the Project site into the adjacent conserved lands associated with Proposed Core 3. The Criteria Refinement will support the goals for the mountain lion in an equivalent manner to the existing Cell Criteria.

Nevin’s Barberry

Nevin’s barberry was not detected at the Project site during focused plant surveys and is not expected to occur due to a lack of suitable habitat. Nevin’s barberry is not considered as a Planning Species for the portion of Proposed Core 3 corresponding to the Project site. Furthermore, the Project is not located within the MSHCP survey area for Nevin’s barberry and is not required to address the species on a project-specific level. As such, the Criteria Refinement would not affect Nevin’s barberry.

5.2.2 Other Covered Species

In addition to those Covered Species specifically addressed for the Pass Area Plan and the Reche Canyon/Badlands Area Plan, i.e., the Planning Species addressed above in Section 5.2.1, the MSHCP identifies other Covered Species for which habitat assessments/surveys are required based on a Project site's occurrence in one or more designated survey areas and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and the aforementioned species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and designated fairy shrimp (MSHCP *Volume I, Section 6.1.2*).

Section 6.1.2 Species

As discussed above in Section 5.1.3 of this document, *MSHCP Volume I, Section 6.1.2* describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The MSHCP requires surveys for least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, vernal pool fairy shrimp, Riverside fairy shrimp, and Santa Rosa Plateau fairy shrimp if suitable habitat is present. However, as noted above the Project site and offsite conservation (replacement) lands do not contain suitable habitat for these species. As such, the undescribed lands to be conserved in replacement for the described lands to be impacted (i.e., the proposed Criteria Refinement) would not have an effect (positive or negative) on the *Section 6.1.2* species compared with conservation that would occur following the existing Cell Criteria.

In addition to the above referenced species, *Section 6.1.2* identifies other species that are to be protected through the implementation of the *Section 6.1.2* procedures, including the following:

- **Amphibians** – arroyo toad, mountain yellow-legged frog, California red-legged frog
- **Birds** – bald eagle, peregrine falcon
- **Fish** – Santa Ana sucker
- **Plants** – Brand's phacelia, California Orcutt grass, California black walnut, Coulter's matilija poppy, Engelmann oak, Fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, Orcutt's brodiaea, Parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crowscale, San Miguel savory, Santa Ana River woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, vernal barley

The Project site does not contain suitable habitat for any of the above-referenced species, and therefore these species are not relevant to the proposed Criteria Refinement, i.e., the proposed Criteria Refinement would not have an effect (positive or negative) on the *Section 6.1.2* species compared with conservation that would occur based on the existing Cell Criteria.

Section 6.1.3 Species

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 is located within the NEPSSA 8, which addresses the following species: many-stemmed dudleya (*Dudley multicaulis*) and Yucaipa onion (*Allium marvinii*). Focused plant surveys were conducted for the Project site in April and May 2020. No special-status plants were detected during the surveys, including any of the *Section 6.1.3* species. As such, the *Section 6.1.3* species are not relevant to the proposed Criteria Refinement, i.e., the proposed Criteria Refinement would not have an effect (positive or negative) on the *Section 6.1.3* species compared with conservation that would occur following the existing Cell Criteria.

Section 6.3.2 Species

In addition to the species identified through *Section 6.1.2* and *Section 6.1.3* of the MSHCP, *Section 6.3.2* identifies additional species to be addressed for individual projects based on the occurrence in one or more survey areas, including the Criteria Area Plant Species Survey Area (CAPSSA), burrowing owl survey area, amphibian survey areas (arroyo toad, California red-legged frog and mountain yellow-legged frog) and mammal survey areas (Aguanga kangaroo rat, San Bernardino kangaroo rat and Los Angeles pocket mouse). The Project site is within the burrowing owl survey area but is not within the CAPSSA or any of the amphibian or mammal survey areas.

The Project site contains potentially suitable habitat for the burrowing owl (*Athene cunicularia*), including the presence of suitable burrows. However, focused burrowing owl surveys were conducted in July and August 2019, and no burrowing owls were detected at the site. Regarding the *Section 6.3.2* amphibian species, the Project site does not support the arroyo toad, California red-legged frog and mountain yellow-legged frog due to the lack of suitable habitat. Regarding the *Section 6.3.2* mammal species, the Project site does not contain suitable habitat for the Aguanga kangaroo rat or the San Bernardino kangaroo rat. As noted above in *Section 5.1.2*, the Los Angeles pocket mouse might have a very low potential for occurrence at the Project site, but generally is not expected to occur due to a lack of habitat suitability.

In summary, the *Section 6.3.2* species are not relevant to the proposed Criteria Refinement, i.e., the proposed Criteria Refinement would not have an effect (positive or negative) on the *Section 6.1.3* species compared with conservation that would occur following the existing Cell Criteria.

Other MSHCP Covered Species

The Project site has a potential to support other MSHCP Covered Species that are not identified as Planning Species for the Pass Area Plan or the Reche Canyon/Badlands Area Plan, and do not have project-specific conservation requirements such as pursuant to *Section 6.1.2*, *6.1.3*, or *6.3.2*. These include the coast horned lizard, coast patch-nosed snake, coastal whiptail, red-diamond rattlesnake (detected at the site), coastal California gnatcatcher, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, and San Diego desert woodrat. These species would

utilize similar live-in habitats (scrub and grasslands) as discussed above for species such as the rufous-crowned sparrow and loggerhead shrike. As noted above, the Project will conserve 227.69 acres of scrub and grassland habitats (149.51 acres onsite and 78.18 acres offsite), including 132.18 acres of undescribed lands (replacement) to offset impacts to 106.74 acres of described lands. The proposed replacement lands are at least equivalent to the impacted lands in terms of habitat quality to support functions and values such as breeding, foraging, and dispersal. The live-in habitat in the proposed replacement lands is of at least equivalent quality in terms of native plant species composition, cover and density, and the relative composition of non-native plant species. As such, the proposed Criteria Refinement would be at least equivalent compared with the current Cell Criteria as it pertains to live-in habitat for these species.

5.3 Effects on Core Areas

The MSHCP defines a “Core” as a “block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.” The proposed Criteria Refinement will support the assembly of Proposed Core 3 in a manner consistent with the existing Cell Criteria. As depicted in Exhibit 4, the Project site is located at the edge of Proposed Core 3 and the intent of conserved lands at the Project site is to expand the edge of Proposed Core 3. As presented above in Section 5.1, the Project will impact 109.69 acres of lands described for conservation by the MSHCP Cell Criteria. The Project will offset those impacts with 133.62 acres of replacement lands that are not described by the Cell Criteria, including 55.22 acres onsite and 78.40 acres offsite (See Table 5-8 below). In addition, the Project will conserve the remaining 97.20 acres of onsite lands described by the Cell Criteria, for a combined conservation area of 230.82 acres, compared with a total of 206.89 acres described by the MSHCP. The Project’s onsite conservation includes 151.06 acres within the Criteria Area (Cells 933, 936, 1030, 1032, and 1125) and 1.36 acres onsite that are not part of a Criteria Cell (but adjacent to Cells). Of the offsite lands, approximately 37.89 acres are in Cell 1125 of Cell Group A’, and 40.51 acres are not a part of a Criteria Cell but are adjacent to Cell Group A’. Although the Project does not achieve minimum described acreage for some of the individual Cells, the Project proposes an overall greater amount of conservation than is described, including the expansion of conservation to the northwest and the southeast into undescribed lands that will extend the conserved edge. The conservation of undescribed lands in the northwestern portion of Cell 933 will extend conservation to SR-60 to link up with the undercrossing constructed as part of the freeway improvements.

Table 5-8. Comparison of Described Conservation Lands to be Impacted and Proposed Replacement Lands for Proposed Core 3 [in acres]

Vegetation Community	Lands Described for Conservation	Described Conservation Lands to be Impacted	Proposed Conservation			Total Proposed Conservation
			Onsite Described Lands to be Conserved	Onsite Undescribed Lands to be Conserved (Replacement)	Offsite Undescribed Lands to be Conserved (Replacement)	
Chaparral	1.17	0.21	0.96	0.17	0.15	1.28
Riversidean Sage Scrub	56.70	24.40	32.30	12.22	33.63	78.15
Non-Native Grassland	144.38	82.13	62.25	41.61	44.40	148.26
Southern Riparian Scrub	1.01	0.03	0.98	0.00	0.22	1.20
Disturbed	3.48	2.78	0.70	1.22	0.00	1.92
Developed	0.15	0.15	0.00	0.00	0.00	0.00
Total	206.89	109.69	97.20	55.22	78.40	230.82

5.4 Effects on Linkages and Constrained Linkages

The Project site is not associated with a Linkage or a Constrained Linkage, instead the Project is associated with the edge of Proposed Core 3 and the proposed conservation would expand the edge of Proposed Core 3 consistent with the intent of the existing Cell Criteria. Although Proposed Core 3 does not represent a specific Linkage, Proposed Core 3 is a very large Core that in addition to providing extensive live-in habitat also facilitates the movement of wildlife to connect to existing Cores and other habitat areas to the northwest, southwest, and southeast. Other Linkages connect to Proposed Core 3, but these do not coincide with the Project site. As described above in Section 5.1 (and Section 5.3) the Project will impact 109.69 acres of lands described for conservation by the MSHCP Cell Criteria. However, the Project will conserve 133.62 acres of lands in replacement that are not described for conservation by the MSHCP, including 55.22 acres onsite and 78.40 acres offsite. As noted above, the onsite replacement lands include the northwestern portion of Cell 933 that is important to connect the conservation area to SR-60 where Caltrans is constructing undercrossings (including a 20-foot-by-20-foot culvert) as part of the Caltrans freeway improvements (depicted on Exhibits 9A and 9B). As referenced above in Section 1.0 of this document, the Wildlife Agency comment letter noted that the 20-foot-by-20-foot culvert was constructed to enable large mammal movement between the interior of the Proposed Core 3 and the area north of SR-60 and the San Bernardino National Forest. The comment letter further noted the importance of maintaining a wide enough canyon to the west of the development footprint to allow appropriate topography for wildlife movement and to allow for an appropriate buffer from the proposed development to minimize edge effects. In consideration of these comments and the stated importance of the wildlife undercrossing, the development footprint has been revised to pull back farther from the undercrossing and canyon

in order to further facilitate movement. The proposed revisions will increase the conservation in Cell 933 by just over 19 acres, for a total of 68.84 acres in the Cell, including 47.03 acres of the Cell that are currently undescribed for conservation by the Cell Criteria that will connect areas described for conservation with the SR-60 wildlife undercrossing. As acknowledged by the Wildlife Agencies this undescribed area is important to maintain the wildlife connection.

The offsite lands include a portion of Cell Group A' (37.89 acres) that is not described for conservation and approximately 40.51 acres of undescribed lands south of Cell Group A' that is outside of the Criteria Area but that includes native scrub habitat that would extend the conservation across Jack Rabbit Trail to the southeast. As discussed above, the Project will support the movement of wildlife through Proposed Core 3 by constructing a wildlife fence that will be consistent with fencing to be constructed as part of SR-60 improvements. The Project fencing will connect with SR-60 fencing at the location of wildlife undercrossings being constructed by Caltrans. The Project fencing will extend along the western and southwestern boundaries of the Project site to maintain the eastern edge of Proposed Core 3 along the Project's development boundary. The proposed fencing will support movement through Proposed Core 3 by preventing wildlife from entering the development footprint from the Conserved Lands and direct wildlife to move around and way from the Project site.

5.5 Effects on Non-Contiguous Habitat Blocks

The MSHCP defines a "Non-Contiguous Habitat Block" as a "block of Habitat not connected to other Habitat areas via a Linkage or Constrained Linkage." The proposed Criteria Refinement will not affect any Non-Contiguous Habitat Blocks, as none are associated with the Project site or directly associated with Proposed Core 3.

5.6 Effects on MSHCP Conservation Area Configuration and Management

The existing Cell Criteria corresponding to the Project site describes lands that would expand the eastern edge of Proposed Core 3. Based on the amount of lands described by the Criteria and the locations within the Cells, the Criteria allows for the development of lands at the Project site between the edge of Proposed Core 3 and SR-60. The proposed Criteria Refinement would allow a larger (wider) area to be developed by the Project, but the resulting amount of edge (perimeter) would be similar to that which would be allowed with the existing Criteria. The proposed Project will construct pads that will slope down to the Conservation Area to the west and southwest and slope up to the south to ridges on the edge of badlands. As noted above, a wildlife fence would be constructed along the entire western and southwestern edge of the Project's disturbance footprint demarcating the proposed Conservation Area. The configuration of the proposed Project edge along with the fence will assist in the management of the adjacent conserved lands by providing access to the open space and a minimized edge to maintain. One or more gates will be constructed along the fence allowing access from the Project site to the open space. Regarding the fenced edge, to the extent feasible the final open space edge and corresponding fence will be configured to minimize the amount of edge/perimeter to be managed. Furthermore, the Project will provide the RCA with access to the proposed Conservation Area limits at different locations, including vehicle access to a small area of conservation associated with Cell 936.

5.7 Effects on Ecotones

Ecotones are defined by the MSHCP as areas of adjoining vegetation communities generally characterized by greater biological diversity. Ecotones are transitional areas between two different vegetation communities where in the area of overlap between the two communities there is often greater biological diversity since the transitional areas exhibits aspects of both communities. An example of an ecotonal area is a grassland community transitioning a scrub community. As described above in Section 5.1.2 (and summarized in Table 5-2), the 1994 vegetation mapping data used for the MSHCP Rough Step baseline identified grassland areas abutting a contiguous block of scrub habitat (Riversidean sage scrub and chaparral) [Exhibit 8B], creating the appearance of a distinct ecotonal area where one community transitions to the other. However, in actuality the site consists predominately of grassland habitat with patches of scrub vegetation (mainly Riversidean sage scrub) occurring in the upslope areas intermixed amongst the grassland habitat [Exhibit 8A]. Areas that were mapped for the 1994 baseline as Riversidean sage scrub area mostly grassland, and areas mapped as chaparral are mostly Riversidean sage scrub. As such, the scattering of scrub “islands” in a broader “sea” of grassland does not provide the typical ecotonal effect as is represented with one community transitioning to another along a defined community boundary. However, where the grassland “sea” meets the scrub “islands”, an ecotonal effect may occur on a micro-scale.

The Project proposes to impact 106.74 acres of described lands supporting grassland and scrub habitats, including 0.21 acre of chaparral, 24.40 acres of Riversidean sage scrub, and 82.13 acres of grassland. In replacement for these impacts, the Project proposes to conserve 132.18 acres of undescribed lands in a similar patchy configuration/distribution as with the described lands, containing 0.32 acre of chaparral, 45.85 acres of Riversidean sage scrub, and 86.01 acres of grasslands. In that context, the proposed Criteria Refinement through the replacement conservation lands, including in the northwestern corner of Cell 933 (onsite) and the proposed offsite conservation, will provide at least an equivalent distribution of scrub patches intermixed with the surrounding grasslands compared with the lands described for conservation by the current Cell Criteria, and in doing so will maintain the degree of diversity where the grassland and scrub communities overlap.

5.8 Acreage Contributed to the MSHCP Conservation Area

The MSHCP requires for Criteria Refinements that projects contribute an equal or greater acreage to the Conservation Area compared with impacts proposed by projects. As summarized above in Table 5-1, the Project proposes to conserve 133.62 acres of undescribed lands in replacement for impacts to 109.69 acres described for conservation by the Criteria for Cells 933, 936, 1030, 1032, and 1125. Overall, the Project would conserve 230.82 acres compared with 206.89 acres described by the Cell Criteria [Exhibit 5], resulting in a greater amount of conservation compared with the existing Criteria. In addition to the greater amount of lands to be conserved by the Project, and based on the discussion above in Effects on Habitats (Section 5.1) and Effects on Covered Species (Section 5.2), the proposed replacement lands are of an equivalent or higher quality than the lands to be impacted. Therefore, approval of the Criteria Refinement would result in superior preservation of lands that will contribute to the MSHCP Conservation Area.

5.9 Ownership of Mitigation Property

The MSHCP requires for Criteria Refinements that project applicants have control over lands to be used as replacement (i.e., for mitigation) for described conservation lands to be impacted by the Project. The Applicant for the Beaumont Pointe Specific Plan proposes to conserve 230.82 acres of lands, including 133.62 acres of undescribed lands as replacement for impacts to 109.69 acres described for conservation by the Cell Criteria. The 133.62 acres of replacement lands include 55.22 acres onsite, and 78.40 acres of offsite lands that are contiguous with the onsite conserved lands. The Project will conserve an additional 97.20 acres of onsite lands described by the Cell Criteria, that combined with the 133.62 acres of replacement lands provide the 230.82 acres to be conserved overall by the Project. The Applicant owns all lands to be conserved, including the 133.62 acres of undescribed lands proposed to replace the 109.69 acres of described to be impacted.

6.0 CONCLUSION

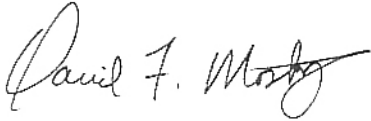
Volume I, Section 6.5 (Criteria Refinement Process [CRP]) of the MSHCP states that individual public and private projects within the Plan Area are expected to be designed and implemented in accordance with the Criteria for each Area Plan presented in *Volume I, Section 3.2* of the MSHCP document. In cases where refinements to the Criteria are desirable to facilitate Reserve Assembly, resulting in adjustments to the Criteria, the CRP described in *Volume I, Section 6.5* shall apply. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the Refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species conservation goals. Furthermore, the CRP cannot be used for Criteria changes that would result in reductions in the Criteria Area.

As demonstrated above in Section 3.0, the proposed Project would conserve lands in a configuration that is overall consistent with the intent of the existing Cell Criteria and would collectively conserve an amount of land (230.82 acres) within The Pass Area Plan and the Reche Canyon/Badlands Area Plan that meets the mid-range of conservation identified by the Cell Criteria. As demonstrated in Section 5.1, the Project will conserve an equivalent amount of the described vegetation communities (Riversidean sage scrub, chaparral, and non-native grassland) compared with the existing Cell Criteria, including proposed undescribed (replacement) lands to offset impacts to described lands. As demonstrated in Section 5.2, the proposed conservation will support the applicable Covered Species in the manner intended along the edge of Proposed Core 3. As discussed above, the Project has been designed to pull back the western development edge to the maximum extent feasible in Cell 933 to provide a wildlife movement buffer relative to the 20-foot by 20-foot culvert that Caltrans constructed under the SR-60. In addition, the Project will construct a wildlife fence along the western and southwestern boundary of the site that will be connect to and be consistent with fencing proposed along SR-60 as part of the freeway improvements by Caltrans. The Project fencing will connect with SR-60 fencing where Caltrans has constructed new undercrossings specifically to accommodate wildlife, for the collective purpose of managing wildlife movement along the edge of Proposed Core 3. Overall, the proposed Criteria Refinement would support the Reserve Assembly goals for Proposed Core 3 consistent with intent of the existing Cell Criteria for independent Cells 933, 936, 1030, 1032

and 1125 (The Pass Area Plan) and Cell Group A' (Reche Canyon/Badlands Area Plan), and the conservation proposed by the Criteria Refinement would at least be equivalent to the conservation intended based on the current Cell Criteria.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



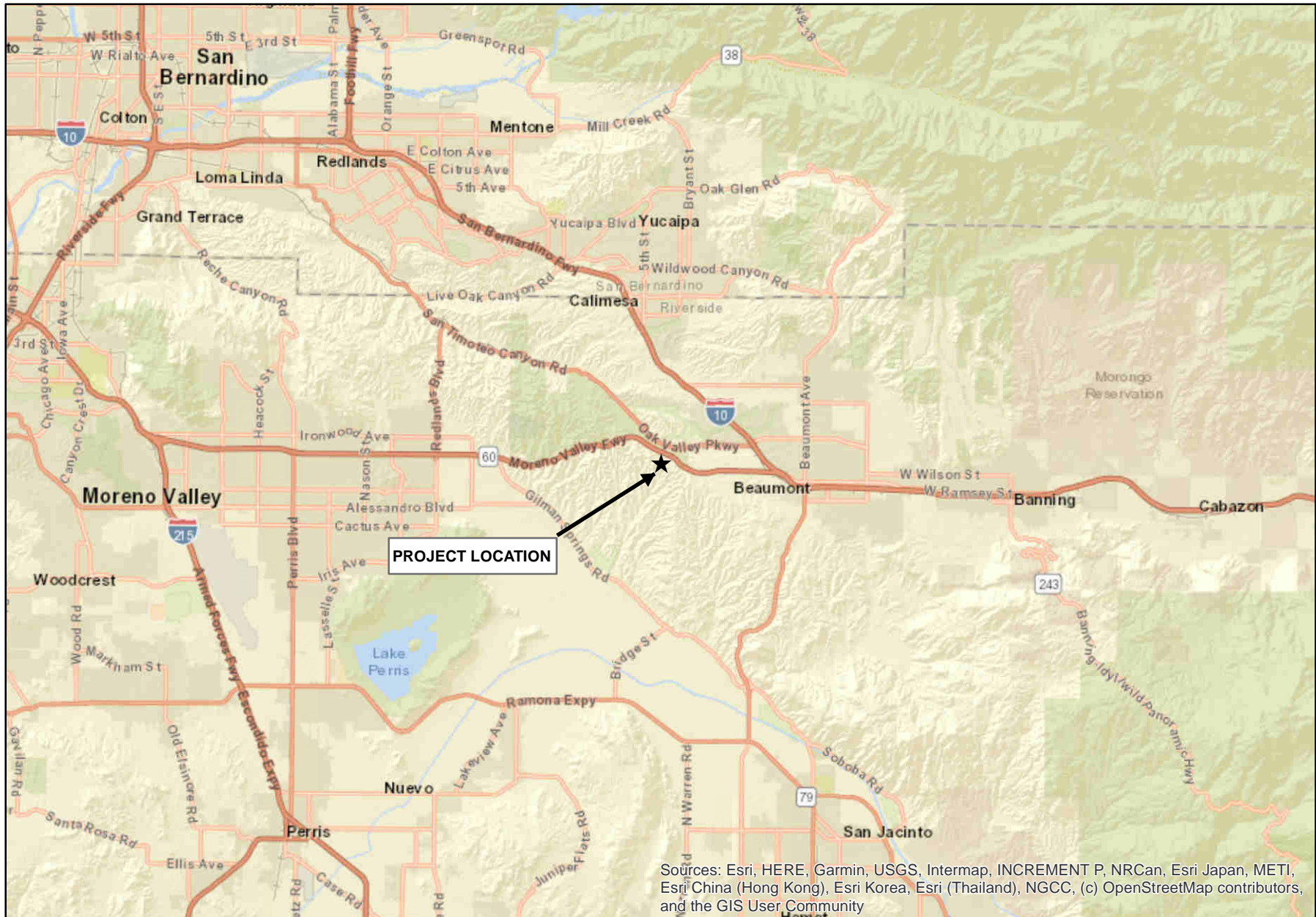
SIGNED: _____

DATE:

9/2/22

p:1390-01j.criteria refinement_FINAL.docx

Source: ESRI World Street Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



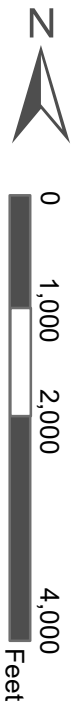
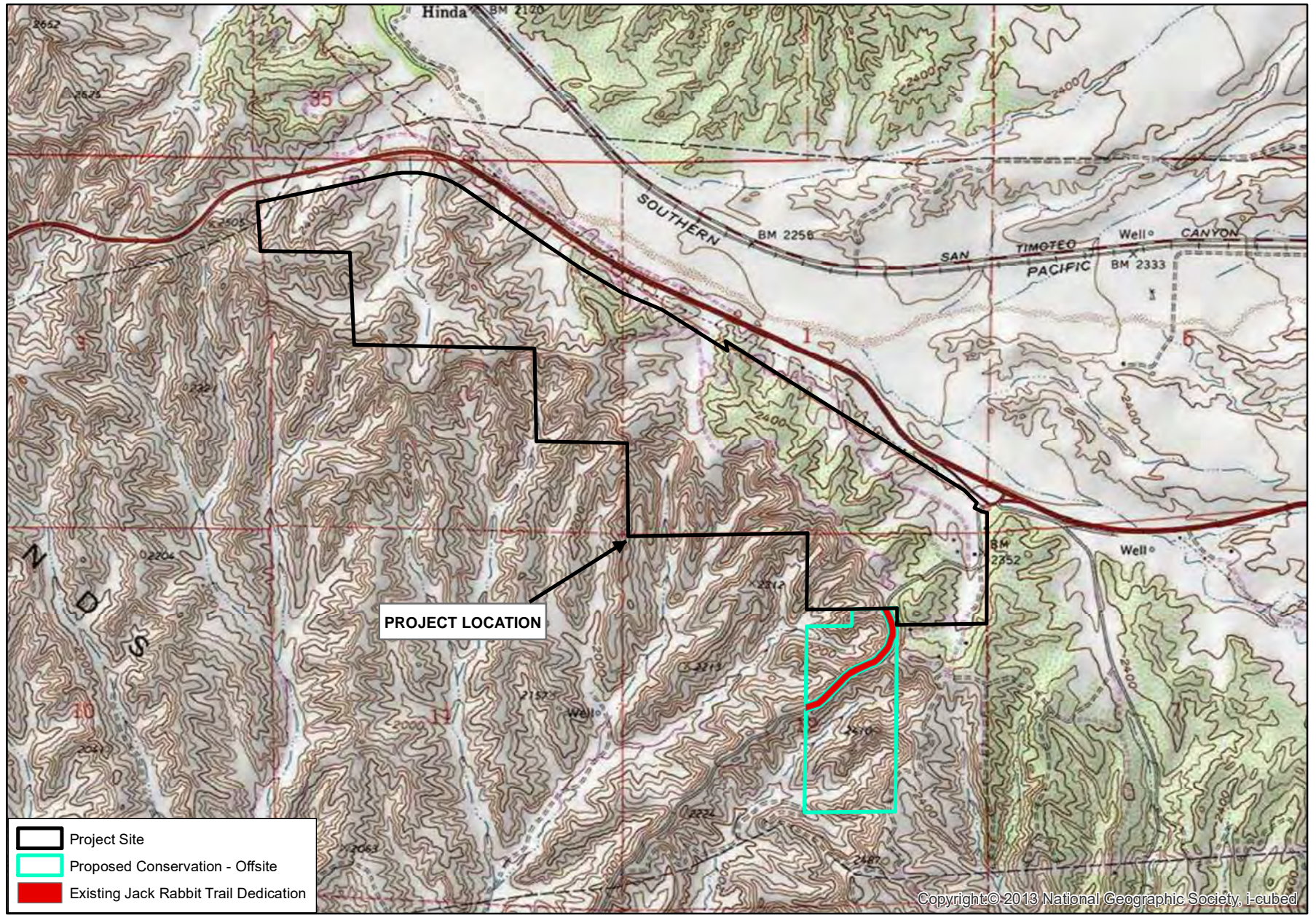
BEAUMONT POINTE
Regional Map

GLENN LUKOS ASSOCIATES



Exhibit 1

Adapted from USGS El Casco, CA quadrangle

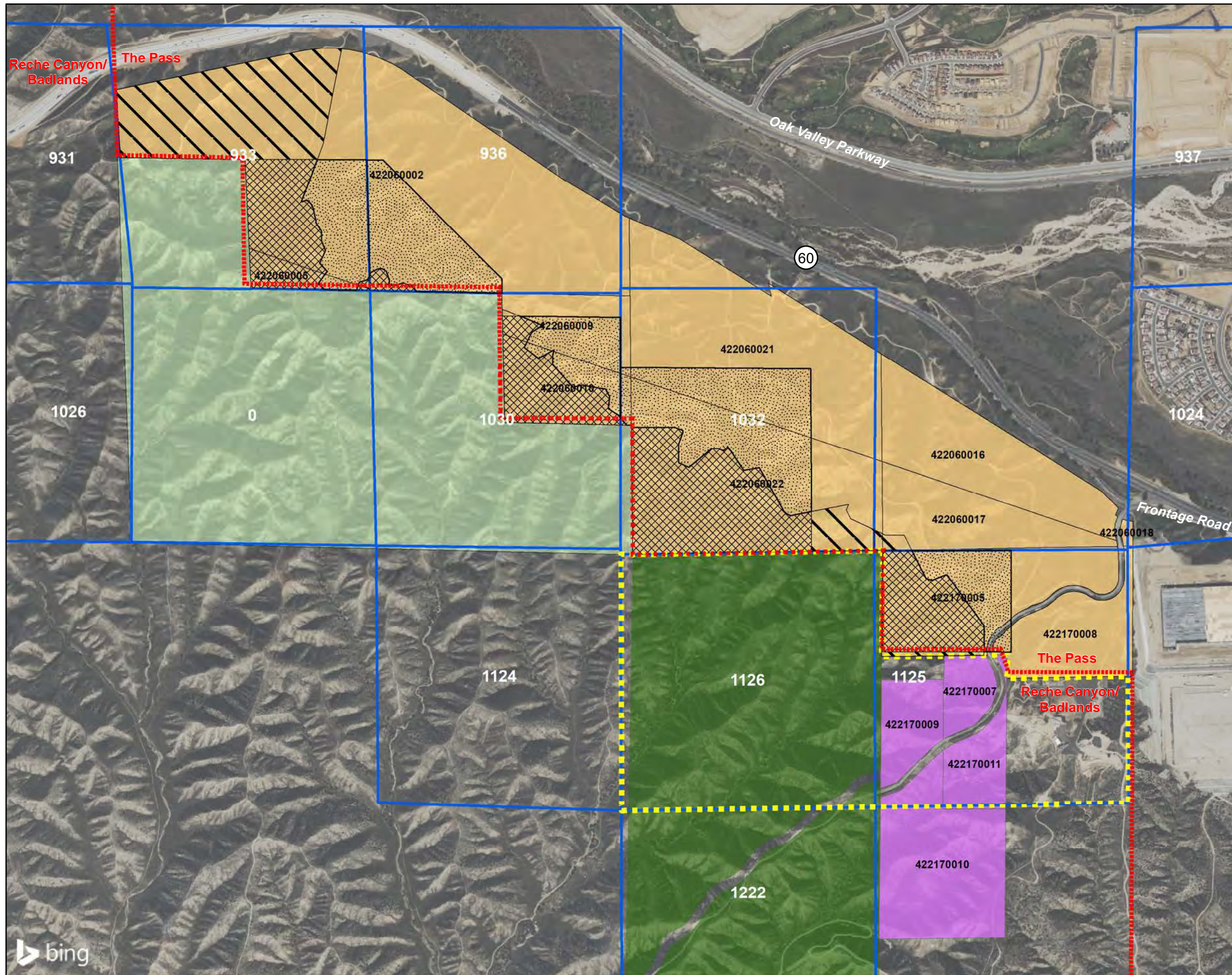


BEAUMONT POINTE
Vicinity Map

GLENN LUKOS ASSOCIATES

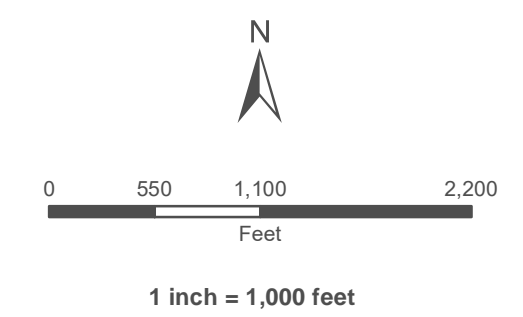


Exhibit 2A



- Area Plan Boundary
- Criteria Cells
- Cell Group A'
- PQP Conserved Lands
- RCA MSHCP Conserved Lands
- Onsite Parcels
- Undescribed Lands – Offsite Replacement (78.40 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)


The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

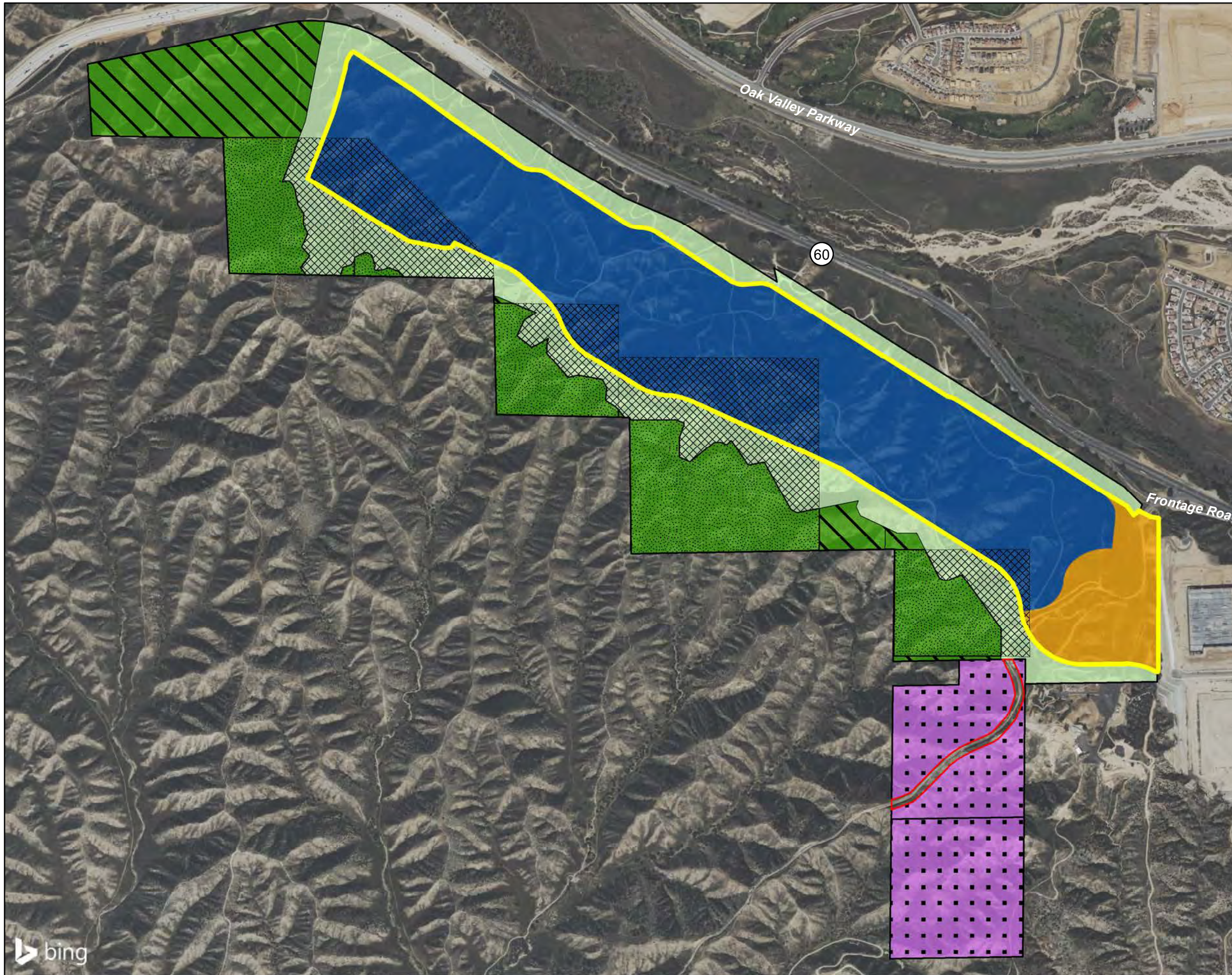


BEAUMONT POINTE
Assessor's Parcel Map

GLENN LUKOS ASSOCIATES

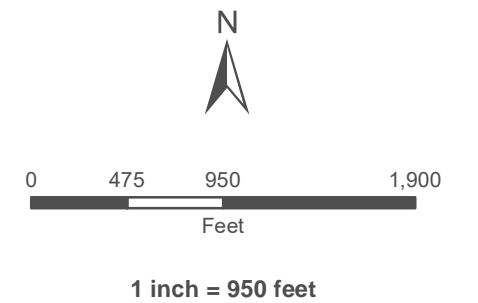
Exhibit 2B



- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Fuel Modification Limits
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Industrial
- General Commercial
- Project Maintained Open Space
- Proposed MSHCP Conservation (Onsite) (152.42 ac.)
- Proposed MSHCP Conservation (Offsite) (78.40 ac.)

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.

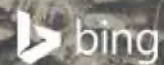


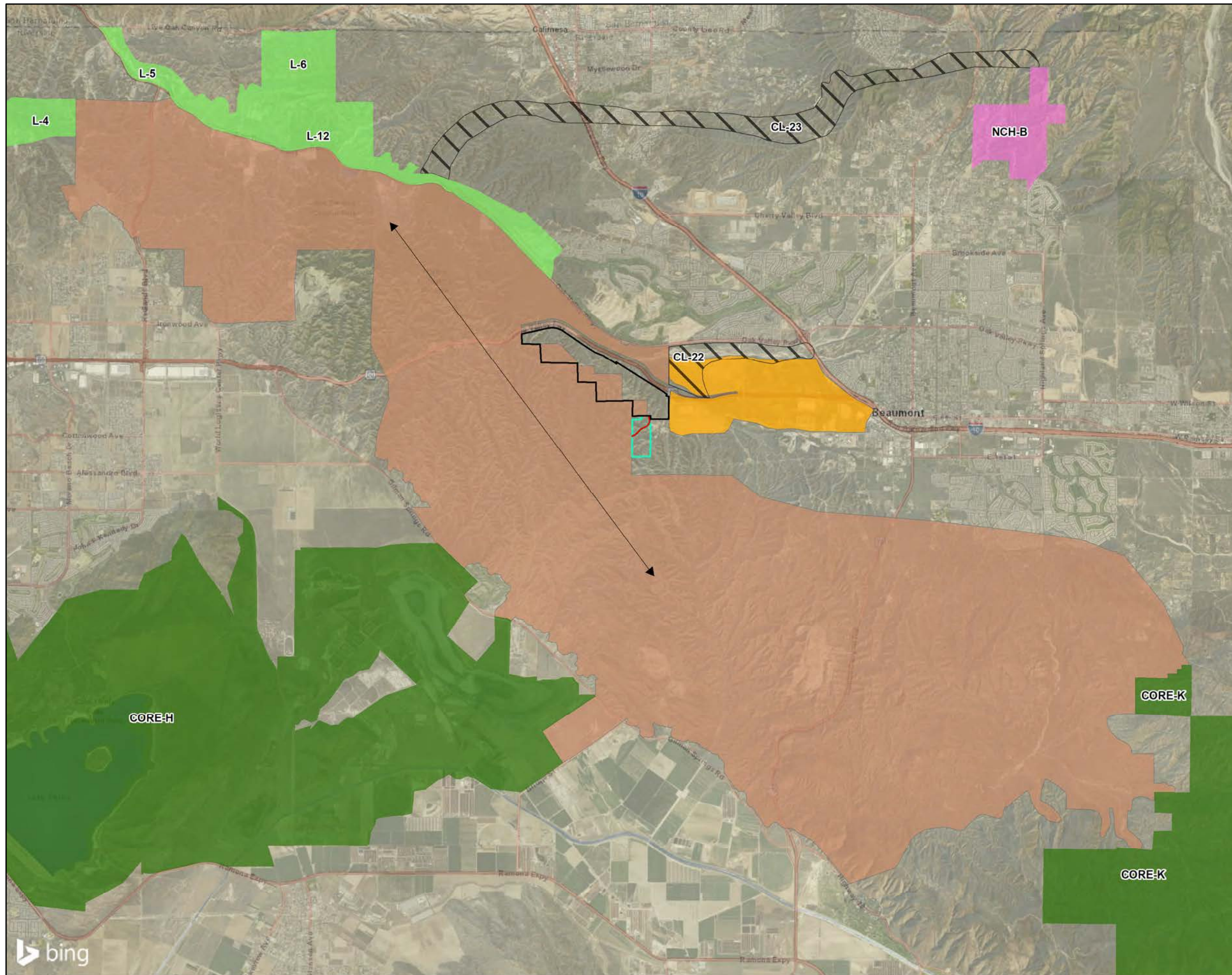
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 Date Prepared: August 23, 2022











BEAUMONT POINTE
 Site Plan Map

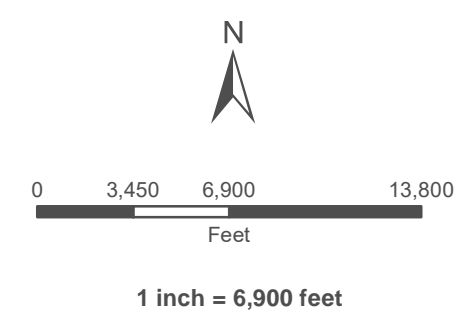
GLENN LUKOS ASSOCIATES

Exhibit 3





-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  Existing Core
-  Linkage
-  Non-Contiguous Habitat Block
-  Constrained Linkage
-  General Direction of Wildlife Movement



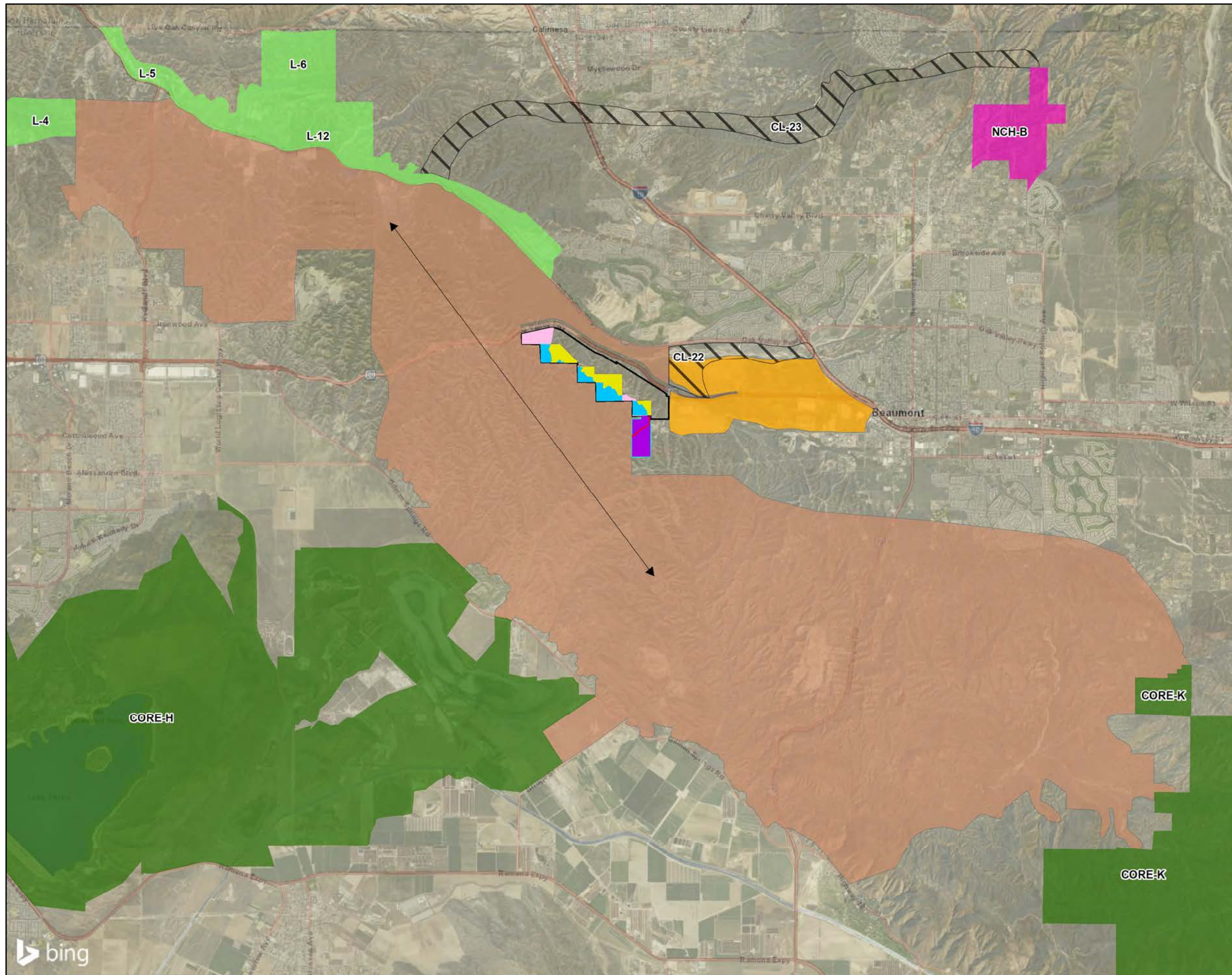
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 Date Prepared: August 29, 2022





BEAUMONT POINTE
 Proposed Core 3 Map

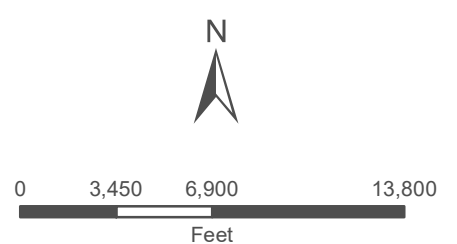
GLENN LUKOS ASSOCIATES 

Exhibit 4A





-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  Existing Core
-  Linkage
-  Non-Contiguous Habitat Block
-  Constrained Linkage
-  General Direction of Wildlife Movement



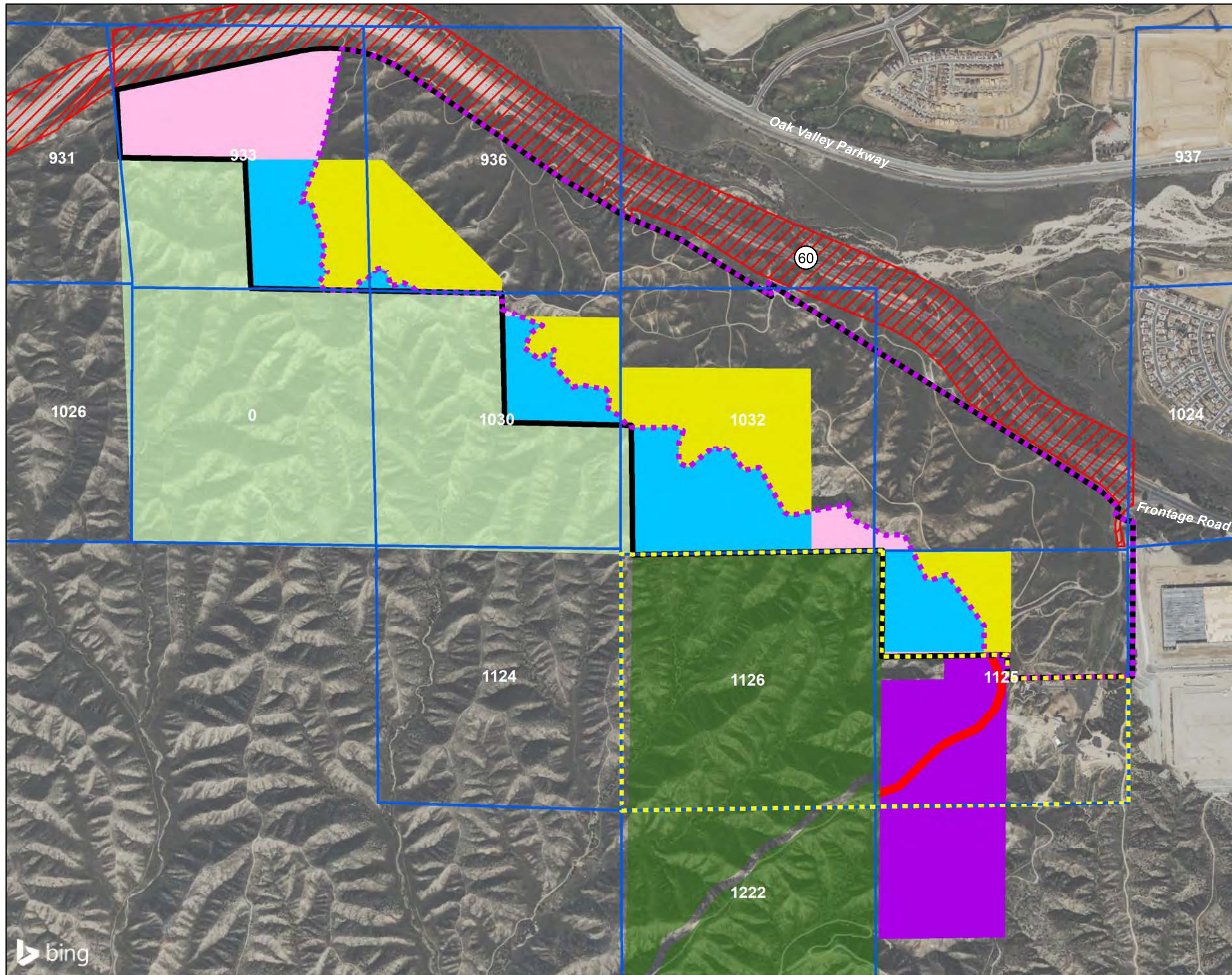
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 Date Prepared: August 23, 2022













BEAUMONT POINTE
 Proposed Criteria Refinement

GLENN LUKOS ASSOCIATES 

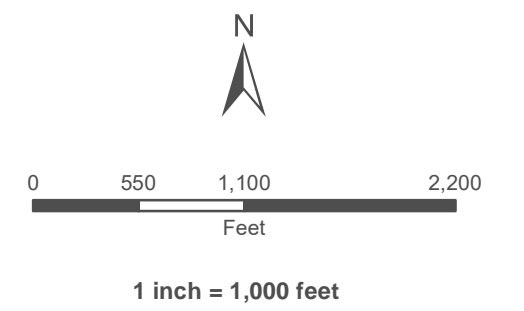
Exhibit 4B





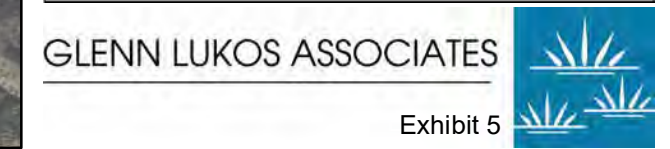
-  Project Site
-  Existing Jack Rabbit Trail Dedication (4.19 ac.)
-  Proposed Impact Footprint
-  60 Freeway Easement
-  Cell Group A'
-  Criteria Cells
-  PQP Conserved Lands
-  RCA MSHCP Conserved Lands
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)

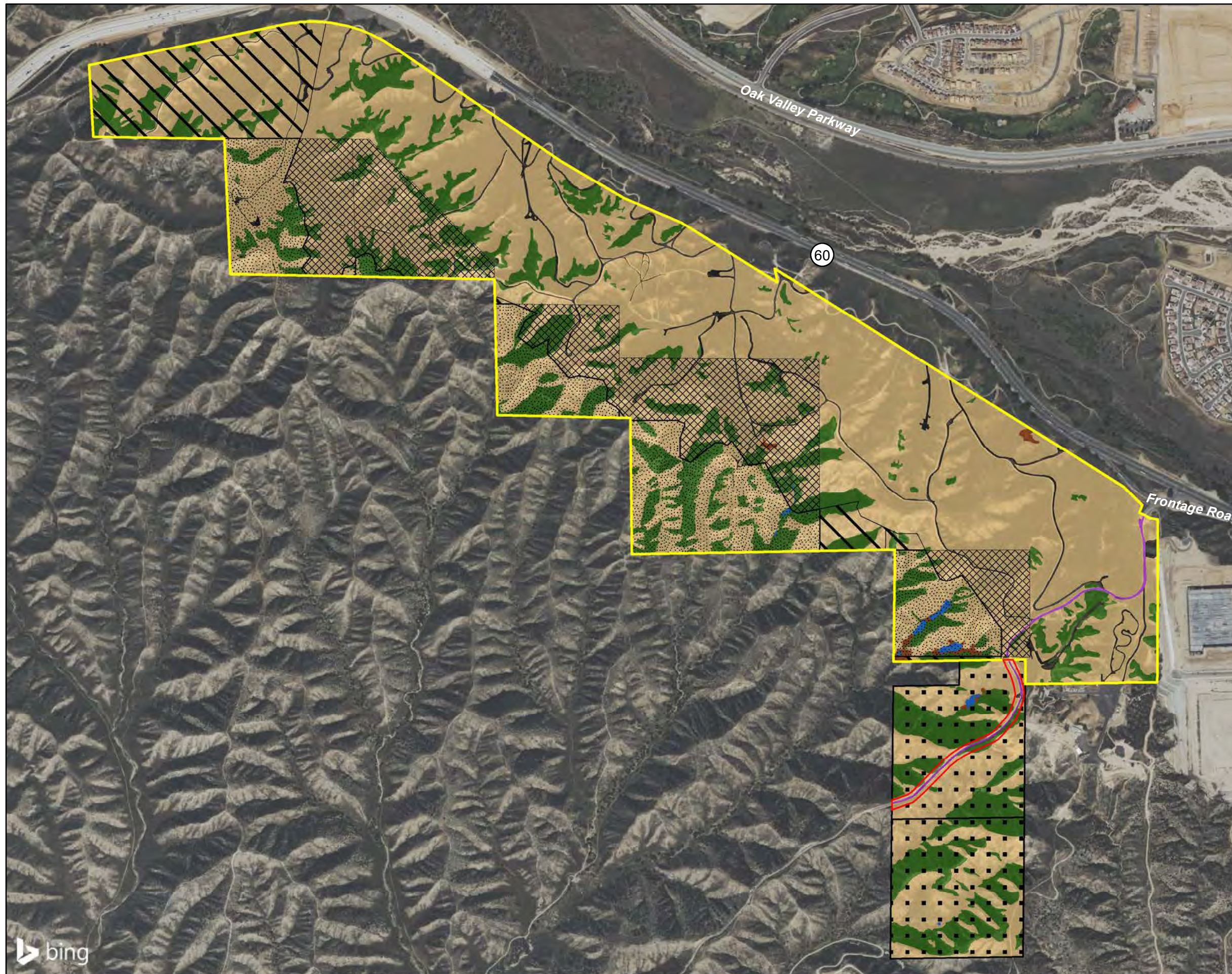
The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



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 Date Prepared: August 23, 2022

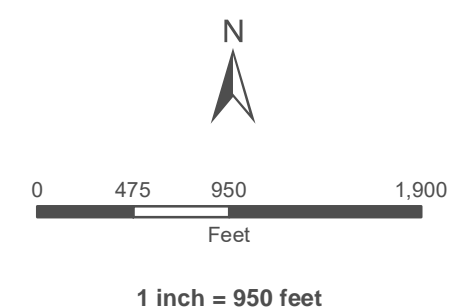
BEAUMONT POINTE
 Reserve Assembly Analysis Map





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Chaparral
- Riversidean Sage Scrub
- Disturbed
- Jack Rabbit Trail Road
- Non-Native Grassland
- Southern Riparian Scrub

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



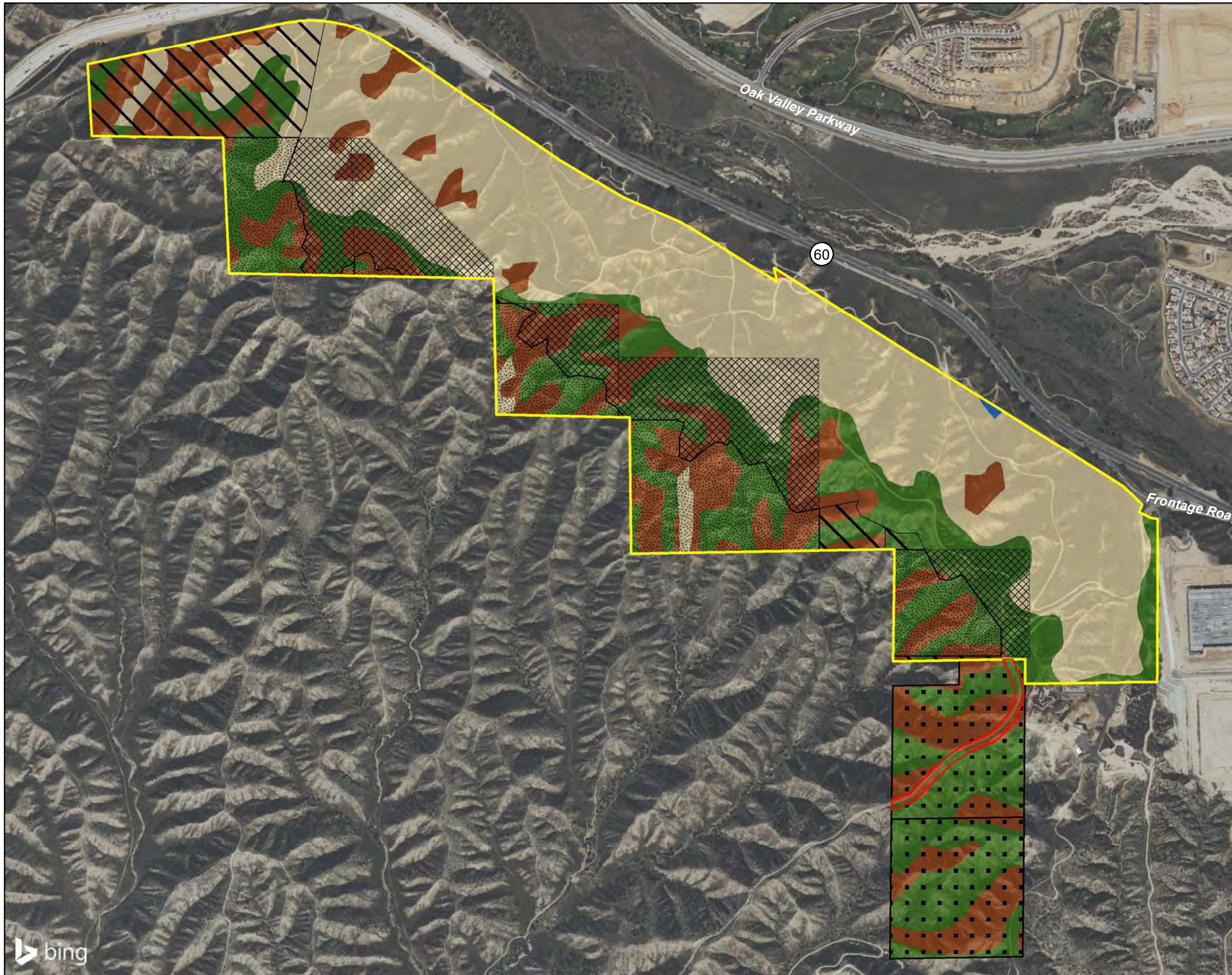
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 Date Prepared: August 23, 2022

BEAUMONT POINTE
 Vegetation Impact/Conservation Comparison (GLA Baseline)

GLENN LUKOS ASSOCIATES

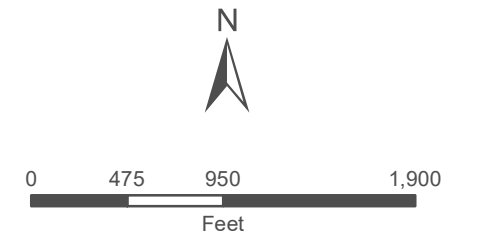
Exhibit 6A





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Chaparral
- Coast Live Oak Woodland
- Non-native Grassland
- Riversidean Sage Scrub

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

BEAUMONT POINTE

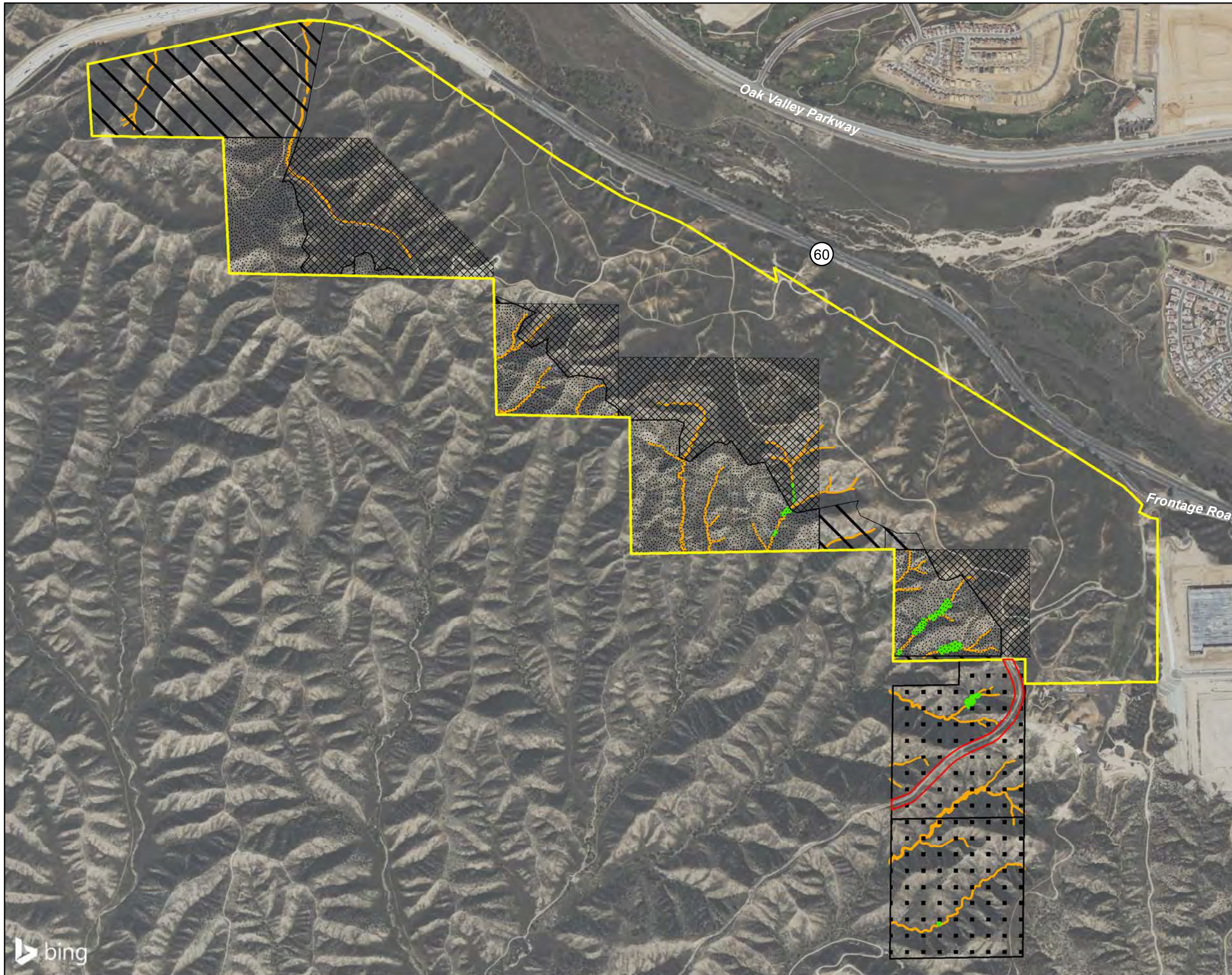
Vegetation Impact/Conservation Comparison (1994 Rough Step)

GLENN LUKOS ASSOCIATES



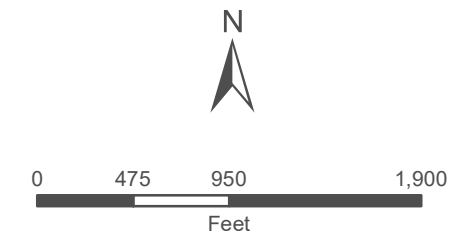
Exhibit 6B





-  Project Site
-  Existing Jack Rabbit Trail Dedication (4.19 ac.)
-  Described Lands - Impact (109.69 ac.)
-  Described Lands - Proposed Conservation (97.20 ac.)
-  Undescribed Lands - Onsite Replacement (55.22 ac.)
-  Undescribed Lands - Offsite Replacement (78.40 ac.)
-  MSHCP Riverine (2.57 ac.)
-  MSHCP Riparian (1.23 ac.)

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



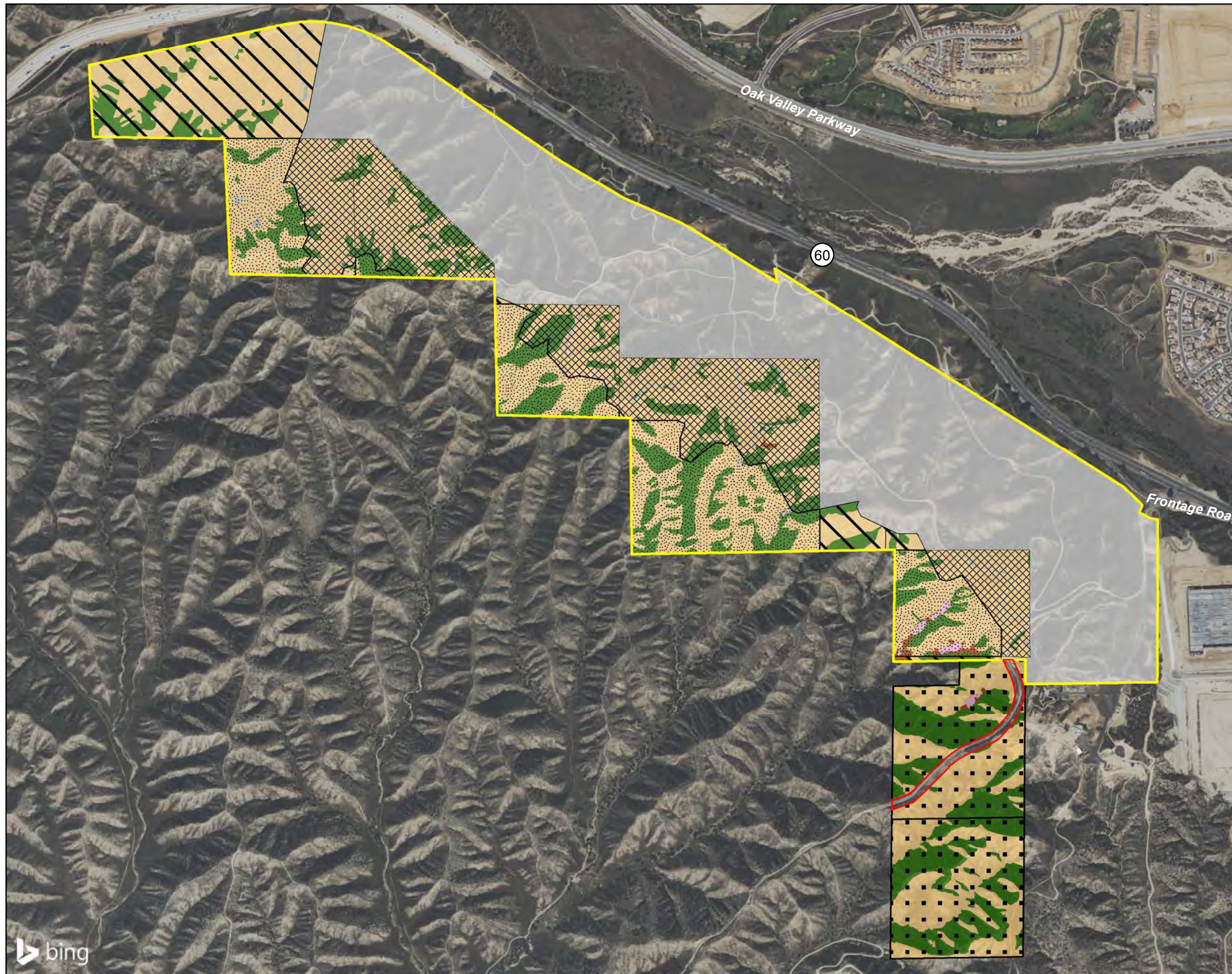
Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

BEAUMONT POINTE
 MSHCP Riparian/Riverine Areas Map

GLENN LUKOS ASSOCIATES 

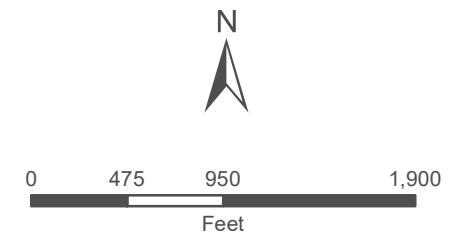
Exhibit 7





- Project Site
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Proposed Impacts – Not Described for Conservation
- Described Lands - Impact (109.69 ac.)
- Described Lands - Proposed Conservation (97.20 ac.)
- Undescribed Lands - Onsite Replacement (55.22 ac.)
- Undescribed Lands - Offsite Replacement (78.40 ac.)
- Chaparral
- Non-Native Grassland
- Riversidean Sage Scrub
- Southern Riparian Scrub

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 24, 2022

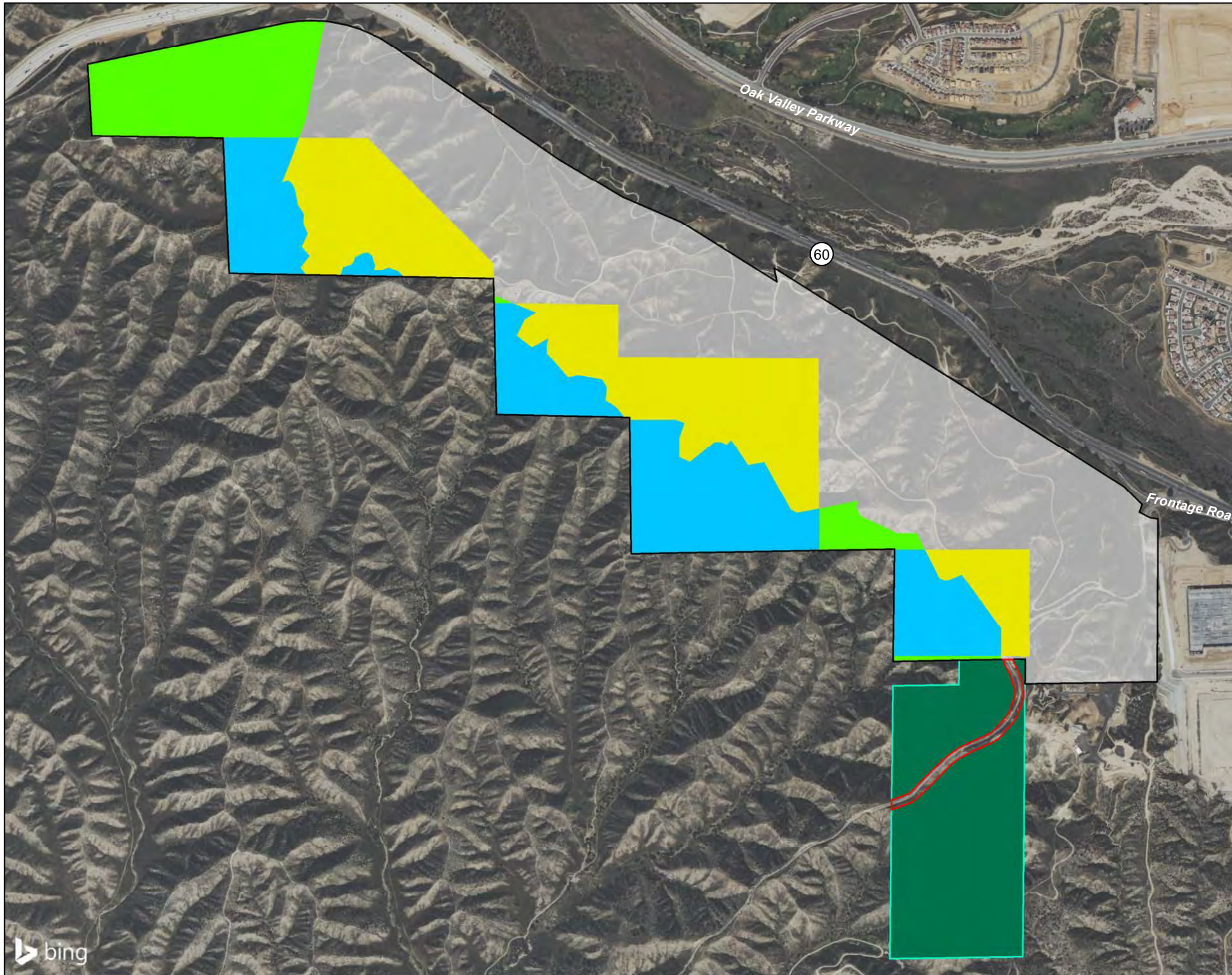
BEAUMONT POINTE
 Live-In Habitat for Scrub/Grassland Species Map

GLENN LUKOS ASSOCIATES



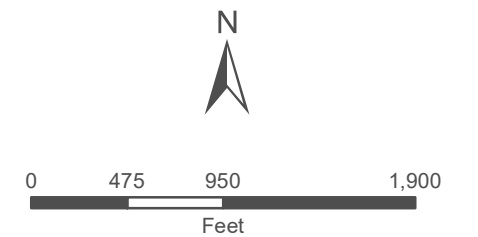
Exhibit 8A





- Project Site
- Proposed MSHCP Conservation (Offsite)
- Existing Jack Rabbit Trail Dedication (4.19 ac.)
- Described Live-in Habitat Proposed for Conservation (97.20 ac.)
- Described Live-in Habitat to be Impacted (109.69 ac.)
- Replacement Live-in Habitat Conservation - Onsite Replacement (55.22 ac.)
- Replacement Live-in Habitat Conservation - Offsite Replacement (78.40 ac.)
- Proposed Impacts - Not Described for Conservation

The boundaries for Described Conservation represent an approximation of the MSHCP described midrange goal as applicable for each Criteria Cell.



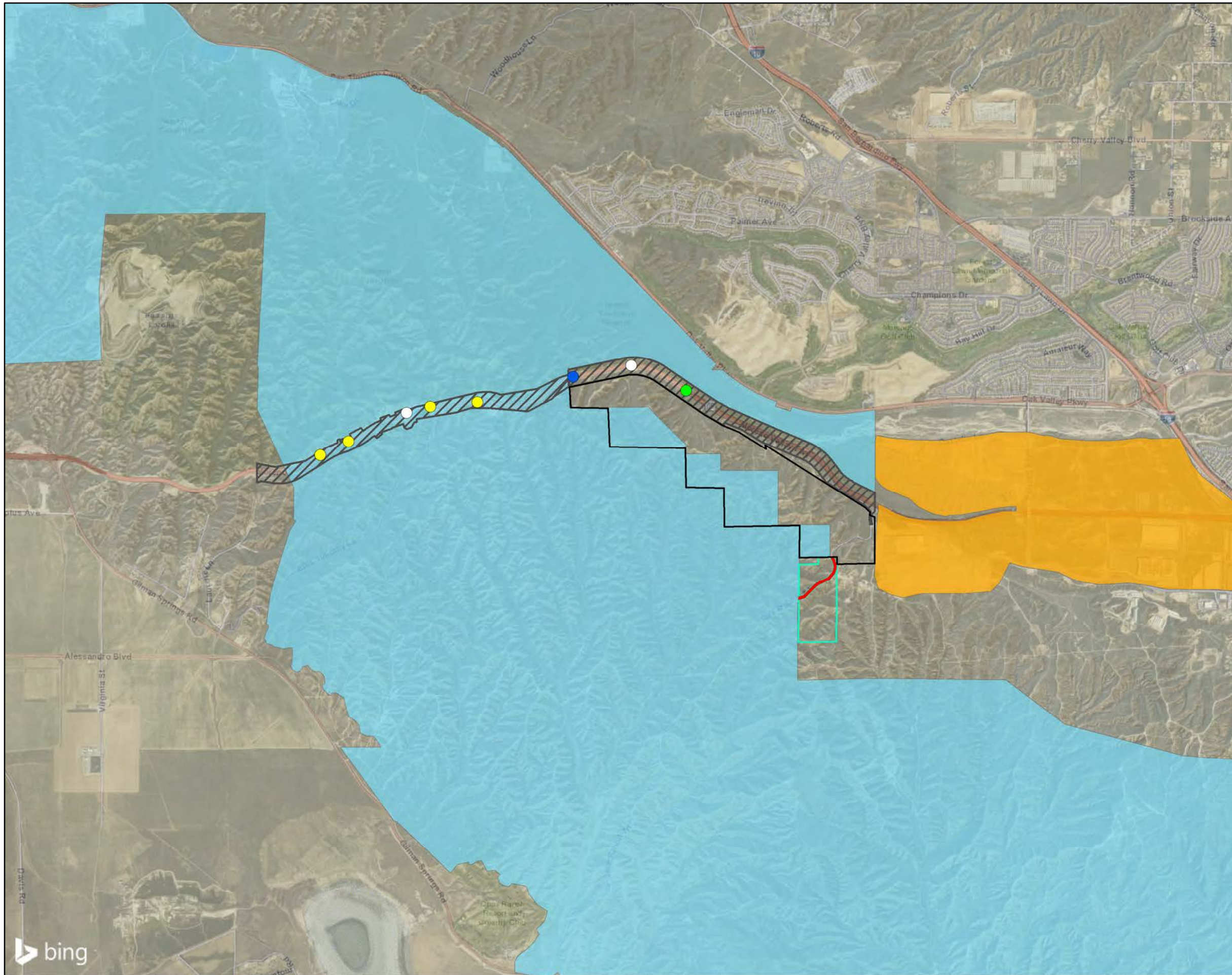
Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022











BEAUMONT POINTE
 Live-In Habitat for Scrub/Grassland Species Map

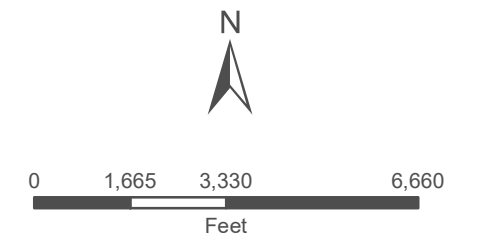
GLENN LUKOS ASSOCIATES



Exhibit 8B



-  Project Site
-  Proposed Conservation - Offsite
-  Existing Jack Rabbit Trail Dedication
-  60 Freeway
-  Existing/Planned Developments
-  Proposed Core 3 (Approximate)
-  CalTrans 20'x20' Culvert
-  CalTrans Arch Concrete Pipe (ACP)
-  CalTrans Corrugated Metal Pipe (CMP)
-  CalTrans Reinforced Concrete Pipe (RCP)



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 23, 2022

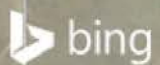
BEAUMONT POINTE

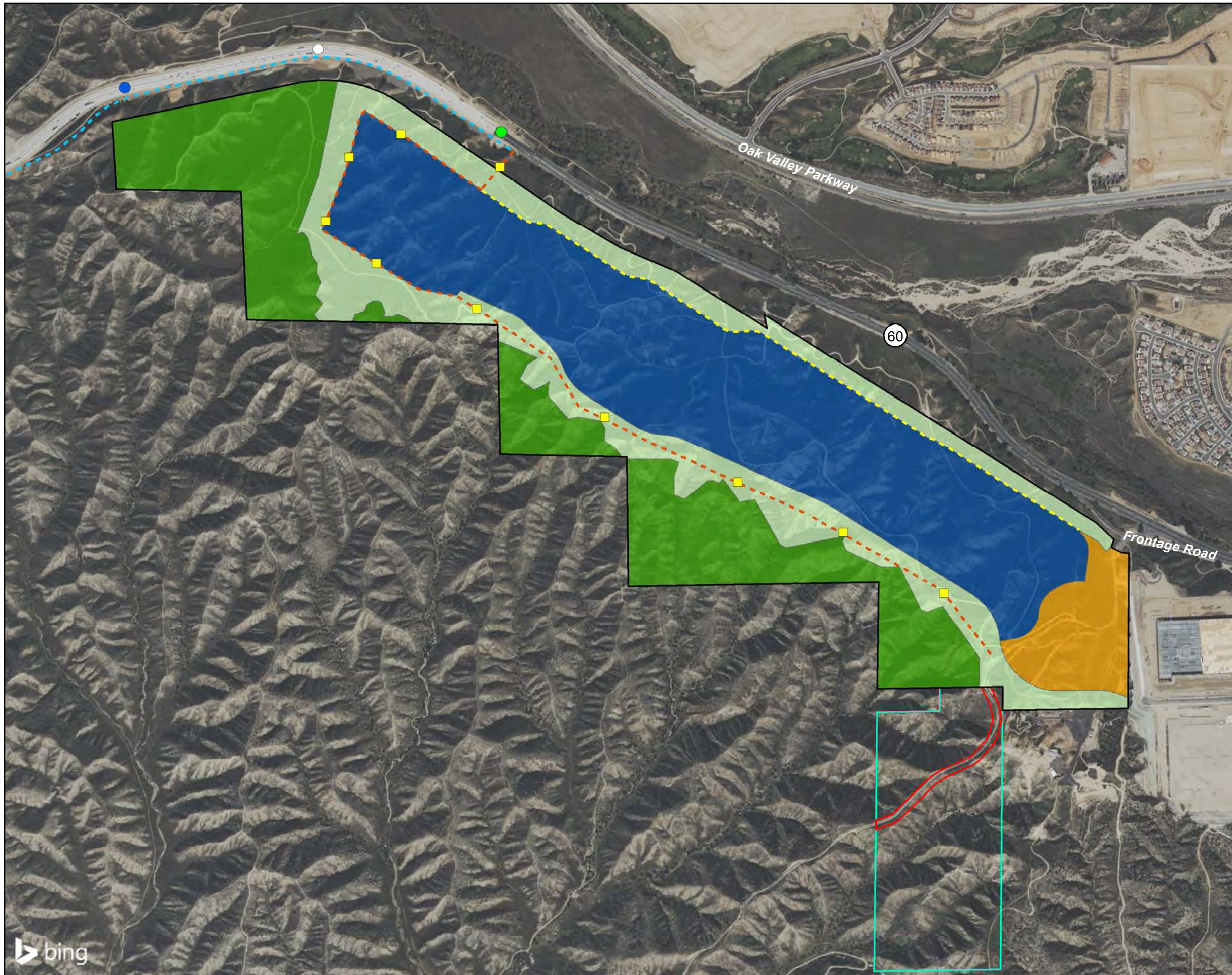
Proposed SR-60 Wildlife Crossings Map

GLENN LUKOS ASSOCIATES

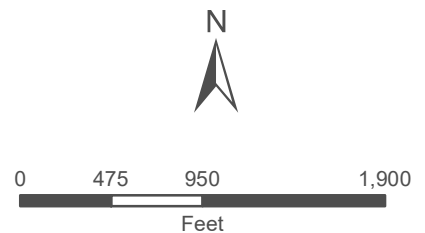


Exhibit 9A





- Project Site
 - Existing Jack Rabbit Trail Dedication
 - Proposed Conservation - Offsite
 - Onsite Conservation
 - Project Maintained Open Space
 - Industrial
 - General Commercial
- Proposed Wildlife Crossings (CalTrans)**
- CalTrans 20'x20' Culvert
 - CalTrans Corrugated Metal Pipe (CMP)
 - CalTrans Reinforced Concrete Pipe (RCP)
- Proposed Fencing**
- SR-60 Wildlife Fence
 - Beaumont Point Wildlife Fence
 - Beaumont Point Security Fence
 - Wildlife Gate



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: August 24, 2022

BEAUMONT POINTE
 Proposed Fencing and SR-60 Crossings Map

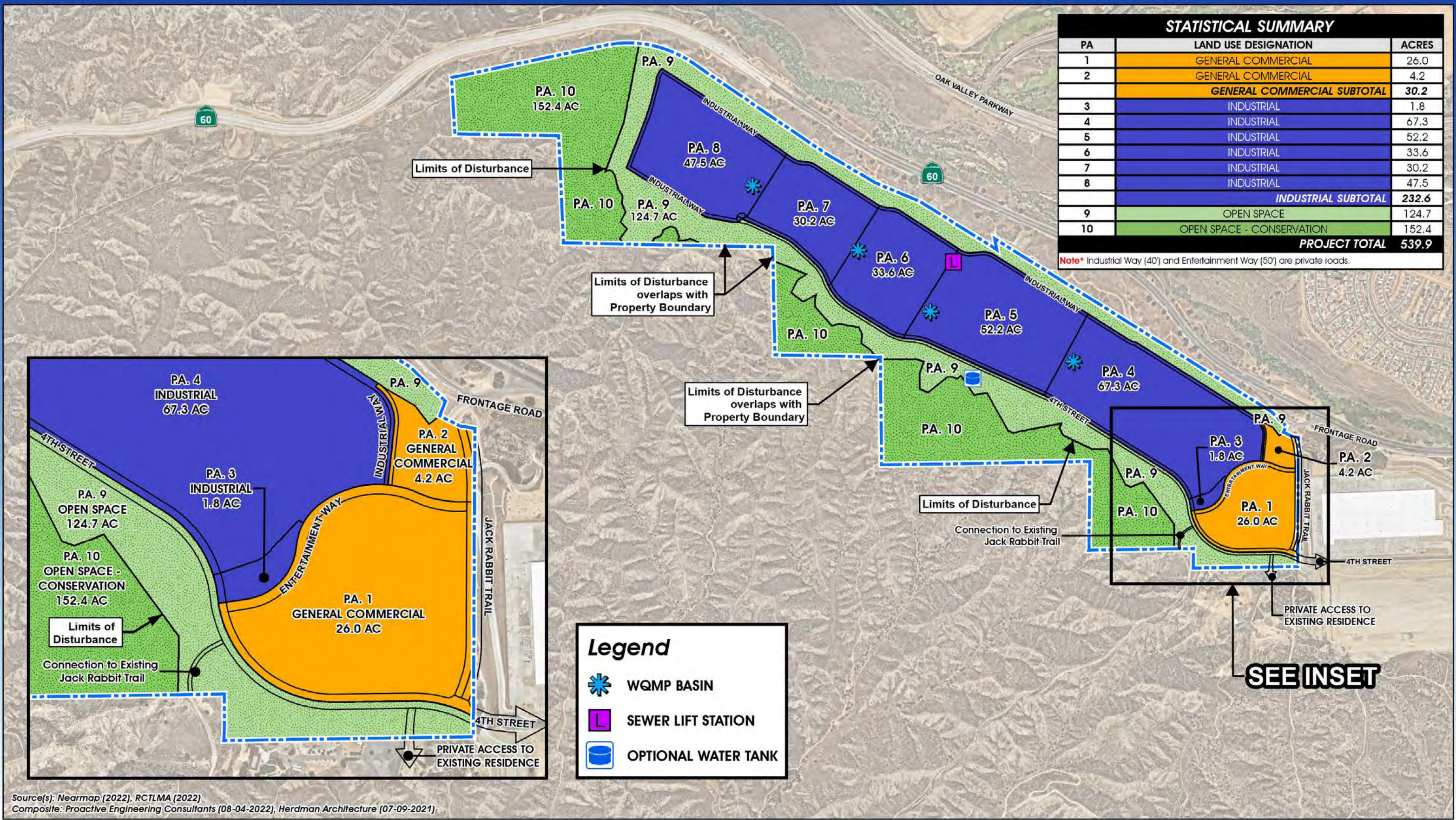
GLENN LUKOS ASSOCIATES

Exhibit 9B



STATISTICAL SUMMARY		
PA	LAND USE DESIGNATION	ACRES
1	GENERAL COMMERCIAL	26.0
2	GENERAL COMMERCIAL	4.2
GENERAL COMMERCIAL SUBTOTAL		30.2
3	INDUSTRIAL	1.8
4	INDUSTRIAL	67.3
5	INDUSTRIAL	52.2
6	INDUSTRIAL	33.6
7	INDUSTRIAL	30.2
8	INDUSTRIAL	47.5
INDUSTRIAL SUBTOTAL		232.6
9	OPEN SPACE	124.7
10	OPEN SPACE - CONSERVATION	152.4
PROJECT TOTAL		539.9

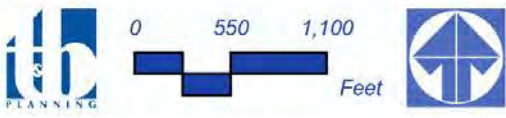
Note* Industrial Way (40') and Entertainment Way (50') are private roads.



Source(s): Nearmap (2022), RCTLMA (2022)
 Composite: Proactive Engineering Consultants (08-04-2022), Herdman Architecture (07-09-2021)

BEAUMONT POINTE SPECIFIC PLAN

JOB NUMBER: 1095-003
 DATE: 08-10-2022



LAND USE PLAN

APPENDIX B – GIS ANALYSIS AND BOUNDARY INACCURACIES

This document discusses inaccuracies with geographic information systems (GIS)-based boundaries and data utilized by the County of Riverside and the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) versus the boundaries utilized for analysis for the Beaumont Pointe Specific Plan that are based on the more accurate American Land Title Association (ALTA) surveys. The GIS-based boundaries that have inaccuracies include the Assessor's Parcels, MSHCP Criteria Cells, and Public/Quasi-Public (PQP) Conserved Lands. In addition, the County GIS boundaries depict an incorrect right-of-way (ROW) alignment for Jack Rabbit Trail Road, which results in incorrect boundaries depicted for the parcels adjoining the ROW within the Project proponent's ownership. The following discusses these inaccuracies and how these have been corrected/adjusted for the Beaumont Pointe Specific Plan Criteria Refinement Analysis.

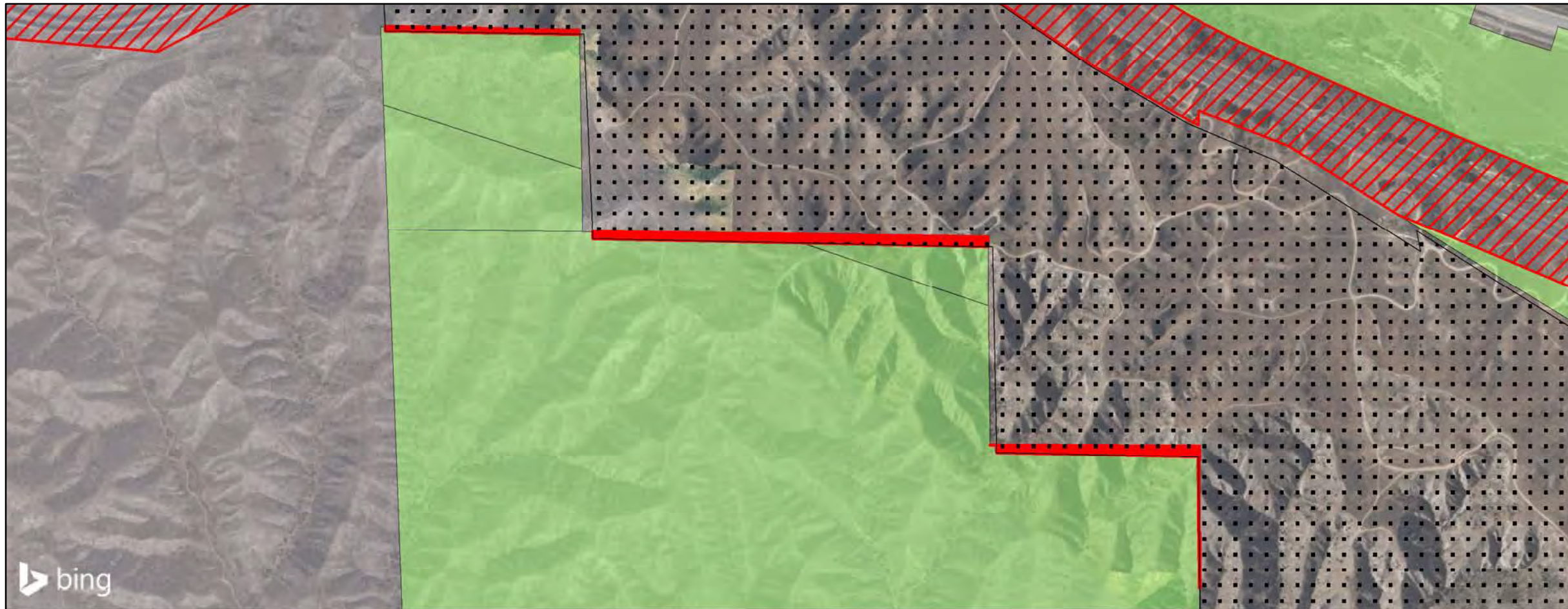
MSHCP Layers






The GIS-based boundaries utilized by the County and Regional Conservation Authority (RCA) for the MSHCP are incorrect for portions of the PQP Conserved Lands and Criteria Cells coinciding with the Project site. A block of Bureau of Land Management (BLM) lands occurring adjacent to the Project site is designated as PQP Conserved Lands. The BLM lands are adjacent to five parcels associated with the Project site, including APN# 422-060-002, 422-060-005, 422-060-009, 422-060-010 and 422-060-022. However, the boundary of the BLM lands and the adjoining parcels is incorrectly drawn compared with the ALTA survey boundary, resulting in slight areas of overlap between the PQP Conserved Land boundary and the ALTA survey boundary for the Project site. To correct this overlap, GLA re-drew the PQP boundary to match with the ALTA survey boundary for the Project site, for use solely with analyses related to the Beaumont Pointe Specific Plan. Exhibit 1 depicts the incorrect alignment of the PQP boundary and the resulting overlap with the Project site boundary, as well as the adjusted boundary for the PQP lands.

The boundaries for Criteria Cells 933, 936, 1030, 1032, 1125 and 1126, and Cell Group A' do not display correctly relative to the ALTA survey boundary for the Project site, as portions of the Cell and Cell Group boundaries are intended to align with the individual parcel boundaries. In one example, Cells 936, 1030 and 1032 are shifted west and north relative to correct parcel boundaries. In another example, Cell 1126 is intended to be exclusively part of Cell Group A' of the Reche Canyon/Badlands Area Plan and not part of the Pass Area Plan. However, as the County/RCA GIS boundaries are drawn, a small portion of Cell 1126 is depicted outside of (north of) Cell Group A'. To correct these inaccuracies, GLA re-drew the edges of those Cells that correspond with parcels associated with the Project, and re-drew the edges of Cell 1126 and 1032, and re-drew the boundary of Cell Group A', so that Cell 1126 is fully within Cell Group A' and Cell 1032 adjoins the Cell Group. Exhibit 2 displays the original and adjusted boundaries for the Criteria Cell and Cell Group relative to the Project and parcel boundaries.

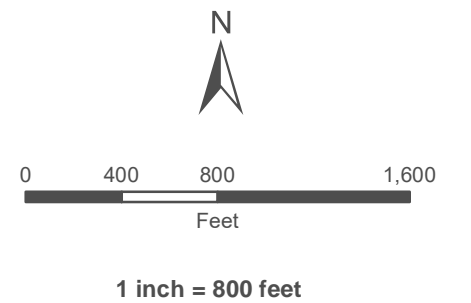
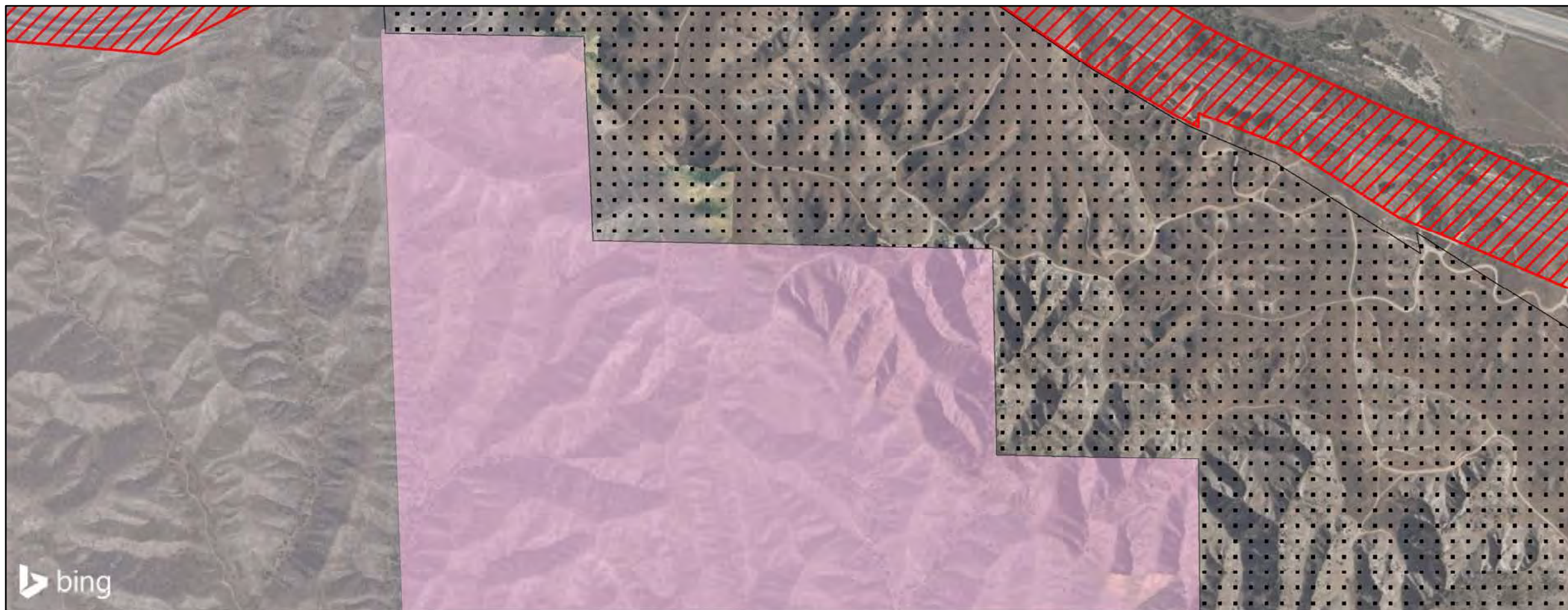
Assessor's Parcels and Jack Rabbit Trail

The County GIS data depicts inaccurate boundaries for the Assessor's Parcels corresponding to the Project site and the proposed offsite conservation areas, which result in incorrect boundary locations as well as incorrect acreages for the parcels. The Criteria Refinement Analysis utilizes boundaries for the overall Project site and individual Assessor's Parcels based on the ALTA survey. The total Project site acreage is 539.9 acres, which includes 11 individual parcels (APN# 422-060-002, 422-060-005, 422-060-009, 422-060-010, 422-060-016, 422-060-017, 422-060-018, 422-060-021, 422-060-022, 422-170-005, and 422-170-008) plus the onsite portion of the existing Jack Rabbit Trail. The proposed offsite conservation lands total 78.40 acres, consisting of four parcels (APN# 422-170-007, 422-170-009, 422-170-010, and 422-170-011), but excluding the offsite Jack Rabbit Trail ROW adjacent to these four parcels. The County GIS data depicts a ROW boundary for Jack Rabbit Trail that does not match the dedicated ROW identified by the ALTA survey. The Criteria Refinement Analysis utilizes the correct boundaries for the four parcels and road ROW based on the ALTA survey. Exhibit 3 depicts the incorrect boundaries Jack Rabbit Trail ROW and the four adjoining parcels, as well as the correct boundaries based on the ALTA survey.



-  Project Site
-  60 Freeway Easement
-  PQP Overlap with Project Boundary
-  PQP Conserved Lands
-  PQP Conserved Lands - GLA Modified

bing



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 18, 2021

BEAUMONT POINTE

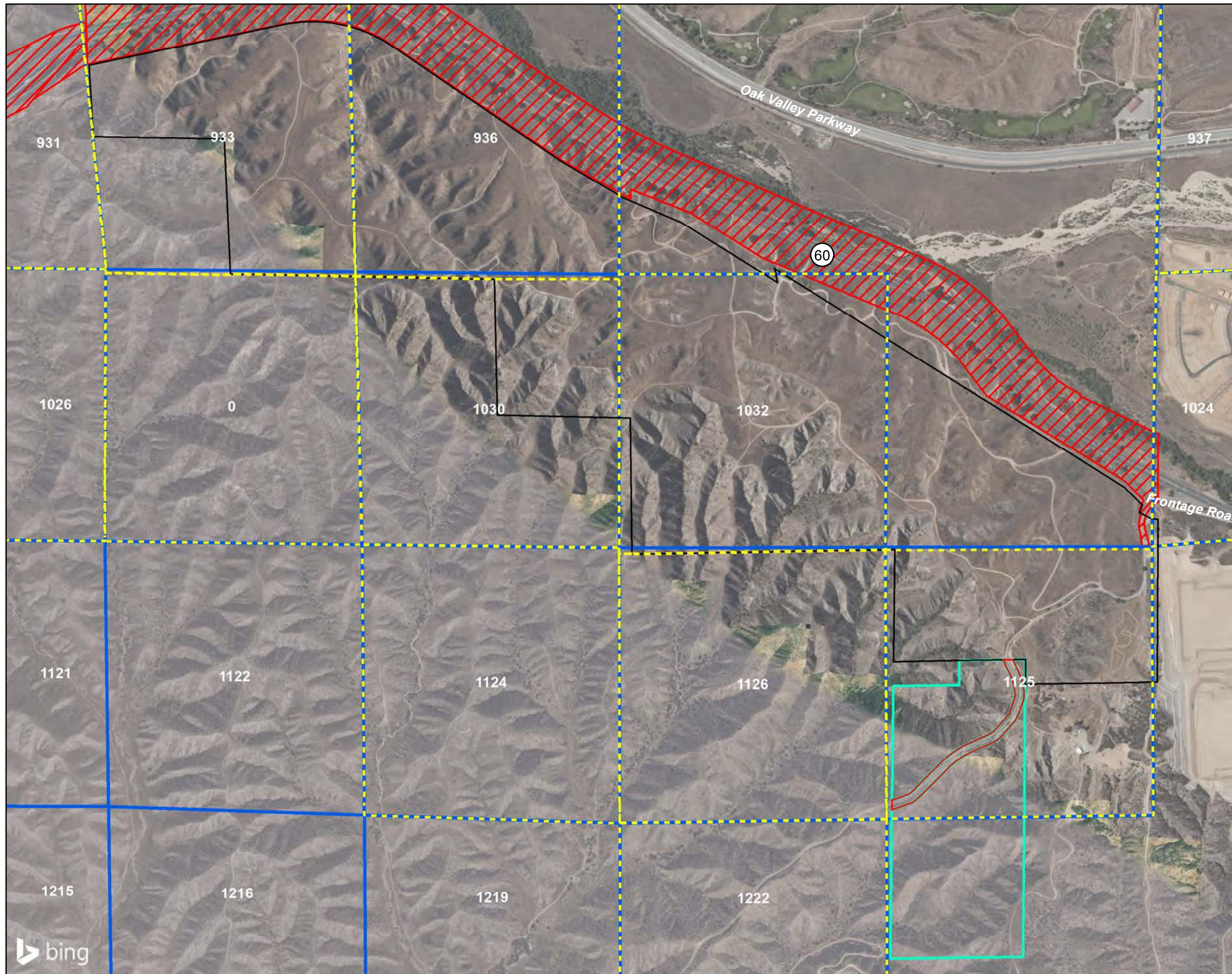
PQP Conserved Land Boundary Overlap











GLENN LUKOS ASSOCIATES

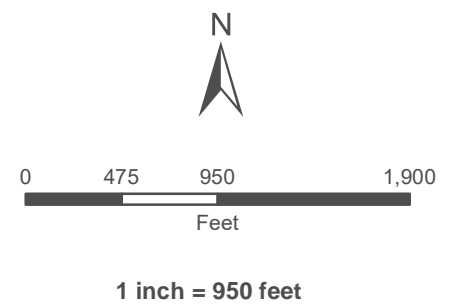


Exhibit 1

bing



-  Project Site
-  Proposed MSHCP Conservation (Offsite)
-  Existing Jack Rabbit Trail Dedication
-  CriteriaCells_ForCriteriaRefinementOnly
-  PQP Overlap with Project Boundary
-  60 Freeway Easement
-  PQP Conserved Lands
-  RCA MSHCP Conserved Lands
-  Criteria Cells
-  Criteria Cells - GLA Modified



Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 18, 2021

BEAUMONT POINTE

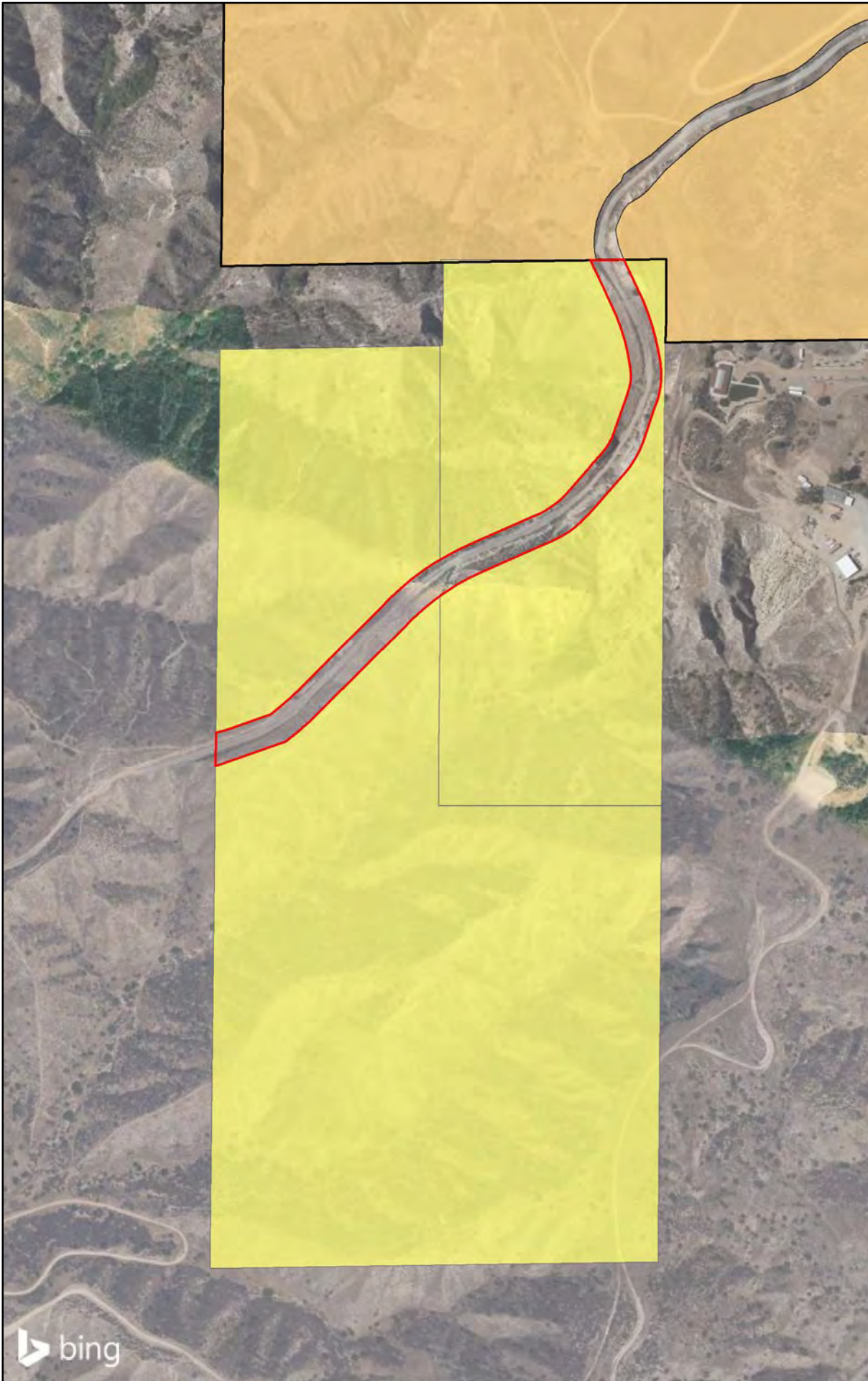
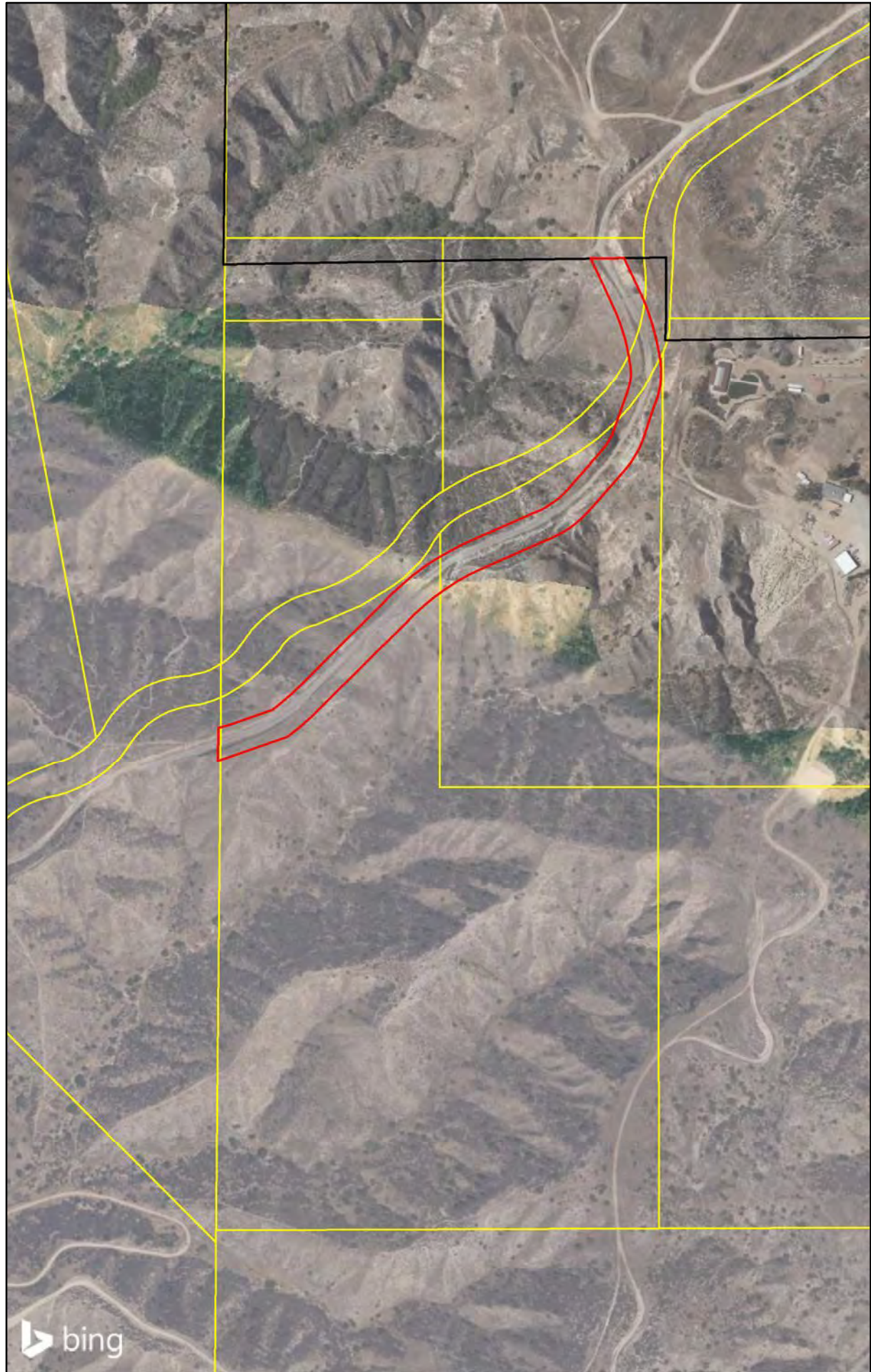
Criteria Cells Boundary Overlap




GLENN LUKOS ASSOCIATES

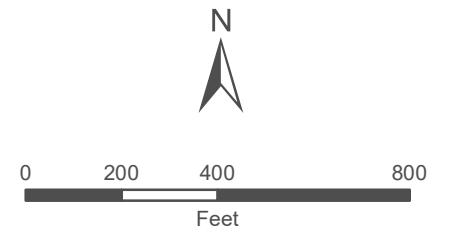


Exhibit 2





-  Project Site
-  Existing Jack Rabbit Trail Dedication
-  Riverside County Parcels
-  Onsite Parcels - ALTA Survey
-  Offsite Parcels - ALTA Survey



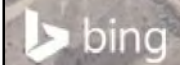
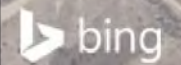
1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: K. Kartunen, GLA
 Date Prepared: November 18, 2021

BEAUMONT POINTE
 JRTS County ROW Boundary Overlap

GLENN LUKOS ASSOCIATES 

Exhibit 3





U.S. Fish and Wildlife Service
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262
760-322-2070
FAX 760-322-4648



California Department of Fish and Wildlife
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, California 91764
909-484-0167
FAX 909-481-2945

In Reply Refer To:
FWS/CDFW-WRIV-2023-0014131

November 9, 2022
Sent Electronically

Christina Taylor, Planning Director
City of Beaumont
Planning Department
550 E. 6th Street
City of Beaumont, CA 92223

Subject: Revised Criteria Refinement 21-03-09-01 for the Beaumont Pointe Specific Plan, City of
Beaumont, Riverside County

Dear Christina Taylor,

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Wildlife (CDFW), hereafter referred to jointly as the Wildlife Agencies, received the revised Criteria Refinement 21-03-09-01 (Criteria Refinement) for the Beaumont Pointe Specific Plan (Project) from the City of Beaumont (City) via the Western Riverside County Regional Conservation Authority (RCA) on September 9, 2022. The revised Criteria Refinement was in response to the Wildlife Agencies comment letter dated May 12, 2022, and subsequent meeting with the Project team on May 19, 2022. The Wildlife Agencies offer the following comments on the Criteria Refinement Review Findings letter and provide general Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) recommendations and site-specific requests as the Project moves forward.

Project Description

The MSHCP Implementation Agreement defines the Criteria Refinement Process as “the process through which changes to the Criteria may be made, where the refined Criteria result in the same or greater conservation value and acreage to the MSHCP Conservation Area”. The Criteria Refinement was prepared to accommodate the proposed Beaumont Pointe Specific Plan development, which would consist of 246 acres of industrial facilities and 30 acres of commercial facilities within a 405.2-acre site. The Project is located in Proposed Core 3, specifically, within Criteria Cells 933, 936, 1030, 1032, and 1125, of Subunit 1 (Potrero/Badlands) of The Pass Area Plan. The Criteria Refinement proposes the conservation of approximately 78 additional acres off-site within Criteria Cell 1125, a part of Cell Group A’, and outside but adjacent to, described Criteria Cells 1125 and 1222.

The proposed off-site conservation is adjacent to existing conservation and is generally suitable and appropriate to replace the area described for conservation that would be affected by the proposed Project. The Criteria Refinement Findings specify the portion of Criteria Cells proposed for development is in the City of Beaumont’s Sphere of Influence, in unincorporated Riverside County, and will be annexed by the City. The Project site directly abuts California State Route 60 to the north and Jackrabbit Trail to the east. Following discussions between the applicant and Wildlife Agencies, the western edge of the Project footprint was shifted to further avoid the north-to-south linkage associated with the State Route 60 (Figures 1 and 2) wildlife undercrossing recently established by Caltrans in coordination with the Wildlife Agencies.

Analysis

The Wildlife Agencies appreciate the inclusion of the changes requested in our May 12, 2022, letter in the Revised Criteria Refinement. The shift in the proposed Project footprint and the Revised Criteria Refinement address our concerns and ensure the functionality of the wildlife corridor along the western edge of the proposed Project site. We concur with the RCA's Criteria Refinement Review Findings that the revised Project footprint and conservation configuration will result in greater and superior conservation. The revised Criteria Refinement will result in 1) additional conservation for a linkage area established by Caltrans in coordination with the Wildlife Agencies under State Route 60 that was previously not described, 2) a larger more contiguous conservation configuration within Proposed Core 3 (an increase of conservation from 206.89 acres to 230.82 acres), and 3) reduced edge effects along the easternly and southernly portions of Jack Rabbit Trail. Additionally, the Wildlife Agencies offer the following comments on the Criteria Refinement and provide general Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) recommendations and site-specific requests as the Project moves forward.

Requests and Clarifications

Design Plans

The revised footprint information was provided by the applicant via a Google Earth geospatial file format. We request final or more official Project design plans for our records and to ensure that the information provided in the Revised Criteria Refinement is consistent with information presented in any future Joint Project Review and/or a Determination of Biologically Equivalent or Superior Preservation analysis.

Lighting

Additionally, to meet the conservation objectives set forth in Criteria Refinement Process (Section 6.5), Guidelines Pertaining to the Urban/Wildlands Interface (Section 6.1.4), and Conditionally Compatible Uses (Section 7.4.2) of the MSHCP, and reiterated in of the Criteria Refinement Review Findings, we request that the City condition the Project to require shielded, wildlife friendly lighting for all outdoor lighting. Wildlife friendly lighting consists of a shielded light source falling within the 700K to 2500K color temperature spectrum. Shielding of lighting fixtures (including bulbs) should result in zero backlight and uplight and limit glare (sidelight) from direct lighting to a 60-degree angle from bottom center, or less, under the Backlight, Uplight and Glare (BUG) classification system established by the Illuminating Engineering Society¹ (IES). Incorporation of these elements will minimize the direct and indirect effects to wildlife and the motoring public along SR-60 between dusk and dawn.

Annexation

As previously stated in our May 12, 2022, letter, the MSHCP provides procedures for changes in permittee jurisdiction. Land annexations within the MSHCP Plan Area are to be documented with a Minor Amendment of the MSHCP (Sections 11.5 and 20.4.1(E) of the MSHCP Implementation Agreement and

¹ [IES] Illuminating Engineering Society of North America. 2011. Luminaire Classification Systems for Outdoor Luminaires Technical Memoranda (TM) 15-11

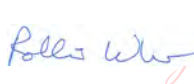
Section 6.10.2 of the MSHCP). The Minor Amendment process is provided to MSHCP Permittees for property annexations that 1) does not significantly differ from the terms of the MSHCP as originally adopted, 2) substantially conforms to the terms of the MSHCP as originally adopted, and 3) will not significantly reduce the ability to acquire the Additional Reserve Lands. The Wildlife Agencies agreed on January 22, 2008, to an expedited review process with a shortened 10-day review period from the original 60-day review period. Consequently, as required by MSHCP, the City will need to prepare and submit to the Wildlife Agencies a Minor Amendment request for any annexation associated with this Project. Please complete a Minor Amendment prior to the submission of a Joint Project Review or a Determination of Biologically Equivalent or Superior Preservation for the Project.

Conclusion


After review of the RCA's Criteria Refinement Review Findings the Wildlife Agencies concur that the proposed Revised Criteria Refinement is superior or equivalent to conservation described within Proposed Core 3. We congratulate the City and their applicant on the accomplishment of Project goals while protecting and preserving the long-term investment in wildlife connectivity and the MSHCP Conservation Area.

We appreciate the opportunity to provide comments on this revised Criteria Refinement proposal and look forward to continuing to work with the City of Beaumont on this Project. If you have any questions or comments regarding this letter, please contact [James Thiede](#) of the Service or [Carly Beck](#) of the CDFW.

Sincerely,

 Digitally signed by
ROLLAND WHITE
Date: 2022.11.09
14:24:18 -08'00'

Rollie White
Assistant Field Supervisor
U.S. Fish and Wildlife Service

DocuSigned by:

84F92FFEEFD24C8...

Kimberly Freeburn
Environmental Program Manager
California Department of Fish and Wildlife

cc:

Tricia Campbell, Regional Conservation Authority
Ken Baez, County of Riverside Planning Department

Figures: Revised Conservation Configuration and Design Change

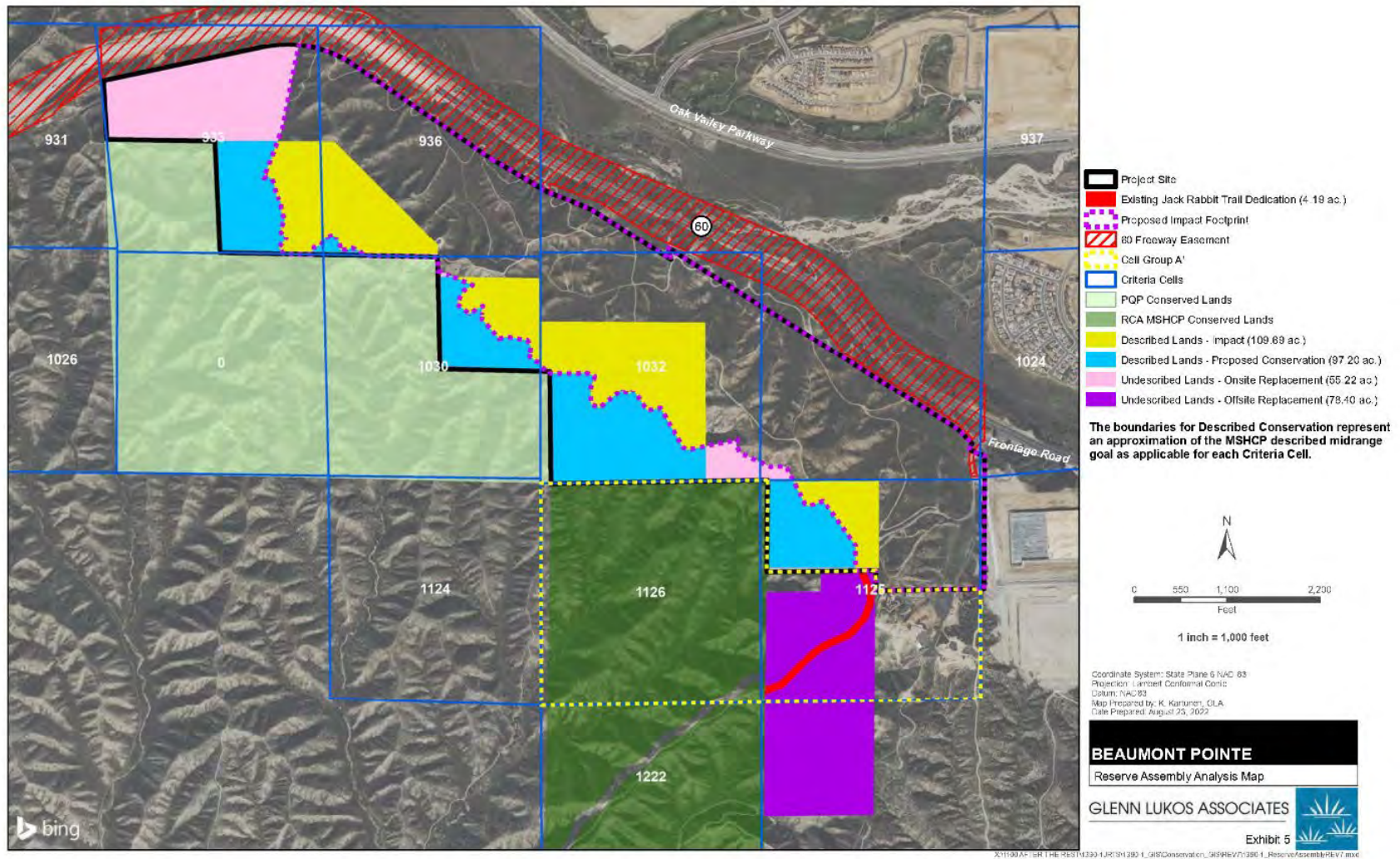


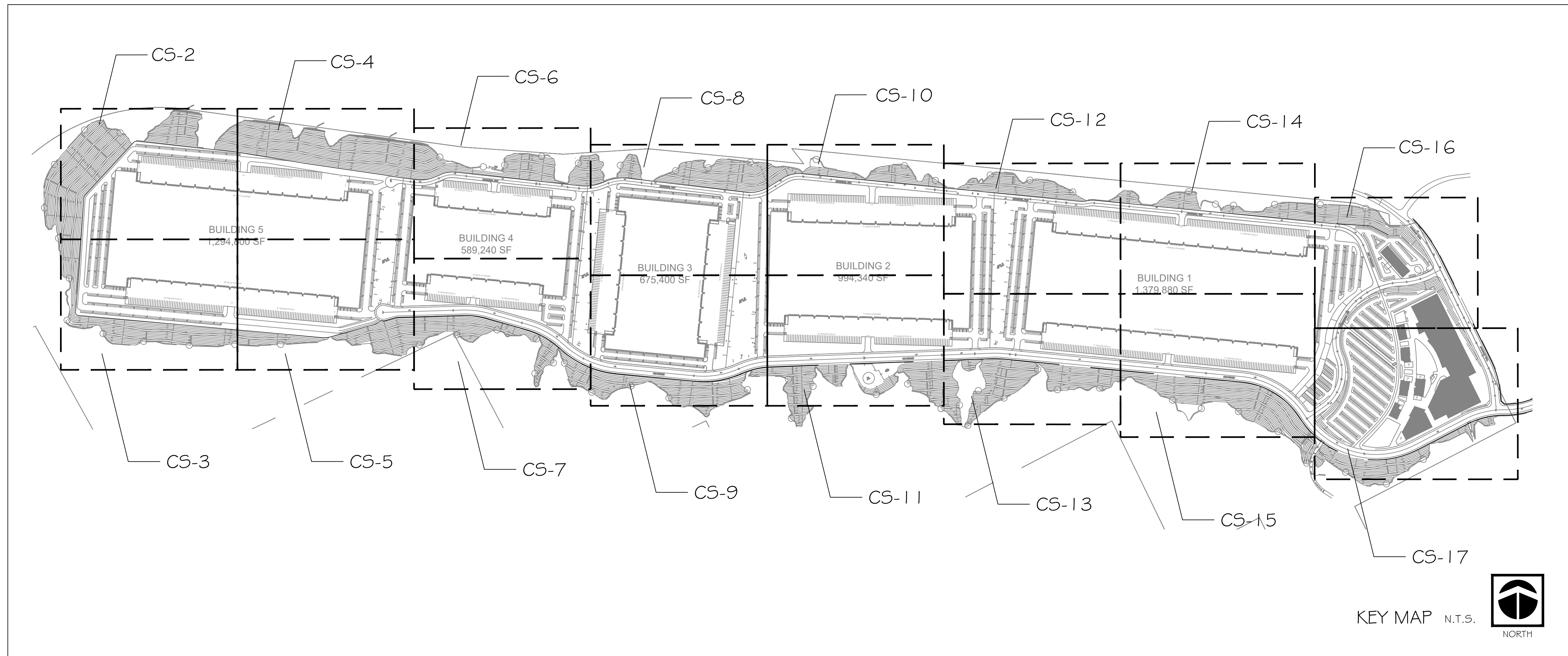
Figure 1. Revised Beaumont Pointe Specific Plan Criteria Refinement 21-03-09-01, Revised Conservation Configuration.



Figure 2: Revised Beaumont Pointe Specific Plan Criteria Refinement 21-03-09-01; Design change to ensure the encroachment on the north/south linkage area is avoided to fullest extent feasible.

BEAUMONT POINTE SITE LIGHTS

BEAUMONT, CA



Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage
☒	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235
☒	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168
☒	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168
☒	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
☒	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168
☒	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168
☒	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168
☒	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168
☒	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
☒	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168

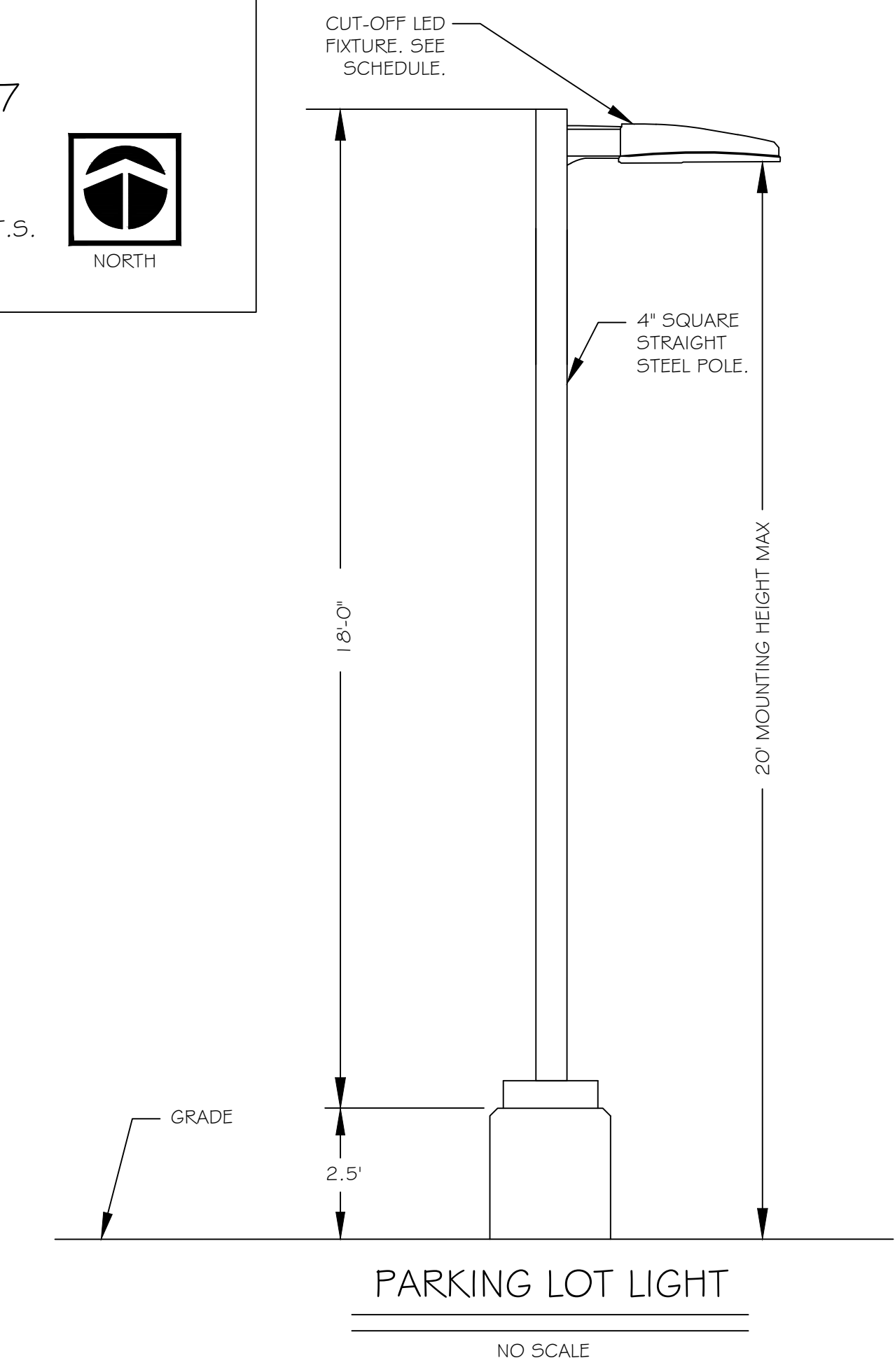
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BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.



HUBBELL OUTDOOR LIGHTING
AIRO MICRO STRIKE
POLE LIGHT



HUBBELL OUTDOOR LIGHTING
AIRO MICRO STRIKE
WALL LIGHT



NOTE:
ANY CHANGE OR DEVIATION FROM THE LIGHTING SPECIFICATIONS ON PLAN SHALL INVALIDATE THIS PHOTOMETRIC ANALYSIS.

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Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

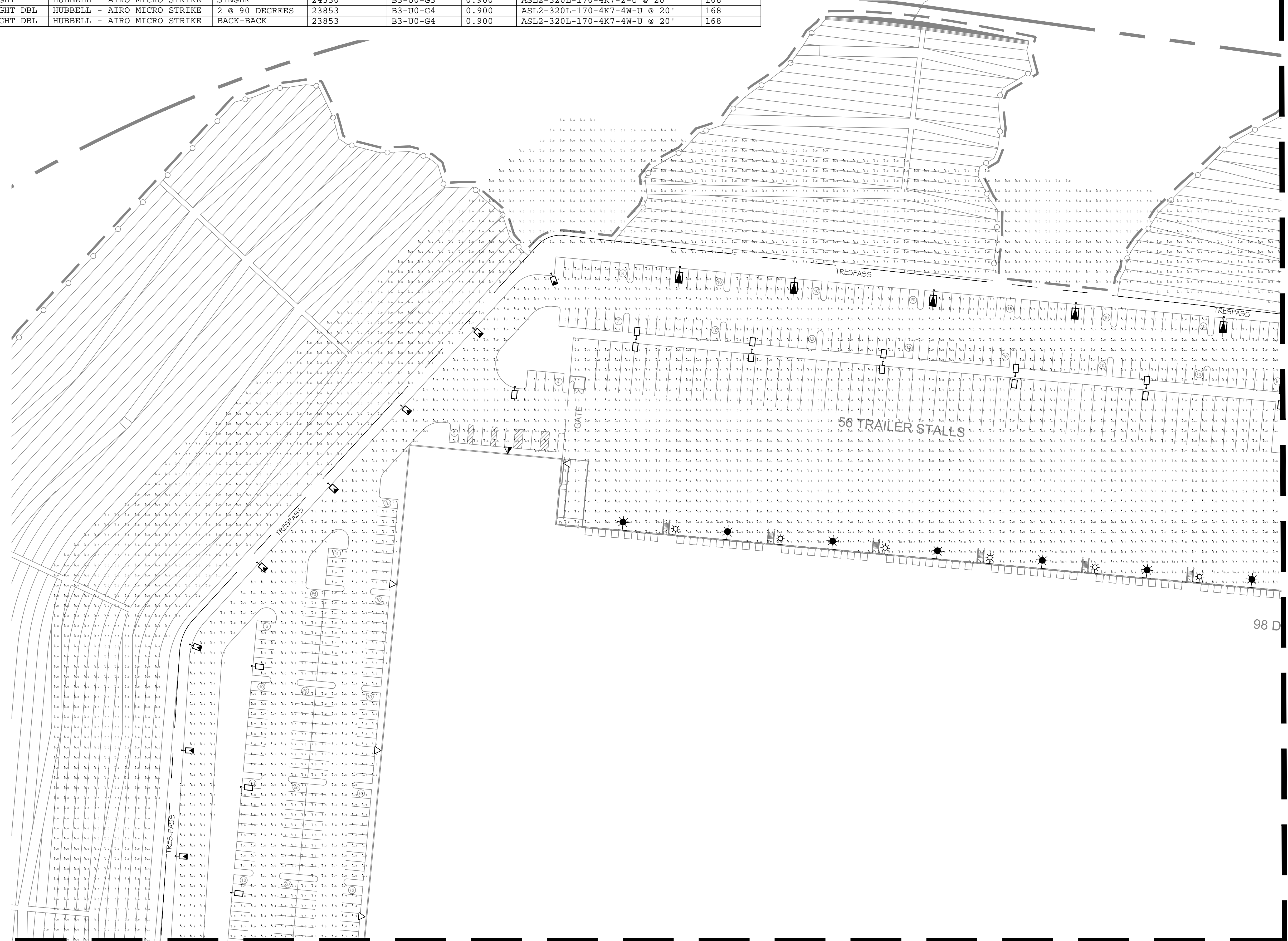
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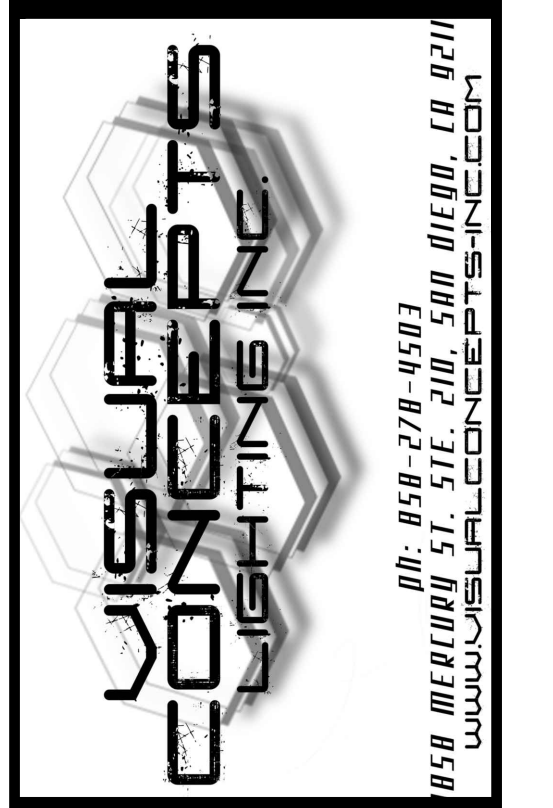
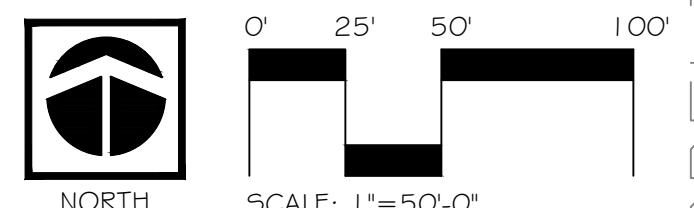
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Luminaire Schedule										Calculation Summary							
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★	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
★	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



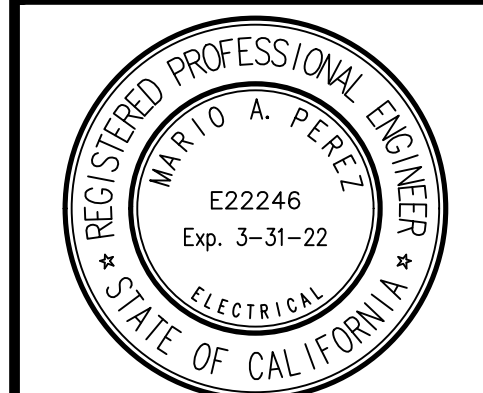
MATCHLINE - SEE SHEET CS-3

MATCHLINE - SEE SHEET CS-4



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

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Job No.: JRT21/02011

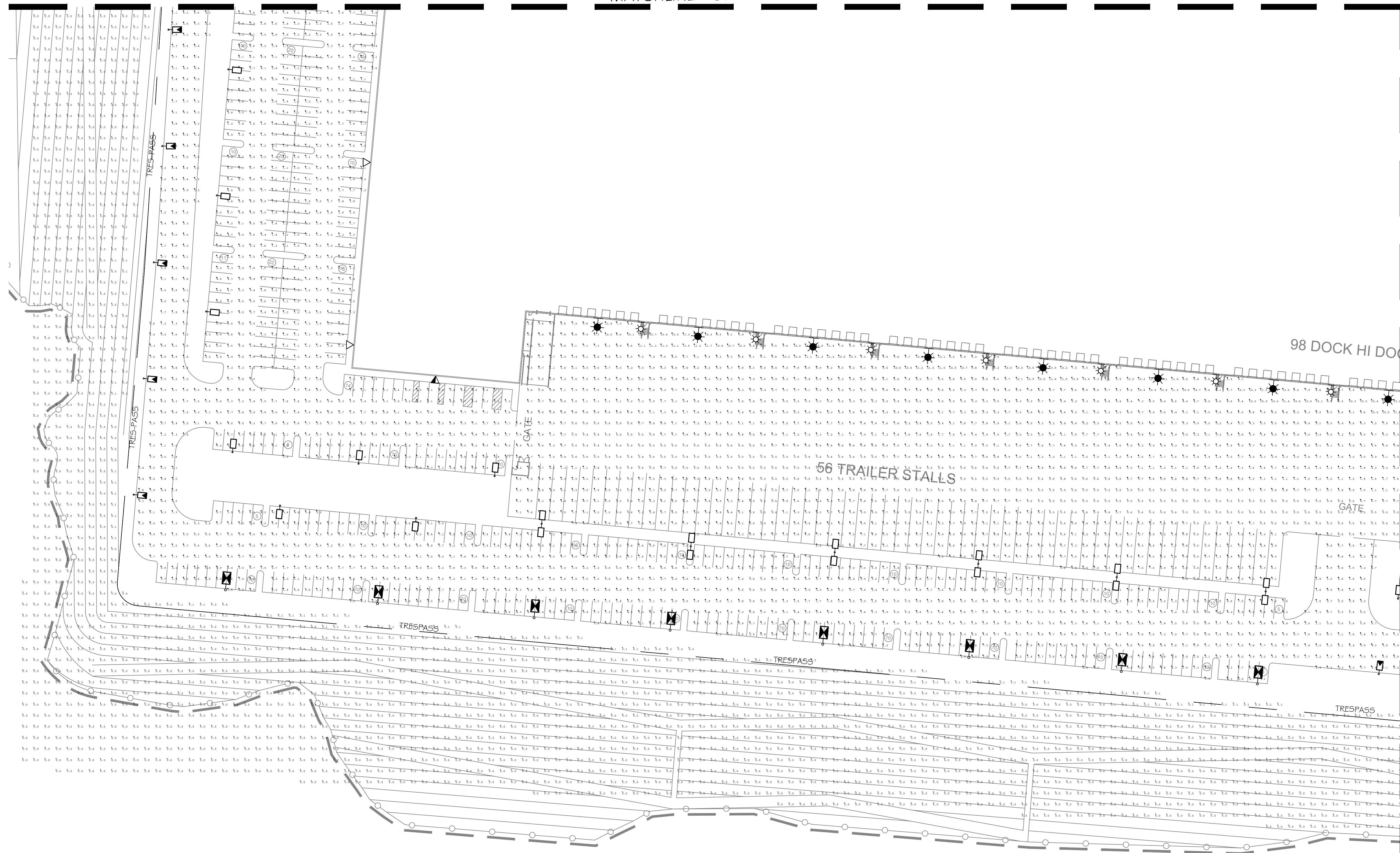
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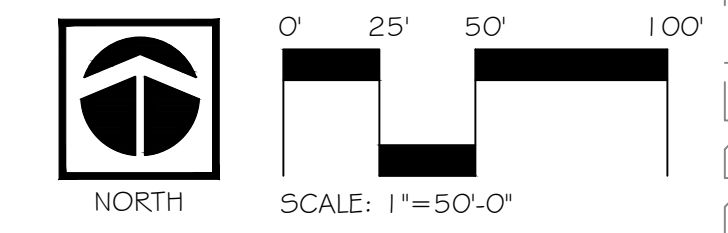
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MATCHLINE - SEE SHEET CS-2



Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage
⊗	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235
⊗	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168
⊠	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168
⊠	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
⊠	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168
⊠	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168
⊠	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168
⊠	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168
⊠	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
⊠	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BLDG1	illuminance	Fc	3.03	14.0	0.2	15.15	70.00
BLDG2	illuminance	Fc	3.04	13.8	0.3	10.13	46.00
BLDG3	illuminance	Fc	3.37	13.5	0.3	11.23	45.00
BLDG4	illuminance	Fc	3.26	14.6	0.2	16.30	73.00
BLDG5	illuminance	Fc	3.12	14.2	0.3	10.40	47.33
RETAIL SITE	illuminance	Fc	3.64	12.2	0.7	5.20	17.43
TRESPASS	illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.



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Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

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Job No.: JRT21/02011

Sheet Title:
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PLAN 3

Sheet Reference:

CS-3
Sheet: 3 of 19

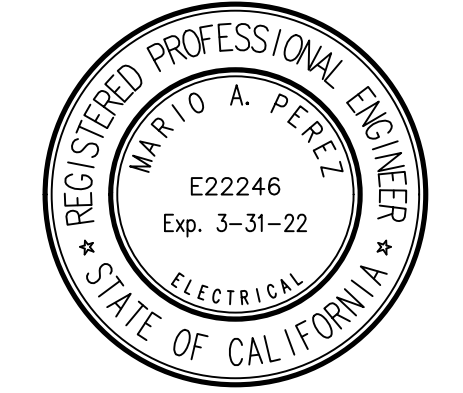
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Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
★	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
★	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



DR: 050-270-4503
 450 MERCURY ST. STE. 210, SAN JOSE, CA 95128
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Project:
 BEAUMONT POINTE
 SITE LIGHTS
 BEAUMONT, CA.

Client:
 JRT PBI, LLC
 18032 LEMON DE. STE. 367
 YORBA LINDA, CA 92886



Revisions:

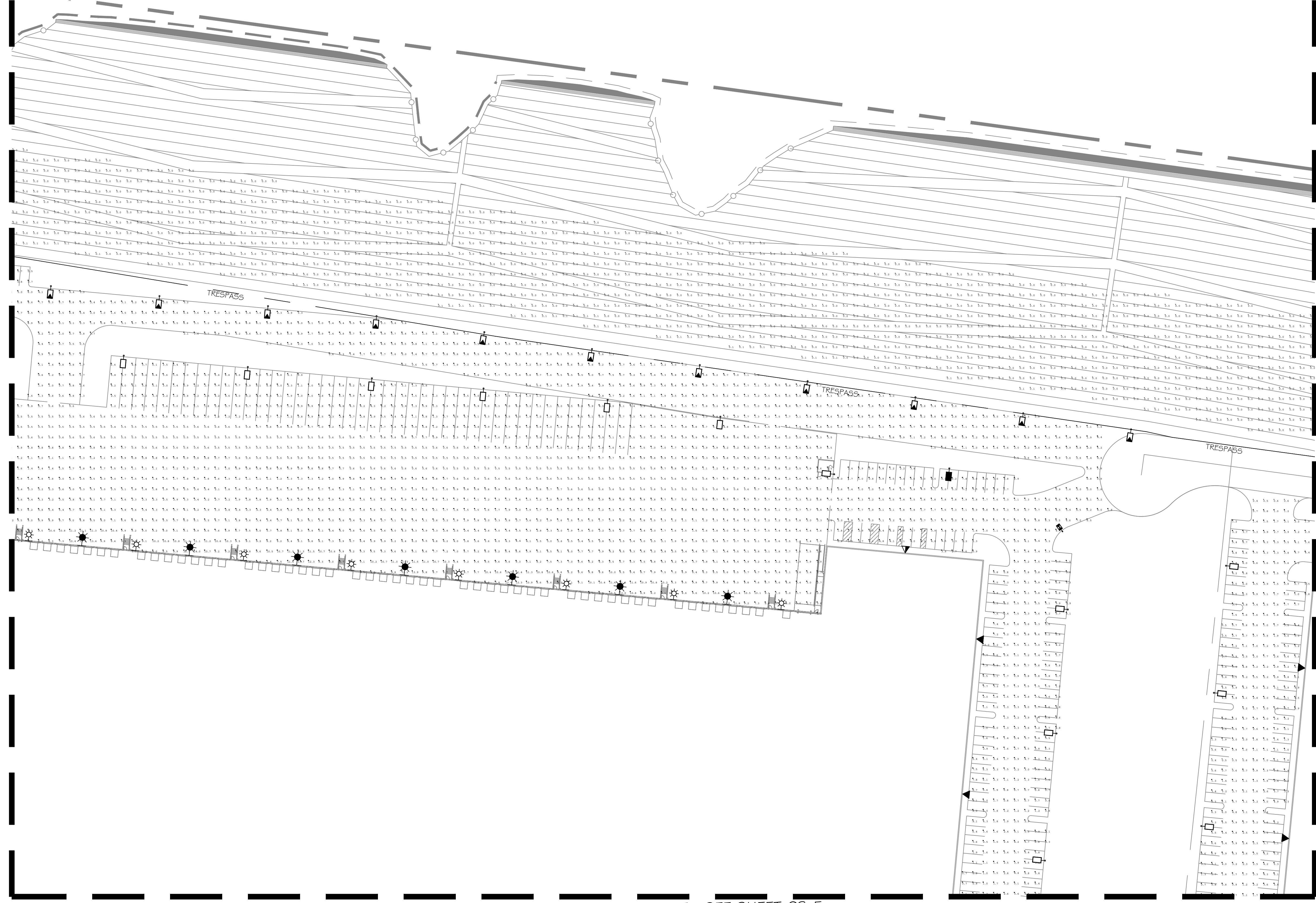
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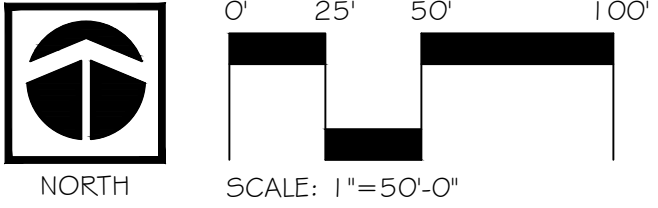
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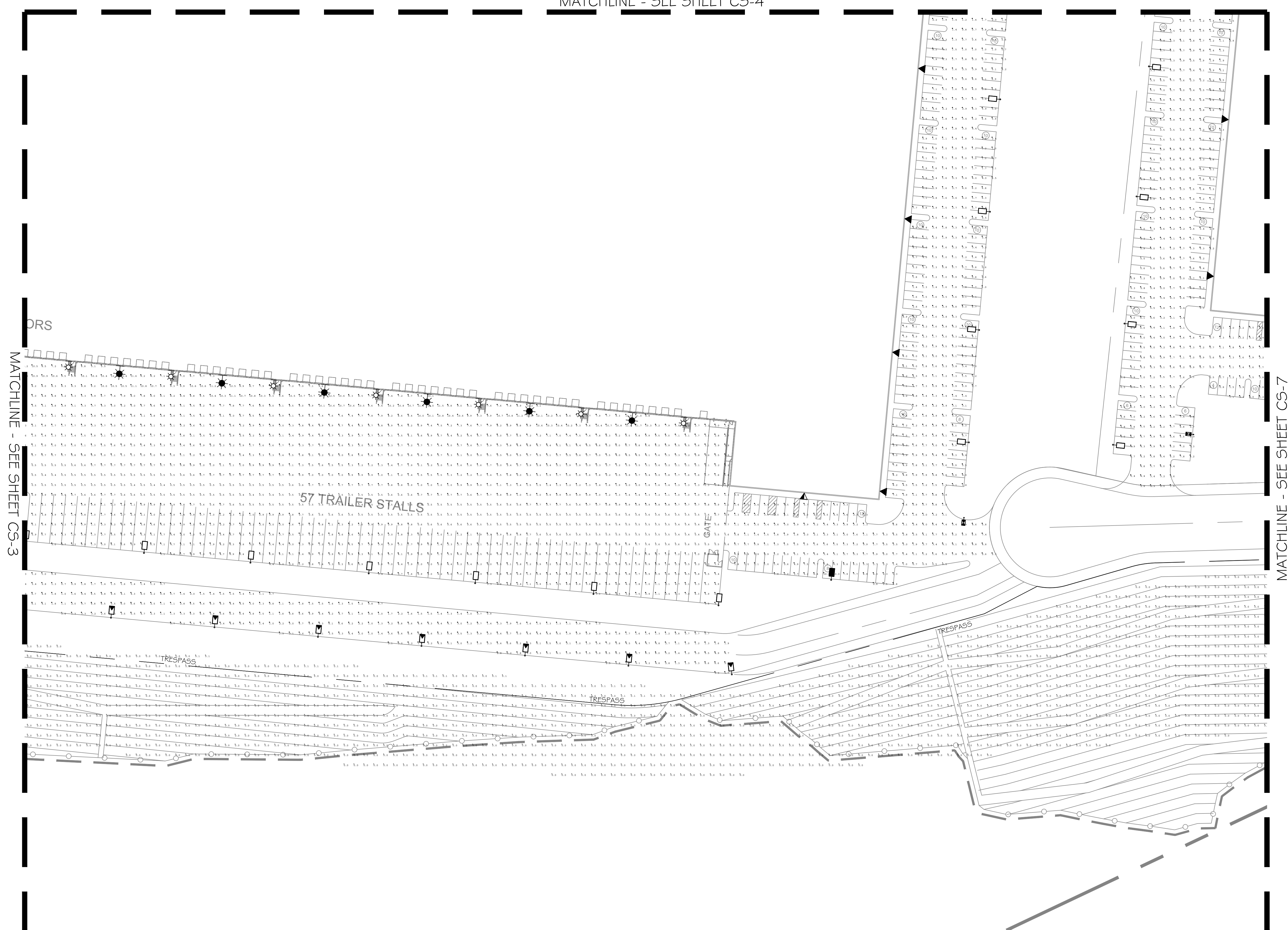


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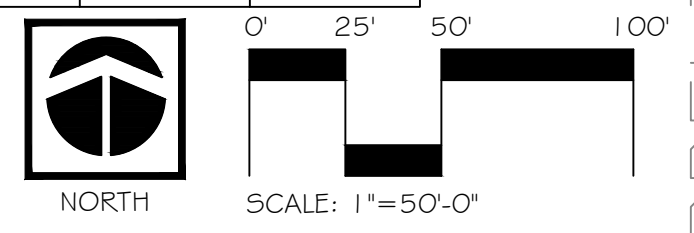
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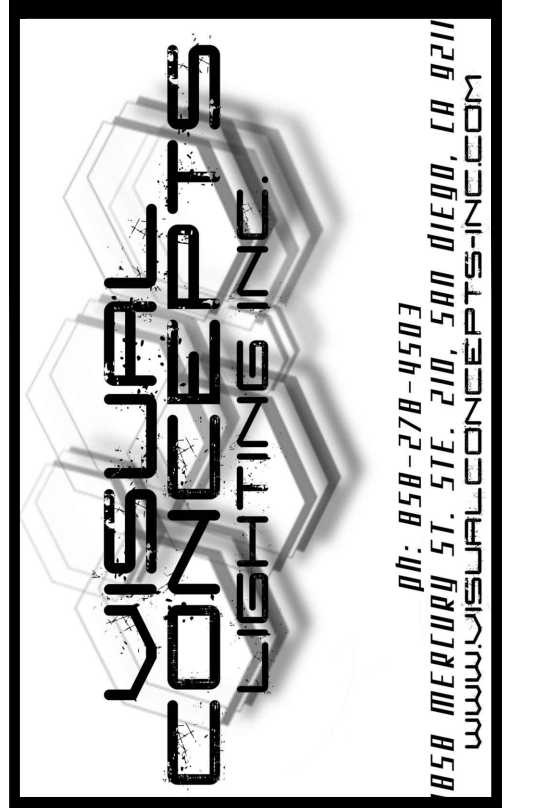




Luminaire Schedule										Calculation Summary							
Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
☼	115		WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
☼	115		WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30		WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29		WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20		WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
□	32		POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
□	174		POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
□	8		POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
□	23		POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
□	5		POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
□	28		POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
□	3		POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
□	44		POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



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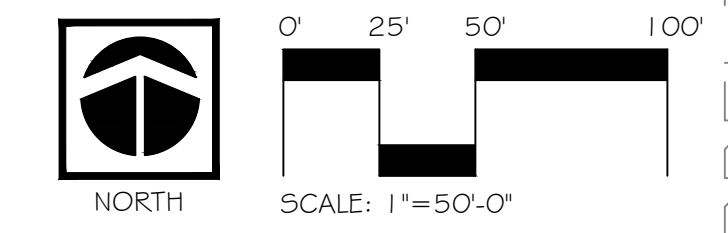
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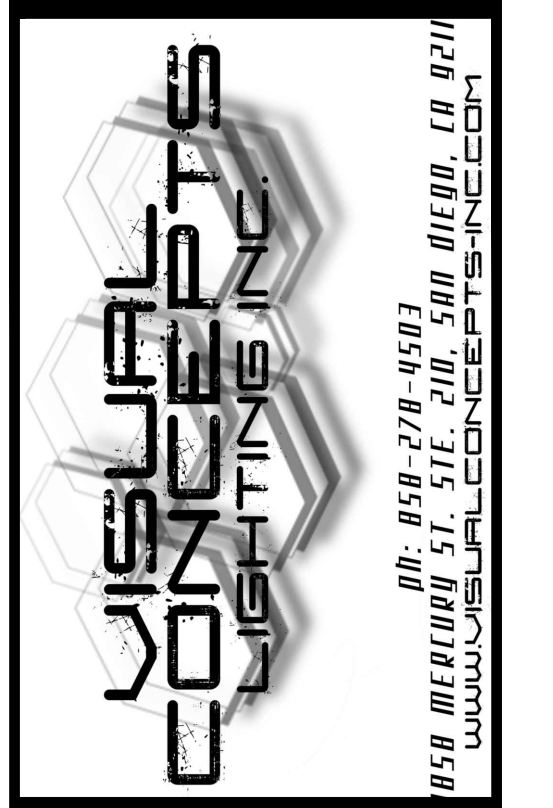
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Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	ILLUMINANCE	Fc	3.03	14.0	0.2	15.15	70.00
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	ILLUMINANCE	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	ILLUMINANCE	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	ILLUMINANCE	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	ILLUMINANCE	Fc	3.12	14.2	0.3	10.40	47.33
☼	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	ILLUMINANCE	Fc	3.64	12.2	0.7	5.20	17.43
☼	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	ILLUMINANCE	Fc	0.00	0.7	0.0	N.A.	N.A.
☼	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
☼	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
☼	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
☼	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
☼	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
☼	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



MATCHLINE - SEE SHEET CS-7



PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

Sheet Info:
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Checked By: KPJR
Scale: 1"= 50'-0"
Date: 2/18/2021
Job No.: JRT21/02011

Sheet Title:
CONCEPTUAL
PLAN 6

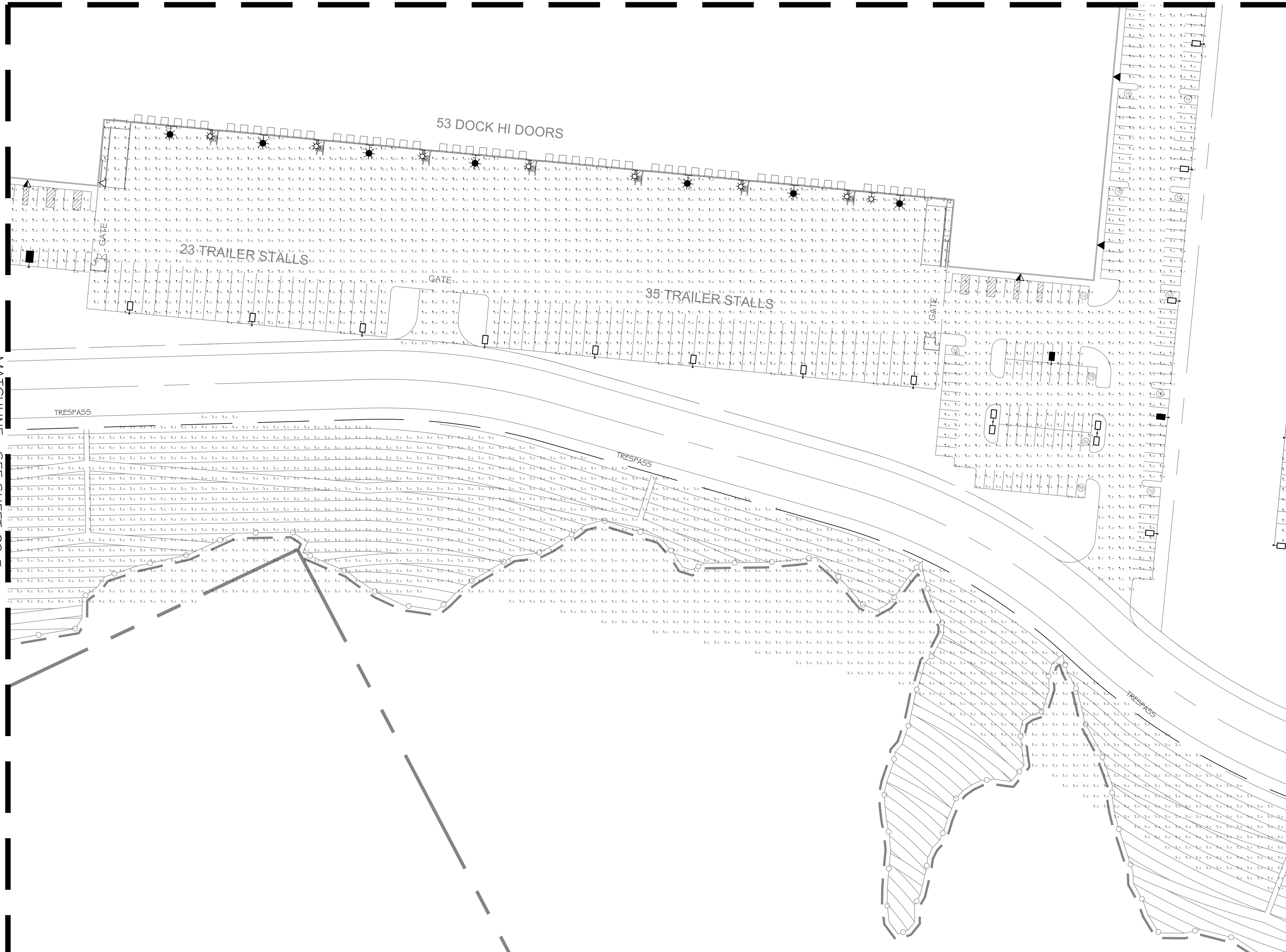
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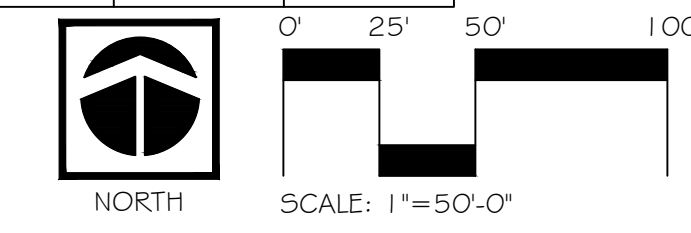
MATCHLINE - SEE SHEET CS-6

MATCHLINE - SEE SHEET CS-5

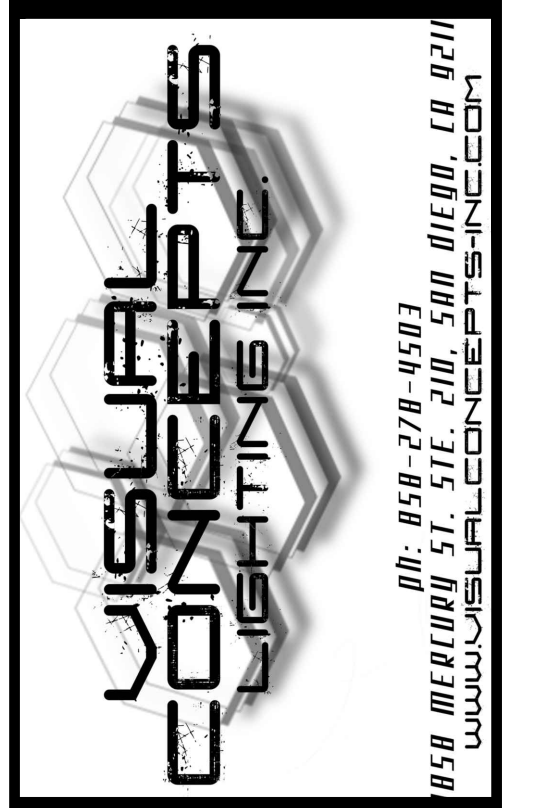
MATCHLINE - SEE SHEET CS-9



Luminaire Schedule										Calculation Summary							
Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
☼	115		HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
☼	115		HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30		HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29		HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20		HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
☼	32		HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
☼	174		HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
☼	8		HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
☼	23		HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
☼	5		HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
☼	28		HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
☼	3		HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
☼	44		HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

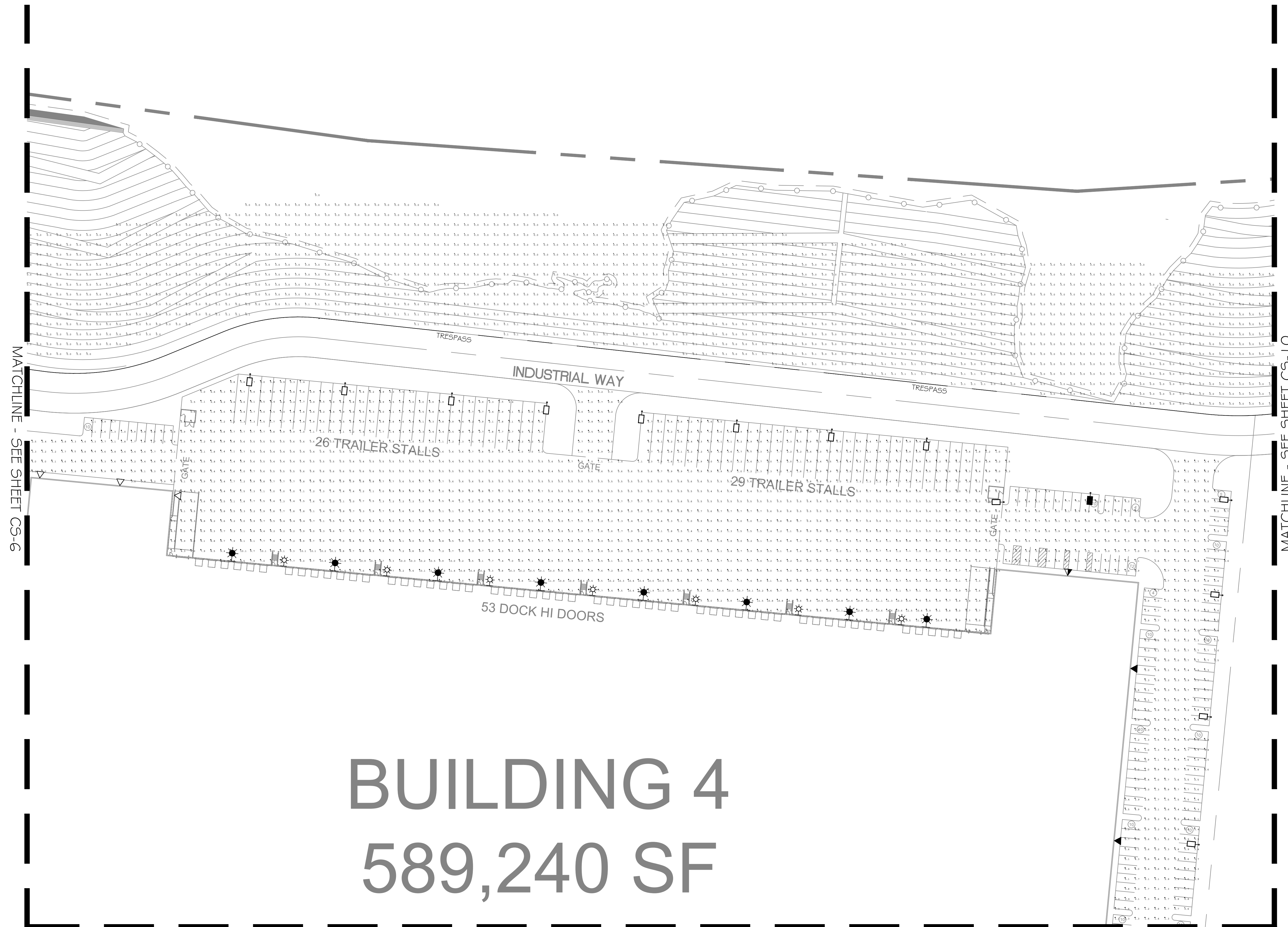
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Job No.: JRT21/02011

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PLAN 7

Sheet Reference:

CS-7
Sheet: 7 of 19

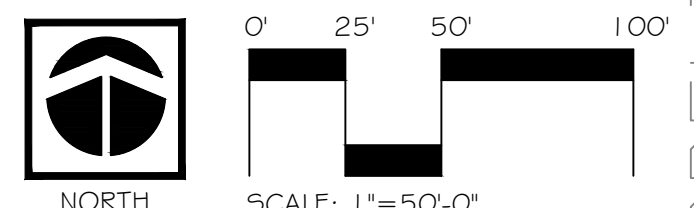
Luminaire Schedule										Calculation Summary							
Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
★	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
★	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



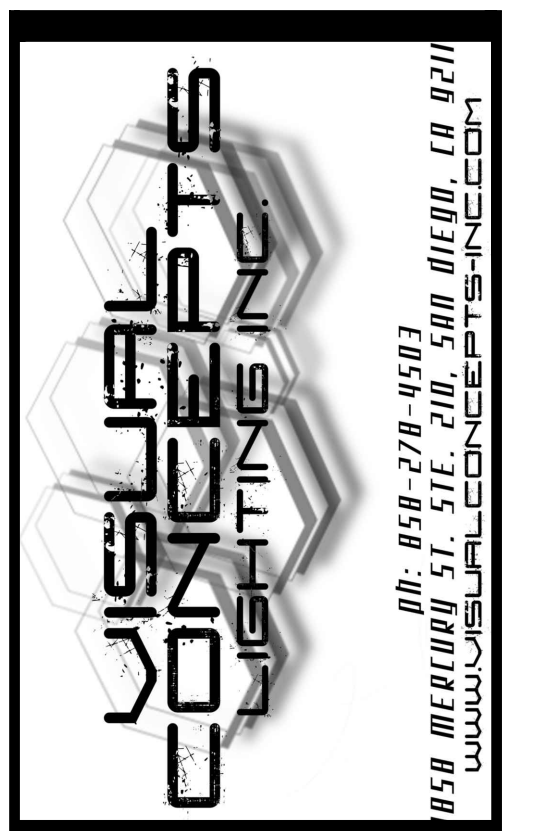
BUILDING 4

589,240 SF

MATCHLINE - SEE SHEET CS-9



PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

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Checked By: KPJR
Scale: 1"=50'-0"
Date: 2/18/2021
Job No.: JRT21/02011

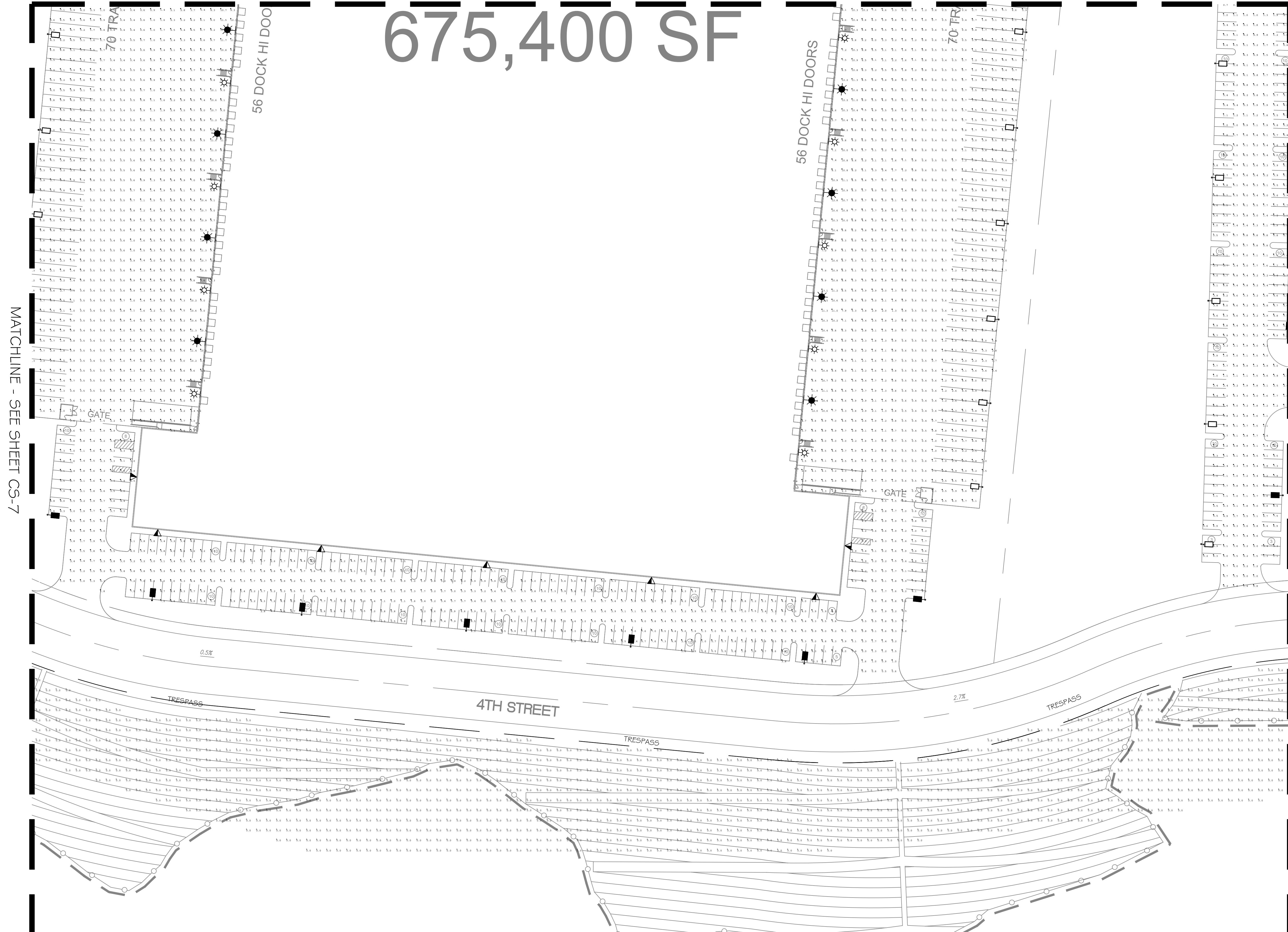
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PLAN 8

Sheet Reference:

CS-8
Sheet: 8 of 19

MATCHLINE - SEE SHEET CS-8

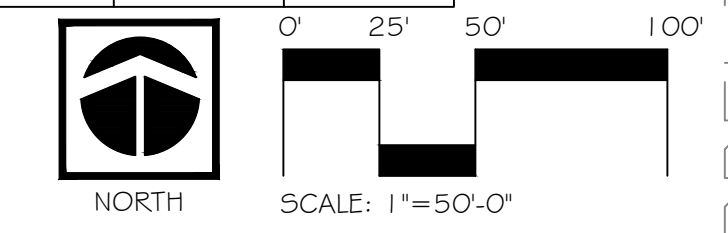
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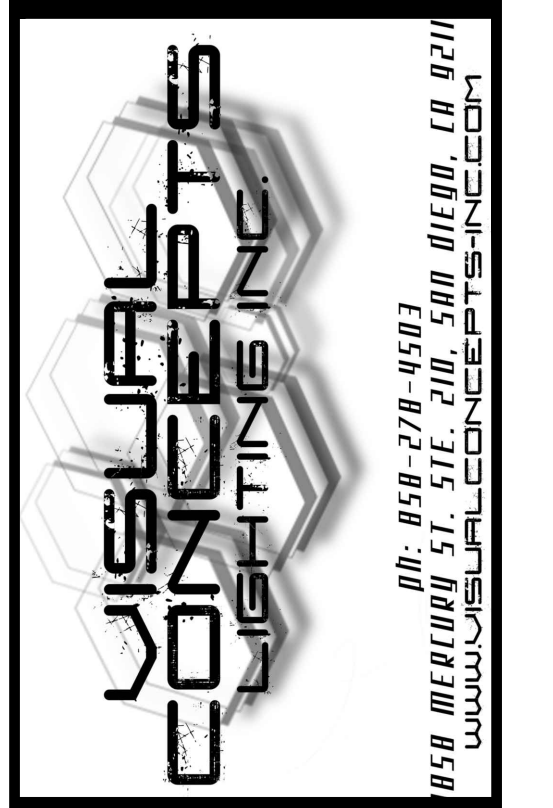
MATCHLINE - SEE SHEET CS-7

MATCHLINE - SEE SHEET CS-11

Luminaire Schedule										Calculation Summary							
Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
☐	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
☐	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
☐	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
☐	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
☐	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
☐	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
☐	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
☐	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



PRELIMINARY - NOT FOR CONSTRUCTION



Client: JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886

Project: BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.



Revisions:

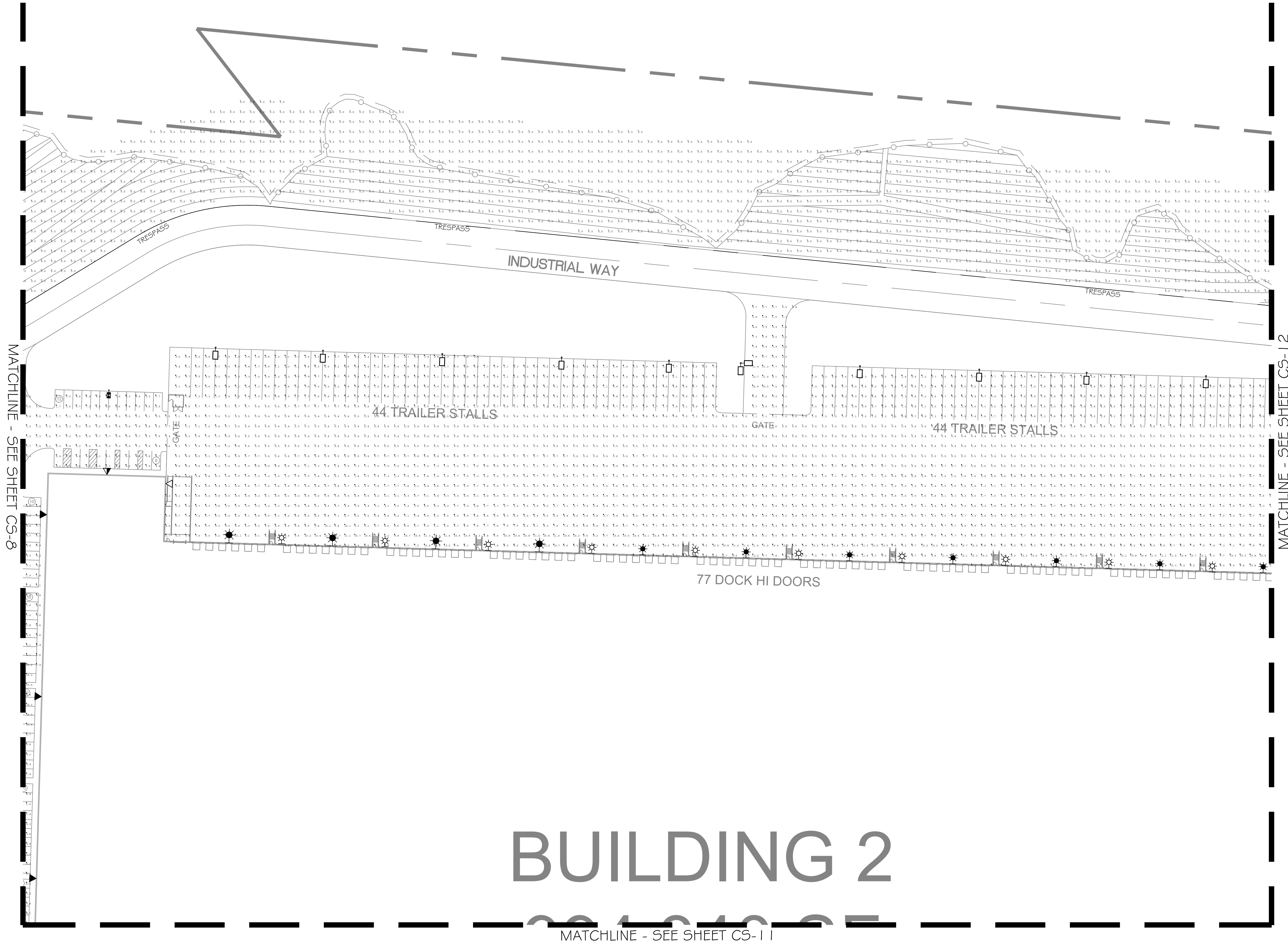
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 Job No.: JRT21/02011

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Sheet Reference:
CS-9
 Sheet: 9 of 19

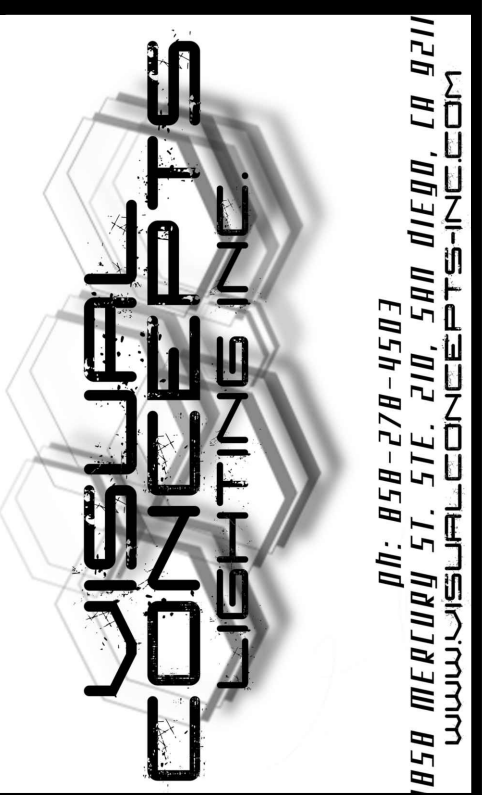
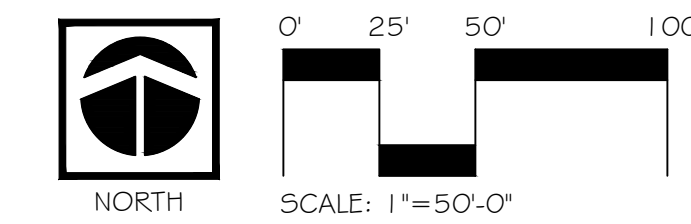
Luminaire Schedule									
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☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15
BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13
BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23
BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30
BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40
RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20
TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.



BUILDING 2

MATCHLINE - SEE SHEET CS-11



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

Sheet Info:
Drawn By: AZ
Checked By: KPJR
Scale: 1" = 50'-0"
Date: 2/18/2021
Job No.: JRT21/02011

Sheet Title:
CONCEPTUAL
PLAN 10

Sheet Reference:

CS-10

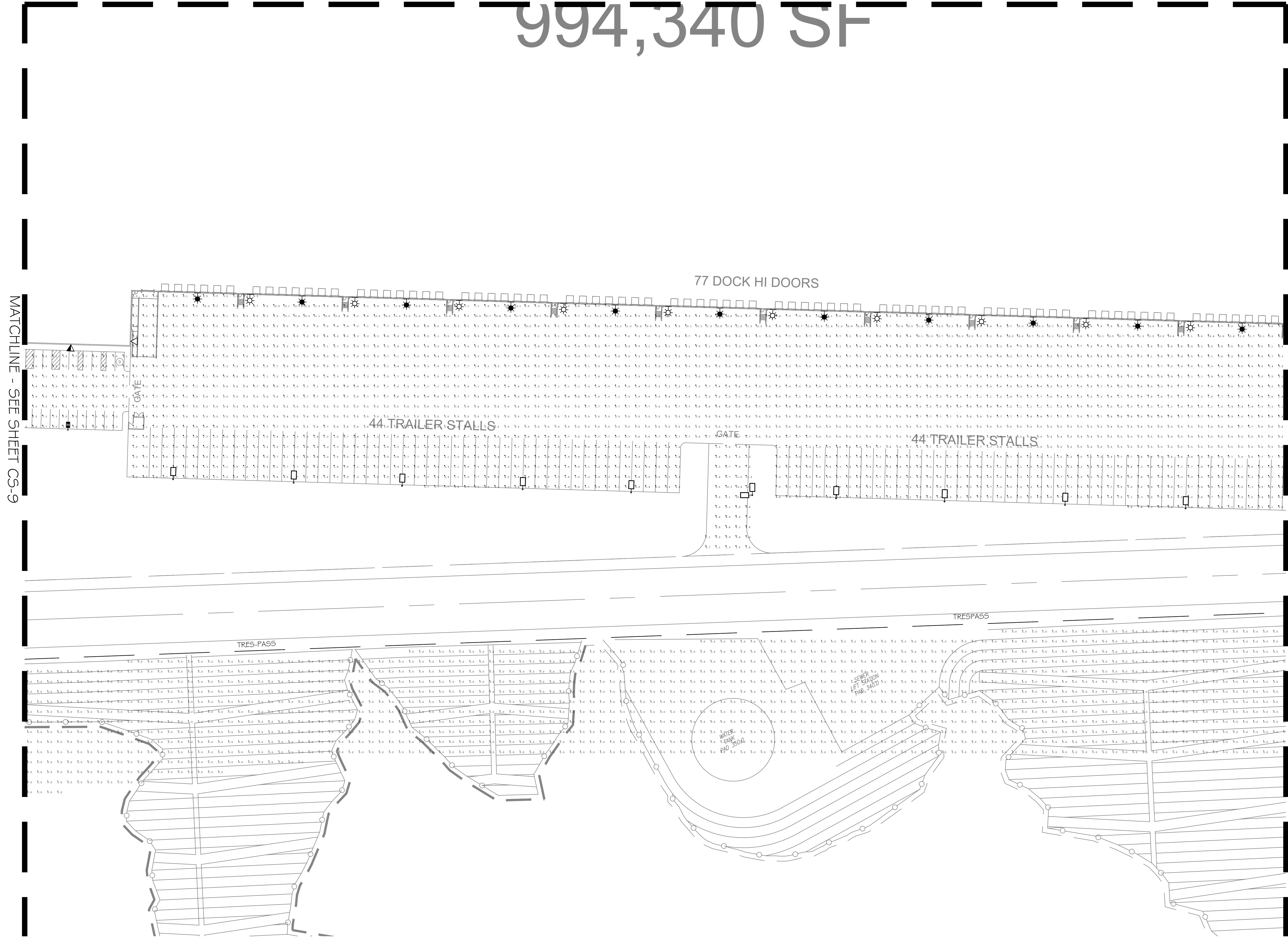
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PRELIMINARY - NOT FOR CONSTRUCTION

Luminaire Schedule										Calculation Summary							
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☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								

MATCHLINE - SEE SHEET CS-10

994,340 SF



MATCHLINE - SEE SHEET CS-9

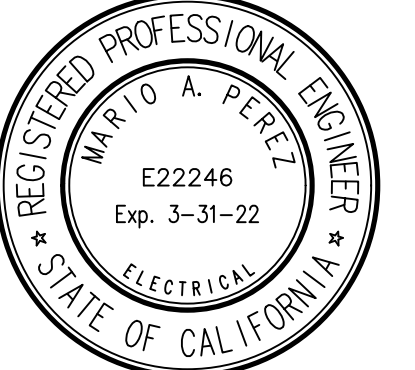
MATCHLINE - SEE SHEET CS-13

PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

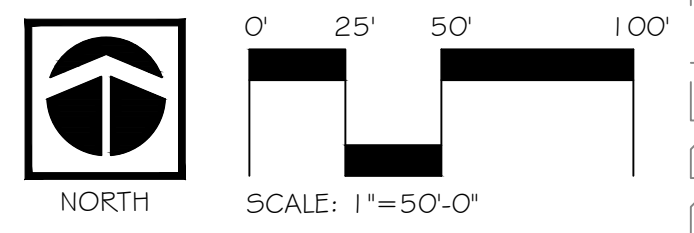
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Job No.: JRT21/02011

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CONCEPTUAL SHEET 11

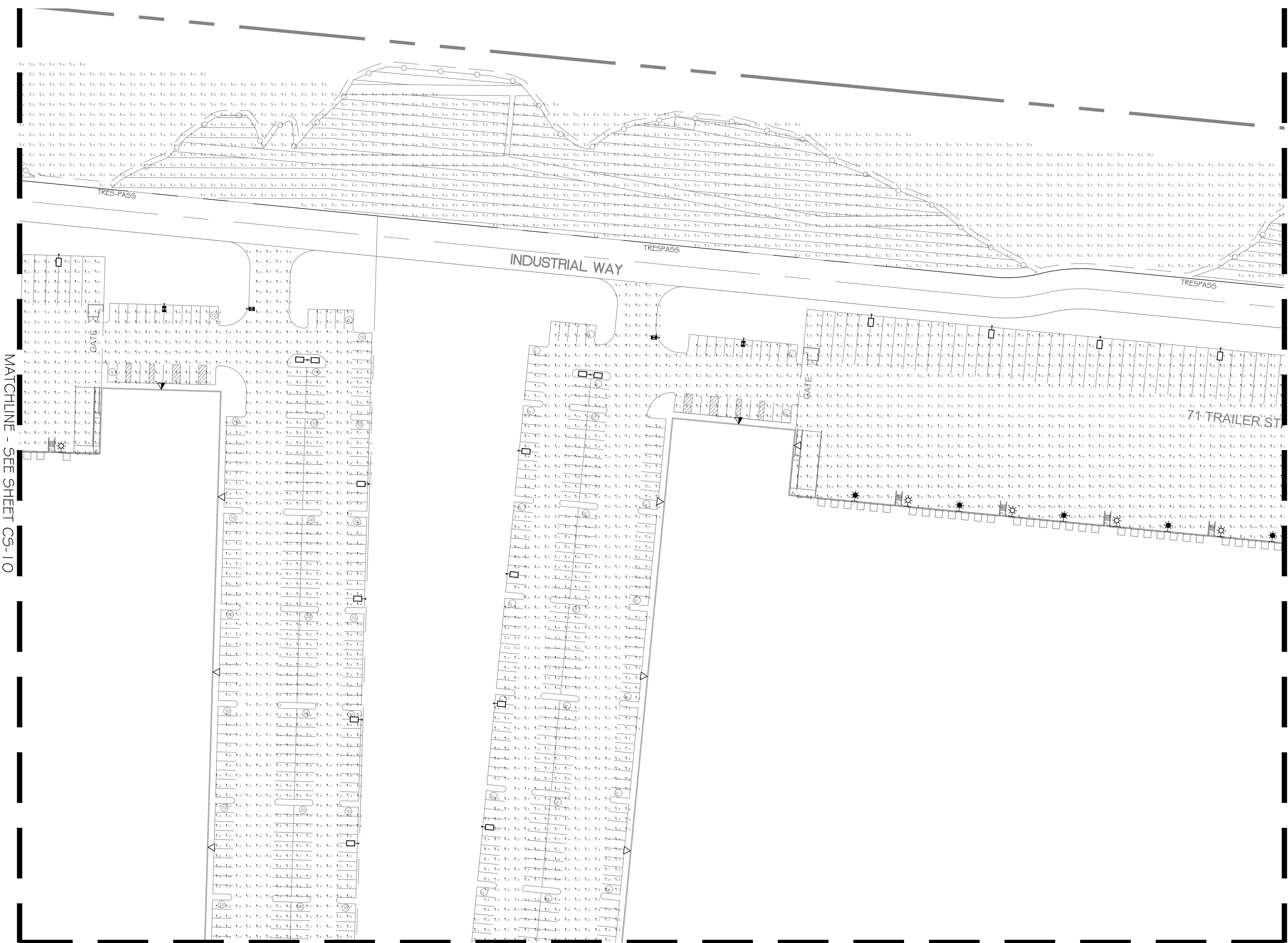
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Sheet: 11 of 19



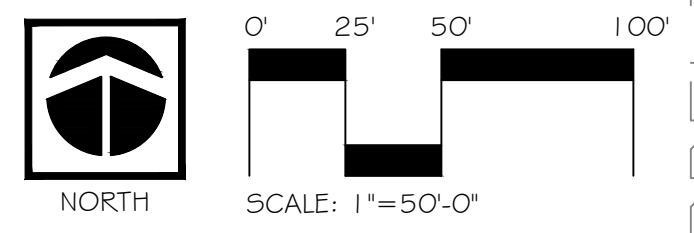
Luminaire Schedule										Calculation Summary							
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☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
☐	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
☐	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
☐	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
☐	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
☐	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
☐	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
☐	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
☐	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



MATCHLINE - SEE SHEET CS-10

MATCHLINE - SEE SHEET CS-14

MATCHLINE - SEE SHEET CS-13



PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

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Checked By: KPJR
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Job No.: JRT21/02011

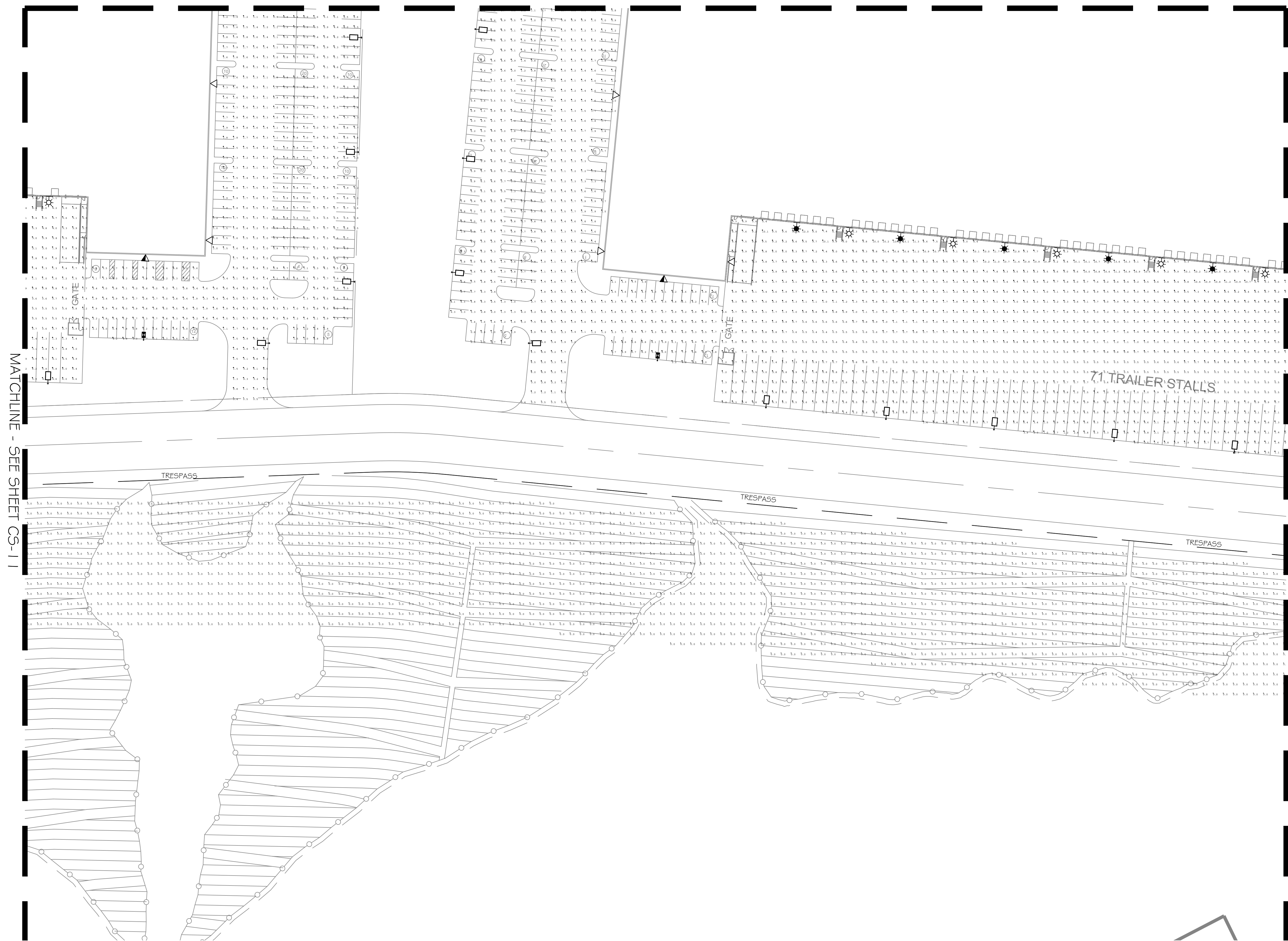
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CONCEPTUAL
PLAN 12

Sheet Reference:

CS-12

Sheet: 12 of 19

MATCHLINE - SEE SHEET CS-12

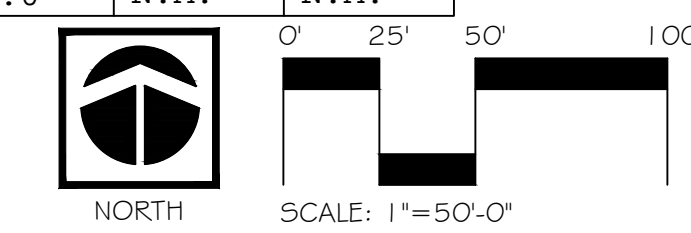


MATCHLINE - SEE SHEET CS-11

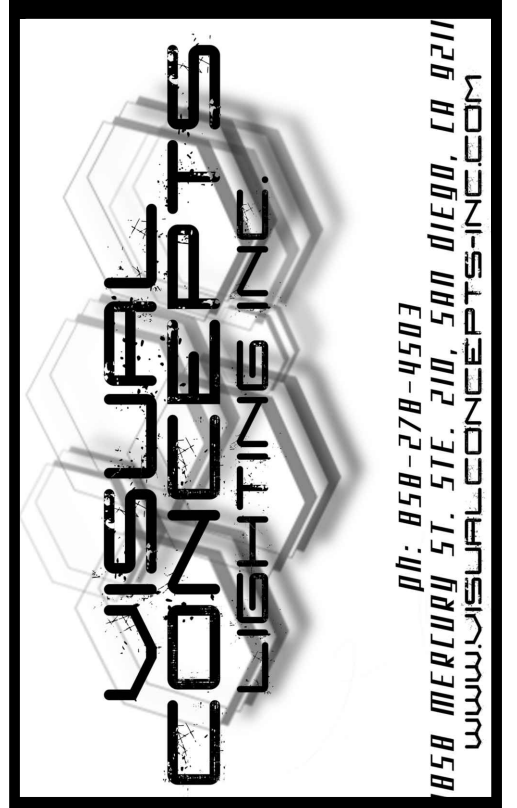
MATCHLINE - SEE SHEET CS-15

Luminaire Schedule

Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage	Calculation Summary	Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
✱	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	ILLUMINANCE	Fc	3.03	14.0	0.2	15.15	70.00	
✱	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	ILLUMINANCE	Fc	3.04	13.8	0.3	10.13	46.00	
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	ILLUMINANCE	Fc	3.37	13.5	0.3	11.23	45.00	
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	ILLUMINANCE	Fc	3.26	14.6	0.2	16.30	73.00	
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	ILLUMINANCE	Fc	3.12	14.2	0.3	10.40	47.33	
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	ILLUMINANCE	Fc	3.64	12.2	0.7	5.20	17.43	
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	ILLUMINANCE	Fc	0.00	0.7	0.0	N.A.	N.A.	
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168									
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168									
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168									
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168									
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168									
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168									



PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

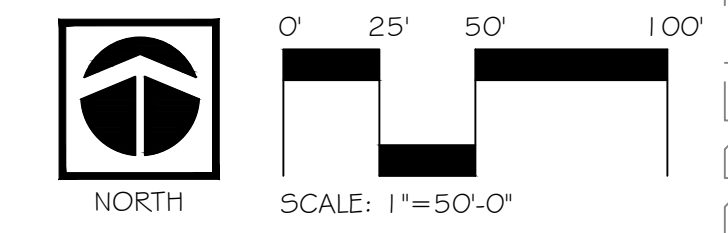
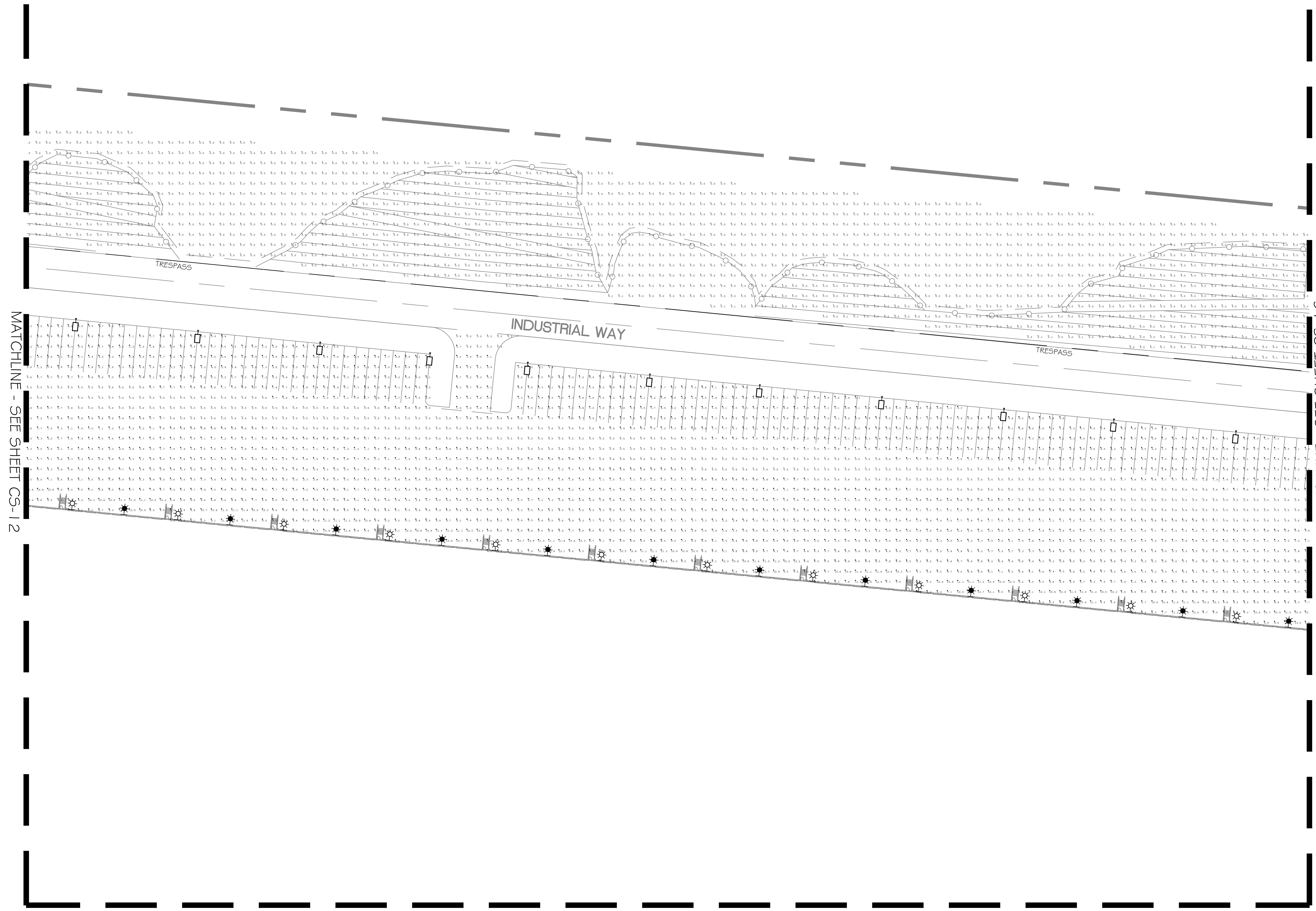
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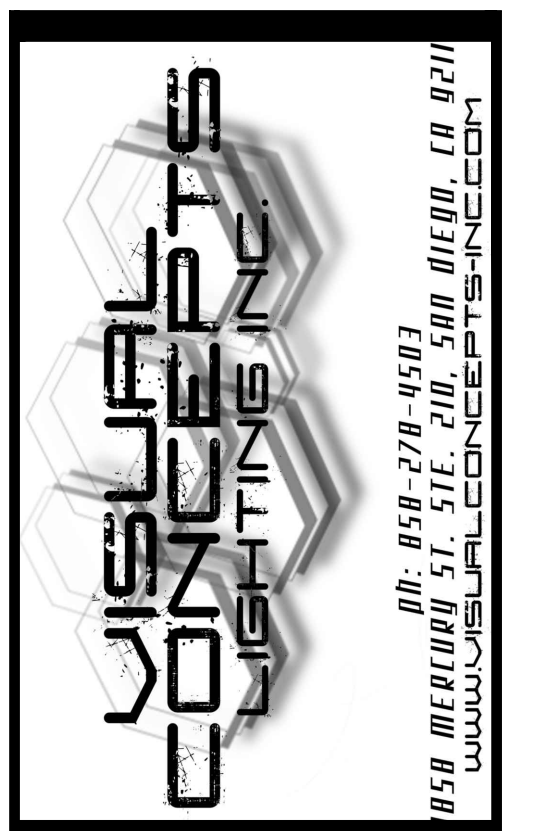
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CONCEPTUAL
PLAN 13

Sheet Reference:
CS-13
Sheet: 13 of 19

Luminaire Schedule										Calculation Summary							
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☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235	BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235	BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168	BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168	BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168	BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
☐	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168	RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
☐	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168	TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.
☐	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168								
☐	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168								
☐	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168								
☐	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168								
☐	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								
☐	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168								



PRELIMINARY - NOT FOR CONSTRUCTION



Project:
BEAUMONT POINTE
SITE LIGHTS
BEAUMONT, CA.

Client:
JRT PBI, LLC
18032 LEMON DE. STE. 367
YORBA LINDA, CA 92886



Revisions:

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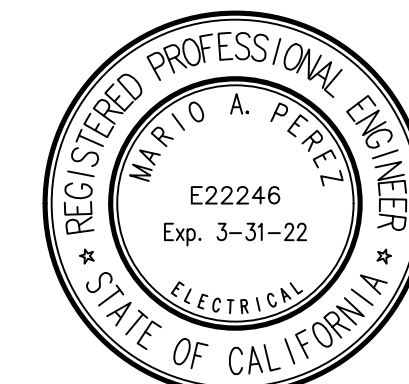
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Sheet: 14 of 19



OFF: 959-279-4503
 858 MERCURY ST. STE. 210, SAN MATEO, CA 94021
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Project:
 BEAUMONT POINTE
 SITE LIGHTS
 BEAUMONT, CA.

Client:
 JRT PBI, LLC
 18032 LEMON DE. STE. 367
 YORBA LINDA, CA 92886



Revisions:

Sheet Info:

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 PLAN 15**

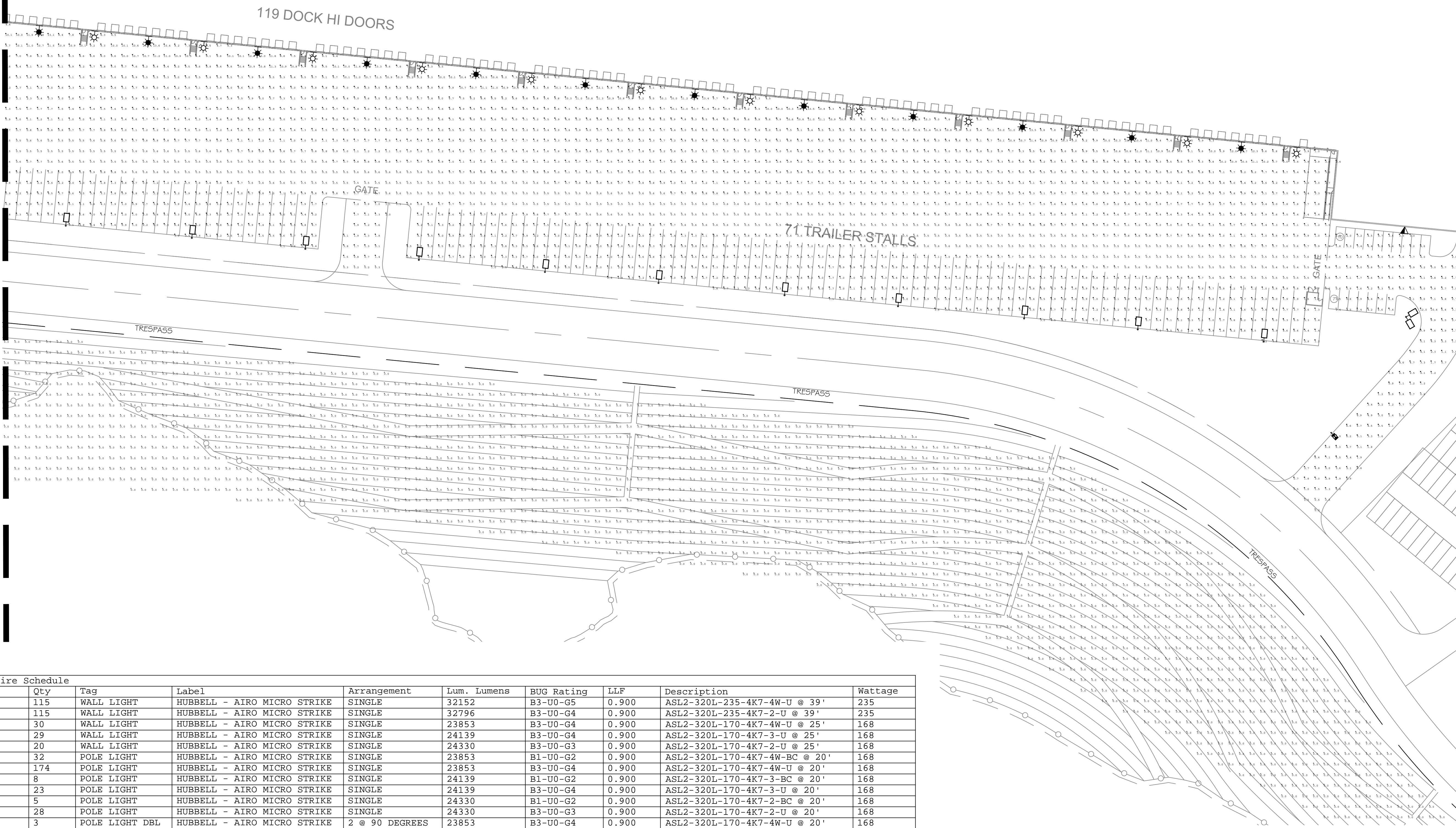
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Sheet: 15 of 19

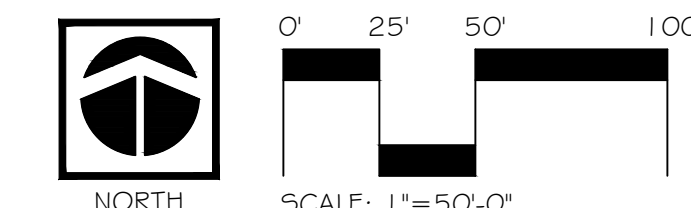
MATCHLINE - SEE SHEET CS-13

MATCHLINE - SEE SHEET CS-17



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⊗	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168

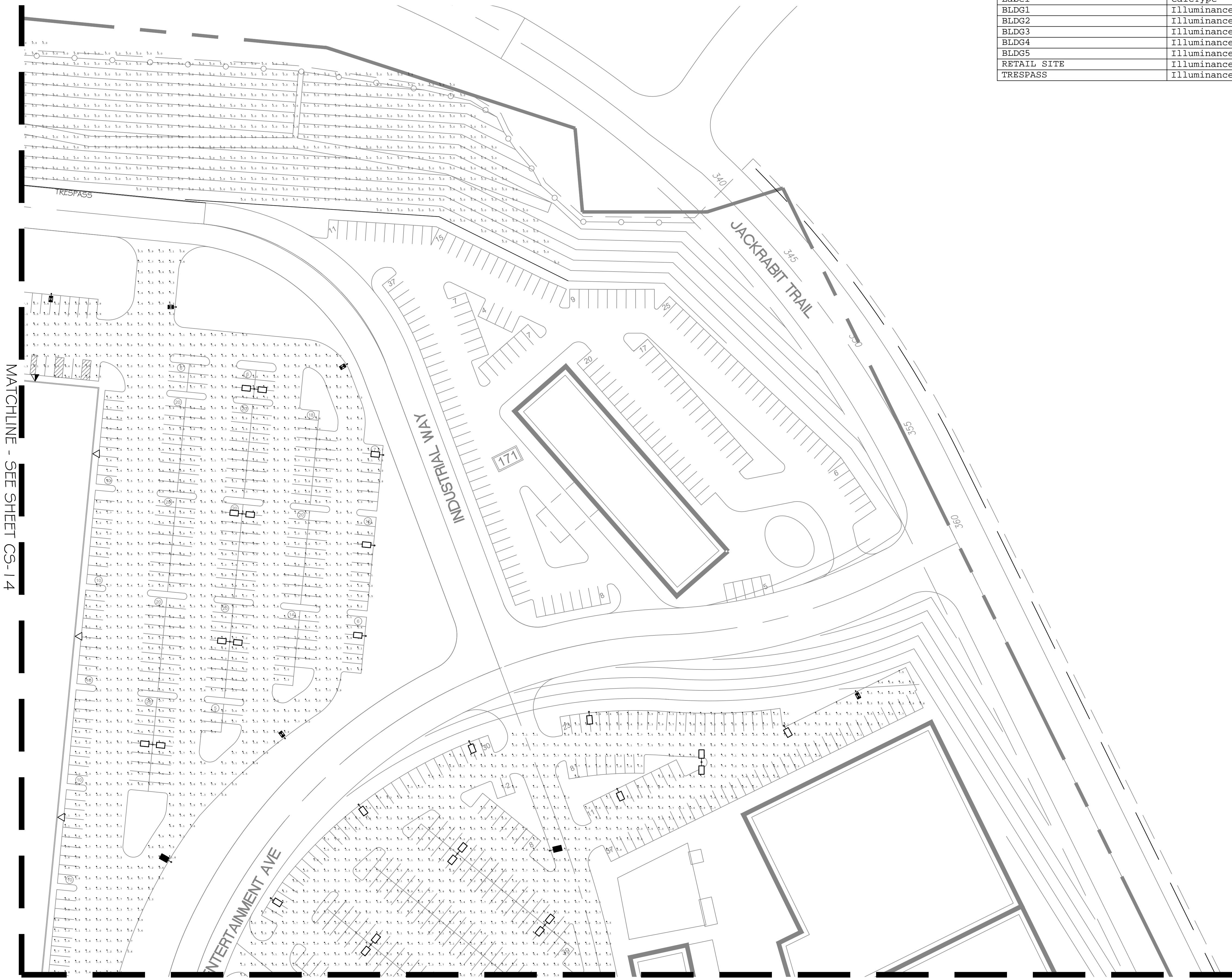
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BLDG2	illuminance	Fc	3.04	13.8	0.3	10.13	46.00
BLDG3	illuminance	Fc	3.37	13.5	0.3	11.23	45.00
BLDG4	illuminance	Fc	3.26	14.6	0.2	16.30	73.00
BLDG5	illuminance	Fc	3.12	14.2	0.3	10.40	47.33
RETAIL SITE	illuminance	Fc	3.64	12.2	0.7	5.20	17.43
TRESPASS	illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.



PRELIMINARY - NOT FOR CONSTRUCTION

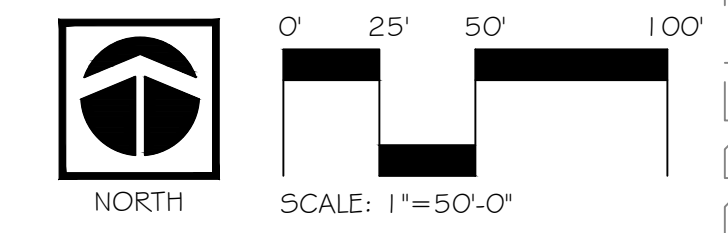
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⊛	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235
⊛	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168
□	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168
□	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
□	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168
□	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168
□	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168
□	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168
□	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
□	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.

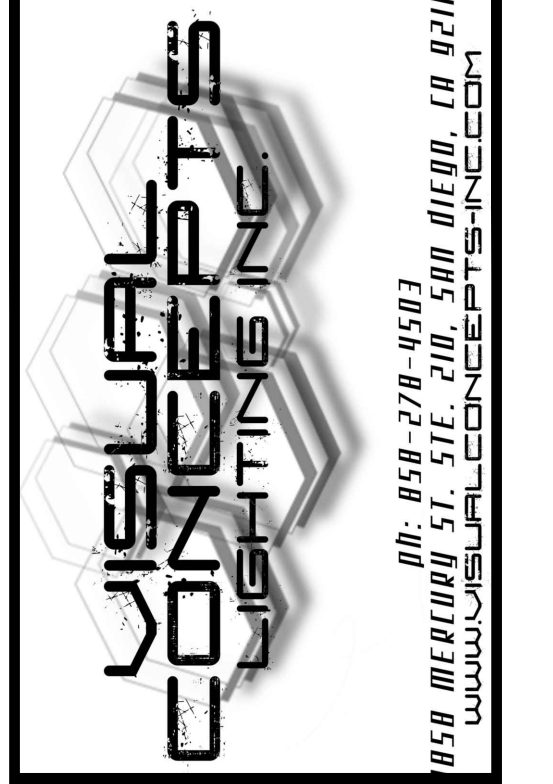


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SITE LIGHTS
BEAUMONT, CA.

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Sheet Info:
Drawn By: AZ
Checked By: KPJR
Scale: 1"=50'-0"
Date: 2/18/2021
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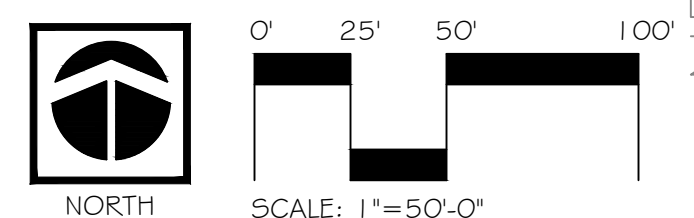
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MATCHLINE - SEE SHEET CS-16

MATCHLINE - SEE SHEET CS-15



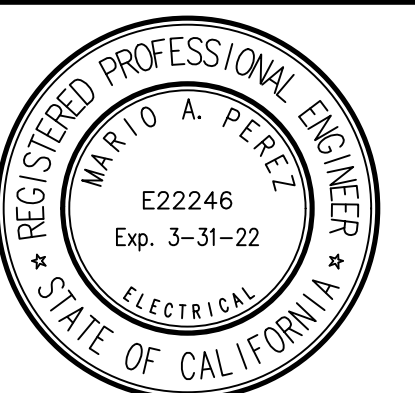
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BLDG1	Illuminance	Fc	3.03	14.0	0.2	15.15	70.00
BLDG2	Illuminance	Fc	3.04	13.8	0.3	10.13	46.00
BLDG3	Illuminance	Fc	3.37	13.5	0.3	11.23	45.00
BLDG4	Illuminance	Fc	3.26	14.6	0.2	16.30	73.00
BLDG5	Illuminance	Fc	3.12	14.2	0.3	10.40	47.33
RETAIL SITE	Illuminance	Fc	3.64	12.2	0.7	5.20	17.43
TRESPASS	Illuminance	Fc	0.00	0.7	0.0	N.A.	N.A.

Luminaire Schedule									
Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	BUG Rating	LLF	Description	Wattage
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32152	B3-U0-G5	0.900	ASL2-320L-235-4K7-4W-U @ 39'	235
☼	115	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	32796	B3-U0-G4	0.900	ASL2-320L-235-4K7-2-U @ 39'	235
▽	30	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 25'	168
▽	29	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 25'	168
▽	20	WALL LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 25'	168
☐	32	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B1-U0-G2	0.900	ASL2-320L-170-4K7-4W-BC @ 20'	168
☐	174	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
☐	8	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B1-U0-G2	0.900	ASL2-320L-170-4K7-3-BC @ 20'	168
☐	23	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24139	B3-U0-G4	0.900	ASL2-320L-170-4K7-3-U @ 20'	168
☐	5	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B1-U0-G2	0.900	ASL2-320L-170-4K7-2-BC @ 20'	168
☐	28	POLE LIGHT	HUBBELL - AIRO MICRO STRIKE	SINGLE	24330	B3-U0-G3	0.900	ASL2-320L-170-4K7-2-U @ 20'	168
☐	3	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	2 @ 90 DEGREES	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168
☐	44	POLE LIGHT DBL	HUBBELL - AIRO MICRO STRIKE	BACK-BACK	23853	B3-U0-G4	0.900	ASL2-320L-170-4K7-4W-U @ 20'	168



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BEAUMONT, CA.

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Revisions:

Sheet Info:

Drawn By: AZ
Checked By: KPJR
Scale: 1"=50'-0"
Date: 2/18/2021
Job No.: JRT1/2021 I

Sheet Title:
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CS-17

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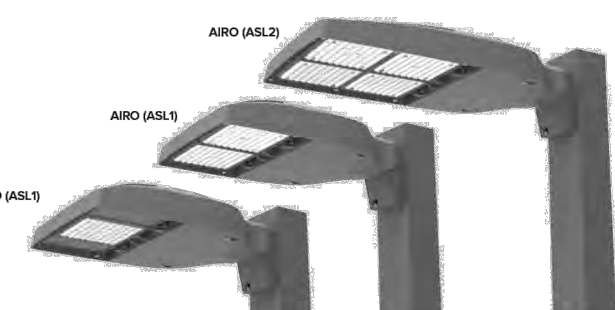
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AIRO Micro Strike AREA/SITE/ROAD LIGHTER

FEATURES

- Compact sleek design with multiple LED configurations and simple installation
The Airo includes a universal mounting block for easy pole installation or mast arm option for 2-3/8" OD roadway brackets
Capable of replacing up to 1000w HID luminaires
Micro Strike optical distributions of Type 2, 3, 4W or 5GW
Tool-less entry option for easy installation and maintenance
3G rated for high vibration applications including bridges and overpasses



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
Corrosion resistant, die-cast aluminum housing with powder coat paint finish
Separate optical and electrical compartment for improved thermal management and optimum component operation
TGC Thermostat polyester powder paint finish applied at nominal 2.5 mil thickness
OPTICS
Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
Premium engineered individual acrylic lenses deliver IES Type 2, 3, 4W and 5GW distributions
Lens distributions are field rotatable (in 90 increments) or exchangeable for job site fine-tuning

INSTALLATION (CONTINUED)

- Fixture ships with slotted mounting block to accommodate wide range of drill patterns for easy retrofit opportunities
Mast arm filter accessory or option available for 2-3/8" OD brackets with vertical tilt of +3, 0 or -3
ELECTRICAL
Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
Ambient operating temperature -40° C to 40° C
Drivers have greater than 90% power factor and less than 20% THD
LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
Field replaceable surge protection device provides 20KA and 10KV protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category CS. Automatically takes fixture off-line for protection when device is consumed

CONTROLS (CONTINUED)

- SiteSync™ wireless control system is available via 7-pin See ordering information and details at: www.hubbelloutdoor.com/sitesync
NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor
wISCAPE™ available with in fixture wireless control module, features dimming and occupancy sensor via 7-pin
CERTIFICATIONS
Listed to UL1598 and CSA C22.2 #250-24 for wet locations and 40°C ambient temperatures
3G rated for ANSI C136.31 high vibration applications
IP65 optical assembly
Meets IIDA recommendations using 3K CCT configuration at 0 degrees of tilt
WARRANTY
5 Year warranty
See HLI Standard Warranty for additional information

KEY DATA

Table with 3 columns: Lumen Range, Wattage Range, Efficacy Range (LPW), Weight lbs. (kg)



DATE: LOCATION: TYPE: PROJECT: CATALOG #:

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

PERFORMANCE DATA

Table with columns: Description, Nominal Wattage, System Watts, Dist. Type, and performance metrics for 5K, 4K, and 3K nominal wattage fixtures.

1 VAC Input Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations. Actual performance may differ as a result of end-user environment and application.



DATE: LOCATION: TYPE: PROJECT: CATALOG #:

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

ORDERING GUIDE

Example: ASL1-BOL-25-3K-2-UNV-ASQU-SWP-F-BLT

CATALOG #

ORDERING INFORMATION

Table with columns: Series, # LEDs, CCT/CRI, Distribution, Rotation/Orientation, Voltage, Mounting

Table with columns: Control Options/Network, Control Options/Other, Notes

Table with columns: Options, Color

- Notes: 1 Not compatible with 80k configurations, 2 Not compatible with 480k configurations, 3 Mast specify voltage, 4 Not available with a combination of 347/480 and fusing



DATE: LOCATION: TYPE: PROJECT: CATALOG #:

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

PERFORMANCE DATA

Table with columns: Description, Nominal Wattage, System Watts, Dist. Type, and performance metrics for 5K, 4K, and 3K nominal wattage fixtures.

1 VAC Input Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations. Actual performance may differ as a result of end-user environment and application.



DATE: LOCATION: TYPE: PROJECT: CATALOG #:

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

CONTROL ACCESSORIES (ORDERED SEPARATELY)

Table with columns: Catalog Number, Description

- Notes: * When ordering SiteSync at least one of these two interface options must be ordered per project, + Available as a SiteSync retrofit solution for fixtures with an existing 7-pin receptacle

ACCESSORIES (ORDERED SEPARATELY)

Table with columns: Catalog Number, Description

- 1 Replace XXX or XXXX with color choice, eg. DB for Dark Bronze or BLT for Black Matte Textured



DATE: LOCATION: TYPE: PROJECT: CATALOG #:

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

ELECTRICAL DATA

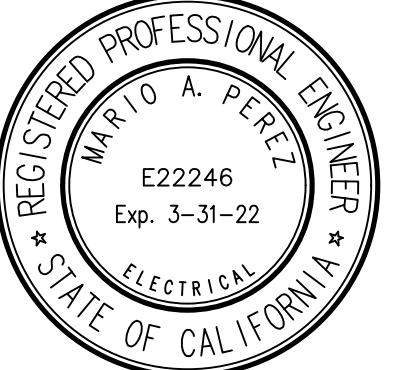
Table with columns: Family, Nominal Wattage, Input Voltage (Volts), Current (AMPS), System Power (Watts)



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Revisions:

Sheet Info: Drawn By: AZ, Checked By: KPJR, Scale: N/A, Date: 2/18/2021, Job No.: JRT21/02011

Sheet Title: DETAILS PLAN

Sheet Reference:

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AIRO Micro Strike AREA/SITE/ROAD LIGHTER

DATE: LOCATION: TYPE: PROJECT: CATALOG #:

ELECTRICAL DATA (CONT'D)

Table with columns: Family, Nominal Wattage, Input Voltage (Volts), Current (AMPS), System Power (Watts). Rows include ASL2 models with wattages 145, 170, 185, 210, 235, 255.

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

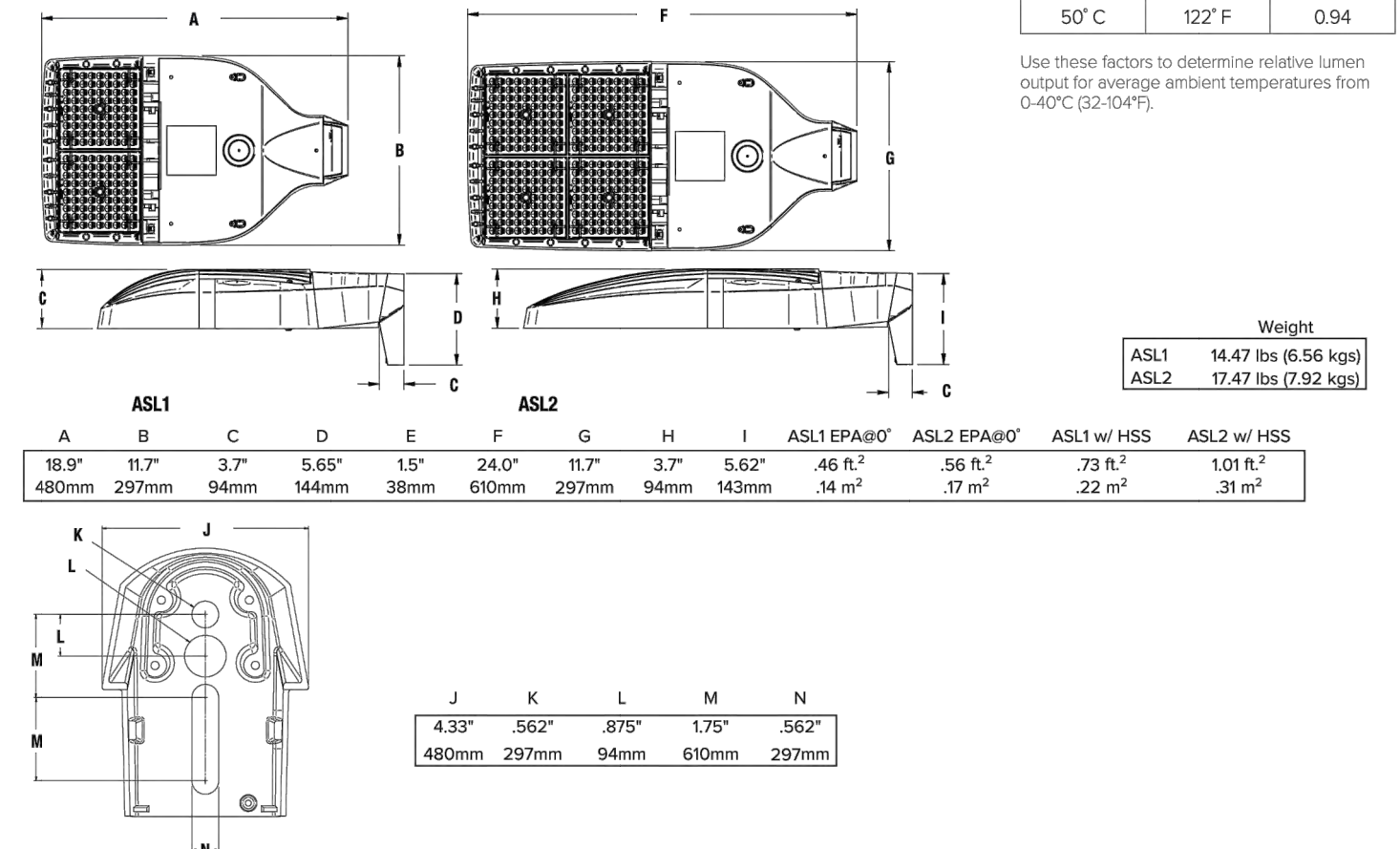
DATE: LOCATION: TYPE: PROJECT: CATALOG #:

PROJECTED LUMEN MAINTENANCE

Table with columns: Ambient Temperature, OPERATING HOURS (0, 25,000, 50,000, 100,000, L70 (Hours)), Lumen Output values.

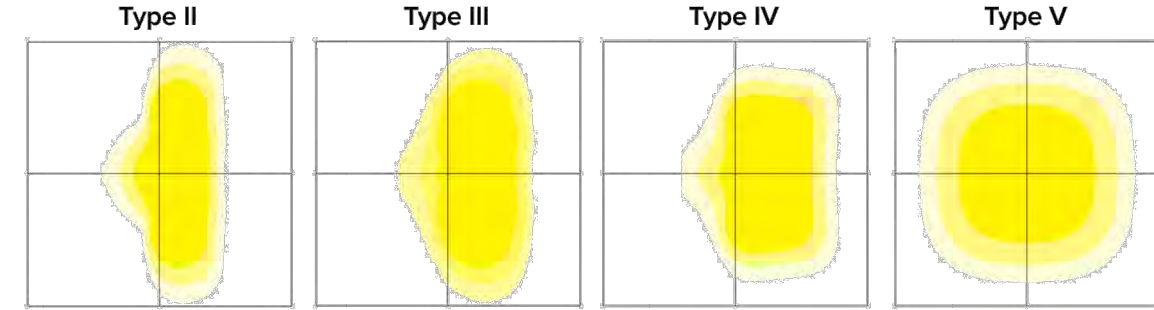
1. Projected per IESNA TM-21-11 (" Cree XPL, 2100mA, 105°C Tj, 6,000hrs)

DIMENSIONS



PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.



AIRO Micro Strike AREA/SITE/ROAD LIGHTER

DATE: LOCATION: TYPE: PROJECT: CATALOG #:

ADDITIONAL INFORMATION (CONT'D)

OCCUPANCY SENSOR

- Individual fixture control
- Dims product when space is not occupied



7-PIN RECEPTACLE

- Compatible with 3-pin, 5-pin or 7-pin photocell controls
- Turns fixture on when sun sets, off when sun rises
- Wireless networked solution
- For use with a variety of control platforms
- Additional accessories required.



NX

NX DISTRIBUTED INTELLIGENCE

Hubbell Controls Solutions' NX Distributed Intelligence™ platform delivers a lighting control solution capable of seamlessly connecting exterior and interior applications.

- Standalone or networked fixture control
- Astronomical time scheduling
- BACnet building networking
- Connects with in-cord wired, wireless or hybrid networks
- Wireless setup via app
- Occupancy Sensor option dims product when space is not occupied



SITESYNC LIGHTING CONTROL



SiteSync Lighting Control delivers flexible control strategies for reducing power consumption and minimizing maintenance costs while delivering the right light levels with a simple and affordable wireless solution.

- Pre-commissioning options available
- Standalone or networked fixture control
- Astronomical time scheduling
- Occupancy Sensor option dims product when space is not occupied

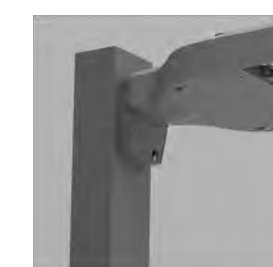


AIRO Micro Strike AREA/SITE/ROAD LIGHTER

DATE: LOCATION: TYPE: PROJECT: CATALOG #:

ADDITIONAL INFORMATION (CONT'D)

MOUNTING



Arm Mount - Fixture affixes with integral arm for ease of installation. Compatible with Hubbell Outdoor EG drill pattern.

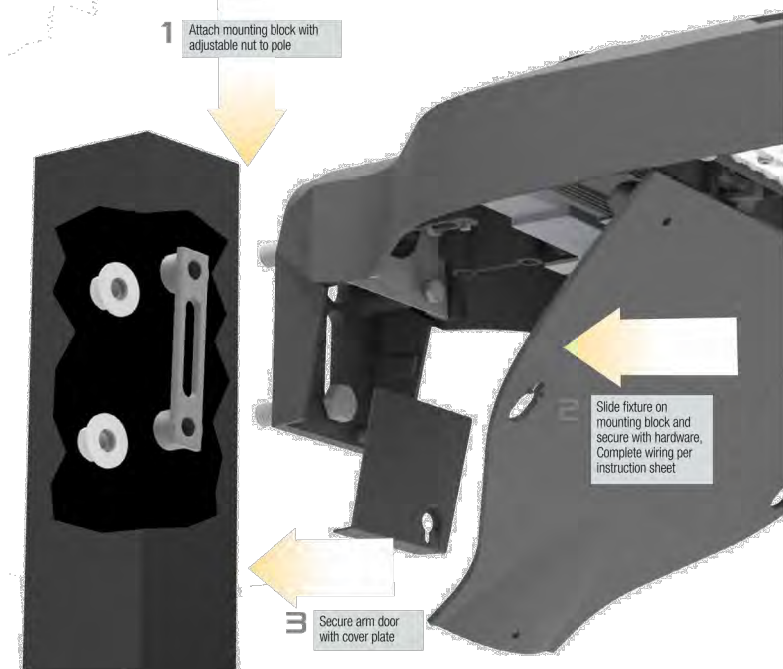


MAF - Fits 2-3/8" OD arms Roadway applications.

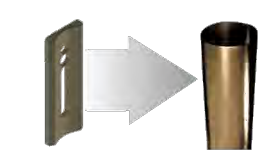


Wall Mount - Wall mount bracket designed for building mount applications.

Universal Mount - Universal mounting back for ease of installation. Compatible with drill patterns from 2.5" to 4.5"



ACCESSORY



ROUND POLE ADAPTER



WB-AREA-XX



SPOKE BRACKET (single arm shown)

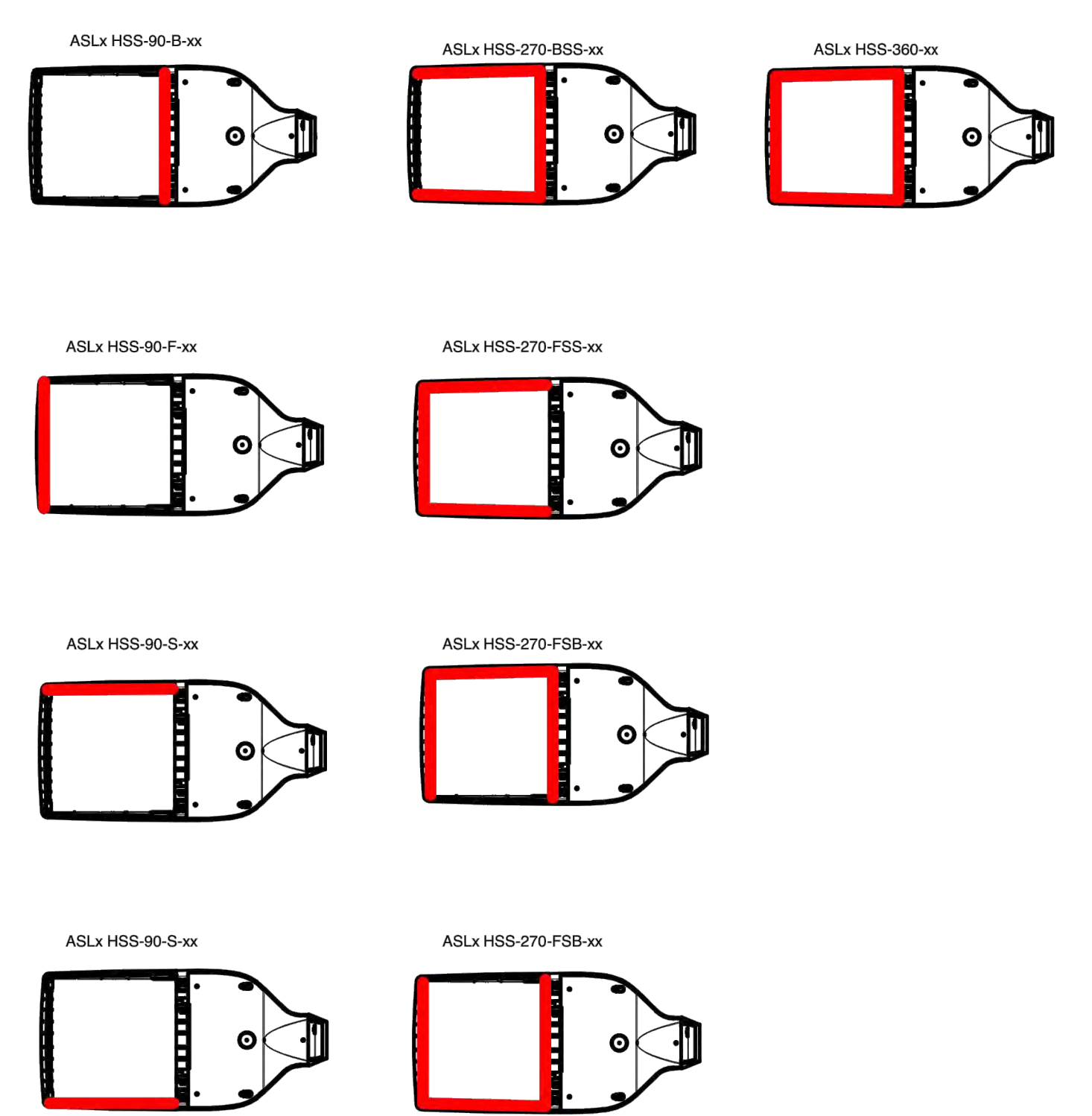
Horizontal round arm tenon adapters for use with MAF mounting type or accessory kit. Reference SH Spoke Pole Top Brackets for ordering information.

AIRO Micro Strike AREA/SITE/ROAD LIGHTER

DATE: LOCATION: TYPE: PROJECT: CATALOG #:

ADDITIONAL INFORMATION (CONT'D)

CONFIGURATIONS



USE OF TRADEMARKS AND TRADE NAMES MATCHLINE - SEE SHEET CS-2

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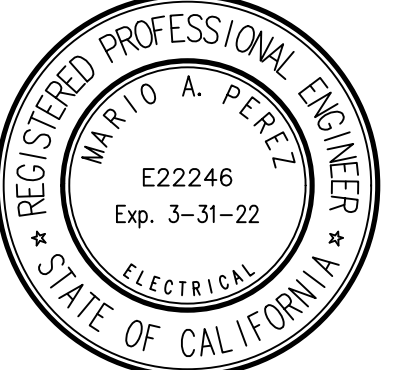


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Sheet Info: Drawn By: AZ, Checked By: KPJR, Scale: N/A, Date: 2/18/2021, Job No.: JRT21/02011

Sheet Title: DETAILS PLAN

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CS-19

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Beaumont Pointe

NOISE AND VIBRATION ANALYSIS

CITY OF BEAUMONT

PREPARED BY:

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(949) 584-3148

NOVEMBER 16, 2022

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
I-15	Interstate 15
INCE	Institute of Noise Control Engineering
ISEE	International Society of Explosives Engineer's
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Beaumont Pointe
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
USBM	U.S. Bureau of Mines
VdB	Vibration Decibels

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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Beaumont Pointe development (“Project”). The Project site is located south of the SR-60 Freeway and west of Jack Rabbit Trail, in the City of Beaumont.

The Project would allow for the development on the Project site of a maximum of 246,000 square feet (sf) of general commercial uses in addition to a 125-room hotel (90,000 sf) and a maximum of 4,995,000 sf of industrial uses. The Project would provide 128.8 acres of open space to accommodate landscaped manufactured slopes, fuel modification areas, and natural open space as a buffer to adjacent conservation area and 134.7 acres of open space – conservation. The open space – conservation area would be preserved as natural habitat as required by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Associated improvements to the Project site would include, but are not limited to, paved roads, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, water quality basins, signage, lighting, property walls, gates, and fencing, including perimeter fencing for the Project site.

The Project is proposed to be constructed in three phases (described in this report as Phase 1, Phase 2, and Buildout). This noise study includes a conservative analysis of the proposed Project uses. This study has been prepared to satisfy applicable City of Beaumont standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) The off-site traffic noise impact analysis is based on the land use assumptions and trip generation outlined in the *Beaumont Pointe Specific Plan Traffic Analysis* prepared by Urban Crossroads, Inc. (2) Therefore, the off-site Project traffic impacts evaluated in this noise impact analysis account for any minor changes that may occur as part of the final land use plan.

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Beaumont Pointe Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	<i>Potentially Significant</i>	<i>Significant and Unavoidable</i>
Stationary Operational Noise	9	<i>Less Than Significant</i>	-
Construction Noise	10	<i>Less Than Significant</i>	-
Construction Vibration		<i>Less Than Significant</i>	-
Blasting Noise	10	<i>Less Than Significant</i>	-
Blasting Vibration		<i>Less Than Significant</i>	-

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Beaumont Pointe (“Project”). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise as well as short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Beaumont Pointe site is located south of the SR-60 Freeway and west of Jack Rabbit Trail, in the City of Beaumont, as shown on Exhibit 1-A. Existing land uses near the site consist mostly of vacant land, an industrial project under construction to the east of the site and nearby residential homes located north across State Route 60. The nearest noise sensitive residential receiver is located approximately 417 feet south of the Project site near the Hoy Ranch property.

1.2 PROJECT DESCRIPTION

As shown in Exhibit 1-B, the Project is proposed to consist of a maximum of 246,000 square feet (sf) of general commercial uses in addition to a 125-room hotel (90,000 sf) and a maximum of 4,995,000 sf of industrial uses. The Project would provide 128.8 acres of open space to accommodate landscaped manufactured slopes, fuel modification areas, and natural open space as a buffer to adjacent conservation area and 134.7 acres of open space – conservation. The open space – conservation area would be preserved as natural habitat as required by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Associated improvements to the Project site would include, but are not limited to, paved roads, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, water quality basins, signage, lighting, property walls, gates, and fencing, including perimeter fencing for the Project site.

In addition, this noise analysis describes Project-related noise level associated with typical stationary operational activities at the Project site. The typical Project-related stationary operational noise sources are expected to include: loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity. This report assumes the Project-related operational noise source activity will function 24-hours daily for seven days per week. The Project is proposed to be constructed in three phases (described in this report as Phase 1, Phase 2, and Buildout). It is expected that the noise generated by the Project construction equipment will include a combination of crawler tractors, excavators, graders, dozers, scrapers, forklifts, generator sets, welders, paving equipment, and air compressors that when combined can reach high levels. In addition, rock blasting may be required during grading operations to support Project construction, therefore, this analysis considers the potential blasting noise and vibration levels at the nearest noise

sensitive receiver locations. Rock blasting would occur infrequently on the site, required if at all approximately once per week.

EXHIBIT 1-A: LOCATION MAP

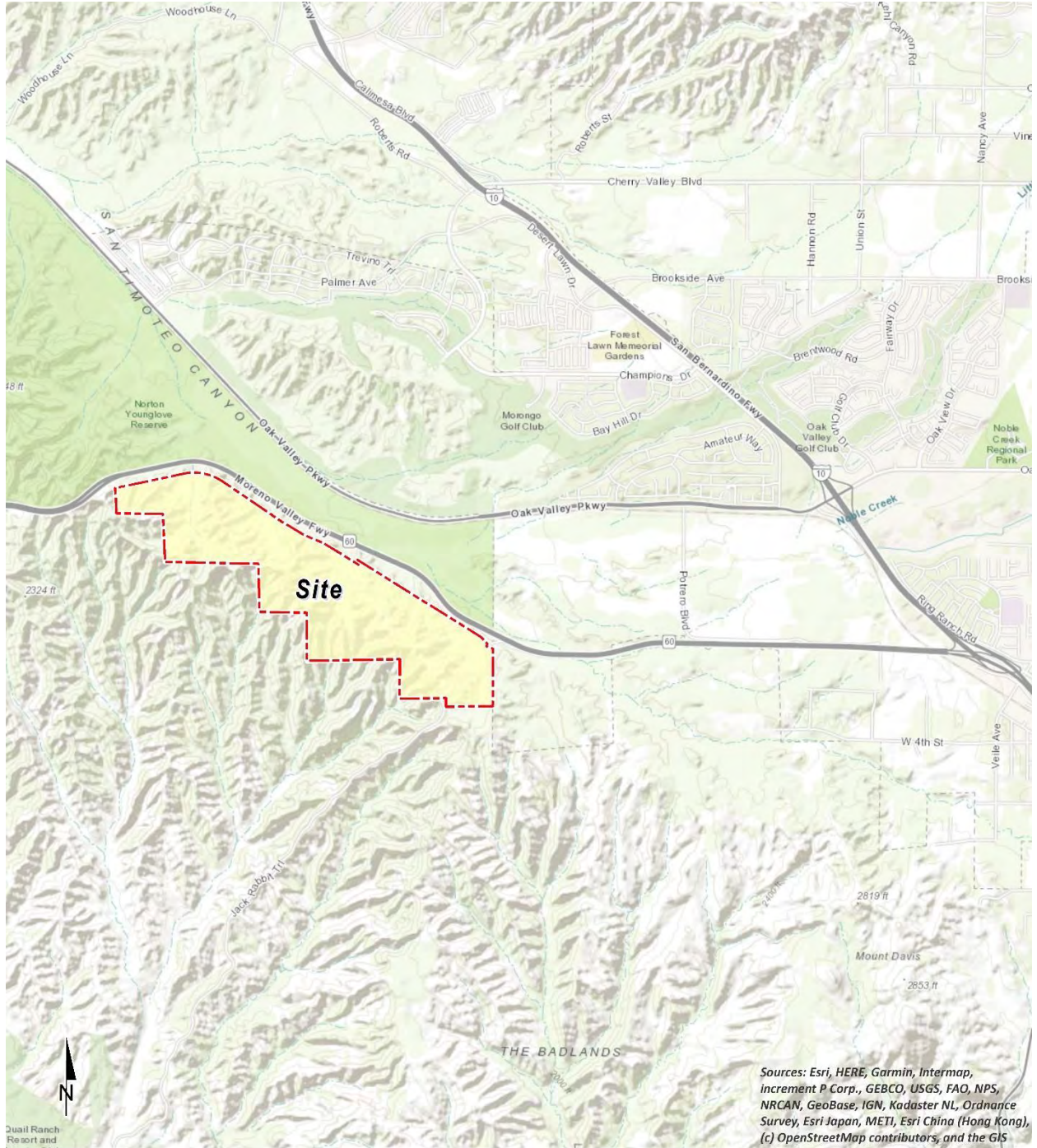
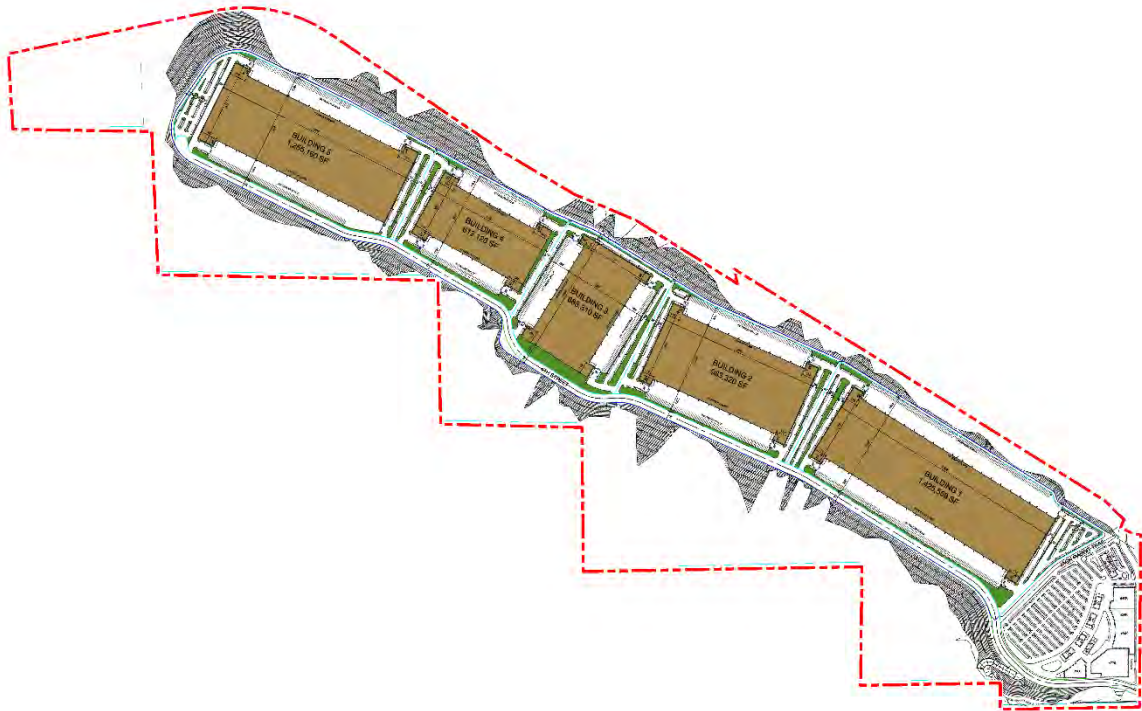


EXHIBIT 1-B: CONCEPTUAL SITE PLAN



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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	SPEECH INTERFERENCE
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	LOUD	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	MODERATE	SLEEP DISTURBANCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (3) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 100 feet, which can cause serious discomfort. (4) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period (typically one hour) and is commonly used to describe the “energy average” noise levels within the environment.

To describe the time-varying character of environmental noise, the City of Beaumont relies on the L_{25} , L_8 , L_2 and L_{max} , percentile noise levels to describe the stationary source noise level limits. The percentile noise descriptors are the noise levels equaled or exceeded during 25 percent, 8 percent, and 2 percent of a stated time. Sound levels associated with the L_8 typically describe transient or short-term events, while levels associated with the L_{25} describe the base or typical noise conditions. The City of Beaumont relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{25} describes the noise levels occurring 25 percent of the time, the L_{eq} accounts for the equivalent or energy average observed for the entire hour.

Peak hour or equivalent noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Beaumont relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. Based on guidance from the U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Environment and Planning, Noise and Air Quality Branch, the way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling

of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (3)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (5)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (3)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.3.5 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (5) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not

all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (5)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

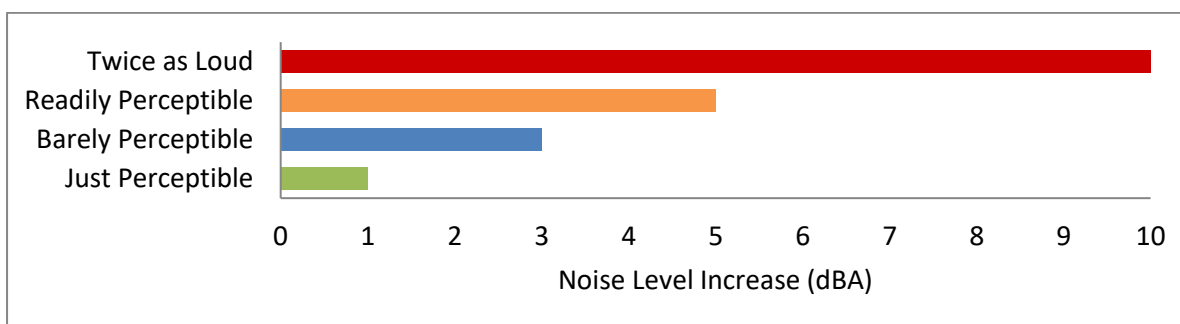
2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise varies depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities.
- Socio-economic status and educational level.
- Perception that those affected are being unfairly treated.
- Attitudes regarding the usefulness of the noise-producing activity.
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (7) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (7) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (5)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.8 VIBRATION

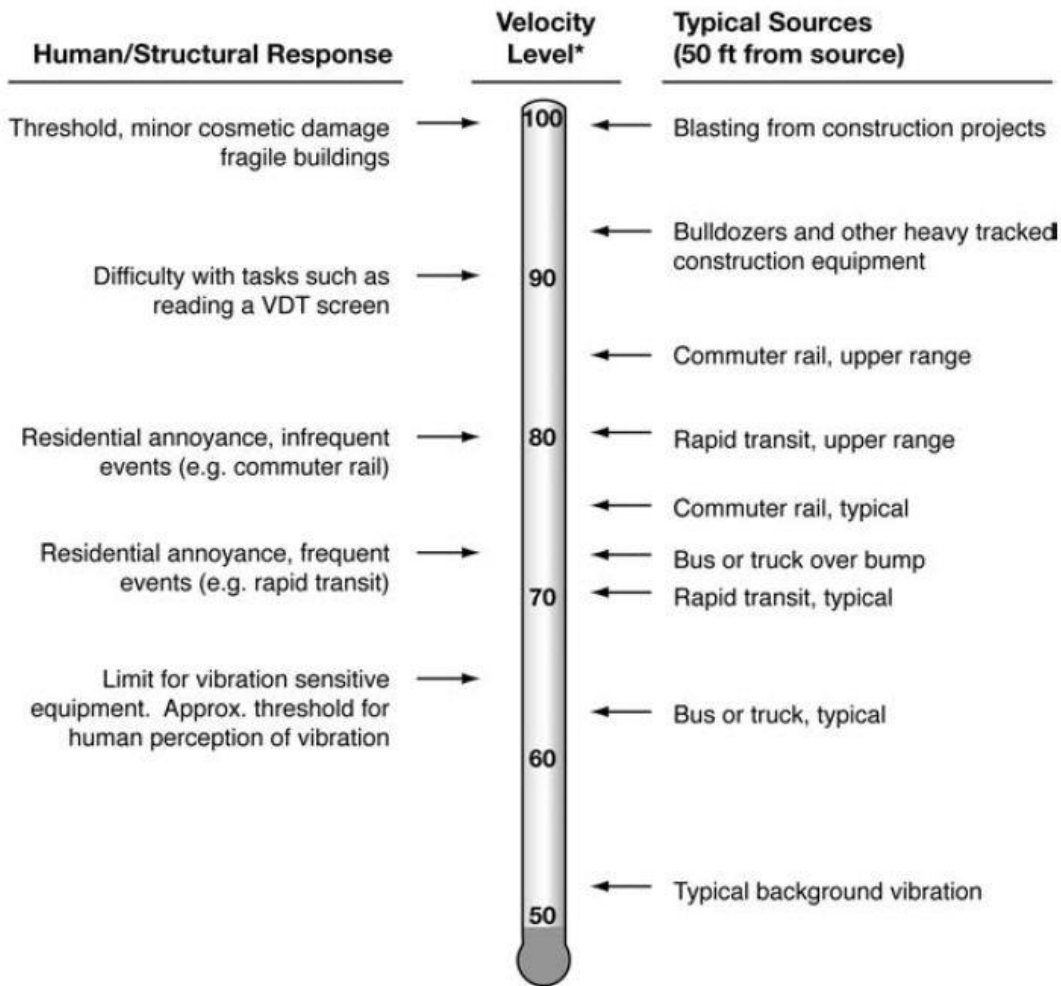
Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (8), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with

distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* RMS Vibration Velocity Level in VdB relative to 10⁻⁶ inches/second

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

2.9 BLASTING

Rock blasting is used when large boulders must be broken into smaller sizes for handling. Blasts typically occur for only a few seconds. As further discussed in Appendix 2.1, air overpressure, or “airblast,” levels generated by blasting can travel up to 1,100 feet per second, depending on the size of the blast, distance from the blast, and amount of charge confinement. (9) For safety purposes, during blasting, no other construction equipment is operated on a site.

The intensity of the noise and vibration impacts associated with rock blasting depends on location, size, material, shape of the rock, and the methods used to crack it. While a blasting contractor can design the blasts to stay below a given vibration level that could cause damage to nearby structures, it is virtually impossible to design blasts that are not perceptible by people in the vicinity. (10) The noise produced by blasting activities is referred to as air overpressure, or an “airblast,” which is generated when explosive energy in the form of gases escape from the detonating blast holes. Much like a point source, airblasts radiate outward in a spherical pattern and attenuate with each doubling of distance from the blast location, depending on the design of the blast and amount of containment.

Blasting activities generally include: the pre-drilling of holes in the hard rock area; preparation and placement of the charges in the drilled holes; a pre-blast horn signal; additional pre-blast horn signals immediately prior to the blast; and the blast itself. An additional horn signal is sounded to indicate the “all clear” after the blast and the blasting contractor has inspected the blasting area. The noise from the blast itself starts with a cracking sound from the detonator, located at a distance from the charges, and ends with the low crackling sound from each charge as they are subsequently set off.

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3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (11) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF BEAUMONT GENERAL PLAN NOISE ELEMENT

The City of Beaumont has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of City of Beaumont from excessive exposure to noise. (12) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City of Beaumont residents from excessive noise, the Noise Element contains the following noise programs related to the Project:

- N1: Requirement for Acoustical Studies. Amend development application requirements so that projects that could result in noise environments above normally acceptable noise ranges or all new development complete acoustical studies prepared by qualified professionals to ensure that the noise levels are at acceptable levels, per the Municipal Code.
- N3: Project Design Guidelines. Integrate project design guidelines that integrate features into new developments that minimize impacts associated with the operation of air conditioning and heating equipment, on-site traffic, and use of parking, loading, and trash storage facilities.
- N7: Stationary Equipment. Enforce requirements that all stationary construction equipment shall be operated with closed engine doors, equipped with properly operating and maintained mufflers, and placed so that emitted noise is directed away from the nearest sensitive receptors.

- N8: Equipment Staging Areas. Require that equipment staging shall be in areas that will create the greatest distance feasible between construction-related noise sources and noise-sensitive receptors.
- N9: Additional Noise Attenuation Techniques. Require that temporary sound barriers are installed and maintained between the construction site and the sensitive receptors during the clearing, earth moving, grading, and foundation/conditioning phases of construction. Temporary sound barriers shall consist of sound blankets affixed to construction fencing along all sides of the construction site boundary facing potentially sensitive receptors.
- N10: Vehicle and Equipment Idling. Establish requirements that construction vehicles and equipment are not left idling for longer than five minutes when not in use.

3.3 CITY OF BEAUMONT GENERAL PLAN NOISE ELEMENT ENVIRONMENTAL IMPACT REPORT

To support the General Plan Noise Element, the City of Beaumont adopted a Program Environmental Impact Report (EIR). (13) Section 5.12 of the EIR outlines the *regulations and polices intended to protect the community from excessive noise and vibration to ensure quality of life for residents and workers in the City*. In addition, Section 5.12.4 presents thresholds of significance for vibration and increases in off-site traffic noise levels. The CEQA significance thresholds outlined in the EIR that are used in this Noise and Vibration Analysis are presented in Section 4.

3.4 CITY OF BEAUMONT MUNICIPAL CODE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Beaumont Pointe Project, stationary-source (operational) noise levels such as the expected loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity, and noise from construction activities are typically evaluated against standards established under the City's Municipal Code included in Appendix 3.1.

3.4.1 STATIONARY OPERATIONAL NOISE STANDARDS

For noise-sensitive residential properties, the City of Beaumont Municipal Code, Section 9.02.050, identifies base ambient noise level (BANL) stationary-source noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA L_{eq} and 45 dBA L_{eq} during the nighttime (10:00 p.m. to 7:00 a.m.) hours. For industrial and commercial land uses, the BANL established by the City's Municipal Code is 75 dBA L_{eq} for the daytime hours and of 50 dBA L_{eq} during the nighttime hours. Section 9.40.050 states *that actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level"*. In effect, when the ambient noise levels exceed the base exterior noise level limits, the noise level standard shall be adjusted as appropriate to encompass or reflect the ambient noise level. The noise level limit adjustments for the City of Beaumont noise standards are shown on Table 3-1.

TABLE 3-1: CITY OF BEAUMONT STATIONARY OPERATIONAL NOISE STANDARDS

Receiving Land Use	Time Period	Base Ambient Noise Level (dBA Leq) ¹	Exterior Noise Standards (dBA) ²			
			L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (0 min)
Residential	Daytime	55	60	65	70	75
	Nighttime	45	50	55	60	65
Industrial and Commercial	Daytime	75	_3	_3	_3	_3
	Nighttime	50	_3	_3	_3	_3

¹ Section 9.02.050 base ambient noise level of the City of Beaumont Municipal Code.

² Noise levels shall not exceed for the duration periods specified in Section 9.02.070 City of Beaumont Municipal Code.

³ No exterior noise level shall exceed the base ambient noise levels for nonresidential land uses Section 9.02.090 City of Beaumont Municipal Code.

The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₂₅ is the noise level exceeded 25% of the time. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

The City of Beaumont percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project stationary operational activities, the (base exterior noise level limit) or the average Leq noise level metric best describes the loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity. The equivalent Leq noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, a review of the existing ambient noise level measurements shows that the Leq is generally greater than the L₂₅. Therefore, this noise study conservatively relies on the average Leq sound level limits to describe the Project stationary operational noise levels.

In addition, the City of Beaumont Municipal Code, Section 9.02.110.G states that *it shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dB(A).*

3.4.2 CONSTRUCTION NOISE STANDARDS

The City of Beaumont has set restrictions to control noise impacts associated with the construction of the proposed Project. These restrictions are generally limited to the nearby noise sensitive receiver locations that may be impacted by the short-term construction noise activities. The City’s Municipal Code identifies the following construction noise provisions in Section 9.02.110.F.1: *It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the*

property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above-described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.

Section 9.02.110.F.3 of the Municipal Code indicates that *Construction related noise...may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector. Such permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.*

Project construction noise level standards are typically described as exterior noise level limits to assess the potential impacts. Therefore, to describe the Project construction noise levels at off-site sensitive receiver locations, an exterior construction-related noise level threshold of 75 dBA L_{eq} is used. This exterior construction noise level standard represents the combination of the City of Beaumont 55 dBA L_{eq} interior noise level limit and the Noise Reduction (NR) of approximately 20 dBA for typical buildings with "windows closed" (5 p. 31)). Therefore, an unmitigated exterior noise level standard of 75 dBA L_{eq} when measured at the building façade is used to assess the construction noise levels for the nearest noise sensitive residential uses.

3.5 CONSTRUCTION VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. (8) Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity.

To analyze vibration impacts originating from the construction of the Beaumont Pointe, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific vibration level limits and instead relies on the Federal Transit Administration (FTA) methodology. (8) The FTA *Transit Noise and Vibration Impact Assessment* methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. Consistent with the thresholds of significance outlined in the City of Beaumont General Plan EIR (13), these guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (8 p. 131)

3.6 BLASTING

The blasting contractor is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours prior to the planned blasting events. Air overpressure regulations are identified by the USBM and the International Society of Explosives Engineer's (ISEE) Blasters' Handbook. (9) To analyze blasting impacts originating from the construction of the Beaumont Pointe Project, vibration-generating rock blasting activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific blasting noise or vibration level limits. Therefore, this analysis relies on the following criteria to assess potential temporary construction-related impacts at adjacent receiver locations.

3.6.1 BLASTING NOISE LIMITS

Based on Table 26.17 *Typical Air Overpressure Damage Criteria* of the Blasters' Handbook, an air overpressure of 133 dB is identified as a perception-based criteria level for blasting. As such, the Project blasting-related vibration and airblast levels are based on the 133 dB criteria for airblasts identified by the ISEE and USBM.

3.6.2 BLASTING VIBRATION LIMITS

The Caltrans *Transportation and Construction Vibration Guidance Manual*, (10 p. 38) Table 19, vibration criteria are used in this noise study to assess potential temporary construction-related impacts at adjacent receiver locations. Since most of the buildings near the Project site can best be described as "older residential buildings", Caltrans guidance identifies a maximum acceptable transient peak-particle-velocity (PPV) vibration threshold of 0.5 inches per second (in/sec). Therefore, the 0.5 PPV (in/sec) vibration threshold is used to evaluate the potential blasting-related vibration levels experienced at the nearby residential homes.

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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- (Threshold A) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- (Threshold B) Generation of excessive ground-borne vibration or ground-borne noise levels.
- (Threshold C) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Off-site traffic noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach *recognizes that there is no single noise increase that renders the noise impact significant.* (14) Table 5.12-G of in the City of Beaumont General Plan Noise Element EIR outlines the allowable noise exposure increases that are derived from the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*. To describe the amount to which a given noise level increase is considered acceptable, the FTA criteria is used to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Threshold A. In effect, the amount to which a given noise level increase is considered acceptable is reduced based on existing ambient noise conditions. Consistent with the City of Beaumont Municipal Code, Section 9.02.110[G], the stationary operational Project noise source activities shall not create any noise which would cause the noise level at the property line to exceed the base ambient noise level by 5 dBA.

4.2 VIBRATION (THRESHOLD B)

The vibration impacts originating from the construction of the Beaumont Pointe are appropriately evaluated using the thresholds of significance outlined in the City of Beaumont General Plan EIR. (13) These guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (8)

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest major airport is the March Air Reserve Base located roughly 12 miles west of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Condition(s)	Significance Criteria	
		Daytime	Nighttime
Off-Site Traffic ¹	If ambient is < 50 dBA CNEL	≥ 7 dBA CNEL Project increase	
	If ambient is 50 - 55 dBA CNEL	≥ 5 dBA CNEL Project increase	
	If ambient is 55 - 60 dBA CNEL	≥ 3 dBA CNEL Project increase	
	If ambient is 60 - 65 dBA CNEL	≥ 2 dBA CNEL Project increase	
	If ambient is 65 - 75 dBA CNEL	≥ 1 dBA CNEL Project increase	
	If ambient is > 75 dBA CNEL	0 dBA CNEL Project increase	
Stationary Operational	Base Exterior Noise Level ²	55 dBA Leq	45 dBA Leq
	Base Ambient Noise Level ³	≥ 5 dBA Leq Project increase	
Construction	Permitted between 7:00 a.m. to 6:00 p.m. ⁴		
	Noise Level Threshold ⁵	75 dBA Leq	n/a
	Vibration Level Threshold ⁶	78 VdB	n/a
	Blasting	Airblast Threshold ⁷	133 dBA Leq
Vibration Level Threshold ⁸		0.5 PPV (in/sec)	n/a

¹ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, consistent with the City of Beaumont General Plan DEIR.

² City of Beaumont General Plan Municipal Code, Section 9.02.050

³ City of Beaumont General Plan Municipal Code, Section 9.02.110[G]

⁴ City of Beaumont General Plan Municipal Code, Section 9.02.110[F]

⁵ Acceptable exterior construction noise level threshold based on the City of Beaumont 55 dBA Leq interior noise level limit and the 20 dBA noise reduction associated with typical building construction.

⁶ Federal Transit Administration, Transit Noise and Vibration Impact Assessment.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

⁷ ISEE's Blasters' Handbook, Table 26.17 Typical Air Overpressure Damage Criteria, and U.S. Bureau of Mines standards.

⁸ Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at five noise sensitive receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, April 22, 2020. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (15)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources.* (3) Further, FTA guidance states, *that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.* (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby

sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project’s contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Description	Energy Average Noise Level (dBA L_{eq}) ²		CNEL
		Daytime	Nighttime	
L1	Located north of the Project site on Roberts Place near existing single-family residential home at 34945 Roberts Place.	45.0	45.2	51.8
L2	Located north of the Project site on Mickelson Drive near existing single-family residential homes.	62.7	51.4	62.3
L3	Located northeast of the Project site by Oak Valley Parkway near the Tukwet Canyon Golf Course.	64.3	60.8	68.8
L4	Located northeast of the Project site on Olivewood near the Olivewood housing community	52.9	46.9	55.1
L5	Located in the southeast portion of the Project site on Jack Rabbit Trail just outside the Hoy Ranch Property.	44.9	39.4	48.1

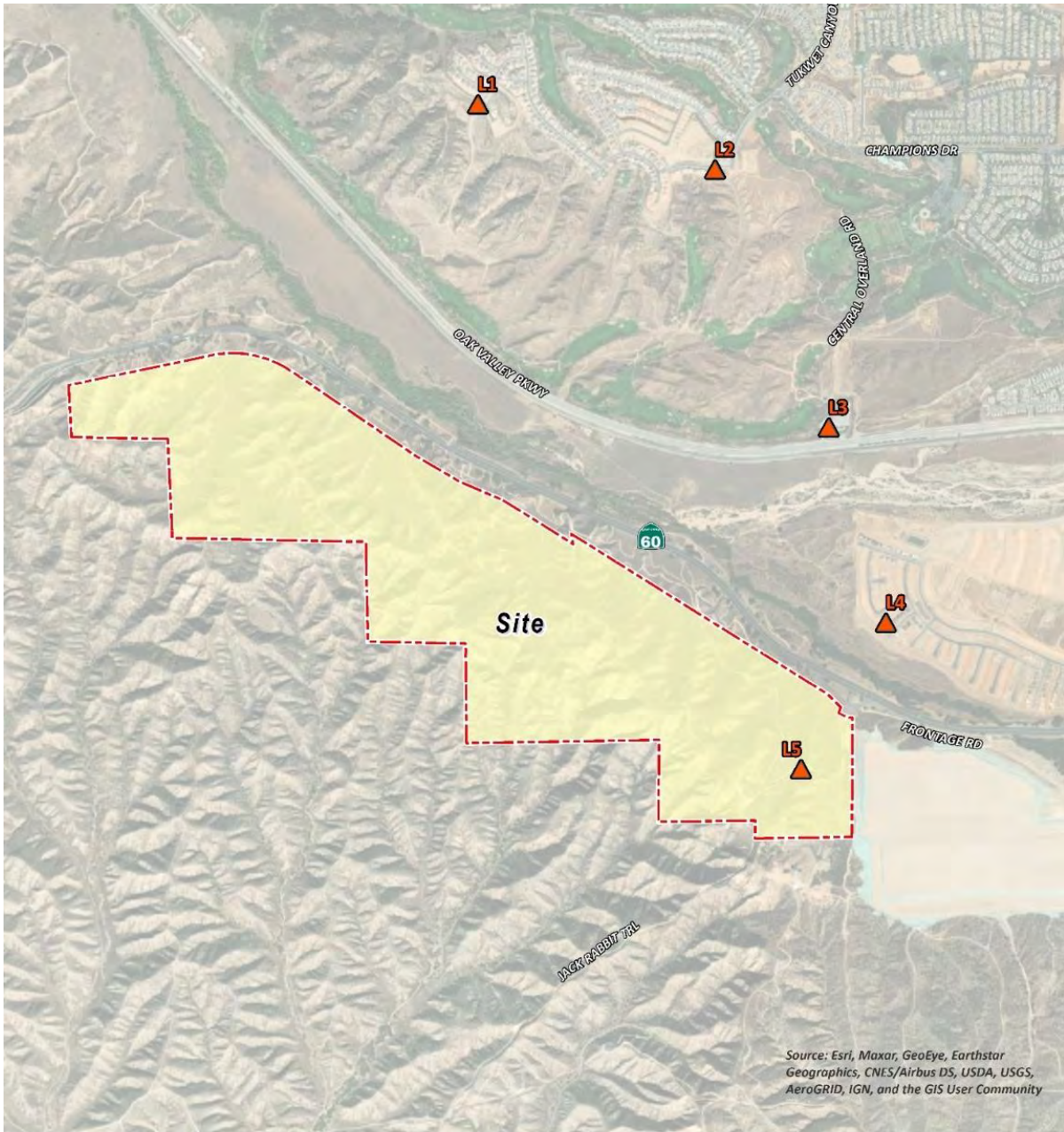
¹ See Exhibit 5-A for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each of the daytime and nighttime hours.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

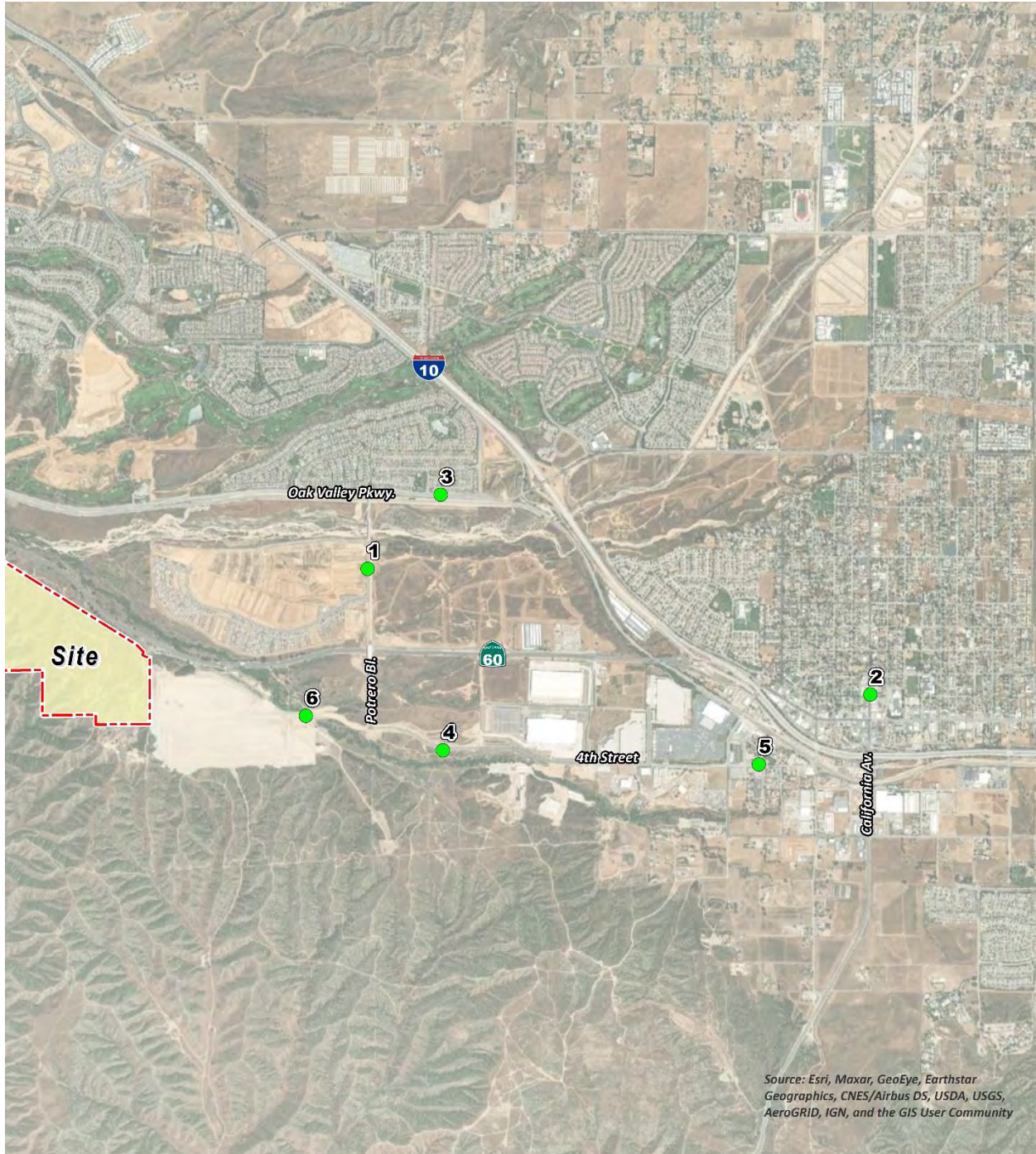
The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (16) This methodology is commonly used to describe the off-site traffic noise levels throughout southern California and is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (17)

The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (18) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (19)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the six study area roadway segments shown on Exhibit 6-A, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Beaumont General Plan Circulation Element, and the posted vehicle speeds.

EXHIBIT 6-A: OFF-SITE STUDY AREA ROADWAY SEGMENTS



LEGEND:

- Study Area Roadway Segment

Consistent with *Beaumont Pointe Traffic Analysis* prepared by Urban Crossroads, Inc., the analysis below provides off-site roadway segment analysis for the following traffic scenarios.

- Existing (2020) Conditions
- Existing plus Project (E+P) Conditions – Phase 1
- Existing plus Project (E+P) Conditions – Phase 1 + Phase 2
- Existing plus Project (E+P) Conditions – Project Buildout
- Opening Year Cumulative (2023) Without Project Conditions
- Opening Year Cumulative (2023) With Project (Phase1) Conditions
- Opening Year Cumulative (2025) Without Project Conditions
- Opening Year Cumulative (2025) With Project (Phase 1 + Phase 2) Conditions
- Opening Year Cumulative (2027) Without Project Conditions
- Opening Year Cumulative (2027) With Project (Project Buildout) Conditions
- Horizon Year (2045) Without Project Conditions
- Horizon Year (2045) With Project (Project Buildout) Conditions

The ADT volumes used in this study area presented on Table 6-2 are based on the *Beaumont Pointe Specific Plan Traffic Analysis*, prepared by Urban Crossroads, Inc. The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. In addition, the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 8.33%. (2) To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Vehicle Speed (mph) ³
1	Potrero Bl.	s/o Oak Valley Pkwy.	Urban Arterial	67'	40
2	California Av.	n/o 6th St.	Collector	33'	40
3	Oak Valley Pkwy.	e/o Potrero Bl.	Urban Arterial Frontage Road	60'	50
4	4th St.	e/o Potrero Bl.	Major	59'	40
5	4th St.	e/o Veile Av.	Secondary	44'	40
6	4th St.	w/o Potrero Bl.	Secondary	33'	40

¹ County of Riverside General Plan Circulation Element.

² Distance to receiving land use is based upon the right-of-way distances.

³ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes ¹											
			Existing 2020				OYC 2023		OYC 2025		OYC 2027		Horizon Year (HY) 2045	
			Without Project	With Ph. 1	With Ph. 1+2	With Project	Without Project	With Ph. 1	Without Project	With Ph. 1+2	Without Project	With Project	Without Project	With Project
1	Potrero Bl.	s/o Oak Valley Pkwy.	2,232	2,836	4,689	5,739	3,314	3,917	3,814	6,271	5,264	8,770	23,682	27,188
2	California Av.	n/o 6th St.	1,908	2,029	2,399	2,609	2,258	2,379	2,440	2,931	2,858	3,559	1,737	2,439
3	Oak Valley Pkwy.	e/o Potrero Bl.	4,788	5,392	7,245	8,295	7,389	7,992	8,583	11,040	12,094	15,600	19,233	22,739
4	4th St.	e/o Potrero Bl.	3,744	4,972	8,794	10,474	6,154	7,382	7,249	8,723	10,532	17,262	10,969	17,700
5	4th St.	e/o Veile Av.	1,746	3,100	12,228	16,428	3,767	6,233	4,663	16,706	7,476	25,374	6,094	27,890
6	4th St.	w/o Potrero Bl.	162	3,922	15,577	19,777	3,295	7,055	4,640	20,054	9,108	29,898	11,624	32,414

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-11 show the vehicle mixes used for the with Project traffic scenarios.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits ¹			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

¹ County of Riverside Office of Industrial Hygiene. Values rounded to the nearest one-hundredth.
 "Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	91.81%	2.52%	5.67%	100.00%

Based on an existing vehicle count taken at Veile Avenue and 4th Street (Beaumont Pointe Specific Plan Traffic Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-5: EXISTING 2020 WITH PROJECT PHASE 1 VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	93.55%	1.98%	4.46%	100.00%
2	California Av.	n/o 6th St.	92.30%	2.37%	5.33%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	92.73%	2.24%	5.03%	100.00%
4	4th St.	e/o Potrero Bl.	88.56%	4.15%	7.29%	100.00%
5	4th St.	e/o Veile Av.	90.36%	3.52%	6.12%	100.00%
6	4th St.	w/o Potrero Bl.	82.67%	7.36%	9.97%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.
² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: EXISTING WITH PROJECT PHASE 1 + PHASE 2 VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	96.10%	1.20%	2.70%	100.00%
2	California Av.	n/o 6th St.	93.49%	2.00%	4.51%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	94.59%	1.67%	3.75%	100.00%
4	4th St.	e/o Potrero Bl.	83.78%	6.91%	9.32%	100.00%
5	4th St.	e/o Veile Av.	88.71%	4.83%	6.46%	100.00%
6	4th St.	w/o Potrero Bl.	81.57%	8.42%	10.00%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: EXISTING WITH PROJECT BUILDOUT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	96.81%	0.98%	2.21%	100.00%
2	California Av.	n/o 6th St.	94.01%	1.84%	4.15%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	95.27%	1.45%	3.27%	100.00%
4	4th St.	e/o Potrero Bl.	86.38%	5.80%	7.82%	100.00%
5	4th St.	e/o Veile Av.	91.11%	3.80%	5.09%	100.00%
6	4th St.	w/o Potrero Bl.	86.28%	6.27%	7.45%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-8: OYC 2023 WITH PROJECT PHASE 1 VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	93.07%	2.13%	4.80%	100.00%
2	California Av.	n/o 6th St.	92.23%	2.39%	5.38%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	92.43%	2.33%	5.24%	100.00%
4	4th St.	e/o Potrero Bl.	89.62%	3.62%	6.76%	100.00%
5	4th St.	e/o Veile Av.	90.96%	3.10%	5.93%	100.00%
6	4th St.	w/o Potrero Bl.	87.26%	4.93%	7.81%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-9: OYC 2025 WITH PROJECT PHASE 1 + PHASE 2 VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	95.02%	1.53%	3.45%	100.00%
2	California Av.	n/o 6th St.	93.18%	2.10%	4.72%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	93.63%	1.96%	4.41%	100.00%
4	4th St.	e/o Potrero Bl.	93.19%	2.09%	4.71%	100.00%
5	4th St.	e/o Veile Av.	93.78%	1.91%	4.31%	100.00%
6	4th St.	w/o Potrero Bl.	84.32%	6.84%	8.84%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-10: OYC 2027 WITH PROJECT BUILDOUT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	95.09%	1.51%	3.40%	100.00%
2	California Av.	n/o 6th St.	93.42%	2.02%	4.55%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	93.65%	1.95%	4.40%	100.00%
4	4th St.	e/o Potrero Bl.	88.52%	4.51%	6.98%	100.00%
5	4th St.	e/o Veile Av.	91.40%	3.26%	5.33%	100.00%
6	4th St.	w/o Potrero Bl.	88.23%	4.95%	6.82%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-11: HY 2040 WITH PROJECT BUILDOUT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			
			Autos	Medium Trucks	Heavy Trucks	Total ²
1	Potrero Bl.	s/o Oak Valley Pkwy.	92.87%	2.19%	4.94%	100.00%
2	California Av.	n/o 6th St.	94.17%	1.80%	4.04%	100.00%
3	Oak Valley Pkwy.	e/o Potrero Bl.	93.07%	2.13%	4.80%	100.00%
4	4th St.	e/o Potrero Bl.	88.60%	4.46%	6.94%	100.00%
5	4th St.	e/o Veile Av.	91.36%	3.35%	5.30%	100.00%
6	4th St.	w/o Potrero Bl.	88.56%	4.73%	6.72%	100.00%

¹ Beaumont Pointe Traffic Analysis, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

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7 OFF-SITE TRAFFIC NOISE IMPACTS

As described in Section 4.1, the off-site traffic noise impacts are evaluated based on noise level increases resulting from the Project. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. To describe the amount to which a given noise level increase is considered substantial (Threshold A), the City of Beaumont General Plan EIR (13) outlines criteria to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Noise Threshold A. Based on off-site traffic noise level increase criteria, the City of Beaumont General Plan EIR (13) indicates that *with implementation of proposed Project policies and implementation actions, increases in roadway noise at existing noise sensitive receptors would be reduced to the degree feasible*. However, the EIR determined that *future noise levels could still exceed thresholds and the impacts from permanent noise are considered significant and unavoidable*.

According to the *Beaumont Pointe Specific Plan Traffic Analysis* prepared by Urban Crossroads, Inc. (2), at Project Buildout the Project is expected to generate a total of approximately 16,266 trip-ends per day (actual vehicles) and includes 2,240 truck trip-ends per day. To describe the off-site Project-related traffic noise levels, this noise study relies on the actual Project automobile and truck trips established in the *Traffic Analysis* (as opposed to the passenger car equivalents) to accurately account for the effect of individual car and truck trips on the study area roadway network.

7.1 TRAFFIC NOISE CONTOURS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the Beaumont Pointe *Traffic Analysis*. (2) Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios. Tables 7-1 through 7-12 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed in each of the following timeframes:

- Existing (2020) Conditions
- Existing plus Project (E+P) Conditions – Phase 1
- Existing plus Project (E+P) Conditions – Phase 1 + Phase 2
- Existing plus Project (E+P) Conditions – Project Buildout
- Opening Year Cumulative (OYC) (2023) Without Project Conditions

- Opening Year Cumulative (OYC) (2023) With Project (Phase1) Conditions
- Opening Year Cumulative (OYC) (2025) Without Project Conditions
- Opening Year Cumulative (OYC) (2025) With Project (Phase 1 + Phase 2) Conditions
- Opening Year Cumulative (OYC) (2027) Without Project Conditions
- Opening Year Cumulative (OYC) (2027) With Project (Project Buildout) Conditions
- Horizon Year (HY) (2045) Without Project Conditions
- Horizon Year (2045) With Project (Project Buildout) Conditions

TABLE 7-1: EXISTING 2020 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	61.9	RW	RW	90
2	California Av.	n/o 6th St.	64.6	RW	RW	66
3	Oak Valley Pkwy.	e/o Potrero Bl.	68.4	RW	100	216
4	4th St.	e/o Potrero Bl.	64.2	RW	RW	113
5	4th St.	e/o Veile Av.	62.8	RW	RW	68
6	4th St.	w/o Potrero Bl.	53.9	RW	RW	RW

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING 2020 WITH PROJECT PHASE 1 NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	62.2	RW	RW	94
2	California Av.	n/o 6th St.	64.6	RW	RW	67
3	Oak Valley Pkwy.	e/o Potrero Bl.	68.5	RW	103	222
4	4th St.	e/o Potrero Bl.	66.4	RW	73	157
5	4th St.	e/o Veile Av.	65.3	RW	46	99
6	4th St.	w/o Potrero Bl.	68.8	RW	59	128

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EXISTING 2020 WITH PROJECT PHASE 1 + PHASE 2 NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.0	RW	RW	107
2	California Av.	n/o 6th St.	64.9	RW	RW	70
3	Oak Valley Pkwy.	e/o Potrero Bl.	69.0	RW	112	240
4	4th St.	e/o Potrero Bl.	69.8	RW	124	267
5	4th St.	e/o Veile Av.	69.0	RW	81	175
6	4th St.	w/o Potrero Bl.	74.9	70	151	325

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: EXISTING 2020 WITH PROJECT BUILDOUT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.5	RW	RW	114
2	California Av.	n/o 6th St.	65.0	RW	33	71
3	Oak Valley Pkwy.	e/o Potrero Bl.	69.3	RW	116	250
4	4th St.	e/o Potrero Bl.	70.0	59	127	273
5	4th St.	e/o Veile Av.	69.3	RW	85	182
6	4th St.	w/o Potrero Bl.	75.1	72	156	336

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: OYC 2023 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.6	RW	RW	117
2	California Av.	n/o 6th St.	65.3	RW	35	74
3	Oak Valley Pkwy.	e/o Potrero Bl.	70.2	62	134	289
4	4th St.	e/o Potrero Bl.	66.4	RW	73	157
5	4th St.	e/o Veile Av.	66.1	RW	52	113
6	4th St.	w/o Potrero Bl.	66.9	RW	44	96

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: OYC 2023 WITH PROJECT PHASE 1 NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	63.8	RW	RW	120
2	California Av.	n/o 6th St.	65.4	RW	35	75
3	Oak Valley Pkwy.	e/o Potrero Bl.	70.4	63	136	294
4	4th St.	e/o Potrero Bl.	67.8	RW	91	195
5	4th St.	e/o Veile Av.	67.5	RW	64	138
6	4th St.	w/o Potrero Bl.	70.9	38	82	176

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-7: OYC 2025 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	64.2	RW	RW	128
2	California Av.	n/o 6th St.	65.6	RW	36	78
3	Oak Valley Pkwy.	e/o Potrero Bl.	70.9	69	148	319
4	4th St.	e/o Potrero Bl.	67.1	RW	81	175
5	4th St.	e/o Veile Av.	67.1	RW	60	130
6	4th St.	w/o Potrero Bl.	68.4	RW	56	120

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-8: OYC 2025 WITH PROJECT PHASE 1 + PHASE 2 NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	64.9	RW	RW	143
2	California Av.	n/o 6th St.	65.9	RW	38	81
3	Oak Valley Pkwy.	e/o Potrero Bl.	71.3	73	157	339
4	4th St.	e/o Potrero Bl.	67.3	RW	84	181
5	4th St.	e/o Veile Av.	67.4	RW	64	138
6	4th St.	w/o Potrero Bl.	75.7	80	172	370

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-9: OYC 2027 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	65.6	RW	74	159
2	California Av.	n/o 6th St.	66.3	RW	40	87
3	Oak Valley Pkwy.	e/o Potrero Bl.	72.4	86	186	401
4	4th St.	e/o Potrero Bl.	68.7	RW	104	224
5	4th St.	e/o Veile Av.	69.1	RW	83	178
6	4th St.	w/o Potrero Bl.	71.4	41	87	189

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-10: OYC 2027 WITH PROJECT BUILDOUT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	66.4	RW	82	178
2	California Av.	n/o 6th St.	66.6	RW	42	91
3	Oak Valley Pkwy.	e/o Potrero Bl.	72.8	92	198	427
4	4th St.	e/o Potrero Bl.	71.7	76	165	355
5	4th St.	e/o Veile Av.	71.7	57	123	264
6	4th St.	w/o Potrero Bl.	76.6	91	197	423

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-11: HY 2045 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	72.2	93	201	433
2	California Av.	n/o 6th St.	64.2	RW	RW	62
3	Oak Valley Pkwy.	e/o Potrero Bl.	74.4	118	254	546
4	4th St.	e/o Potrero Bl.	68.9	RW	107	231
5	4th St.	e/o Veile Av.	68.2	RW	72	156
6	4th St.	w/o Potrero Bl.	72.4	48	103	222

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-12: HY 2045 WITH PROJECT BUILDOUT NOISE CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Potrero Bl.	s/o Oak Valley Pkwy.	72.3	96	206	444
2	California Av.	n/o 6th St.	64.6	RW	RW	67
3	Oak Valley Pkwy.	e/o Potrero Bl.	74.6	122	264	568
4	4th St.	e/o Potrero Bl.	71.8	77	167	360
5	4th St.	e/o Veile Av.	71.2	53	114	246
6	4th St.	w/o Potrero Bl.	77.0	96	207	446

¹ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
 "RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING WITH PROJECT PHASE 1 TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Beaumont Pointe Traffic Analysis*. This scenario is analyzed to show the potential impacts of the Project using the existing baseline consistent with the Project Traffic Analysis. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.9 to 68.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project Phase 1 conditions will range from 62.2 to 68.8 dBA CNEL. Table 7-13 shows that the Project off-site traffic noise level impacts will range from 0.0 to 14.9 dBA CNEL.

7.3 EXISTING WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in *Beaumont Pointe Traffic Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.9 to 68.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-3 shows the Existing with Project Phase 1 + Phase 2 conditions will range from 63.0 to 74.9 dBA CNEL. Table 7-14 shows that the Project off-site traffic noise level impacts will range from 0.3 to 21.0 dBA CNEL.

7.4 EXISTING WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in *Beaumont Pointe Traffic Analysis*. This scenario is analyzed to show the potential impacts of the Project using the existing baseline consistent with the Project Traffic Analysis. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.9 to 68.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Existing with Project Buildout conditions will range from 63.5 to 75.1 dBA CNEL. Table 7-15 shows that the Project off-site traffic noise level impacts will range from 0.4 to 21.2 dBA CNEL.

7.5 OYC (2023) WITH PROJECT PHASE 1 TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the Opening Year Cumulative (2023) without Project conditions CNEL noise levels. The Opening Year Cumulative (2023) without Project exterior noise levels are expected to range from 63.6 to 70.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the Opening Year Cumulative (2023) with Project Phase 1 conditions will range from 63.8 to 70.9 dBA CNEL. Table 7-16 shows that the Project off-site traffic noise level increases will range from 0.1 to 4.0 dBA CNEL.

7.6 OYC (2025) WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE LEVEL INCREASES

Table 7-7 presents the Opening Year Cumulative (2025) without Project conditions CNEL noise levels. The Opening Year Cumulative (2025) without Project exterior noise levels are expected to range from 64.2 to 70.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows the Opening Year Cumulative (2025) with Project Phase 1 + Phase 2 conditions will range from 64.9 to 75.7 dBA CNEL. Table 7-17 shows that the Project off-site traffic noise level increases will range from 0.2 to 7.3 dBA CNEL.

7.7 OYC (2027) WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

Table 7-9 presents the Opening Year Cumulative (2027) without Project conditions CNEL noise levels. The Opening Year Cumulative (2027) without Project exterior noise levels are expected to range from 65.6 to 72.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-10 shows the Opening Year Cumulative (2027) with Project Buildout conditions will range from 66.4 to 76.6 dBA CNEL. Table 7-18 shows that the Project off-site traffic noise level increases will range from 0.3 to 5.2 dBA CNEL.

7.8 HY (2045) WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

To evaluate the long-range Horizon Year 2045 w and without Project traffic noise levels, this section describes the off-site traffic noise levels consistent with the Project Traffic Analysis. Table 7-11 presents the Horizon Year (2045) without Project conditions CNEL noise levels. The Horizon Year (2045) without Project exterior noise levels are expected to range from 64.2 to 74.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-12 shows the Horizon Year (2045) with Project Buildout conditions will range from 64.6 to 77.0 dBA CNEL. Table 7-19 shows that the Project off-site traffic noise level increases will range from 0.1 to 4.6 dBA CNEL.

TABLE 7-13: EXISTING WITH PROJECT PHASE 1 TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	62.2	0.3
2	California Av.	n/o 6th St.	Sensitive	64.6	64.6	0.0
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	68.5	0.1
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	66.4	2.2
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	65.3	2.5
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	68.8	14.9

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-14: EXISTING WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	63.0	1.1
2	California Av.	n/o 6th St.	Sensitive	64.6	64.9	0.3
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	69.0	0.6
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	69.8	5.6
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	69.0	6.2
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	74.9	21.0

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-15: EXISTING WITH PROJECT BUILDOUT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	63.5	1.6
2	California Av.	n/o 6th St.	Sensitive	64.6	65.0	0.4
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	69.3	0.9
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	70.0	5.8
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	69.3	6.5
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	75.1	21.2

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-16: OYC (2023) WITH PROJECT PHASE 1 TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	63.6	63.8	0.2
2	California Av.	n/o 6th St.	Sensitive	65.3	65.4	0.1
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	70.2	70.4	0.2
4	4th St.	e/o Potrero Bl.	Non-Sensitive	66.4	67.8	1.4
5	4th St.	e/o Veile Av.	Non-Sensitive	66.1	67.5	1.4
6	4th St.	w/o Potrero Bl.	Non-Sensitive	66.9	70.9	4.0

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-17: OYC (2025) WITH PROJECT PHASE 1 + PHASE 2 TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	64.2	64.9	0.7
2	California Av.	n/o 6th St.	Sensitive	65.6	65.9	0.3
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	70.9	71.3	0.4
4	4th St.	e/o Potrero Bl.	Non-Sensitive	67.1	67.3	0.2
5	4th St.	e/o Veile Av.	Non-Sensitive	67.1	67.4	0.3
6	4th St.	w/o Potrero Bl.	Non-Sensitive	68.4	75.7	7.3

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-18: OYC (2027) WITH PROJECT BUILDOUT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	65.6	66.4	0.8
2	California Av.	n/o 6th St.	Sensitive	66.3	66.6	0.3
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	72.4	72.8	0.4
4	4th St.	e/o Potrero Bl.	Non-Sensitive	68.7	71.7	3.0
5	4th St.	e/o Veile Av.	Non-Sensitive	69.1	71.7	2.6
6	4th St.	w/o Potrero Bl.	Non-Sensitive	71.4	76.6	5.2

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-19: HY (2045) WITH PROJECT BUILDOUT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ¹		
				No Project	With Project	Project Addition
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	72.2	72.3	0.1
2	California Av.	n/o 6th St.	Sensitive	64.2	64.6	0.4
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	74.4	74.6	0.2
4	4th St.	e/o Potrero Bl.	Non-Sensitive	68.9	71.8	2.9
5	4th St.	e/o Veile Av.	Non-Sensitive	68.2	71.2	3.0
6	4th St.	w/o Potrero Bl.	Non-Sensitive	72.4	77.0	4.6

¹The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

7.9 OFF-SITE TRAFFIC NOISE IMPACTS

Table 7-20 presents a summary of the cumulative and project incremental noise level increases for each of the six-study area roadway segments. The cumulative traffic noise level increase increment describes the difference between the future Horizon Year 2045 With Project conditions and the Existing (baseline) conditions. The Project increment represents the difference between the Existing (baseline) conditions and the Existing plus Project Buildout conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, Table 7-20 shows that four of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise level increases due to the added Project traffic. The segments are described below.

- Potrero Boulevard south of Oak Valley Parkway (Segment #1).
- 4th Street east of Potrero Boulevard. (Segment #4).
- 4th Street east of Veile Avenue (Segment #5).
- 4th Street west of Potrero Boulevard. (Segment #6).

Segments #1, #4, #5, and #6 are in industrial areas and are not located immediately adjacent to any noise sensitive land uses. This is consistent with the City's General Plan EIR that determined that buildout of the City's General Plan could result in new vehicular traffic which could exceed the FHWA thresholds and could substantially increase the ambient noise levels in the city and its sphere of influence. The City's General Plan recognizes that an increase in noise levels will occur in industrial areas due to truck traffic.

The City's General Plan goals and policies, therefore, are focused on protecting noise sensitive receivers from road noise, while encouraging timely and efficient goods movement that does not significantly contribute to noise in the City. The Project is located adjacent to the SR-60, which is identified as a Truck Priority roadway in General Plan Figure 4.9, and truck trips would be routed through an industrial area to Potrero Boulevard, also identified as a City Truck Priority roadway.

The City incorporated a number of General Plan policies and implementation programs to reduce traffic-related noise impacts, including the following polices: 10.1.2 (enforce noise standards), 10.1.3 (protect noise sensitive uses), 10.1.4 (require noise mitigation in the design of new development), 10.1.5 (require to new development to implement measures to normally compatible range), 10.1.8 (promote effective enforcement of federal, State, and City noise standards), 10.2.1 (work with Caltrans and FHA), 10.2.2 (enforce speed limits to reduce noise and enforce truck and bus routes), 10.2.3 (prohibit truck routes through neighborhoods with sensitive receptors), 10.2.4 (reduce roadway noise), 10.2.5 (traffic calming measures), 10.2.6 (encourage noise-reducing paving materials), and 10.2.7 (reduce noise generated from City-owned vehicles). Applicable implementation actions include: N2 (requirement for acoustical studies) and N5 (traffic noise assessments). Compliance would the City's General Plan policies and implementation actions would reduce impacts to the furthest extent feasible, but the potential off-site Project related traffic noise level increases on three study area roadway segments would remain significant and unavoidable.

Section 7.10 describes the off-site traffic noise mitigation measures considered in this analysis. The noise sensitive receiving land uses adjacent to roadway segment #2 and #3 and other roadway segments would not experience noise level increases under Existing with Project conditions that would exceed the established thresholds of significance.

7.10 OFF-SITE TRAFFIC NOISE MITIGATION

The off-site Traffic Noise Analysis shows that Project traffic noise level increases on four study area roadway segments will exceed the incremental noise level increase thresholds identified in the City of Beaumont General Plan DEIR and shown on Table 4-1. To reduce the *potentially significant* Project traffic noise level increases on the four study area roadway segments potential noise mitigation measures were considered in this analysis. Potential mitigation measures discussed below include rubberized asphalt hot mix pavement and off-site noise barriers for the existing noise sensitive residential land uses adjacent to impacted roadway segments.

7.10.1 RUBBERIZED ASPHALT

Due to the potential noise attenuation benefits, rubberized asphalt is considered as a mitigation measure for the off-site Project-related traffic noise level increases. To reduce traffic noise levels at the noise source, Caltrans research has shown that rubberized asphalt can provide noise attenuation of approximately 4 dBA for automobile traffic noise levels. (21) Changing the pavement type of a roadway has been shown to reduce the amount of tire/pavement noise produced at the source under both near-term and long-term conditions. Traffic noise is generated primarily by the interaction of the tires and pavement, the engine, and exhaust systems. For automobiles noise, as much as 75 to 90-percent of traffic noise is generated by the interaction of the tires and pavement, especially when traveling at higher and constant speeds. (3) According to research conducted by Caltrans (21) and (18) the Canadian Ministry of Transportation and Highways (22) a 4 dBA reduction in tire/pavement noise is attainable using rubberized asphalt under typical operating conditions.

The effectiveness of reducing traffic noise levels is higher on roadways with low percentages of heavy trucks, since the heavy truck engine and exhaust noise is not affected by rubberized alternative pavement due to the truck engine and exhaust stack height above the pavement itself. (21) Per Caltrans guidance a truck stack height is modeled using a height of 11.5 feet above the road. (5) (23) With the primary off-site traffic noise source consisting of heavy trucks with a stack height of 11.5 feet off the ground, the tire/pavement noise reduction benefits associated rubberized asphalt will be primarily limited to autos.

While the off-site Project-related traffic noise level increases would theoretically be reduced with the 4 dBA reduction provided by rubberized asphalt, the reduction would not provide reliable benefits for the noise levels generated by heavy truck traffic. This is, as previously stated, due to the noise source height difference between automobiles and trucks. While rubberized asphalt will provide some noise reduction, this noise study recognizes that this is only effective for tire-on-pavement noise at higher speeds and would not reduce truck-related off-site traffic noise levels associated with truck engine and exhaust stacks to less than significant levels. Since the use of rubberized asphalt would not lower the off-site traffic noise levels below a level of

significance, rubberized asphalt is not proposed as mitigation for the Project and the off-site Project-related traffic noise level increases at adjacent land uses under Existing Conditions would remain *significant*.

7.10.2 OFF-SITE NOISE BARRIERS

Since existing and future noise-sensitive receiving land uses are located adjacent to the impacted roadway segments in the Project study area, off-site noise barriers were considered in this analysis as a potential traffic noise mitigation measure to reduce the impacts. Off-site noise barriers are estimated to provide a *readily perceptible* 5 dBA reduction which, according to the FHWA, is *simple* to attain when blocking the line-of-sight from the noise source to the receiver. (5) As previously discussed, Caltrans guidance in the Highway Design Manual, Section 1102.3(3), indicates that for design purposes, *the noise barrier should intercept the line of sight from the exhaust stack of a truck to the receptor*, and an 11.5-foot-high truck stack height is assumed to represent the truck engine and exhaust noise source. (23) Therefore, any exterior noise barriers at receiving noise sensitive land uses experiencing Project-related traffic noise level increases would need to be high enough and long enough to block the line-of-sight from the noise source (at 11.5 feet high per Caltrans) to the receiver (at 5 feet high per FHWA guidance) in order to provide a 5 dBA reduction per FHWA guidance. (23)

As such, off-site noise barriers would not be feasible and would not lower the off-site traffic noise levels below a level of significance, and therefore, noise barriers are not proposed as mitigation for the Project.

7.10.3 SIGNIFICANT OFF-SITE TRAFFIC NOISE IMPACTS

Both rubberized asphalt and off-site noise barriers are considered as potential noise mitigation measures to reduce the *potentially significant* off-site traffic noise level increases shown on Table 7-20. However, due the reasons outlined about neither form of mitigation is recommended for implementation since they would not eliminate the off-site traffic noise level increases at the adjacent land uses to the impacted roadway segments. Therefore, the Project-related off-site traffic noise level increases at adjacent noise-sensitive land uses are considered a *significant and unavoidable* impact.

TABLE 7-20: OFF-SITE TRAFFIC INCREMENTAL NOISE LEVEL INCREASE SUMMARY

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²					
				Existing No Project	Future With Project	Cumulative Increment	Project Increment	Cumulative Limit	Cumulative Impact?
1	Potrero Bl.	s/o Oak Valley Pkwy.	Non-Sensitive	61.9	72.3	10.4	1.6	1	Yes
2	California Av.	n/o 6th St.	Sensitive	64.6	64.6	0.0	0.4	2	No
3	Oak Valley Pkwy.	e/o Potrero Bl.	Sensitive	68.4	74.6	6.2	0.9	1	No
4	4th St.	e/o Potrero Bl.	Non-Sensitive	64.2	71.8	7.6	5.8	1	Yes
5	4th St.	e/o Veile Av.	Non-Sensitive	62.8	71.2	8.4	6.5	1	Yes
6	4th St.	w/o Potrero Bl.	Non-Sensitive	53.9	77.0	23.1	21.2	0	Yes

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

² Does the Project create an incremental noise level increase exceeding the significance criteria in Section 4.1?

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8 RECEIVER LOCATIONS

To assess the potential for long-term stationary operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas.

Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2.

Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

To describe the potential off-site Project noise levels, five receiver locations in the vicinity of the Project site were identified. In addition, receiver locations BIO-1, BIO-2 and BIO-3 represent the existing open space areas and potential sensitive receiver locations for further consideration in the biology report for the Project. The nearest noise sensitive residential receiver is located approximately 417 feet south of the Project site near the Hoy Ranch property. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site.

- R1: Location R1 represents the existing noise sensitive residence at 34945 Roberts Place, approximately 4,402 feet north of the Project site. R1 is placed at the backyard property line facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing noise sensitive residence at 35339 Stewart Street, approximately 4,347 feet north of the Project site. R2 is placed at the backyard yard property line facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing Tukwet Canyon Golf Course, approximately 3,123 feet north of the Project site. Since there are no private outdoor living areas facing the Project site, receiver R3 is placed at the building façade. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the existing noise sensitive residence at 14157 Bosana Lane, approximately 1,159 feet north of the Project site. R4 is placed at the backyard property

line facing the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

- R5: Location R5 represents the existing noise sensitive residence at 13270 Jack Rabbit Trail (Hoy Ranch), approximately 92 feet south of the Project site. R2 is placed at the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.
- BIO-1: Location BIO-1 represents the existing open space area near the wildlife underpass of the State Route 60, approximately 175 feet north of the Project site.
- BIO-2: Location BIO-2 represents the existing open space area near the State Route 60, approximately 184 feet northeast of the Project site.
- BIO-3: Location BIO-3 represents the existing open space area approximately 164 feet southwest of the Project site opposite the planned loading dock area of Building 4..

EXHIBIT 8-A: RECEIVER LOCATIONS



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- LEGEND:**
- N
 - Site Boundary
 - Receiver Locations
 - Distance from receiver to Project site boundary (in feet)

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9 STATIONARY OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source (i.e., on-site) operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the stationary operation of the proposed Beaumont Pointe Project. Exhibit 9-A identifies the noise source locations used to assess the hourly average L_{eq} stationary operational noise levels consistent with the City of Beaumont General Plan Noise Element Policy N 4.1.

9.1 STATIONARY OPERATIONAL NOISE SOURCES

This stationary operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movements, parking lot activities, as well as loading and unloading of trucks and vans at designated loading bays. The on-site Project-related noise sources are expected to include: loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity.

9.2 REFERENCE NOISE LEVELS

To estimate the Project stationary operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a description of the reference noise level measurements shown on Table 9-1 used to estimate the Project stationary operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity all operating continuously, 24 hours per day, seven days per week. These sources of noise activity will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (15)

EXHIBIT 9-A: STATIONARY OPERATIONAL NOISE SOURCE LOCATIONS

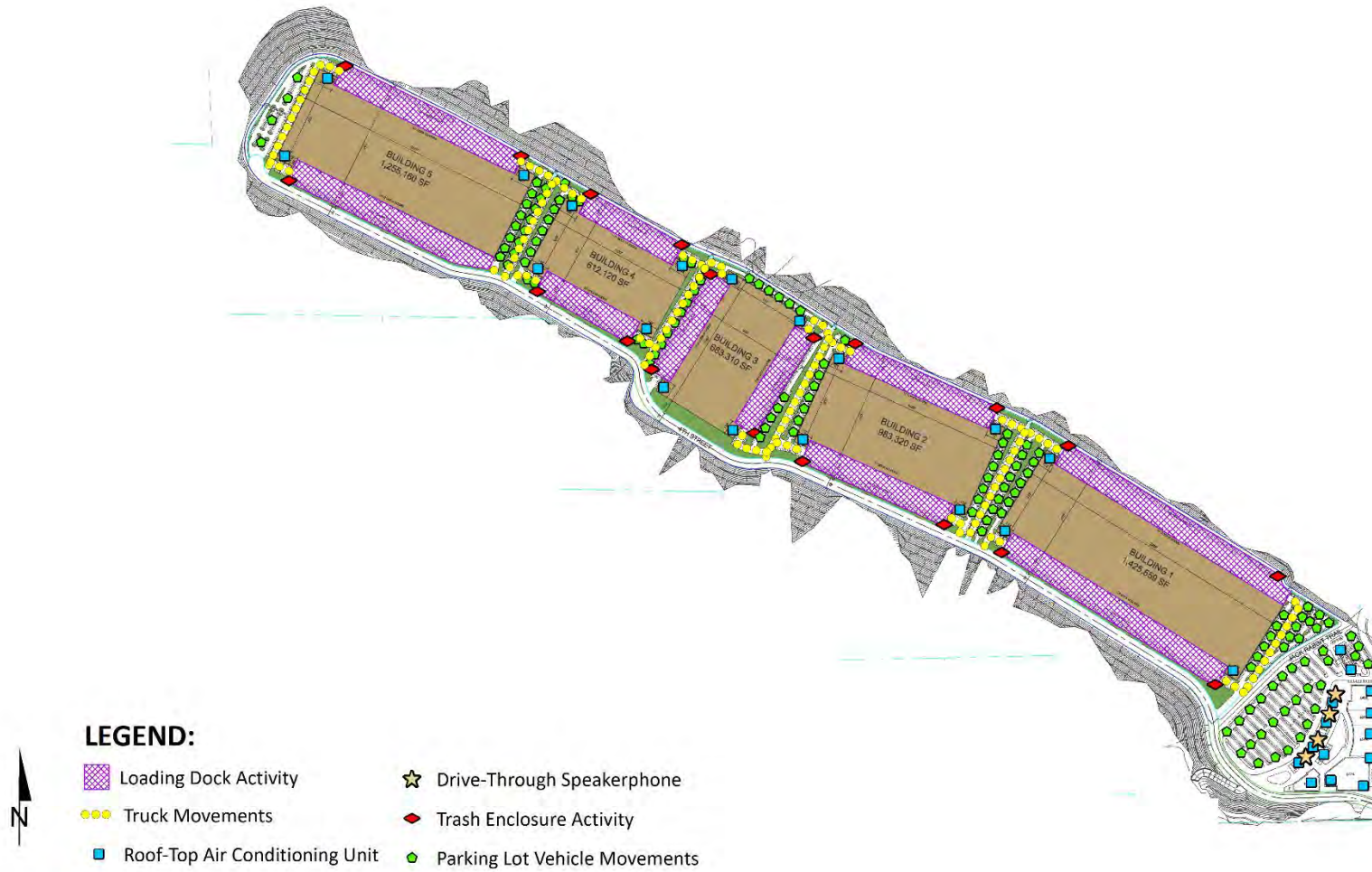


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source ¹	Noise Source Height (Feet)	Min./Hour ²		Reference Level (dBA L _{eq}) @ 50 feet	Sound Power Level (dBA) ³
		Day	Night		
Loading Dock Activity	8'	60	60	76.2	111.5
Truck Movements	8'	60	60	59.8	93.2
Roof-Top Air Conditioning	5'	39	28	57.2	88.9
Parking Lot Vehicle Movements	5'	60	60	56.1	87.8
Drive-Through Speakerphone Activity	3'	60	60	50.0	84.0
Trash Enclosure Activity	5'	10	10	57.3	89.0

¹ As measured by Urban Crossroads, Inc.

² Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

⁴ Truck Movements are calculated based on the number of events by time of day (See Table 9-2).

9.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical stationary operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 65.7 dBA L_{eq}.

The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck.

9.2.3 TRUCK MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represents multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area. Consistent with the *Beaumont Pointe Traffic Analysis*, the Project is expected to generate a total of approximately 16,266 trips per day (actual vehicles) and includes 2,240 truck trips per day. (2) This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network.

9.2.4 ROOF-TOP AIR CONDITIONING UNITS

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq} . Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for an average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

9.2.5 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity a reference noise level of 56.1 dBA L_{eq} at 50 feet is used. Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces in combination doors opening and closing and alarm or car horn locking announcements.

9.2.6 DRIVE-THROUGH SPEAKERPHONE ACTIVITY

To describe the potential noise level impacts associated with the planned drive-thru speakerphones, this analysis relies on the drive-through intercom system manufactured by HME. This type of system is commonly used by the quick service restaurant (QSR) industry for drive-thru communications. The HME SPP2 speaker post intercom system produces a maximum noise level of 84 dBA at one foot from the speaker post. The system may also be equipped with an automatic volume control that can automatically reduce the sound levels as the ambient noise level decreases. The reference speakerphone noise level describes continuous drive-through operations and does not include any periods of inactivity.

9.2.7 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 10 minutes per hour.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior stationary operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The stationary operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces. The ground attenuation factor accounts for the ground absorption characteristics on the intervening topography and vegetation between the Project site and the nearest noise sensitive receiver locations. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project stationary operational noise levels presented in this section.

9.4 PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, delivery van activity, truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity, Urban Crossroads, Inc. calculated the stationary source operational noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project stationary operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 32.1 to 43.0 dBA L_{eq} .

TABLE 9-2: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	BIO-1	BIO-2	BIO-3
Loading Dock Activity	30.6	32.7	34.1	37.5	37.5	40.9	44.6	49.1
Truck Movements	22.3	25.0	25.8	29.1	33.2	33.6	37.0	41.0
Roof-Top Air Conditioning	18.5	20.6	24.1	29.5	34.2	27.2	29.9	31.4
Parking Lot Vehicle Movements	23.6	25.9	28.5	35.1	39.7	31.5	37.9	39.3
Drive-Through Speakerphone Activity	0.0	0.0	6.3	8.2	11.0	0.0	0.0	0.0
Trash Enclosure Activity	10.7	12.8	14.2	17.4	18.7	23.1	26.1	29.0
Total (All Noise Sources)	32.1	34.3	36.0	40.3	43.0	42.2	46.2	50.2

¹ See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Tables 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 32.0 to 42.7 dBA Leq. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 9-1). Appendix 9.1 includes the detailed noise model inputs.

TABLE 9-3: NIGHTTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	BIO-1	BIO-2	BIO-3
Loading Dock Activity	30.6	32.7	34.1	37.5	37.5	40.9	44.6	49.1
Truck Movements	22.3	25.0	25.8	29.1	33.2	33.6	37.0	41.0
Roof-Top Air Conditioning	16.1	18.2	21.7	27.1	31.8	24.8	27.5	29.0
Parking Lot Vehicle Movements	23.6	25.9	28.5	35.1	39.7	31.5	37.9	39.3
Drive-Through Speakerphone Activity	0.0	0.0	6.3	8.2	11.0	0.0	0.0	0.0
Trash Enclosure Activity	9.7	11.9	13.3	16.4	17.7	22.1	25.2	28.0
Total (All Noise Sources)	32.0	34.2	35.8	40.1	42.7	42.2	46.1	50.2

¹ See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

9.5 PROJECT STATIONARY OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only stationary operational noise levels are evaluated against exterior noise level thresholds based on the City of Beaumont exterior noise level standards at the nearest noise-sensitive receiver locations. Based on the CadnaA noise prediction model results that account for the noise attenuation due to distance from the noise source activities, Table 9-5 shows the stationary operational noise levels associated with the Beaumont Pointe Project will satisfy the City of Beaumont 55 dBA Leq daytime and 45 dBA Leq nighttime exterior noise level standards at the nearest receiver locations. Therefore, the stationary operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations. Potential stationary operational noise level impacts at

associated receiver locations BIO-1, BIO-2 and BIO-3 are analyzed in the biology report for the Project.

TABLE 9-4: STATIONARY OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA L _{eq}) ²		Noise Level Standards (dBA L _{eq}) ³		Noise Level Standards Exceeded? ⁴	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	32.1	32.0	55	45	No	No
R2	34.3	34.2	55	45	No	No
R3	36.0	35.8	55	45	No	No
R4	40.3	40.1	55	45	No	No
R5	43.0	42.7	55	45	No	No
BIO-1	42.2	42.2	.5	.5	.5	.5
BIO-2	46.2	46.1	.5	.5	.5	.5
BIO-3	50.2	50.2	.5	.5	.5	.5

¹ See Exhibit 8-A for the receiver locations.

² Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.

³ Exterior noise level standards for residential land use, as shown on Table 4-2.

⁴ Do the estimated Project stationary operational noise source activities exceed the noise level standards?

⁵ Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the Bio report for the Project.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

9.6 PROJECT STATIONARY OPERATIONAL NOISE LEVEL INCREASES

To describe the Project stationary operational noise level increases, the Project stationary operational noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (3) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \dots + 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project stationary operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-5 and 9-6, respectively. As indicated on Tables 9-5, the Project will generate a daytime stationary operational noise level increases ranging from 0.0 to 3.6 dBA L_{eq} at the nearest receiver locations. Table 9-6 shows that the Project will generate a nighttime stationary operational noise level increases ranging from 0.0 to 4.2 dBA L_{eq} at the nearest receiver locations.

Based on the significance criteria presented in Table 4-1, the Project-related stationary operational noise level increases will satisfy the operational noise level increase criteria at the nearest sensitive receiver locations and the impact will be *less than significant*.

TABLE 9-5: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	32.1	L1	45.0	45.2	0.2	5	No
R2	34.3	L2	62.7	62.7	0.0	5	No
R3	36.0	L3	64.3	64.3	0.0	5	No
R4	40.3	L4	52.9	53.1	0.2	5	No
R5	43.0	L5	44.9	47.0	2.1	5	No

¹ See Exhibit 8-A for the receiver locations.

² Total Project daytime operational noise levels as shown on Table 9-2.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-2.

TABLE 9-6: NIGHTTIME STATIONARY OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	32.0	L1	45.2	45.4	0.2	5	No
R2	34.2	L2	51.4	51.5	0.1	5	No
R3	35.8	L3	60.8	60.8	0.0	5	No
R4	40.1	L4	46.9	47.7	0.8	5	No
R5	42.7	L5	39.4	44.4	5.0	5	No

¹ See Exhibit 8-A for the receiver locations.

² Total Project nighttime operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-2.

10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8. To prevent high levels of construction noise from impacting noise-sensitive land uses, Section 9.02.110(F) of the City of Beaumont Municipal Code limits construction activities to the hours of 7:00 a.m. and 6:00 p.m.

Construction trips would occur throughout the construction period and would be associated with the delivery of building materials, supplies, and concrete to the Project Site. The construction trips will consist mostly of individual worker vehicles. However, it is expected that the individual worker vehicle construction noise source activities will be overshadowed by the construction noise source activities outlined below.

10.1 CONSTRUCTION ACTIVITIES

Noise generated by the Project construction equipment will include a combination of crawler tractors, excavators, graders, dozers, scrapers, forklifts, generator sets, welders, paving equipment and air compressors that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

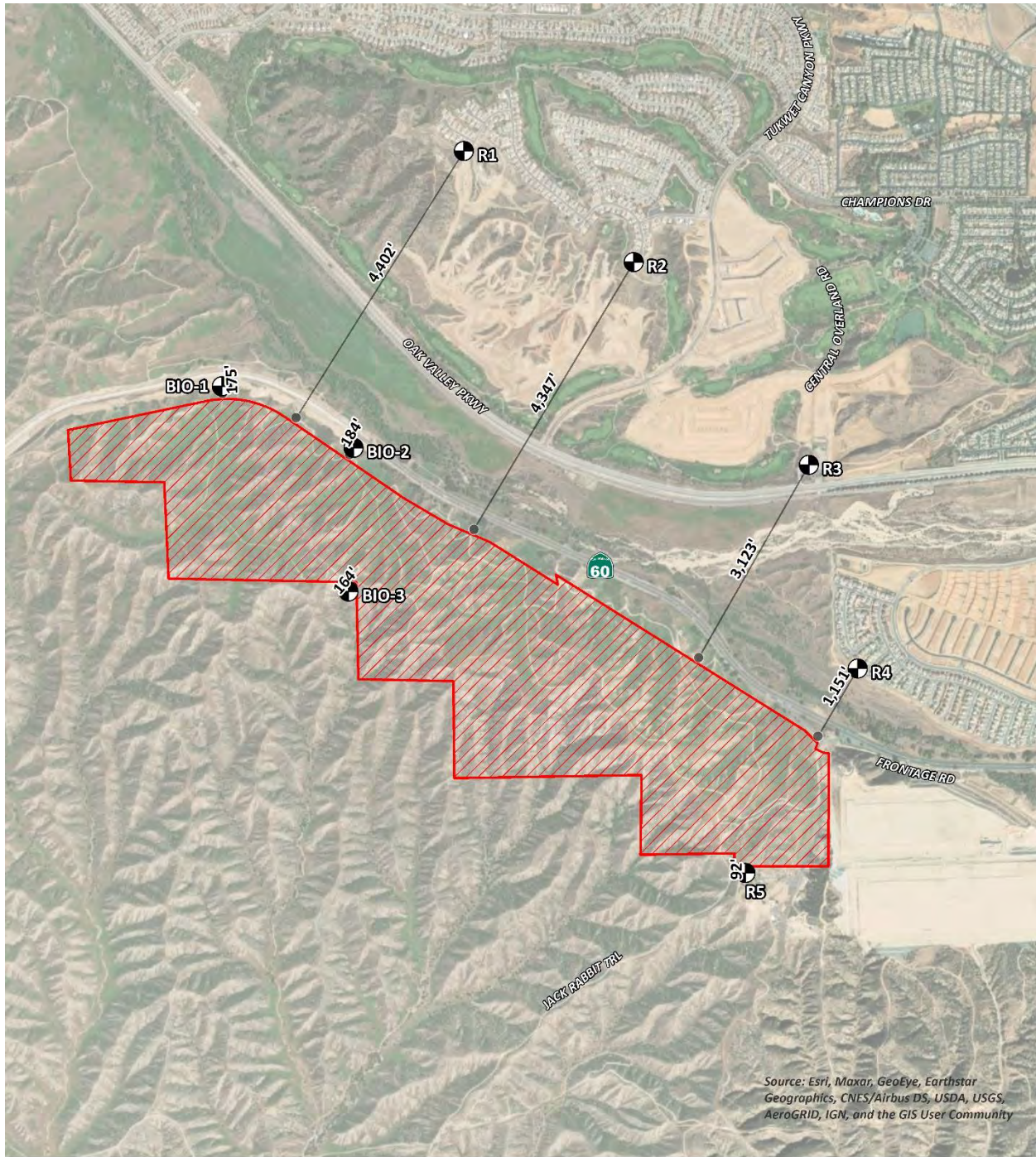
- Grading
- Building Construction
- Paving
- Architectural Coating

In addition, rock blasting may be required to support Project construction, therefore, this analysis considers the potential blasting noise and vibration levels at the nearest noise sensitive receiver locations. Construction is expected to commence in May 2022 and will last through January 2027.

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe peak construction noise activities, this construction noise analysis was prepared using reference noise level measurements published in the *Update of Noise Database for Prediction of Noise on Construction and Open Sites* by the Department for Environment, Food and Rural Affairs (DEFRA). (21). The DEFRA database provides the most recent and comprehensive source of reference construction noise levels. Table 10-1 provides a summary of the DEFRA construction reference noise level measurements expressed in hourly average dBA L_{eq} using the estimated FHWA Roadway Construction Noise Model (RCNM) usage factors (22) to describe the construction activities for each stage of Project construction.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND:




-  Construction Activity
-  Receiver Locations
-  Distance from receiver to construction activity (in feet)

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})
Grading	Graders	79	79
	Excavators	64	
	Compactors	67	
Building Construction	Cranes	67	72
	Tractors	72	
	Welders	65	
Paving	Pavers	70	70
	Paving Equipment	69	
	Rollers	69	
Architectural Coating	Cranes	67	67
	Air Compressors	67	
	Generator Sets	67	

¹ Update of Noise Database for Prediction of Noise on Construction and Open Sites by the Department for Environment, Food and Rural Affairs (DEFRA) expressed in hourly average L_{eq} based on estimated usage factors from the FHWA Roadway Construction Noise Model (RCNM).

10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the construction equipment noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 10-2, the highest construction noise levels are expected to range from 61.2 to 77.7 dBA L_{eq} at the nearest receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

10.4 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related noise level threshold of 75 dBA L_{eq} is used as acceptable thresholds to assess construction noise level impacts. This exterior construction noise level standard represents the combination of the City of Beaumont 55 dBA L_{eq} interior noise level limit and the Noise Reduction (NR) of approximately 20 dBA for typical buildings with "windows closed" (5 p. 31)). The construction noise analysis shows that the impacts on nearby residential receiver locations will fall below the 75 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3.

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Construction Noise Levels (dBA Leq)				
	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	61.2	54.2	52.2	49.2	61.2
R2	62.3	55.3	53.3	50.3	62.3
R3	64.7	57.7	55.7	52.7	64.7
R4	68.7	61.7	59.7	56.7	68.7
R5	73.4	66.4	64.4	61.4	73.4
BIO-1	74.4	67.4	65.4	62.4	74.4
BIO-2	75.2	68.2	66.2	63.2	75.2
BIO-3	77.7	70.7	68.7	65.7	77.7

¹ Construction noise source and receiver locations are shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA Leq)		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	61.2	75	No
R2	62.3	75	No
R3	64.7	75	No
R4	68.7	75	No
R5	73.4	75	No
BIO-1	74.4	. ⁵	. ⁵
BIO-2	75.2	. ⁵	. ⁵
BIO-3	77.7	. ⁵	. ⁵

¹ Noise receiver locations are shown on Exhibit 10-A.

² Highest construction noise level operating at the Project site boundary to nearby receiver locations (Table 10-2).

³ Acceptable exterior construction noise level thresholds based on the City of Beaumont 55 dBA Leq interior noise level limit and the 20 dBA noise reduction associated with typical building construction.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

⁵ Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the biology report.

Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations. Potential construction noise level impacts associated receiver locations BIO-1, BIO-2 and BIO-3 are analyzed in the biology report for the Project.

10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building area as shown on Exhibit 10-B. Since the nighttime concrete pours will take place outside the permitted City of Beaumont Municipal Code 9.02.110.F.1 hours of 7:00 a.m. to 6:00 p.m., the Project Applicant will be required to obtain authorization for nighttime work from the City of Beaumont. Any nighttime construction noise activities are evaluated against the City of Beaumont exterior construction noise level threshold of 75 dBA L_{eq} .

10.5.1 NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pour activities, sample reference noise level measurements were taken during a nighttime concrete pour at a construction site. Urban Crossroads, Inc. collected short-term nighttime concrete pour reference noise level measurements during the noise-sensitive nighttime hours between 1:00 a.m. to 2:00 a.m. at 27334 San Bernardino Avenue in the City of Redlands. The reference noise levels describe the expected concrete pour noise sources that may include concrete mixer truck movements and pouring activities, concrete paving equipment, rear mounted concrete mixer truck backup alarms, engine idling, air brakes, generators, and workers communicating/whistling.

To describe the nighttime concrete pour noise levels associated with the construction of the Beaumont Pointe, this analysis relies on reference sound pressure level of 67.7 dBA L_{eq} at 50 feet representing a sound power level of 100.3 dBA L_w . While the Project noise levels will depend on the actual duration of activities and specific equipment fleet in use at the time of construction, the reference sound power level of 100.3 dBA L_w is used to describe the expected Project nighttime concrete pour noise activities.

10.5.2 NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 10-4, the noise levels associated with the nighttime concrete pour activities are estimated to range from 26.8 to 45.4 dBA L_{eq} . The analysis shows that the unmitigated nighttime concrete pour activities will not exceed the construction noise level threshold at all the nearest noise sensitive receiver locations. Therefore, the noise impacts due to Project construction nighttime concrete pour noise activity are considered *less than significant* at all receiver locations with prior authorization for nighttime work from the City of Beaumont. Appendix 10.2 includes the CadnaA nighttime concrete pour noise model inputs.

EXHIBIT 10-B: NIGHTTIME CONCRETE POUR NOISE SOURCE AND RECEIVER LOCATIONS



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- LEGEND:**
-  Nighttime Concrete Pour Activity
 -  Receiver Locations
 -  Distance from receiver to construction activity (in feet)

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA Leq)		
	Concrete Pour Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	26.8	75	No
R2	28.5	75	No
R3	33.9	75	No
R4	40.9	75	No
R5	45.4	75	No
BIO-1	36.3	5	5
BIO-2	39.8	5	5
BIO-3	42.9	5	5

¹ Concrete pour noise source and receiver locations are shown on Exhibit 10-B.

² Highest concrete pour noise level operating at the Project site boundary to nearby receiver locations.

³ Acceptable exterior construction noise level thresholds based on the City of Beaumont 55 dBA Leq interior noise level limit and the 20 dBA noise reduction associated with typical building construction.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

⁵ Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the biology report.

10.6 CONSTRUCTION VIBRATION LEVELS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected receivers and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The human response (annoyance) to ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA) (8).

Ground vibration levels associated with various types of construction equipment are summarized on Table 10-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:
 $L_{vdB}(D) = L_{vdB}(25 \text{ ft}) - 30\log(D/25)$

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 10-6 presents the expected construction equipment vibration levels at the nearest receiver locations. At distances ranging from 92 feet to 4,402 feet from Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 19.6 to 70.0 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 10-6: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location ¹	Distance to Construction Activity (Feet)	Receiver Vibration Levels (VdB) ²					Threshold VdB ³	Threshold Exceeded? ⁴
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Levels		
R1	4,402'	0.0	11.6	18.6	19.6	19.6	78	No
R2	4,347'	0.0	11.8	18.8	19.8	19.8	78	No
R3	3,123'	0.0	16.1	23.1	24.1	24.1	78	No
R4	1,151'	8.1	29.1	36.1	37.1	37.1	78	No
R5	92'	41.0	62.0	69.0	70.0	70.0	78	No

¹ Noise receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 10-4.

³ FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria as shown in Section 3.5.

⁴ Does the vibration level exceed the maximum acceptable vibration threshold?

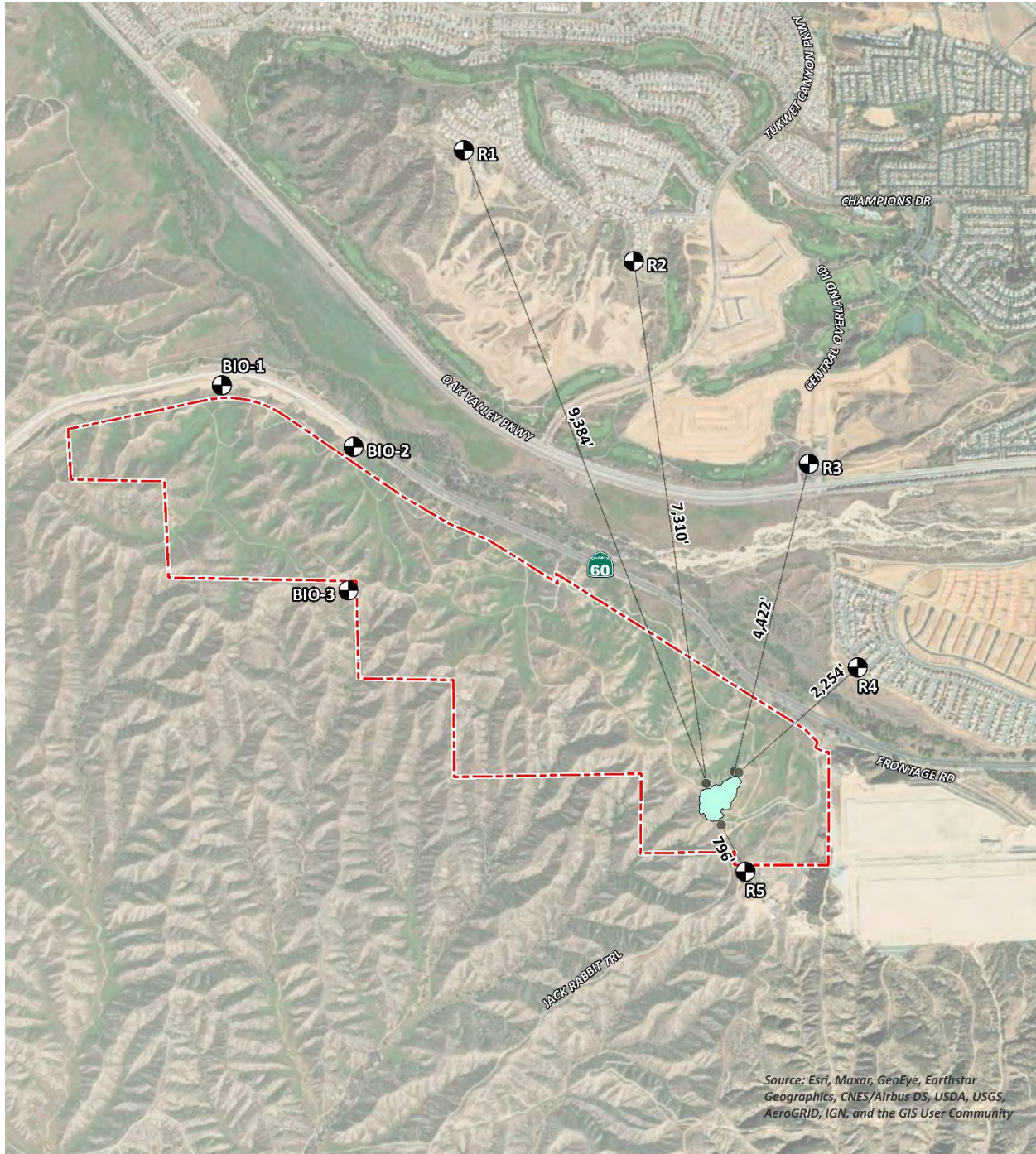
10.7 BLASTING IMPACTS

If blasting is determined to be required during excavation and grading, the blasting contractor is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff’s Department within 24 hours of planned blasting events. According to the Project team, blasting at the site is unlikely. However, if blasting is needed it is expected to be limited to the east ridgeline cut area as shown on Exhibit 10-C. Recognizing that it is unfeasible to foresee all the variables that may be encountered on various project sites, a site-specific blasting plan shall be developed for the project. Blasting shall only be conducted by a licensed blaster. Further, the licensed blaster is required to design all blasts such that they remain below the significance thresholds identified by the USBM in addition to the permitting requirements of the State of California and Riverside County Sheriff’s Department.

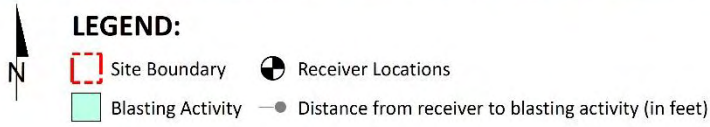
As outlined in Section 3.6, air overpressure regulations are identified by the U.S. Bureau of Mines (USBM) and the ISEE’s Blasters’ Handbook. (9) To analyze blasting impacts originating from the construction of the Beaumont Pointe Project, vibration-generating rock blasting activities are appropriately evaluated against standards established under a City’s Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific blasting noise or

vibration level limits. Therefore, this analysis relies on the following criteria to assess potential temporary construction-related impacts at adjacent receiver locations.

EXHIBIT 10-C: BLASTING NOISE SOURCE LOCATIONS



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



10.7.1 AIRBLAST NOISE LEVELS

Due to the short-term instantaneous nature of blasting, the Project blasting-related airblast levels are based on the 133 dB criteria identified by the USBM and ISEE. The blasting airblast impacts described below represent the worst-case (closest) blast locations describing the potential impacts when measured from the edge of the nearest blast area to the nearest receiver location. When measured at greater distances, the blasts will result in lower airblast noise levels. The blasting calculations are included in Appendix 10.3.

The airblast levels from Project blasts are based on the ISEE’s Blasters’ Handbook equation for partially and substantially confined construction blasts, determined based on the anticipated depth of hard rock in each location. This analysis describes partially confined airblast levels since they are calculated using the Blasters’ Handbook equation for general construction blasting activities. Table 10-7 shows that the calculated airblast levels from the worst-case (closest) Project blasting activities are expected to range from 88 to 111 dB. The Project airblast levels are shown to satisfy the 133 dB airblast threshold at the nearest noise sensitive residential receiver locations. Therefore, the Project-related airblast noise level impacts are considered *less than significant* during construction activities at the Project site.

TABLE 10-7: PROJECT BLASTING AND COMPLIANCE SUMMARY

Receiver Location ¹	Distance to Construction Activity (Feet)	Blasting Levels ²		Threshold ³		Threshold Exceeded? ⁴	
		Airblast (dB)	Vibration (PPV)	Airblast (dB)	Vibration (PPV)	Airblast (dB)	Vibration (PPV)
R1	9,384'	88	0.00	133	0.5	No	No
R2	7,310'	90	0.00	133	0.5	No	No
R3	4,422'	95	0.00	133	0.5	No	No
R4	2,254'	101	0.01	133	0.5	No	No
R5	796'	111	0.05	133	0.5	No	No

¹ Blasting noise source and receiver locations are shown on Exhibit 10-C.

² Based on input data provided by California Drilling & Blasting. Calculations are provided in Appendix A for each blast location.

³ Sources: Vibration threshold obtained from the Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19. Airblast threshold is based on ISEE's Blasters' Handbook, Table 26.17 Typical Air Overpressure Damage Criteria, and U.S. Bureau of Mines standards.

⁴ Do the blast-related airblast and vibration levels exceed the thresholds?

10.7.2 BLASTING VIBRATION

The vibration criteria used in this noise study to assess potential temporary construction-related building damage impacts at adjacent receiver locations are based on the Caltrans *Transportation and Construction Vibration Guidance Manual*, (10 p. 38) Table 19. The blasting vibration impacts described below represent the worst-case (closest) blast locations describing the potential impacts when measured from the edge of the nearest blast area to the nearest receiver location. When measured at greater distances, the blasts will result in lower vibration levels. The blasting calculations are included in Appendix 10.2. Since most of the buildings near the Project site can best be described as “older residential buildings”, Caltrans guidance identifies a maximum acceptable transient peak-particle-velocity (PPV) vibration threshold of 0.5 inches per second

(in/sec). Therefore, the 0.5 PPV (in/sec) vibration threshold is used to evaluate the potential blasting-related vibration levels experienced at the nearby residential homes.

Table 10-7 shows the calculated vibration levels for the worst-case (closest) blast locations near the adjacent residential homes north and west of the Project site. The vibration levels of Project blasts are expected to range from 0.00 to 0.05 in/sec PPV. Table 10-7 shows that the Project blasting vibration levels will remain below the maximum acceptable transient peak-particle-velocity (PPV) vibration threshold 0.5 PPV (in/sec) all the nearby noise sensitive residential receiver locations, and therefore, represent a *less than significant* impact.

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11 REFERENCES

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24. **FHWA.** *Roadway Construction Noise Model.* January 2006.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Beaumont Pointe Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of San Diego • March, 2018
Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:
CITY OF BEAUMONT MUNICIPAL CODE

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Chapter 9.02 - NOISE CONTROL

Footnotes:

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Editor's note— Ord. No. 1067, § 1(Exh. A), adopted Jan. 19, 2016, amended Ch. 9.02 in its entirety to read as herein set out. Former Ch. 9.02, §§ 9.02.010—9.02.110, pertained to similar subject matter, and derived from Ord. No. 914, § 1, adopted July 3, 2007; Ord. 997, adopted May 3, 2011.

9.02.010 - Purpose.

The purpose of this Chapter is to establish criteria and standards for the regulation of noise levels within the City and to implement the noise provisions contained in the City's General Plan.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.020 - Findings.

It is hereby found and declared that:

- A. The making, creation or maintenance of excessive, unnecessary, unnatural or unusually loud noises which are prolonged, unusual and unnatural in their time, place and use, affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the City; and
- B. The necessity for the provisions and prohibitions hereinafter contained and enacted is hereby declared as a matter of legislative determination and public policy. It is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the City.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.030 - Definitions.

"Ambient noise" shall mean the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding any intrusive noise.

"Capital improvement" shall mean major construction, acquisition or maintenance/repair projects. Examples of capital improvements include street improvements, park development and construction of public buildings or structures, treatment plants. Structures include lighting, sewer and water pipelines and other related utility structures including treatment plants, gas, electric and other infrastructure, landscaping and drainage facilities and all other public infrastructure. "Acquisitions" include the acquisition of land or interest in land. Major maintenance/repairs may include street resurfacing and modifications to public buildings and structures.

"Commercial purpose" shall mean the use, operation or maintenance of any sound-amplifying equipment for the purpose of advertising any business, goods or services and/or for the purpose of advertising or attracting the attention of the public to or soliciting patronage for any performance, entertainment, exhibition or event, or for the purpose of demonstrating any such sound equipment.

"Cumulative time period" shall mean a period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" shall mean a measurement unit of sound pressure level which denotes the ratio between two quantities which are proportional to power; the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Governmental agency" shall mean the United States (federal government), the State of California, the County of Riverside, the City of Beaumont, the school district and any special district within Riverside County or any combination of these agencies.

"Impact noise" shall mean the sound produced by the impact or collision of one moving object or mass with a second object or mass that is stationary or moving.

"Intrusive noise" shall mean a sound which intrudes over and above the existing ambient noise level at a given location.

"Motor-driven vehicle" shall include, but not be limited to, any automobile, truck, van, bus, motorcycle, minibike, go-cart or other self-propelled vehicle, on or off road, and aircraft.

"Noise" shall mean any sound that is loud or disturbing or that interferes with one's ability to hear some other sound.

"Noise level" shall mean the "A" weighted sound pressure level in decibels audible to humans obtained by using a sound level meter. The unit of noise level measurement shall be designated as dB(A).

"Person" shall mean a person, firm, association, partnership, joint venture, corporation or any entity, public or private in nature.

"Public property" shall mean property that is owned by any governmental agency as indicated in this section or held by the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Simple tone noise" shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound pressure level of a sound, in decibels" shall mean 20 times the logarithm to the base ten of the ratio of the pressure of this sound to the reference pressure, which reference pressure shall be explicitly stated.

As used in Section 9.02.110(H), "public nuisance" is defined by Civil Code Section 3479.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.040 - Noise level measurement criteria.

- A. Any noise level measurement, made pursuant to the provisions of this Chapter, shall be determined by using a sound level meter that meets the minimum requirements of the American National Standard Institute for sound level meters, or by using an instrument with associated recording and analyzing equipment that will provide equivalent data.
- B. The factors which shall be considered in determining whether a violation of the provisions of this section exists shall include, but not be limited to, the following:

1. The sound level of the objectionable noise;
2. The sound level of the ambient noise;
3. The proximity of the noise to residential sleeping facilities;
4. The nature and zoning of the area within which the noise emanates;
5. The number of persons affected by the noise source;
6. The time of day or night the noise occurs;
7. The duration of the noise and its tonal, informational or musical content;
8. Whether the noise is produced by a commercial or noncommercial activity.

C. The above factors shall be considered in addition to the noise levels set forth in this section in determining a violation. However, noises do not necessarily need to exceed those noise level limits to be considered unnecessary or unusual so as to cause discomfort or annoyance to persons in the area.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.050 - Base ambient noise level.

All ambient noise measurements shall commence at the base ambient noise levels in decibels within the respective times and zones as follows:

Decibels	Time	Zone Use
45 dB(A)	10:00 p.m. — 7:00 a.m.	Residential
55 dB(A)	7:00 a.m. — 10:00 p.m.	Residential
50 dB(A)	10:00 p.m. — 7:00 a.m.	Industrial and Commercial
75 dB(A)	7:00 a.m. — 10:00 p.m.	Industrial and Commercial

Actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level" referred to in this Chapter. Otherwise, no ambient noise shall be deemed to be less than the above specified levels.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.060 - Exterior noise level measurement.

Except as otherwise specifically provided herein, all reference to "exterior noise" or "exterior noise levels" as used in this Chapter shall be as measured at any point relative to the closest point of the source of the noise at the property line of the complaining party. Measurements will not be made during extraordinary times, such as during the movement of a nearby train or airplane.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016.)

9.02.070 - Maximum residential noise levels.

No noise level shall exceed the following for the duration periods specified:

Noise Level Exceeded	Maximum Duration Period
5 dB(A) above BANL	15 minutes any hour
10 dB(A) above BANL	5 minutes any hour
15 dB(A) above BANL	1 minute any hour
20 dB(A) above BANL	Not permitted

(Ord. No. 1067, § 1(Exh. A), 1-19-2016.)

9.02.080 - Maximum interior noise levels.

A. No person shall operate or cause to be operated, any source of sound which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

Decibels	Time	Land Use
35 dB(A)	10:00 p.m. — 7:00 a.m.	Residential
45 dB(A)	7:00 a.m. — 10:00 p.m.	Residential
45 dB(A)	7:00 a.m. — 10:00 p.m. (while school is in session)	School
45 dB(A)	Anytime	Hospital

B. No person shall operate or cause to be operated, any source of sound which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

Noise Level Exceeded	Maximum Duration Period
----------------------	-------------------------

5 dB(A) above interior BANL	5 minutes any hour
10 dB(A) above interior BANL	1 minutes any hour
Over 10 dB(A) above interior BANL	Not permitted

- C. If the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.090 - Maximum nonresidential noise levels.

Any provision contained herein to the contrary notwithstanding, no exterior noise level shall exceed the base ambient noise levels (BANL) for nonresidential land uses set forth in any development agreement applicable to such development or as otherwise specifically set forth in any development standard which is by its terms enforceable by the City against the noise maker.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.100 - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this Chapter:

- A. Capital improvement projects of a governmental agency.
- B. Maintenance and repair of public properties by a governmental agency.
- C. Utility and street repairs, street sweepers, garbage services, emergency response warning noises, emergency generators and fire alarm systems are exempt from this Chapter.
- D. Other public/governmental services or operations including, but not limited to trains and railway or airplanes and helicopter machinery, equipment or vehicles.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.110 - Special provisions.

- A. *Sound Performances and Special Events.* Sound performances and special events not exceeding 95 dB measured at a distance of 50 feet from the loudest source are exempt from this Chapter when approval therefore has been obtained from the appropriate governmental entity.
- B. *Vehicle Horns.* Vehicle horns, back-up warning devices, or other devices primarily intended to create a loud noise for warning purposes, shall be used only when the vehicle is in a situation where life, health or

property are endangered or as required by law.

- C. *Alarm System.* An audible alarm system affixed to a motor vehicle shall be equipped with an automatic shutoff, which shuts off the alarm within a maximum of 15 minutes from the time of activation. Such alarm may not emit a sound similar to the sound emitted by sirens in use on emergency vehicles or to those used for civil defense purposes. For purposes of this section, any variable tone, as opposed to one steady pitch, shall be considered similar to the sound emitted by an emergency vehicle siren. The Police Department is authorized to abate the nuisance of an audible alarm system affixed to a motor vehicle, which sounds beyond 15 minutes by using any means necessary to disconnect the vehicle alarm. The expense of disconnecting the alarm shall be a lien against the motor vehicle and shall be the personal obligation of the owner thereof.
- D. *Radios, Televisions, Stereos, Speakers, etc.* It shall be unlawful for any person, without special permit or as may otherwise be provided in this Chapter, to play, use, operate or permit to be played, used or operated, any radio, television, musical instrument, stereo equipment, or other machine or device used for producing, reproducing or amplifying sound at such sound levels as to cause the sound level to exceed 40 dB(A) as measured within the residence of any complaining person.
- E. *Animals, Fowl, etc.* It shall be unlawful to keep or harbor any animal which emits, between the hours of 11:00 p.m. and 7:00 a.m., any unreasonable sound or cry which disturbs or may disturb the peace and comfort or repose of a reasonable person of normal sensitiveness who resides in the neighborhood or area in which such animal is located or kept. For barking dog, see limitations set forth in Section 6.04.080. This provision shall not apply to farm animals within any zone in which such farm animals are permitted under the Municipal Code.
- F. *Construction, Landscape, Maintenance or Repair.*
1. It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.
 2. Whenever a construction site is within one-quarter of a mile of an occupied residence or residences, no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the building official.
 3. Construction related noise as defined in subsection (F)(1) and (2) above may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector.

Such permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.

4. Unless exempted by this Chapter, if the building official should determine that the public health and safety will not be impaired by the construction related noise, the building inspector may issue a permit for construction within the hours of 6:00 p.m. and 7:00 a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work. The building official may place such conditions on the issuance of the permit that are appropriate to maintain the public health and safety, as determined by the building official.
- G. *Machinery, Equipment, Fans and Air Conditioning.* It shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dB(A).
- H. *Motor Driven Vehicles.* It shall be unlawful for any person to operate any motor driven vehicle within the City that, due to the nature of the operation of the vehicle, or due to the operating condition of the vehicle, or due to any modification made to the vehicle, in such manner as to exceed noise levels set forth in Section 9.02.050 hereof.
1. Exhaust. It shall be unlawful for any person to discharge into the open air the exhaust of any steam engine, stationary internal combustion engine, motorboat or motor driven vehicle except through a muffler or other device which will effectively prevent loud or explosive noises there from.
 2. No person shall use or operate a stereo system, radio, electronic music device, television or similar device in a vehicle on a public street which is audible to a person of normal hearing sensitivity, more than 50 feet from said vehicle.
- I. Notwithstanding any other provisions of this Chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or creates a public nuisance. The standard which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following:
1. The level of noise;
 2. Whether the nature of the noise is usual or unusual;
 3. Whether the origin of the noise is natural or unnatural;
 4. The level and intensity of the background noise, if any;
 5. The proximity of the noise to residential sleeping facilities;
 6. The nature of the zoning of the area within which the noise emanates;
 7. The density of the inhabitation of the area within which the noise emanates;

8. The time of the day and night the noise occurs;
9. Whether the noise is recurrent, intermittent, or constant;
10. The duration of the noise; and
11. Whether the noise is produced by a commercial or noncommercial activity.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.120 - Exception permits.

If the applicant can show to the City manager or designee, that a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements of this Chapter would be impractical or unreasonable, a permit to allow exception from the provisions contained in this Chapter may be issued, with appropriate conditions to minimize the public detriment caused by such exceptions. Any such permit shall be of as short duration as possible, but in no case for longer than six months. These permits are renewable upon a showing of good cause, and shall be conditioned by a schedule for compliance and details of compliance methods in appropriate cases.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.130 - Application between zones.

In applying the regulations set forth in this Chapter, each source of noise shall be subject only to such regulation as shall apply to the zone, including any designated truck route, within which it is located. A use lying adjacent to a zone with a more restrictive noise requirement hereunder shall not be required to conform to that more restrictive requirement. For purposes of this subsection, "zone" shall be as utilized in Title 17 of the Beaumont Municipal Code.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.140 - Penalty for violation.

In the discretion of the Enforcement Officer, any person violating the provisions of this Chapter may be issued an Administrative Citation pursuant to Beaumont Municipal Code Chapter 1.17 or shall be guilty of an infraction pursuant to Beaumont Municipal Code Chapter 1.16. In either case, the amount of the fine shall be the appropriate amount set forth in Section 1.16.030 of this Code. Each such violation shall be deemed a separate offense as specified in Section 1.16.040.

Notwithstanding the foregoing, a first offense may be charged and prosecuted as a misdemeanor, punishable by a fine of \$1,000.00, or six months in jail, or both

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.150 - Additional remedy—Injunction.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provision hereof and which causes discomfort or annoyance to reasonable persons of normal sensitiveness or which endangers the comfort, repose, health or peace of residents in the area shall be deemed,

and is declared to be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

9.02.160 - No mandatory duty created.

No section of this Chapter shall impose a mandatory duty on the City, or on any officer, official, agent, employee, board, council, or commission of the City. Instead, if any section purports to impose a mandatory duty of enforcement, that section shall be deemed to invest the City, and the appropriate officer, official, agent, employee, board, council, or commission with discretion to enforce the section or not to enforce it. A police officer, for example, shall have the discretion to quiet a nuisance without applying standards detailed herein.

(Ord. No. 1067, § 1(Exh. A), 1-19-2016)

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APPENDIX 5.1:
STUDY AREA PHOTOS

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JN:12398 Study Area Photos



L1_E
33, 57' 19.860000", 117, 3' 2.760000"



L1_N
33, 56' 55.840000", 117, 1' 52.550000"



L1_S
33, 57' 19.850000", 117, 3' 2.810000"



L1_W
33, 57' 19.890000", 117, 3' 2.760000"



L2_E
33, 57' 11.480000", 117, 2' 25.290000"



L2_N
33, 57' 11.460000", 117, 2' 25.350000"

JN:12398 Study Area Photos



L2_S

33, 57' 11.470000", 117, 2' 25.320000"



L2_W

33, 57' 11.460000", 117, 2' 25.290000"



L3_E

33, 56' 37.490000", 117, 2' 7.000000"



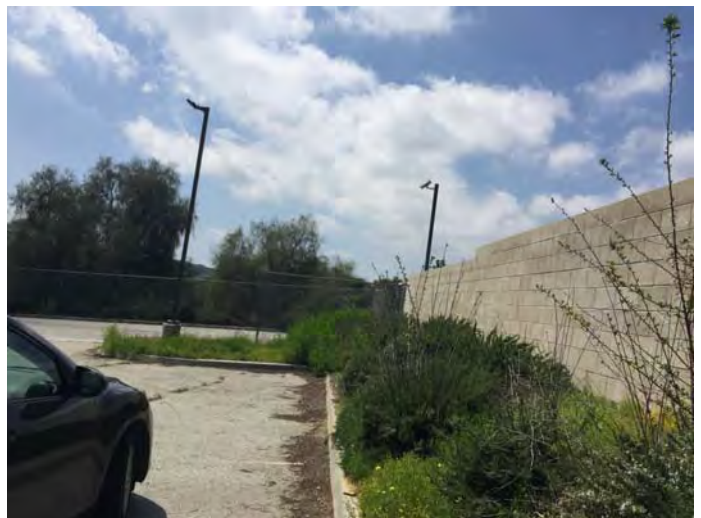
L3_N

33, 56' 40.270000", 117, 0' 14.340000"



L3_S

33, 56' 37.540000", 117, 2' 7.030000"



L3_W

33, 56' 37.520000", 117, 2' 7.000000"

JN:12398 Study Area Photos



L4_E
33, 56' 11.690000", 117, 1' 7.320000"



L4_N
33, 56' 3.300000", 117, 1' 26.190000"



L4_S
33, 56' 3.300000", 117, 1' 26.190000"



L4_W
33, 56' 11.640000", 117, 1' 7.700000"

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APPENDIX 5.2:
NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

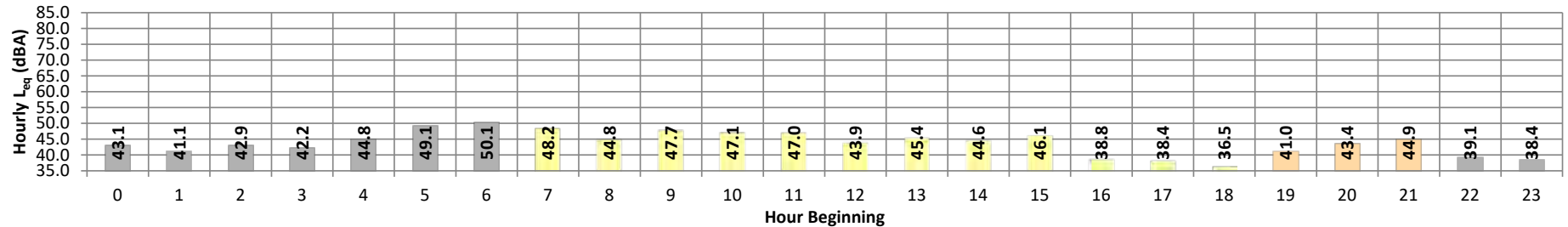
Date: Wednesday, April 22, 2020
Project: Jack Rabbit Trail Development

Location: L1 - Located north of the Project site on Roberts Place near existing single-family residential home at 34945 Roberts Pl.

Meter: Piccolo I

JN: 12398
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}	
Night	0	43.1	57.6	39.3	53.0	51.0	46.0	44.0	41.0	40.0	39.0	39.0	39.0	43.1	10.0	53.1	
	1	41.1	50.7	39.3	45.0	44.0	43.0	42.0	41.0	40.0	39.0	39.0	39.0	41.1	10.0	51.1	
	2	42.9	54.8	39.4	48.0	48.0	46.0	45.0	43.0	41.0	40.0	40.0	40.0	42.9	10.0	52.9	
	3	42.2	50.2	40.4	45.0	44.0	44.0	43.0	42.0	41.0	40.0	40.0	40.0	42.2	10.0	52.2	
	4	44.8	54.7	41.0	49.0	49.0	47.0	47.0	45.0	45.0	44.0	42.0	42.0	41.0	44.8	10.0	54.8
	5	49.1	73.3	41.6	53.0	52.0	51.0	50.0	50.0	48.0	46.0	44.0	43.0	42.0	49.1	10.0	59.1
Day	6	50.1	69.3	43.5	56.0	55.0	54.0	53.0	50.0	48.0	45.0	45.0	44.0	50.1	10.0	60.1	
	7	48.2	72.5	37.7	54.0	53.0	50.0	49.0	47.0	44.0	40.0	39.0	39.0	48.2	0.0	48.2	
	8	44.8	64.6	37.4	54.0	51.0	49.0	47.0	43.0	41.0	39.0	38.0	37.0	44.8	0.0	44.8	
	9	47.7	74.5	34.7	51.0	49.0	46.0	45.0	40.0	38.0	35.0	35.0	35.0	47.7	0.0	47.7	
	10	47.1	72.3	34.7	57.0	52.0	48.0	46.0	40.0	37.0	35.0	35.0	35.0	47.1	0.0	47.1	
	11	47.0	74.2	34.7	57.0	53.0	48.0	45.0	40.0	37.0	35.0	35.0	35.0	47.0	0.0	47.0	
	12	43.9	67.1	34.7	53.0	48.0	46.0	44.0	41.0	38.0	35.0	35.0	35.0	43.9	0.0	43.9	
	13	45.4	68.8	34.7	55.0	53.0	50.0	48.0	43.0	40.0	36.0	35.0	35.0	35.0	45.4	0.0	45.4
	14	44.6	64.3	34.7	54.0	52.0	50.0	48.0	43.0	39.0	35.0	35.0	35.0	35.0	44.6	0.0	44.6
	15	46.1	73.3	34.7	54.0	52.0	50.0	48.0	42.0	39.0	35.0	35.0	35.0	35.0	46.1	0.0	46.1
	16	38.8	53.2	34.7	47.0	45.0	43.0	42.0	38.0	35.0	35.0	35.0	35.0	35.0	38.8	0.0	38.8
	17	38.4	56.2	34.7	48.0	46.0	42.0	41.0	37.0	35.0	35.0	35.0	35.0	35.0	38.4	0.0	38.4
18	36.5	48.2	34.7	42.0	41.0	39.0	38.0	37.0	35.0	35.0	35.0	35.0	35.0	36.5	0.0	36.5	
Evening	19	41.0	55.7	35.6	48.0	46.0	44.0	43.0	41.0	39.0	37.0	37.0	37.0	41.0	5.0	46.0	
	20	43.4	59.6	37.5	52.0	49.0	46.0	45.0	43.0	41.0	39.0	37.0	37.0	43.4	5.0	48.4	
	21	44.9	60.7	36.4	54.0	51.0	49.0	48.0	43.0	41.0	38.0	37.0	37.0	44.9	5.0	49.9	
Night	22	39.1	57.0	34.7	48.0	45.0	43.0	41.0	38.0	37.0	35.0	35.0	35.0	39.1	10.0	49.1	
	23	38.4	55.0	34.7	45.0	43.0	40.0	39.0	37.0	37.0	35.0	35.0	35.0	38.4	10.0	48.4	
Day	Min	36.5	48.2	34.7	42.0	41.0	39.0	38.0	37.0	35.0	35.0	35.0	35.0	24-Hour	Daytime	Nighttime	
	Max	48.2	74.5	37.7	57.0	53.0	50.0	49.0	47.0	44.0	40.0	39.0	39.0				
Energy Average		45.3	Average:		52.2	49.6	46.8	45.1	40.9	38.2	35.8	35.6	35.5	45.1	45.0	45.2	
Evening		41.0	55.7	35.6	48.0	46.0	44.0	43.0	41.0	39.0	37.0	37.0	37.0				
Max		44.9	60.7	37.5	54.0	51.0	49.0	48.0	43.0	41.0	39.0	37.0	37.0	24-Hour CNEL (dBA)			
Energy Average		43.4	Average:		51.3	48.7	46.3	45.3	42.3	40.3	38.0	37.0	37.0	51.8			
Night	Min	38.4	50.2	34.7	45.0	43.0	40.0	39.0	37.0	37.0	35.0	35.0	35.0				
	Max	50.1	73.3	43.5	56.0	55.0	54.0	53.0	50.0	48.0	45.0	45.0	44.0				
Energy Average		45.2	Average:		49.1	47.9	46.0	44.9	42.8	41.6	39.9	39.8	39.4				

24-Hour Noise Level Measurement Summary

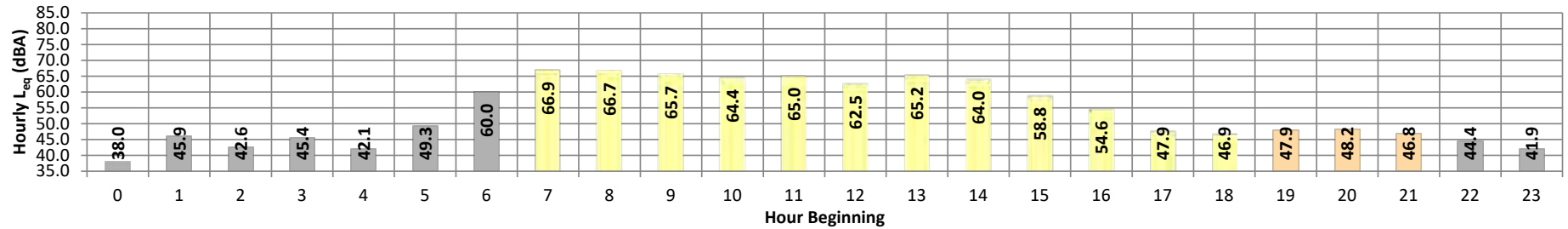
Date: Wednesday, April 22, 2020
Project: Jack Rabbit Trail Development

Location: L2 - Located north of the Project site on Mickelson Drive near existing single-family residential homes.

Meter: Piccolo II

JN: 12398
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	38.0	43.8	34.3	43.4	43.1	42.1	41.4	38.5	36.6	34.8	34.6	34.4	38.0	10.0	48.0
	1	45.9	56.1	37.8	55.8	53.8	51.5	51.5	42.7	40.3	38.6	38.3	38.0	45.9	10.0	55.9
	2	42.6	51.7	37.4	50.8	49.3	47.1	46.3	42.4	39.8	37.9	37.7	37.5	42.6	10.0	52.6
	3	45.4	54.5	41.1	54.0	53.0	50.3	48.3	45.5	43.8	41.8	41.6	41.3	45.4	10.0	55.4
	4	42.1	49.4	38.2	49.0	48.5	46.7	44.9	42.3	40.6	38.8	38.6	38.3	42.1	10.0	52.1
	5	49.3	60.0	40.0	59.6	59.0	56.7	54.4	47.8	42.6	40.6	40.4	40.1	49.3	10.0	59.3
Day	6	60.0	68.1	54.0	67.7	67.1	65.7	64.3	60.3	57.6	55.0	54.7	54.2	60.0	10.0	70.0
	7	66.9	70.9	62.6	70.7	70.4	69.9	69.4	67.8	66.3	63.8	63.3	62.8	66.9	0.0	66.9
	8	66.7	71.6	62.2	71.3	71.0	70.1	69.4	67.6	66.0	63.5	63.0	62.5	66.7	0.0	66.7
	9	65.7	71.2	61.4	70.9	70.5	69.2	68.2	66.3	64.9	62.6	62.1	61.6	65.7	0.0	65.7
	10	64.4	69.6	59.8	69.3	68.9	67.8	67.2	65.4	63.5	61.1	60.7	60.1	64.4	0.0	64.4
	11	65.0	70.4	60.6	70.1	69.7	68.4	67.6	65.8	64.1	61.9	61.4	60.8	65.0	0.0	65.0
	12	62.5	67.8	58.1	67.6	67.3	66.5	65.7	63.3	61.4	59.1	58.7	58.3	62.5	0.0	62.5
	13	65.2	69.5	61.3	69.2	68.9	68.2	67.6	66.1	64.7	62.4	62.0	61.5	65.2	0.0	65.2
	14	64.0	69.2	58.9	68.9	68.6	67.6	66.9	65.0	63.0	60.2	59.7	59.1	64.0	0.0	64.0
	15	58.8	67.2	52.8	66.9	66.3	64.9	62.8	58.8	56.6	54.0	53.5	53.0	58.8	0.0	58.8
	16	54.6	67.3	40.2	66.6	65.7	63.0	59.5	50.0	45.9	41.4	40.8	40.3	54.6	0.0	54.6
	17	47.9	58.2	36.0	57.7	56.9	54.6	53.1	47.5	43.1	37.6	36.9	36.2	47.9	0.0	47.9
Evening	18	46.9	57.3	34.5	56.7	56.1	54.5	52.7	45.9	40.9	35.6	35.2	34.6	46.9	0.0	46.9
	19	47.9	57.3	37.7	56.8	56.3	54.8	53.3	47.6	43.6	39.1	38.6	37.9	47.9	5.0	52.9
	20	48.2	57.4	37.4	57.1	56.8	55.5	54.2	47.4	43.3	38.6	38.0	37.6	48.2	5.0	53.2
Night	21	46.8	53.7	41.4	53.3	52.8	51.7	50.6	47.7	45.0	42.4	42.0	41.5	46.8	5.0	51.8
	22	44.4	52.3	39.9	52.0	51.5	49.9	48.2	44.1	42.4	40.6	40.4	40.0	44.4	10.0	54.4
Night	23	41.9	50.5	36.2	50.0	49.5	47.8	46.4	41.8	39.1	36.8	36.6	36.3	41.9	10.0	51.9
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	46.9	57.3	34.5	56.7	56.1	54.5	52.7	45.9	40.9	35.6	35.2	34.6	24-Hour	Daytime	Nighttime
	Max	66.9	71.6	62.6	71.3	71.0	70.1	69.4	67.8	66.3	63.8	63.3	62.8			
Energy Average		63.7	Average:		67.1	66.7	65.4	64.2	60.8	58.4	55.3	54.8	54.2	60.9	62.7	51.4
Evening	Min	46.8	53.7	37.4	53.3	52.8	51.7	50.6	47.4	43.3	38.6	38.0	37.6	24-Hour CNEL (dBA)		
	Max	48.2	57.4	41.4	57.1	56.8	55.5	54.2	47.7	45.0	42.4	42.0	41.5			
Energy Average		47.7	Average:		55.7	55.3	54.0	52.7	47.6	44.0	40.0	39.5	39.0			
Night	Min	38.0	43.8	34.3	43.4	43.1	42.1	41.4	38.5	36.6	34.8	34.6	34.4	62.3		
	Max	60.0	68.1	54.0	67.7	67.1	65.7	64.3	60.3	57.6	55.0	54.7	54.2			
Energy Average		51.4	Average:		53.6	53.0	51.1	49.5	45.1	42.5	40.6	40.3	40.0			

24-Hour Noise Level Measurement Summary

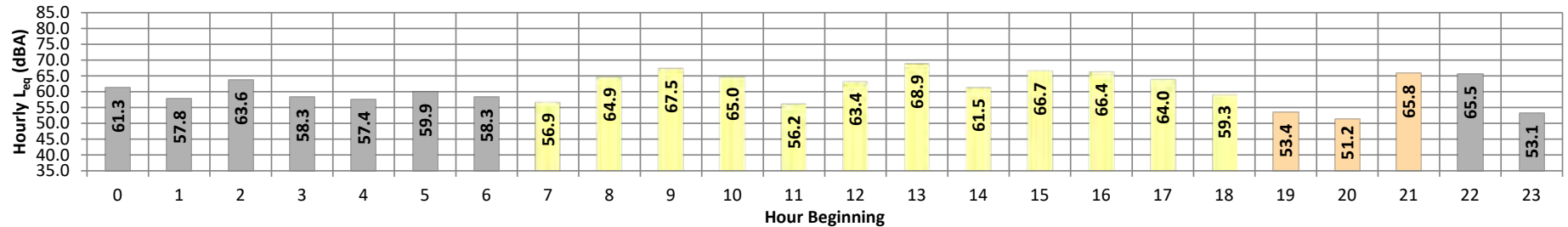
Date: Wednesday, April 22, 2020
Project: Jack Rabbit Trail Development

Location: L3 - Located north east of the Project site by Oak Valley Parkway near the Tukwet Canyon Golf Course.

Meter: Piccolo I

JN: 12398
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}	
Night	0	61.3	81.3	48.6	75.0	69.0	62.0	60.0	56.0	53.0	49.0	49.0	48.0	61.3	10.0	71.3	
	1	57.8	69.5	51.2	63.0	63.0	61.0	61.0	58.0	56.0	54.0	53.0	52.0	57.8	10.0	67.8	
	2	63.6	79.3	49.4	76.0	74.0	69.0	66.0	59.0	54.0	51.0	51.0	50.0	63.6	10.0	73.6	
	3	58.3	67.7	49.2	65.0	64.0	63.0	62.0	59.0	56.0	52.0	51.0	50.0	58.3	10.0	68.3	
	4	57.4	71.9	50.2	62.0	61.0	59.0	59.0	57.0	56.0	54.0	53.0	52.0	57.4	10.0	67.4	
	5	59.9	75.7	51.5	68.0	66.0	62.0	62.0	60.0	60.0	58.0	53.0	53.0	52.0	59.9	10.0	69.9
Day	6	58.3	75.5	50.1	66.0	65.0	63.0	62.0	57.0	55.0	52.0	51.0	50.0	58.3	10.0	68.3	
	7	56.9	67.8	48.5	64.0	64.0	63.0	62.0	56.0	52.0	50.0	49.0	49.0	56.9	0.0	56.9	
	8	64.9	80.0	48.6	75.0	73.0	71.0	70.0	62.0	54.0	50.0	49.0	49.0	64.9	0.0	64.9	
	9	67.5	87.2	43.5	80.0	77.0	72.0	70.0	63.0	59.0	47.0	46.0	44.0	67.5	0.0	67.5	
	10	65.0	87.2	45.0	77.0	71.0	67.0	64.0	56.0	53.0	47.0	46.0	46.0	65.0	0.0	65.0	
	11	56.2	70.1	50.1	63.0	62.0	59.0	57.0	56.0	55.0	53.0	52.0	51.0	56.2	0.0	56.2	
	12	63.4	80.7	43.8	74.0	72.0	71.0	70.0	57.0	57.0	55.0	49.0	47.0	63.4	0.0	63.4	
	13	68.9	86.5	50.4	81.0	79.0	74.0	73.0	64.0	59.0	54.0	54.0	53.0	52.0	68.9	0.0	68.9
	14	61.5	82.1	47.7	74.0	70.0	62.0	60.0	57.0	57.0	55.0	52.0	51.0	50.0	61.5	0.0	61.5
	15	66.7	81.8	47.7	74.0	73.0	72.0	71.0	68.0	58.0	58.0	52.0	51.0	49.0	66.7	0.0	66.7
	16	66.4	82.0	51.1	73.0	73.0	72.0	71.0	66.0	64.0	57.0	54.0	52.0	52.0	66.4	0.0	66.4
	17	64.0	80.0	44.5	76.0	74.0	72.0	68.0	58.0	54.0	54.0	50.0	48.0	46.0	64.0	0.0	64.0
Evening	18	59.3	72.5	44.7	67.0	65.0	63.0	62.0	60.0	58.0	49.0	48.0	45.0	59.3	0.0	59.3	
	19	53.4	74.3	43.7	62.0	60.0	57.0	55.0	50.0	47.0	44.0	44.0	43.0	53.4	5.0	58.4	
	20	51.2	68.6	43.8	60.0	58.0	55.0	54.0	50.0	48.0	46.0	45.0	44.0	51.2	5.0	56.2	
Night	21	65.8	82.2	43.7	80.0	77.0	72.0	67.0	57.0	50.0	46.0	45.0	44.0	65.8	5.0	70.8	
	22	65.5	85.1	43.9	79.0	74.0	71.0	69.0	50.0	46.0	44.0	44.0	44.0	65.5	10.0	75.5	
	23	53.1	78.1	43.7	59.0	55.0	52.0	51.0	49.0	47.0	44.0	44.0	44.0	53.1	10.0	63.1	
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)			
Day	Min	56.2	67.8	43.5	63.0	62.0	59.0	57.0	56.0	52.0	47.0	46.0	44.0	24-Hour	Daytime	Nighttime	
	Max	68.9	87.2	51.1	81.0	79.0	74.0	73.0	68.0	64.0	57.0	54.0	52.0				
Energy Average		64.8	Average:		73.2	71.1	68.2	66.5	60.3	56.3	50.8	49.5	48.2				
Evening	Min	51.2	68.6	43.7	60.0	58.0	55.0	54.0	50.0	47.0	44.0	44.0	43.0				
	Max	65.8	82.2	43.8	80.0	77.0	72.0	67.0	57.0	50.0	46.0	45.0	44.0				
Energy Average		61.4	Average:		67.3	65.0	61.3	58.7	52.3	48.3	45.3	44.7	43.7				
Night	Min	53.1	67.7	43.7	59.0	55.0	52.0	51.0	49.0	46.0	44.0	44.0	44.0				
	Max	65.5	85.1	51.5	79.0	74.0	71.0	69.0	60.0	58.0	54.0	53.0	52.0				
Energy Average		60.8	Average:		68.1	65.7	62.4	61.3	56.1	53.4	50.3	49.9	49.1				
														68.2			

24-Hour Noise Level Measurement Summary

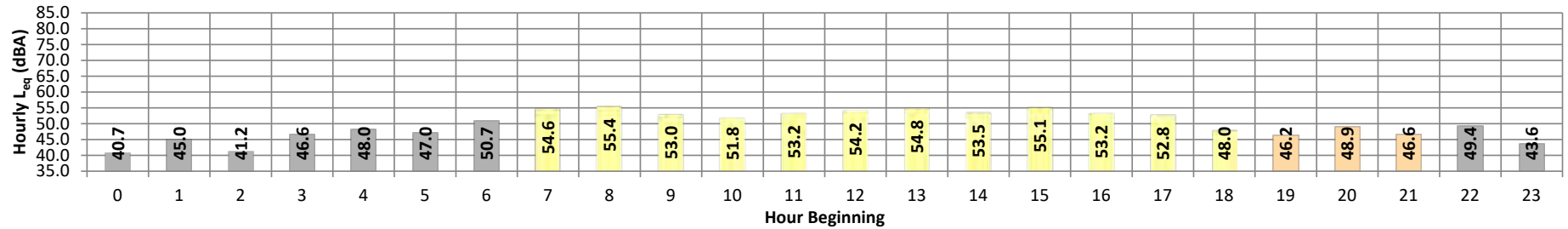
Date: Wednesday, April 22, 2020
Project: Jack Rabbit Trail Development

Location: L4 - located north east of the Project site on Olivewood near the Olivewood housing community.

Meter: Piccolo II

JN: 12398
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	40.7	46.4	38.3	46.1	45.6	44.0	42.8	40.9	39.8	38.7	38.5	38.3	40.7	10.0	50.7
	1	45.0	49.6	42.3	49.3	48.9	47.8	47.0	45.7	44.4	42.9	42.7	42.5	45.0	10.0	55.0
	2	41.2	48.5	38.1	48.1	47.8	45.9	44.4	40.7	39.5	38.5	38.3	38.1	41.2	10.0	51.2
	3	46.6	52.1	42.9	51.8	51.5	50.2	49.1	47.1	45.9	43.6	43.3	43.0	46.6	10.0	56.6
	4	48.0	59.5	40.6	59.3	59.0	55.8	52.8	43.7	42.1	41.0	40.8	40.7	48.0	10.0	58.0
	5	47.0	56.5	43.3	56.1	55.6	52.2	49.6	46.1	45.0	43.9	43.6	43.4	47.0	10.0	57.0
Day	6	50.7	61.0	45.0	60.8	60.2	57.4	55.1	49.0	47.0	45.5	45.3	45.0	50.7	10.0	60.7
	7	54.6	66.4	44.2	66.0	65.5	63.4	60.1	49.8	46.6	44.8	44.6	44.3	54.6	0.0	54.6
	8	55.4	65.9	43.4	65.7	65.3	63.4	61.4	52.9	47.6	44.1	43.8	43.5	55.4	0.0	55.4
	9	53.0	63.2	45.9	62.8	62.1	59.8	57.9	51.5	48.6	46.6	46.3	46.0	53.0	0.0	53.0
	10	51.8	63.5	40.1	63.1	62.3	59.8	57.1	48.4	43.9	40.9	40.7	40.3	51.8	0.0	51.8
	11	53.2	63.7	39.4	63.5	63.2	61.4	59.2	50.8	45.1	40.4	40.0	39.6	53.2	0.0	53.2
	12	54.2	64.4	39.3	64.1	63.8	62.2	60.4	52.4	46.4	41.1	40.1	39.4	54.2	0.0	54.2
	13	54.8	65.6	42.1	65.3	64.9	62.7	60.6	52.8	47.4	43.1	42.7	42.3	54.8	0.0	54.8
	14	53.5	65.0	44.6	64.5	63.7	61.0	58.2	50.7	47.9	45.5	45.2	44.7	53.5	0.0	53.5
	15	55.1	68.1	41.4	67.7	66.9	63.1	59.5	49.5	45.3	42.3	41.9	41.5	55.1	0.0	55.1
	16	53.2	65.0	40.4	64.6	64.0	62.0	59.0	48.1	44.5	41.5	41.0	40.6	53.2	0.0	53.2
	17	52.8	63.8	38.6	63.4	62.8	60.7	58.8	49.9	44.0	39.8	39.3	38.8	52.8	0.0	52.8
Evening	18	48.0	59.7	38.2	59.2	58.4	55.4	52.7	45.7	41.9	39.1	38.7	38.3	48.0	0.0	48.0
	19	46.2	54.5	41.0	54.1	53.7	52.1	50.6	45.6	43.7	41.8	41.5	41.1	46.2	5.0	51.2
	20	48.9	60.4	41.8	59.6	58.7	56.2	53.1	46.7	44.8	42.6	42.3	41.9	48.9	5.0	53.9
Night	21	46.6	53.7	42.7	53.3	52.6	50.7	49.2	46.9	45.4	43.5	43.2	42.8	46.6	5.0	51.6
	22	49.4	54.7	46.4	54.5	54.0	52.4	51.4	49.7	48.8	47.1	46.9	46.6	49.4	10.0	59.4
	23	43.6	50.5	39.4	50.2	49.7	48.0	46.7	43.8	42.3	40.1	39.9	39.5	43.6	10.0	53.6
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	48.0	59.7	38.2	59.2	58.4	55.4	52.7	45.7	41.9	39.1	38.7	38.3	24-Hour	Daytime	Nighttime
	Max	55.4	68.1	45.9	67.7	66.9	63.4	61.4	52.9	48.6	46.6	46.3	46.0			
Energy Average		53.6	Average:		64.1	63.6	61.2	58.7	50.2	45.8	42.4	42.0	41.6	51.5	52.9	46.9
Evening	Min	46.2	53.7	41.0	53.3	52.6	50.7	49.2	45.6	43.7	41.8	41.5	41.1			
	Max	48.9	60.4	42.7	59.6	58.7	56.2	53.1	46.9	45.4	43.5	43.2	42.8			
Energy Average		47.4	Average:		55.7	55.0	53.0	51.0	46.4	44.6	42.6	42.3	42.0	55.1		
Night	Min	40.7	46.4	38.1	46.1	45.6	44.0	42.8	40.7	39.5	38.5	38.3	38.1			
	Max	50.7	61.0	46.4	60.8	60.2	57.4	55.1	49.7	48.8	47.1	46.9	46.6			
Energy Average		46.9	Average:		52.9	52.5	50.4	48.8	45.2	43.9	42.4	42.1	41.9			

24-Hour Noise Level Measurement Summary

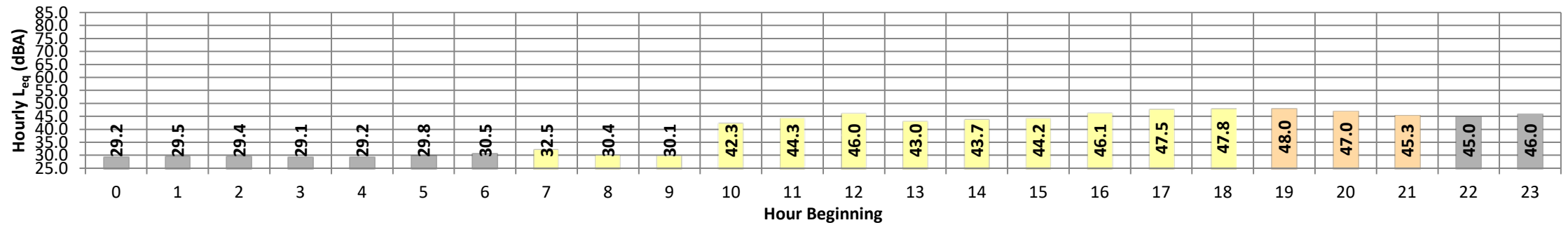
Date: Tuesday, November 24, 2020
Project: Jack Rabbit Trail Development

Location: L5 - Located in the southeast portion of the Project site on Jack Rabbit Trail by the Hoy Ranch to the south.

Meter: Piccolo II

JN: 12398
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	29.2	29.8	28.9	29.7	29.6	29.5	29.4	29.3	29.2	29.0	28.9	28.9	29.2	10.0	39.2
	1	29.5	33.8	28.9	33.5	32.9	31.3	30.5	29.3	29.1	28.9	28.9	28.9	29.5	10.0	39.5
	2	29.4	30.4	28.8	30.2	30.1	30.0	29.9	29.7	29.3	28.9	28.9	28.9	29.4	10.0	39.4
	3	29.1	29.3	28.9	29.3	29.3	29.2	29.2	29.1	29.0	29.0	29.0	28.9	29.1	10.0	39.1
	4	29.2	29.9	29.0	29.8	29.8	29.6	29.5	29.3	29.2	29.1	29.0	29.0	29.2	10.0	39.2
	5	29.8	32.1	29.3	31.6	31.2	30.7	30.4	30.4	30.0	29.6	29.4	29.4	29.3	29.8	10.0
Day	6	30.5	32.8	29.7	32.4	32.1	31.7	31.3	30.7	30.3	29.9	29.9	29.8	30.5	10.0	40.5
	7	32.5	38.9	30.2	38.1	37.2	35.7	34.9	32.7	31.4	30.5	30.4	30.3	32.5	0.0	32.5
	8	30.4	35.7	29.5	34.6	33.5	31.8	31.3	30.5	30.0	29.6	29.6	29.5	30.4	0.0	30.4
	9	30.1	33.9	29.0	33.3	32.8	32.0	31.6	30.4	29.7	29.2	29.1	29.1	30.1	0.0	30.1
	10	42.3	50.9	34.4	50.6	50.4	49.6	48.7	40.9	37.6	35.3	35.0	34.6	42.3	0.0	42.3
	11	44.3	55.1	34.4	55.0	54.4	51.2	48.5	43.1	39.8	35.6	35.0	34.5	44.3	0.0	44.3
	12	46.0	55.1	35.0	54.6	54.1	52.5	51.1	46.4	41.9	36.2	35.6	35.1	46.0	0.0	46.0
	13	43.0	48.3	39.0	48.0	47.6	46.4	45.7	43.9	42.0	39.8	39.5	39.1	43.0	0.0	43.0
	14	43.7	52.2	39.4	51.6	51.2	48.8	46.7	43.3	42.0	40.3	39.9	39.5	43.7	0.0	43.7
	15	44.2	50.9	40.5	49.9	49.0	47.6	46.7	44.9	43.3	42.0	41.4	41.0	44.2	0.0	44.2
	16	46.1	71.2	42.6	70.8	69.6	66.4	62.0	48.5	45.4	43.5	43.1	42.8	46.1	0.0	46.1
	17	47.5	52.1	44.6	51.9	51.5	50.6	50.0	48.1	46.8	45.3	45.1	44.8	47.5	0.0	47.5
18	47.8	52.5	44.0	52.2	51.8	50.9	50.4	48.6	47.2	45.0	44.6	44.2	47.8	0.0	47.8	
Evening	19	48.0	52.2	44.9	51.9	51.7	50.8	50.1	48.6	47.4	45.7	45.4	45.0	48.0	5.0	53.0
	20	47.0	51.2	44.0	50.9	50.5	49.7	49.2	47.7	46.5	44.8	44.5	44.1	47.0	5.0	52.0
	21	45.3	49.8	41.6	49.6	49.3	48.3	47.6	46.0	44.7	42.7	42.2	41.8	45.3	5.0	50.3
Night	22	45.0	49.4	41.7	49.1	48.7	47.9	47.4	45.7	44.5	42.6	42.2	41.8	45.0	10.0	55.0
	23	46.0	52.6	41.0	52.3	52.0	50.9	50.0	46.0	44.5	42.1	41.7	41.1	46.0	10.0	56.0
Day	Min	30.1	33.9	29.0	33.3	32.8	31.8	31.3	30.4	29.7	29.2	29.1	29.1	24-Hour	Daytime	Nighttime
	Max	47.8	71.2	44.6	70.8	69.6	66.4	62.0	48.6	47.2	45.3	45.1	44.8			
Energy Average		44.2	Average:		49.2	48.6	47.0	45.6	41.8	39.8	37.6	37.3	37.0	43.5	44.9	39.4
Evening	Min	45.3	49.8	41.6	49.6	49.3	48.3	47.6	46.0	44.7	42.7	42.2	41.8			
	Max	48.0	52.2	44.9	51.9	51.7	50.8	50.1	48.6	47.4	45.7	45.4	45.0	24-Hour CNEL (dBA)		
Energy Average		46.9	Average:		50.8	50.5	49.6	49.0	47.5	46.2	44.4	44.0	43.6	48.1		
Night	Min	29.1	29.3	28.8	29.3	29.3	29.2	29.2	29.1	29.0	28.9	28.9	28.9			
	Max	46.0	52.6	41.7	52.3	52.0	50.9	50.0	46.0	44.5	42.6	42.2	41.8			
Energy Average		39.4	Average:		35.3	35.1	34.5	34.2	33.2	32.7	32.1	32.0	31.8			

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APPENDIX 7.1:
OFF-SITE TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: Existing Without Project Road Name: 4th St. Road Segment: e/o Veile Av.			Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data Average Daily Traffic (Adt): 1,746 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 145 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet			Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Vehicle Mix				
			Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
			Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet) Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.07	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-25.69	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-22.16	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	56.5	55.4	53.6	47.6	56.2	56.8	
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2	
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0	
Vehicle Noise:	62.7	61.9	56.0	54.1	62.6	62.8	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		14	30	65	140		
CNEL:		15	31	68	146		

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: Existing + Project Phase 1 Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.			Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data Average Daily Traffic (Adt): 2,836 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 236 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet			Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Vehicle Mix				
			Autos: 77.5% 12.9% 9.6% 93.55% Medium Trucks: 84.8% 4.9% 10.3% 1.98% Heavy Trucks: 86.5% 2.7% 10.8% 4.46%				
			Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet) Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.88	-0.69	-1.20	-4.71	0.000	0.000
Medium Trucks:	77.72	-24.62	-0.67	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.10	-0.67	-1.20	-5.29	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	56.7	55.6	53.9	47.8	56.4	57.0	
Medium Trucks:	51.2	50.5	44.2	42.6	51.1	51.3	
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1	
Vehicle Noise:	62.1	61.3	55.8	53.5	61.9	62.2	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		19	42	90	194		
CNEL:		20	44	94	203		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: Existing Without Project Road Name: 4th St. Road Segment: w/o Potrero Bl.			Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data Average Daily Traffic (Adt): 162 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 13 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet			Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Vehicle Mix				
			Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
			Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet) Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-20.40	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-36.01	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-32.49	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	47.6	46.4	44.7	38.6	47.2	47.9	
Medium Trucks:	43.2	42.5	36.1	34.6	43.0	43.3	
Heavy Trucks:	52.0	51.4	42.3	43.6	51.9	52.1	
Vehicle Noise:	53.7	53.0	47.0	45.2	53.6	53.9	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		3	6	12	27		
CNEL:		3	6	13	28		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: Existing + Project Phase 1 Road Name: California Av. Road Segment: n/o 6th St.			Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data Average Daily Traffic (Adt): 2,029 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 169 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet			Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Vehicle Mix				
			Autos: 77.5% 12.9% 9.6% 92.30% Medium Trucks: 84.8% 4.9% 10.3% 2.37% Heavy Trucks: 86.5% 2.7% 10.8% 5.33%				
			Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet) Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.40	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-25.30	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-21.78	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	58.6	57.4	55.7	49.6	58.2	58.9	
Medium Trucks:	53.9	53.2	46.8	45.3	53.7	54.0	
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8	
Vehicle Noise:	64.5	63.8	57.9	56.0	64.4	64.6	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		14	30	65	139		
CNEL:		14	31	67	145		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing + Project Phase 1 Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,392 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 449 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 77.5% 12.9% 9.6% 92.73% Medium Trucks: 84.8% 4.9% 10.3% 2.24% Heavy Trucks: 86.5% 2.7% 10.8% 5.03%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-6.10	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-22.27	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-18.75	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.5	62.4	60.6	54.6	63.2	63.8			
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2			
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1			
Vehicle Noise:	68.4	67.6	62.3	59.8	68.2	68.5			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			46	99	213	458			
CNEL:			48	103	222	479			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing + Project Phase 1 Road Name: 4th St. Road Segment: e/o Velle Av.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 2,843 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 237 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 77.5% 12.9% 9.6% 90.36% Medium Trucks: 84.8% 4.9% 10.3% 3.52% Heavy Trucks: 86.5% 2.7% 10.8% 6.12%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-8.02	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-22.12	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-19.71	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	58.6	57.5	55.7	49.6	58.3	58.9			
Medium Trucks:	55.7	55.0	48.6	47.1	55.5	55.8			
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5			
Vehicle Noise:	65.1	64.4	58.3	56.6	65.0	65.3			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			21	44	95	205			
CNEL:			21	46	99	213			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing + Project Phase 1 Road Name: 4th St. Road Segment: e/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,972 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 414 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 77.5% 12.9% 9.6% 88.56% Medium Trucks: 84.8% 4.9% 10.3% 4.15% Heavy Trucks: 86.5% 2.7% 10.8% 7.29%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-5.68	-0.62	-1.20	-4.69	0.000	0.000		
Medium Trucks:	77.72	-18.97	-0.60	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	82.99	-16.53	-0.60	-1.20	-5.35	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	59.0	57.9	56.1	50.1	58.7	59.3			
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0			
Heavy Trucks:	64.7	64.0	55.0	56.2	64.6	64.7			
Vehicle Noise:	66.2	65.5	59.2	57.7	66.1	66.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			33	70	151	326			
CNEL:			34	73	157	338			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing + Project Phase 1 Road Name: 4th St. Road Segment: w/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 3,100 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 258 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet					Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees					Autos: 77.5% 12.9% 9.6% 82.67% Medium Trucks: 84.8% 4.9% 10.3% 7.36% Heavy Trucks: 86.5% 2.7% 10.8% 9.97%				
					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-8.03	2.64	-1.20	-4.52	0.000	0.000		
Medium Trucks:	77.72	-18.54	2.69	-1.20	-4.86	0.000	0.000		
Heavy Trucks:	82.99	-17.22	2.69	-1.20	-5.69	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	59.9	58.8	57.0	51.0	59.6	60.2			
Medium Trucks:	60.7	60.0	53.6	52.0	60.5	60.7			
Heavy Trucks:	67.3	66.6	57.6	58.8	67.2	67.3			
Vehicle Noise:	68.7	68.0	61.2	60.2	68.6	68.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			27	58	124	267			
CNEL:			28	59	128	276			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																							
Scenario: Existing + Project P1+2 Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.				Project Name: Jack Rabbit Trail Develop Job Number: 12398																																			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																			
Highway Data Average Daily Traffic (Adt): 4,689 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 391 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																			
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix <table border="1"> <tr><th>VehicleType</th><th>Day</th><th>Evening</th><th>Night</th><th>Daily</th></tr> <tr><td>Autos</td><td>77.5%</td><td>12.9%</td><td>9.6%</td><td>96.10%</td></tr> <tr><td>Medium Trucks</td><td>84.8%</td><td>4.9%</td><td>10.3%</td><td>1.20%</td></tr> <tr><td>Heavy Trucks</td><td>86.5%</td><td>2.7%</td><td>10.8%</td><td>2.70%</td></tr> </table>				VehicleType	Day	Evening	Night	Daily	Autos	77.5%	12.9%	9.6%	96.10%	Medium Trucks	84.8%	4.9%	10.3%	1.20%	Heavy Trucks	86.5%	2.7%	10.8%	2.70%												
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Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				Lane Equivalent Distance (in feet) Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562																																			
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Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks	51.2	50.5	44.2	42.6	51.1	51.3
Heavy Trucks	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise	62.9	62.1	57.4	54.2	62.7	63.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	22	47	102	219	
CNEL:	23	50	107	230	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																							
Scenario: Existing + Project P1+2 Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398																																			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																			
Highway Data Average Daily Traffic (Adt): 7,245 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 603 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet				Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																			
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Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos	64.9	63.8	62.0	55.9	64.6	65.2
Medium Trucks	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise	68.9	68.1	63.3	60.3	68.7	69.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	49	106	229	493	
CNEL:	52	112	240	518	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																							
Scenario: Existing + Project P1+2 Road Name: California Av. Road Segment: n/o 6th St.				Project Name: Jack Rabbit Trail Develop Job Number: 12398																																			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																			
Highway Data Average Daily Traffic (Adt): 2,399 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 200 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																			
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix <table border="1"> <tr><th>VehicleType</th><th>Day</th><th>Evening</th><th>Night</th><th>Daily</th></tr> <tr><td>Autos</td><td>77.5%</td><td>12.9%</td><td>9.6%</td><td>93.49%</td></tr> <tr><td>Medium Trucks</td><td>84.8%</td><td>4.9%</td><td>10.3%</td><td>2.00%</td></tr> <tr><td>Heavy Trucks</td><td>86.5%</td><td>2.7%</td><td>10.8%</td><td>4.51%</td></tr> </table>				VehicleType	Day	Evening	Night	Daily	Autos	77.5%	12.9%	9.6%	93.49%	Medium Trucks	84.8%	4.9%	10.3%	2.00%	Heavy Trucks	86.5%	2.7%	10.8%	4.51%												
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Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos	59.3	58.2	56.5	50.4	59.0	59.6
Medium Trucks	53.9	53.2	46.8	45.3	53.7	54.0
Heavy Trucks	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise	64.7	64.0	58.4	56.1	64.6	64.9

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	14	31	67	144	
CNEL:	15	32	70	150	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																							
Scenario: Existing + Project P1+2 Road Name: 4th St. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398																																			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																			
Highway Data Average Daily Traffic (Adt): 8,794 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 733 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																			
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Vehicle Mix <table border="1"> <tr><th>VehicleType</th><th>Day</th><th>Evening</th><th>Night</th><th>Daily</th></tr> <tr><td>Autos</td><td>77.5%</td><td>12.9%</td><td>9.6%</td><td>83.78%</td></tr> <tr><td>Medium Trucks</td><td>84.8%</td><td>4.9%</td><td>10.3%</td><td>6.91%</td></tr> <tr><td>Heavy Trucks</td><td>86.5%</td><td>2.7%</td><td>10.8%</td><td>9.32%</td></tr> </table>				VehicleType	Day	Evening	Night	Daily	Autos	77.5%	12.9%	9.6%	83.78%	Medium Trucks	84.8%	4.9%	10.3%	6.91%	Heavy Trucks	86.5%	2.7%	10.8%	9.32%												
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Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos	61.2	60.1	58.4	52.3	60.9	61.5
Medium Trucks	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks	68.2	67.6	58.5	59.8	68.1	68.3
Vehicle Noise	69.7	69.0	62.3	61.2	69.6	69.8

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	56	120	259	557	
CNEL:	58	124	267	575	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																														
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Autos:	65.5	64.4	62.6	56.5	65.2	65.8																																								
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2																																								
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1																																								
Vehicle Noise:	69.1	68.3	63.8	60.5	69.0	69.3																																								
Centerline Distance to Noise Contour (in feet)																																														
<table border="1"> <thead> <tr> <th></th> <th>70 dBA</th> <th>65 dBA</th> <th>60 dBA</th> <th>55 dBA</th> </tr> </thead> <tbody> <tr> <td>Ldn:</td> <td>51</td> <td>110</td> <td>238</td> <td>512</td> </tr> <tr> <td>CNEL:</td> <td>54</td> <td>116</td> <td>250</td> <td>539</td> </tr> </tbody> </table>													70 dBA	65 dBA	60 dBA	55 dBA	Ldn:	51	110	238	512	CNEL:	54	116	250	539																				
	70 dBA	65 dBA	60 dBA	55 dBA																																										
Ldn:	51	110	238	512																																										
CNEL:	54	116	250	539																																										

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																														
Scenario: Existing + Project BO Road Name: 4th St. Road Segment: e/o Veille Av.					Project Name: Jack Rabbit Trail Develop Job Number: 12398																																									
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																										
Highway Data				Site Conditions (Hard = 10, Soft = 15)																																										
Average Daily Traffic (Adt): 7,917 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 660 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																										
Site Data				Vehicle Mix																																										
				Autos: 77.5% 12.9% 9.6% 91.11% Medium Trucks: 84.8% 4.9% 10.3% 3.80% Heavy Trucks: 86.5% 2.7% 10.8% 5.09%																																										
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet)																																										
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0																																										
				Lane Equivalent Distance (in feet)																																										
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262																																										
FHWA Noise Model Calculations																																														
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VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL																																								
Autos:	63.0	61.9	60.2	54.1	62.7	63.4																																								
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	70 dBA	65 dBA	60 dBA	55 dBA																																										
Ldn:	38	81	175	377																																										
CNEL:	39	85	182	393																																										

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																														
Scenario: Existing + Project BO Road Name: 4th St. Road Segment: e/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398																																									
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																										
Highway Data				Site Conditions (Hard = 10, Soft = 15)																																										
Average Daily Traffic (Adt): 10,474 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 873 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																										
Site Data				Vehicle Mix																																										
				Autos: 77.5% 12.9% 9.6% 86.38% Medium Trucks: 84.8% 4.9% 10.3% 5.80% Heavy Trucks: 86.5% 2.7% 10.8% 7.82%																																										
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet)																																										
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0																																										
				Lane Equivalent Distance (in feet)																																										
				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982																																										
FHWA Noise Model Calculations																																														
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VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten																																							
Autos:	66.51	-2.55	-0.62	-1.20	-4.69	0.000	0.000																																							
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Unmitigated Noise Levels (without Topo and barrier attenuation)																																														
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VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL																																								
Autos:	62.1	61.0	59.3	53.2	61.8	62.4																																								
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7																																								
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	70 dBA	65 dBA	60 dBA	55 dBA																																										
Ldn:	57	122	264	568																																										
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL																																														
Scenario: Existing + Project BO Road Name: 4th St. Road Segment: w/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398																																									
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS																																										
Highway Data				Site Conditions (Hard = 10, Soft = 15)																																										
Average Daily Traffic (Adt): 16,428 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,368 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15																																										
Site Data				Vehicle Mix																																										
				Autos: 77.5% 12.9% 9.6% 86.28% Medium Trucks: 84.8% 4.9% 10.3% 6.27% Heavy Trucks: 86.5% 2.7% 10.8% 7.45%																																										
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet)																																										
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0																																										
				Lane Equivalent Distance (in feet)																																										
				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589																																										
FHWA Noise Model Calculations																																														
<table border="1"> <thead> <tr> <th>VehicleType</th> <th>REMEL</th> <th>Traffic Flow</th> <th>Distance</th> <th>Finite Road</th> <th>Fresnel</th> <th>Barrier Atten</th> <th>Berm Atten</th> </tr> </thead> <tbody> <tr> <td>Autos:</td> <td>66.51</td> <td>-0.60</td> <td>2.64</td> <td>-1.20</td> <td>-4.52</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>Medium Trucks:</td> <td>77.72</td> <td>-11.99</td> <td>2.69</td> <td>-1.20</td> <td>-4.86</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>Heavy Trucks:</td> <td>82.99</td> <td>-11.24</td> <td>2.69</td> <td>-1.20</td> <td>-5.69</td> <td>0.000</td> <td>0.000</td> </tr> </tbody> </table>												VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	Autos:	66.51	-0.60	2.64	-1.20	-4.52	0.000	0.000	Medium Trucks:	77.72	-11.99	2.69	-1.20	-4.86	0.000	0.000	Heavy Trucks:	82.99	-11.24	2.69	-1.20	-5.69	0.000	0.000			
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten																																							
Autos:	66.51	-0.60	2.64	-1.20	-4.52	0.000	0.000																																							
Medium Trucks:	77.72	-11.99	2.69	-1.20	-4.86	0.000	0.000																																							
Heavy Trucks:	82.99	-11.24	2.69	-1.20	-5.69	0.000	0.000																																							
Unmitigated Noise Levels (without Topo and barrier attenuation)																																														
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VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL																																								
Autos:	67.3	66.2	64.5	58.4	67.0	67.6																																								
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Ldn:	70	151	325	700																																										
CNEL:	72	156	336	725																																										

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 Without Project Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 3,314 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 276 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
FHWA Noise Model Calculations			Noise Source Elevations (in feet)				
Autos: 66.51 Medium Trucks: 77.72 Heavy Trucks: 82.99			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Unmitigated Noise Levels (without Topo and barrier attenuation)			Lane Equivalent Distance (in feet)				
Autos: 57.3 Medium Trucks: 52.9 Heavy Trucks: 61.7 Vehicle Noise: 63.5			Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562				
Centerline Distance to Noise Contour (in feet)							
			70 dBA 65 dBA 60 dBA 55 dBA				
Ldn:			24 52 112 242				
CNEL:			25 54 117 251				

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 Without Project Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 7,389 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 616 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
FHWA Noise Model Calculations			Noise Source Elevations (in feet)				
Autos: 70.20 Medium Trucks: 81.00 Heavy Trucks: 85.38			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Unmitigated Noise Levels (without Topo and barrier attenuation)			Lane Equivalent Distance (in feet)				
Autos: 64.8 Medium Trucks: 60.0 Heavy Trucks: 67.9 Vehicle Noise: 70.1			Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822				
Centerline Distance to Noise Contour (in feet)							
			70 dBA 65 dBA 60 dBA 55 dBA				
Ldn:			60 128 277 596				
CNEL:			62 134 289 622				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 Without Project Road Name: California Av. Road Segment: n/o 6th St.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 2,258 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 188 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
FHWA Noise Model Calculations			Noise Source Elevations (in feet)				
Autos: 66.51 Medium Trucks: 77.72 Heavy Trucks: 82.99			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Unmitigated Noise Levels (without Topo and barrier attenuation)			Lane Equivalent Distance (in feet)				
Autos: 59.0 Medium Trucks: 54.6 Heavy Trucks: 63.4 Vehicle Noise: 65.2			Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589				
Centerline Distance to Noise Contour (in feet)							
			70 dBA 65 dBA 60 dBA 55 dBA				
Ldn:			15 33 72 154				
CNEL:			16 35 74 160				

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 Without Project Road Name: 4th St. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,154 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 513 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
FHWA Noise Model Calculations			Noise Source Elevations (in feet)				
Autos: 66.51 Medium Trucks: 77.72 Heavy Trucks: 82.99			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Unmitigated Noise Levels (without Topo and barrier attenuation)			Lane Equivalent Distance (in feet)				
Autos: 60.1 Medium Trucks: 55.7 Heavy Trucks: 64.5 Vehicle Noise: 66.2			Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982				
Centerline Distance to Noise Contour (in feet)							
			70 dBA 65 dBA 60 dBA 55 dBA				
Ldn:			33 70 151 325				
CNEL:			34 73 157 338				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 Without Project Road Name: 4th St. Road Segment: e/o Veile Av.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,767 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 314 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
				Autos: 40,460 Medium Trucks: 40,241 Heavy Trucks: 40,262			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Autos: 0.0 feet Medium Trucks: 0.0 feet Heavy Trucks: 0.0 feet				Lane Equivalent Distance (in feet) Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.73	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-22.35	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.82	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	59.9	58.8	57.0	50.9	59.6	60.2	
Medium Trucks:	55.5	54.8	48.4	46.9	55.3	55.6	
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.3	
Vehicle Noise:	66.0	65.3	59.3	57.5	65.9	66.1	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		23	50	109	234		
CNEL:		24	52	113	243		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 With Project Phase 1 Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,917 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 326 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 93.07% Medium Trucks: 84.8% 4.9% 10.3% 2.13% Heavy Trucks: 86.5% 2.7% 10.8% 4.80%			
				Autos: 54,708 Medium Trucks: 54,546 Heavy Trucks: 54,562			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Autos: 0.0 feet Medium Trucks: 0.0 feet Heavy Trucks: 0.0 feet				Lane Equivalent Distance (in feet) Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.50	-0.69	-1.20	-4.71	0.000	0.000
Medium Trucks:	77.72	-22.90	-0.67	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.38	-0.67	-1.20	-5.29	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	58.1	57.0	55.2	49.2	57.8	58.4	
Medium Trucks:	52.9	52.2	45.9	44.3	52.8	53.0	
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8	
Vehicle Noise:	63.7	62.9	57.3	55.1	63.6	63.8	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		25	54	116	249		
CNEL:		26	56	120	260		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 Without Project Road Name: 4th St. Road Segment: w/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,295 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 274 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
				Autos: 32,833 Medium Trucks: 32,562 Heavy Trucks: 32,589			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Autos: 0.0 feet Medium Trucks: 0.0 feet Heavy Trucks: 0.0 feet				Lane Equivalent Distance (in feet) Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.31	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-22.93	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-19.41	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	60.6	59.5	57.8	51.7	60.3	60.9	
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4	
Heavy Trucks:	65.1	64.4	55.4	56.7	65.0	65.1	
Vehicle Noise:	66.8	66.1	60.1	58.3	66.7	66.9	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		20	43	92	198		
CNEL:		21	44	96	206		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2023 With Project Phase 1 Road Name: California Av. Road Segment: n/o 6th St.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 2,379 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 198 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 92.23% Medium Trucks: 84.8% 4.9% 10.3% 2.39% Heavy Trucks: 86.5% 2.7% 10.8% 5.38%			
				Autos: 32,833 Medium Trucks: 32,562 Heavy Trucks: 32,589			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Autos: 0.0 feet Medium Trucks: 0.0 feet Heavy Trucks: 0.0 feet				Lane Equivalent Distance (in feet) Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.71	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-24.57	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-21.05	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	59.2	58.1	56.4	50.3	58.9	59.5	
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7	
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5	
Vehicle Noise:	65.2	64.5	58.6	56.7	65.1	65.4	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:		16	34	72	156		
CNEL:		16	35	75	162		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC 2023 With Project Phase 1 Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 7,992 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 666 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 92.43% Medium Trucks: 84.8% 4.9% 10.3% 2.33% Heavy Trucks: 86.5% 2.7% 10.8% 5.24%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822					
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-4.40	0.58	-1.20	-4.69	0.000	0.000		
Medium Trucks:	81.00	-20.39	0.61	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-16.87	0.61	-1.20	-5.34	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	65.2	64.1	62.3	56.3	64.9	65.5			
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1			
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0			
Vehicle Noise:	70.2	69.4	64.1	61.6	70.1	70.4			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	61	131	281	606					
CNEL:	63	136	294	633					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC 2023 With Project Phase 1 Road Name: 4th St. Road Segment: e/o Veille Av.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 4,864 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 405 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 90.96% Medium Trucks: 84.8% 4.9% 10.3% 3.10% Heavy Trucks: 86.5% 2.7% 10.8% 5.93%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262					
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-5.66	1.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-20.33	1.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-17.52	1.31	-1.20	-5.50	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	60.9	59.8	58.1	52.0	60.6	61.2			
Medium Trucks:	57.5	56.8	50.4	48.9	57.3	57.6			
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7			
Vehicle Noise:	67.3	66.6	60.6	58.8	67.2	67.5			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	29	62	133	287					
CNEL:	30	64	138	298					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC 2023 With Project Phase 1 Road Name: 4th St. Road Segment: e/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 7,382 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 615 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 89.62% Medium Trucks: 84.8% 4.9% 10.3% 3.62% Heavy Trucks: 86.5% 2.7% 10.8% 6.76%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982					
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-3.91	-0.62	-1.20	-4.69	0.000	0.000		
Medium Trucks:	77.72	-17.85	-0.60	-1.20	-4.88	0.000	0.000		
Heavy Trucks:	82.99	-15.14	-0.60	-1.20	-5.35	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	60.8	59.7	57.9	51.9	60.5	61.1			
Medium Trucks:	58.1	57.3	51.0	49.4	57.9	58.1			
Heavy Trucks:	66.1	65.4	56.4	57.6	66.0	66.1			
Vehicle Noise:	67.7	67.0	60.7	59.1	67.6	67.8			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	41	87	188	406					
CNEL:	42	91	195	421					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: OYC 2023 With Project Phase 1 Road Name: 4th St. Road Segment: w/o Potrero Bl.					Project Name: Jack Rabbit Trail Develop Job Number: 12398				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 6,233 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 519 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15					
Site Data				Vehicle Mix					
				VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 87.26% Medium Trucks: 84.8% 4.9% 10.3% 4.93% Heavy Trucks: 86.5% 2.7% 10.8% 7.81%					
				Noise Source Elevations (in feet)					
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					
				Lane Equivalent Distance (in feet)					
				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589					
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-4.76	2.64	-1.20	-4.52	0.000	0.000		
Medium Trucks:	77.72	-17.25	2.69	-1.20	-4.86	0.000	0.000		
Heavy Trucks:	82.99	-15.25	2.69	-1.20	-5.69	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.2	62.1	60.3	54.3	62.9	63.5			
Medium Trucks:	62.0	61.2	54.9	53.3	61.8	62.0			
Heavy Trucks:	69.2	68.6	59.6	60.8	69.2	69.3			
Vehicle Noise:	70.8	70.1	63.6	62.3	70.7	70.9			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	37	79	170	367					
CNEL:	38	82	176	380					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 Without Project Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,814 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 318 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Noise Source Elevations (in feet)			
				Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562			
				Lane Equivalent Distance (in feet)			
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.68	-0.69	-1.20	-4.71	0.000	0.000
Medium Trucks:	77.72	-22.29	-0.67	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.77	-0.67	-1.20	-5.29	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	57.9	56.8	55.1	49.0	57.6	58.2	
Medium Trucks:	53.6	52.8	46.5	44.9	53.4	53.6	
Heavy Trucks:	62.4	61.7	52.7	53.9	62.3	62.4	
Vehicle Noise:	64.1	63.3	57.4	55.5	64.0	64.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			27	57	123	266	
CNEL:			28	59	128	276	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 Without Project Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 8,583 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 715 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Noise Source Elevations (in feet)			
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822			
				Lane Equivalent Distance (in feet)			
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-4.12	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.74	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-16.22	0.61	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.5	64.4	62.6	56.5	65.2	65.8	
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.7	
Heavy Trucks:	68.6	67.9	58.9	60.2	68.5	68.6	
Vehicle Noise:	70.7	70.0	64.5	62.2	70.6	70.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			66	142	306	659	
CNEL:			69	148	319	688	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 Without Project Road Name: California Av. Road Segment: n/o 6th St.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 2,440 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 203 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Noise Source Elevations (in feet)			
				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
				Lane Equivalent Distance (in feet)			
				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.62	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-24.23	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.71	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	59.3	58.2	56.5	50.4	59.0	59.6	
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.0	
Heavy Trucks:	63.8	63.1	54.1	55.4	63.7	63.8	
Vehicle Noise:	65.5	64.8	58.8	57.0	65.4	65.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			16	35	75	162	
CNEL:			17	36	78	169	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 Without Project Road Name: 4th St. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 7,249 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 604 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Noise Source Elevations (in feet)			
				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982			
				Lane Equivalent Distance (in feet)			
				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.89	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-19.50	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-15.98	-0.60	-1.20	-5.35	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	60.8	59.7	57.9	51.9	60.5	61.1	
Medium Trucks:	56.4	55.7	49.3	47.8	56.3	56.5	
Heavy Trucks:	65.2	64.6	55.5	56.8	65.2	65.3	
Vehicle Noise:	67.0	66.2	60.3	58.4	66.8	67.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			36	78	168	363	
CNEL:			38	81	175	377	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 With Project P1+2 Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 11,040 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 920 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 93.63% Medium Trucks: 84.8% 4.9% 10.3% 1.96% Heavy Trucks: 86.5% 2.7% 10.8% 4.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.94	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.74	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-16.22	0.61	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.6	65.5	63.8	57.7	66.3	66.9	
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.7	
Heavy Trucks:	68.6	67.9	58.9	60.2	68.5	68.6	
Vehicle Noise:	71.1	70.3	65.3	62.5	71.0	71.3	
Centerline Distance to Noise Contour (in feet)							
Ldn: 70 dBA 70 65 dBA 150 60 dBA 324 55 dBA 697							
CNEL: 73 157 339 731							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 With Project P1+2 Road Name: 4th St. Road Segment: e/o Velle Av.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 6,137 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 511 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 93.78% Medium Trucks: 84.8% 4.9% 10.3% 1.91% Heavy Trucks: 86.5% 2.7% 10.8% 4.31%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.52	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-21.42	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.90	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.1	61.0	59.2	53.1	61.8	62.4	
Medium Trucks:	56.4	55.7	49.3	47.8	56.2	56.5	
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3	
Vehicle Noise:	67.3	66.5	61.1	58.7	67.2	67.4	
Centerline Distance to Noise Contour (in feet)							
Ldn: 28 61 132 284							
CNEL: 30 64 138 297							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 With Project P1+2 Road Name: 4th St. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 8,723 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 727 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 93.19% Medium Trucks: 84.8% 4.9% 10.3% 2.09% Heavy Trucks: 86.5% 2.7% 10.8% 4.71%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.02	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-19.50	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-15.98	-0.60	-1.20	-5.35	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	61.7	60.6	58.8	52.7	61.4	62.0	
Medium Trucks:	56.4	55.7	49.3	47.8	56.3	56.5	
Heavy Trucks:	65.2	64.6	55.5	56.8	65.2	65.3	
Vehicle Noise:	67.2	66.4	60.8	58.6	67.0	67.3	
Centerline Distance to Noise Contour (in feet)							
Ldn: 37 81 174 375							
CNEL: 39 84 181 391							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2025 With Project P1+2 Road Name: 4th St. Road Segment: w/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,706 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,392 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 84.32% Medium Trucks: 84.8% 4.9% 10.3% 6.84% Heavy Trucks: 86.5% 2.7% 10.8% 8.84%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.63	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-11.54	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-10.43	2.69	-1.20	-5.69	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.3	66.2	64.4	58.4	67.0	67.6	
Medium Trucks:	67.7	67.0	60.6	59.0	67.5	67.7	
Heavy Trucks:	74.1	73.4	64.4	65.6	74.0	74.1	
Vehicle Noise:	75.6	74.9	68.2	67.1	75.5	75.7	
Centerline Distance to Noise Contour (in feet)							
Ldn: 77 166 358 771							
CNEL: 80 172 370 797							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC 2027 Without Project				Project Name: Jack Rabbit Trail Develop				
Road Name: Potrero Bl.				Job Number: 12398				
Road Segment: s/o Oak Valley Pkwy.								
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,264 vehicles				Autos: 15				
Peak Hour Percentage: 8.33%				Medium Trucks (2 Axles): 15				
Peak Hour Volume: 438 vehicles				Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph				Vehicle Mix				
Near/Far Lane Distance: 78 feet				VehicleType				
				Autos: 77.5% 12.9% 9.6% 91.81%				
				Medium Trucks: 84.8% 4.9% 10.3% 2.52%				
				Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
Site Data				Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet				Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0				Medium Trucks: 2.297				
Centerline Dist. to Barrier: 67.0 feet				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 67.0 feet				Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet				Autos: 54.708				
Observer Height (Above Pad): 5.0 feet				Medium Trucks: 54.546				
Pad Elevation: 0.0 feet				Heavy Trucks: 54.562				
Road Elevation: 0.0 feet								
Road Grade: 0.0%								
Left View: -90.0 degrees								
Right View: 90.0 degrees								
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 66.51 -5.28 -0.69 -1.20 -4.71 0.000 0.000								
Medium Trucks: 77.72 -20.89 -0.67 -1.20 -4.88 0.000 0.000								
Heavy Trucks: 82.99 -17.37 -0.67 -1.20 -5.29 0.000 0.000								
Unmitigated Noise Levels (without Topo and barrier attenuation)								
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos: 59.3 58.2 56.5 50.4 59.0 59.6								
Medium Trucks: 55.0 54.2 47.9 46.3 54.8 55.0								
Heavy Trucks: 63.8 63.1 54.1 55.3 63.7 63.8								
Vehicle Noise: 65.5 64.7 58.8 56.9 65.4 65.6								
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
				Ldn:	33	71	153	329
				CNEL:	34	74	159	342

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC 2027 Without Project				Project Name: Jack Rabbit Trail Develop				
Road Name: Oak Valley Pkwy.				Job Number: 12398				
Road Segment: e/o Potrero Bl.								
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 12,094 vehicles				Autos: 15				
Peak Hour Percentage: 8.33%				Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,007 vehicles				Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph				Vehicle Mix				
Near/Far Lane Distance: 80 feet				VehicleType				
				Autos: 77.5% 12.9% 9.6% 91.81%				
				Medium Trucks: 84.8% 4.9% 10.3% 2.52%				
				Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
Site Data				Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet				Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0				Medium Trucks: 2.297				
Centerline Dist. to Barrier: 60.0 feet				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 60.0 feet				Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet				Autos: 45.000				
Observer Height (Above Pad): 5.0 feet				Medium Trucks: 44.803				
Pad Elevation: 0.0 feet				Heavy Trucks: 44.822				
Road Elevation: 0.0 feet								
Road Grade: 0.0%								
Left View: -90.0 degrees								
Right View: 90.0 degrees								
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 70.20 -2.63 0.58 -1.20 -4.69 0.000 0.000								
Medium Trucks: 81.00 -18.25 0.61 -1.20 -4.88 0.000 0.000								
Heavy Trucks: 85.38 -14.73 0.61 -1.20 -5.34 0.000 0.000								
Unmitigated Noise Levels (without Topo and barrier attenuation)								
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos: 67.0 65.8 64.1 58.0 66.6 67.3								
Medium Trucks: 62.2 61.4 55.1 53.5 62.0 62.2								
Heavy Trucks: 70.1 69.4 60.4 61.6 70.0 70.1								
Vehicle Noise: 72.2 71.5 66.0 63.7 72.1 72.4								
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
				Ldn:	83	178	384	828
				CNEL:	86	186	401	864

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC 2027 Without Project				Project Name: Jack Rabbit Trail Develop				
Road Name: California Av.				Job Number: 12398				
Road Segment: n/o 6th St.								
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 2,858 vehicles				Autos: 15				
Peak Hour Percentage: 8.33%				Medium Trucks (2 Axles): 15				
Peak Hour Volume: 238 vehicles				Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph				Vehicle Mix				
Near/Far Lane Distance: 12 feet				VehicleType				
				Autos: 77.5% 12.9% 9.6% 91.81%				
				Medium Trucks: 84.8% 4.9% 10.3% 2.52%				
				Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
Site Data				Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet				Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0				Medium Trucks: 2.297				
Centerline Dist. to Barrier: 33.0 feet				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 33.0 feet				Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet				Autos: 32.833				
Observer Height (Above Pad): 5.0 feet				Medium Trucks: 32.562				
Pad Elevation: 0.0 feet				Heavy Trucks: 32.589				
Road Elevation: 0.0 feet								
Road Grade: 0.0%								
Left View: -90.0 degrees								
Right View: 90.0 degrees								
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 66.51 -7.93 2.64 -1.20 -4.52 0.000 0.000								
Medium Trucks: 77.72 -23.55 2.69 -1.20 -4.86 0.000 0.000								
Heavy Trucks: 82.99 -20.02 2.69 -1.20 -5.69 0.000 0.000								
Unmitigated Noise Levels (without Topo and barrier attenuation)								
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos: 60.0 58.9 57.1 51.1 59.7 60.3								
Medium Trucks: 55.7 54.9 48.6 47.0 55.5 55.7								
Heavy Trucks: 64.5 63.8 54.8 56.0 64.4 64.5								
Vehicle Noise: 66.2 65.4 59.5 57.6 66.1 66.3								
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
				Ldn:	18	39	84	180
				CNEL:	19	40	87	188

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: OYC 2027 Without Project				Project Name: Jack Rabbit Trail Develop				
Road Name: 4th St.				Job Number: 12398				
Road Segment: e/o Potrero Bl.								
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,532 vehicles				Autos: 15				
Peak Hour Percentage: 8.33%				Medium Trucks (2 Axles): 15				
Peak Hour Volume: 877 vehicles				Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph				Vehicle Mix				
Near/Far Lane Distance: 48 feet				VehicleType				
				Autos: 77.5% 12.9% 9.6% 91.81%				
				Medium Trucks: 84.8% 4.9% 10.3% 2.52%				
				Heavy Trucks: 86.5% 2.7% 10.8% 5.67%				
Site Data				Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet				Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0				Medium Trucks: 2.297				
Centerline Dist. to Barrier: 59.0 feet				Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 59.0 feet				Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet				Autos: 54.129				
Observer Height (Above Pad): 5.0 feet				Medium Trucks: 53.966				
Pad Elevation: 0.0 feet				Heavy Trucks: 53.982				
Road Elevation: 0.0 feet								
Road Grade: 0.0%								
Left View: -90.0 degrees								
Right View: 90.0 degrees								
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 66.51 -2.27 -0.62 -1.20 -4.69 0.000 0.000								
Medium Trucks: 77.72 -17.88 -0.60 -1.20 -4.88 0.000 0.000								
Heavy Trucks: 82.99 -14.36 -0.60 -1.20 -5.35 0.000 0.000								
Unmitigated Noise Levels (without Topo and barrier attenuation)								
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos: 62.4 61.3 59.6 53.5 62.1 62.7								
Medium Trucks: 58.0 57.3 51.0 49.4 57.9 58.1								
Heavy Trucks: 66.8 66.2 57.2 58.4 66.8 66.9								
Vehicle Noise: 68.6 67.8 61.9 60.0 68.5 68.7								
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
				Ldn:	47	100	216	465
				CNEL:	48	104	224	483

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 Without Project Road Name: 4th St. Road Segment: e/o Veile Av.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 7,476 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 623 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 -3.75 1.28 -1.20 -4.61 0.000 0.000 Medium Trucks: 77.72 -19.37 1.31 -1.20 -4.87 0.000 0.000 Heavy Trucks: 82.99 -15.85 1.31 -1.20 -5.50 0.000 0.000				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 62.8 61.7 60.0 53.9 62.5 63.1 Medium Trucks: 58.5 57.7 51.4 49.8 58.3 58.5 Heavy Trucks: 67.3 66.6 57.6 58.8 67.2 67.3 Vehicle Noise: 69.0 68.2 62.3 60.4 68.9 69.1				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
Centerline Distance to Noise Contour (in feet)							
				70 dBA 65 dBA 60 dBA 55 dBA			
Ldn: 37 80 172 370							
CNEL: 38 83 178 384							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 With Project BO Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 8,770 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 731 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 95.09% Medium Trucks: 84.8% 4.9% 10.3% 1.51% Heavy Trucks: 86.5% 2.7% 10.8% 3.40%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 -2.91 -0.69 -1.20 -4.71 0.000 0.000 Medium Trucks: 77.72 -20.89 -0.67 -1.20 -4.88 0.000 0.000 Heavy Trucks: 82.99 -17.37 -0.67 -1.20 -5.29 0.000 0.000				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 61.7 60.6 58.8 52.8 61.4 62.0 Medium Trucks: 55.0 54.2 47.9 46.3 54.8 55.0 Heavy Trucks: 63.8 63.1 54.1 55.3 63.7 63.8 Vehicle Noise: 66.2 65.4 60.3 57.6 66.0 66.4				Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562			
Centerline Distance to Noise Contour (in feet)							
				70 dBA 65 dBA 60 dBA 55 dBA			
Ldn: 37 79 170 365							
CNEL: 38 82 178 383							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 Without Project Road Name: 4th St. Road Segment: w/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 9,108 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 759 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 -2.90 2.64 -1.20 -4.52 0.000 0.000 Medium Trucks: 77.72 -18.51 2.69 -1.20 -4.86 0.000 0.000 Heavy Trucks: 82.99 -14.99 2.69 -1.20 -5.69 0.000 0.000				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 65.1 63.9 62.2 56.1 64.7 65.4 Medium Trucks: 60.7 60.0 53.6 52.1 60.5 60.8 Heavy Trucks: 69.5 68.9 59.8 61.1 69.4 69.6 Vehicle Noise: 71.2 70.5 64.5 62.7 71.1 71.4				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
Centerline Distance to Noise Contour (in feet)							
				70 dBA 65 dBA 60 dBA 55 dBA			
Ldn: 39 84 181 391							
CNEL: 41 87 189 406							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 With Project BO Road Name: California Av. Road Segment: n/o 6th St.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,559 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 296 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 93.42% Medium Trucks: 84.8% 4.9% 10.3% 2.02% Heavy Trucks: 86.5% 2.7% 10.8% 4.55%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 -6.90 2.64 -1.20 -4.52 0.000 0.000 Medium Trucks: 77.72 -23.55 2.69 -1.20 -4.86 0.000 0.000 Heavy Trucks: 82.99 -20.02 2.69 -1.20 -5.69 0.000 0.000				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 61.0 59.9 58.2 52.1 60.7 61.3 Medium Trucks: 55.7 54.9 48.6 47.0 55.5 55.7 Heavy Trucks: 64.5 63.8 54.8 56.0 64.4 64.5 Vehicle Noise: 66.5 65.7 60.1 57.9 66.3 66.6				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
Centerline Distance to Noise Contour (in feet)							
				70 dBA 65 dBA 60 dBA 55 dBA			
Ldn: 19 40 87 188							
CNEL: 20 42 91 196							

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 With Project BO Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 15,600 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,300 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 93.65% Medium Trucks: 84.8% 4.9% 10.3% 1.95% Heavy Trucks: 86.5% 2.7% 10.8% 4.40%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 70.20 -1.44 0.58 -1.20 -4.69 0.000 0.000 Medium Trucks: 81.00 -18.25 0.61 -1.20 -4.88 0.000 0.000 Heavy Trucks: 85.38 -14.73 0.61 -1.20 -5.34 0.000 0.000				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 68.1 67.0 65.3 59.2 67.8 68.4 Medium Trucks: 62.2 61.4 55.1 53.5 62.0 62.2 Heavy Trucks: 70.1 69.4 60.4 61.6 70.0 70.1 Vehicle Noise: 72.6 71.8 66.8 64.0 72.5 72.8				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822			
Centerline Distance to Noise Contour (in feet)				Noise Source Elevations (in feet)			
Ldn: 88 189 407 877 CNEL: 92 198 427 919				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 With Project BO Road Name: 4th St. Road Segment: e/o Veille Av.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,647 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,137 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.40% Medium Trucks: 84.8% 4.9% 10.3% 3.26% Heavy Trucks: 86.5% 2.7% 10.8% 5.33%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 -1.16 1.28 -1.20 -4.61 0.000 0.000 Medium Trucks: 77.72 -15.63 1.31 -1.20 -4.87 0.000 0.000 Heavy Trucks: 82.99 -13.50 1.31 -1.20 -5.50 0.000 0.000				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 65.4 64.3 62.6 56.5 65.1 65.7 Medium Trucks: 62.2 61.5 53.6 53.6 62.0 62.3 Heavy Trucks: 69.6 69.0 59.9 61.2 69.5 69.7 Vehicle Noise: 71.5 70.8 64.9 63.0 71.4 71.7				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
Centerline Distance to Noise Contour (in feet)				Noise Source Elevations (in feet)			
Ldn: 55 118 254 547 CNEL: 57 123 264 569				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 With Project BO Road Name: 4th St. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,262 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,438 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 88.52% Medium Trucks: 84.8% 4.9% 10.3% 4.51% Heavy Trucks: 86.5% 2.7% 10.8% 6.98%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 -0.28 -0.62 -1.20 -4.69 0.000 0.000 Medium Trucks: 77.72 -13.21 -0.60 -1.20 -4.88 0.000 0.000 Heavy Trucks: 82.99 -11.31 -0.60 -1.20 -5.35 0.000 0.000				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 64.4 63.3 61.5 55.5 64.1 64.7 Medium Trucks: 62.7 62.0 55.6 54.1 62.5 62.8 Heavy Trucks: 69.9 69.3 60.2 61.5 69.8 69.9 Vehicle Noise: 71.6 70.8 64.5 63.0 71.5 71.7				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982			
Centerline Distance to Noise Contour (in feet)				Noise Source Elevations (in feet)			
Ldn: 74 159 342 737 CNEL: 76 165 355 764				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: OYC 2027 With Project BO Road Name: 4th St. Road Segment: w/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 25,374 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 2,114 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 88.23% Medium Trucks: 84.8% 4.9% 10.3% 4.95% Heavy Trucks: 86.5% 2.7% 10.8% 6.82%			
FHWA Noise Model Calculations				Noise Source Elevations (in feet)			
Autos: 66.51 1.38 2.64 -1.20 -4.52 0.000 0.000 Medium Trucks: 77.72 -11.13 2.69 -1.20 -4.86 0.000 0.000 Heavy Trucks: 82.99 -9.74 2.69 -1.20 -5.69 0.000 0.000				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
Unmitigated Noise Levels (without Topo and barrier attenuation)				Lane Equivalent Distance (in feet)			
Autos: 69.3 68.2 66.5 60.4 69.0 69.6 Medium Trucks: 68.1 67.4 61.0 59.5 67.9 68.1 Heavy Trucks: 74.7 74.1 65.1 66.3 74.7 74.8 Vehicle Noise: 76.5 75.8 69.5 68.0 76.4 76.6				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
Centerline Distance to Noise Contour (in feet)				Noise Source Elevations (in feet)			
Ldn: 88 190 409 880 CNEL: 91 197 423 912				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: HY 2045 Without Project Road Name: Potrero Bl. Road Segment: s/o Oak Valley Pkwy.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 23,682 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,973 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Noise Source Elevations (in feet)				Lane Equivalent Distance (in feet)			
Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				Autos: 54.708 Medium Trucks: 54.546 Heavy Trucks: 54.562			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.25	-0.69	-1.20	-4.71	0.000	0.000
Medium Trucks:	77.72	-14.36	-0.67	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.84	-0.67	-1.20	-5.29	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.9	64.8	63.0	56.9	65.6	66.2	
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6	
Heavy Trucks:	70.3	69.7	60.6	61.9	70.2	70.3	
Vehicle Noise:	72.0	71.3	65.3	63.5	71.9	72.2	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	90	193	416	897	
CNEL:	93	201	433	932	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: HY 2045 Without Project Road Name: Oak Valley Pkwy. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 19,233 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 1,602 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 80 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Noise Source Elevations (in feet)				Lane Equivalent Distance (in feet)			
Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				Autos: 45.000 Medium Trucks: 44.803 Heavy Trucks: 44.822			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.62	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.23	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-12.71	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	69.0	67.9	66.1	60.0	68.7	69.3	
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3	
Heavy Trucks:	72.1	71.4	62.4	63.7	72.0	72.1	
Vehicle Noise:	74.3	73.5	68.0	65.7	74.1	74.4	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	113	243	524	1,128	
CNEL:	118	254	546	1,177	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: HY 2045 Without Project Road Name: California Av. Road Segment: n/o 6th St.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 1,737 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 145 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 33.0 feet Centerline Dist. to Observer: 33.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Noise Source Elevations (in feet)				Lane Equivalent Distance (in feet)			
Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				Autos: 32.833 Medium Trucks: 32.562 Heavy Trucks: 32.589			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.09	2.64	-1.20	-4.52	0.000	0.000
Medium Trucks:	77.72	-25.71	2.69	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-22.19	2.69	-1.20	-5.69	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	57.9	56.8	55.0	48.9	57.6	58.2	
Medium Trucks:	53.5	52.8	46.4	44.9	53.3	53.6	
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4	
Vehicle Noise:	64.0	63.3	57.3	55.5	63.9	64.2	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	13	28	60	129	
CNEL:	13	29	62	135	

Thursday, September 2, 2021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: HY 2045 Without Project Road Name: 4th St. Road Segment: e/o Potrero Bl.				Project Name: Jack Rabbit Trail Develop Job Number: 12398			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 10,969 vehicles Peak Hour Percentage: 8.33% Peak Hour Volume: 914 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 59.0 feet Centerline Dist. to Observer: 59.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 77.5% 12.9% 9.6% 91.81% Medium Trucks: 84.8% 4.9% 10.3% 2.52% Heavy Trucks: 86.5% 2.7% 10.8% 5.67%			
Noise Source Elevations (in feet)				Lane Equivalent Distance (in feet)			
Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				Autos: 54.129 Medium Trucks: 53.966 Heavy Trucks: 53.982			
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.09	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-17.70	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-14.18	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.6	61.5	59.7	53.7	62.3	62.9	
Medium Trucks:	58.2	57.5	51.1	49.6	58.1	58.3	
Heavy Trucks:	67.0	66.4	57.3	58.6	66.9	67.1	
Vehicle Noise:	68.8	68.0	62.1	60.2	68.6	68.9	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	48	103	222	478	
CNEL:	50	107	231	497	

Thursday, September 2, 2021

APPENDIX 9.1:
CADNAA OPERATIONAL NOISE MODEL INPUTS

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12398 - Beaumont Pointe

CadnaA Noise Prediction Model: 12398_15b.cna

Date: 23.06.22

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	32.1	32.0	38.7	55.0	45.0	0.0				5.00	a	6318806.11	2292331.15	5.00
RECEIVERS		R2	34.3	34.2	40.9	55.0	45.0	0.0				5.00	a	6321134.99	2290808.09	5.00
RECEIVERS		R3	35.9	35.8	42.5	55.0	45.0	0.0				5.00	a	6323538.75	2288028.01	5.00
RECEIVERS		R4	40.3	40.1	46.8	55.0	45.0	0.0				5.00	a	6324208.60	2285233.27	5.00
RECEIVERS		R5	43.0	42.7	49.4	55.0	45.0	0.0				5.00	a	6322668.83	2282431.69	5.00
RECEIVERS	x	BIO-1	42.2	42.1	48.8	0.0	0.0	0.0		x	Total	5.00	a	6315486.52	2289104.40	5.00
RECEIVERS	x	BIO-2	46.2	46.2	52.8	0.0	0.0	0.0		x	Total	5.00	a	6317292.24	2288261.01	5.00
RECEIVERS	x	BIO-3	50.2	50.2	56.9	0.0	0.0	0.0		x	Total	5.00	a	6317222.84	2286292.08	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			KO (dB)	Height (ft)	Coordinates				
			Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value (dB(A))	norm.	Day (min)	Special (min)			Night (min)	X (ft)	Y (ft)	Z (ft)	
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323343.27	2283042.07	25.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323411.45	2283447.91	25.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323361.13	2283290.44	25.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323258.86	2283100.51	25.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323146.84	2282977.13	25.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323245.87	2282819.67	25.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323400.09	2282837.52	25.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323653.33	2282793.69	25.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6323708.53	2283012.85	25.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6318595.80	2286783.45	8.00	0.00
LINESOURCE	8.00	a	6318504.33	2286894.56	8.00	0.00
			6317999.71	2286087.35	8.00	0.00
LINESOURCE	8.00	a	6317926.85	2286340.48	8.00	0.00
			6318096.25	2286241.78	8.00	0.00
LINESOURCE	8.00	a	6319284.08	2286357.05	8.00	0.00
			6319348.18	2286452.75	8.00	0.00
			6319450.45	2286381.32	8.00	0.00
			6319458.57	2286308.27	8.00	0.00
			6319497.53	2286262.82	8.00	0.00
			6319627.95	2286205.66	8.00	0.00
LINESOURCE	8.00	a	6319458.57	2286308.27	8.00	0.00
			6318960.19	2285369.97	8.00	0.00
LINESOURCE	8.00	a	6319273.29	2285413.89	8.00	0.00
			6319155.00	2285460.87	8.00	0.00
			6319027.06	2285495.86	8.00	0.00
LINESOURCE	8.00	a	6318808.90	2285595.06	8.00	0.00
			6318739.42	2285473.86	8.00	0.00
			6318815.72	2285443.02	8.00	0.00
			6318939.09	2285418.67	8.00	0.00
			6318983.23	2285413.33	8.00	0.00
LINESOURCE	8.00	a	6320757.15	2285696.92	8.00	0.00
			6321005.63	2285585.87	8.00	0.00
			6321296.21	2285408.93	8.00	0.00
LINESOURCE	8.00	a	6321005.63	2285585.87	8.00	0.00
			6320542.97	2284730.36	8.00	0.00
LINESOURCE	8.00	a	6320405.74	2284906.45	8.00	0.00
			6320512.13	2284842.37	8.00	0.00
			6320478.04	2284759.58	8.00	0.00
LINESOURCE	8.00	a	6320844.92	2284688.15	8.00	0.00
			6320732.91	2284749.84	8.00	0.00
			6320676.09	2284670.30	8.00	0.00
LINESOURCE	8.00	a	6323061.45	2284274.81	8.00	0.00
			6323159.83	2284215.76	8.00	0.00
			6322728.02	2283542.06	8.00	0.00
LINESOURCE	8.00	a	6322538.51	2283640.83	8.00	0.00
			6322719.90	2283524.20	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li		Operating Time			Height (ft)	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm. (min)	Day (min)	Special (min)		Night (min)
AREASOURCE		DOCK01	103.4	103.4	103.4	59.1	59.1	59.1	Lw	103.4					8
AREASOURCE		DOCK02	103.4	103.4	103.4	58.8	58.8	58.8	Lw	103.4					8
AREASOURCE		DOCK03	103.4	103.4	103.4	61.8	61.8	61.8	Lw	103.4					8
AREASOURCE		DOCK04	103.4	103.4	103.4	61.8	61.8	61.8	Lw	103.4					8
AREASOURCE		DOCK05	103.4	103.4	103.4	61.5	61.5	61.5	Lw	103.4					8
AREASOURCE		DOCK06	103.4	103.4	103.4	61.6	61.6	61.6	Lw	103.4					8
AREASOURCE		DOCK07	103.4	103.4	103.4	60.1	60.1	60.1	Lw	103.4					8
AREASOURCE		DOCK08	103.4	103.4	103.4	60.1	60.1	60.1	Lw	103.4					8
AREASOURCE		DOCK09	103.4	103.4	103.4	57.9	57.9	57.9	Lw	103.4					8
AREASOURCE		DOCK10	103.4	103.4	103.4	58.0	58.0	58.0	Lw	103.4					8
AREASOURCE		DOCK11	103.4	103.4	103.4	74.0	74.0	74.0	Lw	103.4					8

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	a	6315602.03	2288356.70	8.00	0.00
			6315656.18	2288470.14	8.00	0.00
			6316504.66	2288055.77	8.00	0.00
			6317059.80	2287742.68	8.00	0.00
			6316993.00	2287602.88	8.00	0.00
			6315573.82	2288301.57	8.00	0.00
AREASOURCE	8.00	a	6315286.65	2287713.13	8.00	0.00
			6316831.47	2286942.64	8.00	0.00
			6316787.49	2286853.42	8.00	0.00
			6316529.66	2286896.83	8.00	0.00
			6316479.67	2286915.24	8.00	0.00
			6315203.65	2287542.73	8.00	0.00
			6315258.45	2287658.00	8.00	0.00
AREASOURCE	8.00	a	6317525.13	2287343.09	8.00	0.00
			6317585.42	2287456.17	8.00	0.00
			6318316.59	2287047.08	8.00	0.00
			6318258.96	2286936.56	8.00	0.00
			6318231.61	2286885.63	8.00	0.00
			6317495.89	2287290.27	8.00	0.00

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
AREASOURCE	8.00	a	6317245.93	2286840.35	8.00	0.00
			6317976.94	2286433.82	8.00	0.00
			6317949.58	2286382.89	8.00	0.00
			6317889.32	2286270.46	8.00	0.00
			6317156.86	2286676.95	8.00	0.00
			6317216.69	2286786.59	8.00	0.00
AREASOURCE	8.00	a	6318684.05	2286731.85	8.00	0.00
			6318207.96	2285966.07	8.00	0.00
			6318052.74	2286068.01	8.00	0.00
			6318528.38	2286826.12	8.00	0.00
			6318638.71	2286760.82	8.00	0.00
AREASOURCE	8.00	a	6319196.67	2286411.94	8.00	0.00
			6319351.42	2286314.76	8.00	0.00
			6318877.40	2285555.03	8.00	0.00
			6318719.32	2285647.42	8.00	0.00
AREASOURCE	8.00	a	6319583.75	2286109.46	8.00	0.00
			6319605.25	2286158.19	8.00	0.00
			6319661.49	2286275.80	8.00	0.00
			6319820.58	2286204.37	8.00	0.00
			6320786.48	2285769.31	8.00	0.00
			6320737.34	2285648.03	8.00	0.00
			6320714.42	2285599.30	8.00	0.00
AREASOURCE	8.00	a	6320446.44	2284998.86	8.00	0.00
			6320372.52	2284831.01	8.00	0.00
			6319241.04	2285339.12	8.00	0.00
			6319314.34	2285509.02	8.00	0.00
AREASOURCE	8.00	a	6321232.87	2285322.36	8.00	0.00
			6321267.12	2285374.64	8.00	0.00
			6321331.93	2285480.36	8.00	0.00
			6322989.38	2284454.39	8.00	0.00
			6323010.48	2284404.07	8.00	0.00
			6323023.47	2284368.35	8.00	0.00
			6323047.82	2284342.38	8.00	0.00
			6323088.40	2284318.03	8.00	0.00
			6323024.54	2284215.63	8.00	0.00
AREASOURCE	8.00	a	6320895.80	2284783.42	8.00	0.00
			6322591.95	2283732.57	8.00	0.00
			6322564.91	2283683.90	8.00	0.00
			6322495.88	2283571.28	8.00	0.00
			6320802.71	2284624.84	8.00	0.00
			6320870.57	2284732.95	8.00	0.00
AREASOURCE	8.00	a	6323758.85	2282964.14	8.00	0.00
			6323750.73	2282790.45	8.00	0.00
			6323700.41	2282790.45	8.00	0.00
			6323703.66	2282969.01	8.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates				
							Begin (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BUILDING		BLDG01	x	0		45.00	a	6315467.42	2288422.08	45.00	0.00
								6315602.03	2288356.70	45.00	0.00
								6315573.82	2288301.57	45.00	0.00
								6316993.00	2287602.88	45.00	0.00
								6317019.93	2287656.72	45.00	0.00
								6317150.69	2287591.34	45.00	0.00
								6316831.47	2286942.64	45.00	0.00
								6315286.65	2287713.13	45.00	0.00
								6315258.45	2287658.00	45.00	0.00
								6315123.84	2287724.67	45.00	0.00
BUILDING		BLDG02	x	0		45.00	a	6317399.68	2287412.89	45.00	0.00
								6317525.13	2287343.09	45.00	0.00
								6317495.89	2287290.27	45.00	0.00
								6318231.61	2286885.63	45.00	0.00
								6318258.96	2286936.56	45.00	0.00
								6318383.47	2286868.65	45.00	0.00
								6318076.92	2286312.14	45.00	0.00
								6317949.58	2286382.89	45.00	0.00
								6317976.94	2286433.82	45.00	0.00
								6317245.93	2286840.35	45.00	0.00
								6317216.69	2286786.59	45.00	0.00
								6317091.24	2286858.27	45.00	0.00
BUILDING		BLDG03	x	0		45.00	a	6318682.79	2286832.61	45.00	0.00
								6319289.87	2286462.32	45.00	0.00
								6319243.27	2286382.97	45.00	0.00
								6319196.67	2286411.94	45.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z
						(ft)	(ft)	(ft)	(ft)	(ft)
							6318719.32	2285647.42	45.00	0.00
							6318765.92	2285618.45	45.00	0.00
							6318707.98	2285525.24	45.00	0.00
							6318102.16	2285899.32	45.00	0.00
							6318162.62	2285993.78	45.00	0.00
							6318207.96	2285966.07	45.00	0.00
							6318684.05	2286731.85	45.00	0.00
							6318638.71	2286760.82	45.00	0.00
BUILDING		BLDG04	x	0		45.00 a	6319503.50	2286204.04	45.00	0.00
							6319605.25	2286158.19	45.00	0.00
							6319583.75	2286109.46	45.00	0.00
							6320714.42	2285599.30	45.00	0.00
							6320737.34	2285648.03	45.00	0.00
							6320839.09	2285605.03	45.00	0.00
							6320526.69	2284901.41	45.00	0.00
							6320423.51	2284950.14	45.00	0.00
							6320446.44	2284998.86	45.00	0.00
							6319314.34	2285509.02	45.00	0.00
							6319288.54	2285457.43	45.00	0.00
							6319189.67	2285503.29	45.00	0.00
BUILDING		BLDG05	x	0		45.00 a	6321167.98	2285430.51	45.00	0.00
							6321267.12	2285374.64	45.00	0.00
							6321232.87	2285322.36	45.00	0.00
							6323024.54	2284215.63	45.00	0.00
							6322658.64	2283622.61	45.00	0.00
							6322564.91	2283683.90	45.00	0.00
							6322591.95	2283732.57	45.00	0.00
							6320895.80	2284783.42	45.00	0.00
							6320870.57	2284732.95	45.00	0.00
							6320775.04	2284796.04	45.00	0.00
BUILDING		BLDG06	x	0		20.00 a	6323489.37	2283899.20	20.00	0.00
							6323601.39	2283697.90	20.00	0.00
							6323544.57	2283671.93	20.00	0.00
							6323435.80	2283874.85	20.00	0.00
BUILDING		BLDG07	x	0		20.00 a	6323557.55	2283585.89	20.00	0.00
							6323752.36	2283582.65	20.00	0.00
							6323758.85	2282964.14	20.00	0.00
							6323703.66	2282969.01	20.00	0.00
							6323693.92	2282759.60	20.00	0.00
							6323450.41	2282759.60	20.00	0.00
							6323453.66	2282795.32	20.00	0.00
							6323354.63	2282793.69	20.00	0.00
							6323353.01	2282892.72	20.00	0.00
							6323518.59	2283017.72	20.00	0.00
							6323546.19	2283017.72	20.00	0.00
							6323554.31	2283046.94	20.00	0.00
							6323563.51	2283077.71	20.00	0.00
							6323570.41	2283109.07	20.00	0.00
							6323574.96	2283140.87	20.00	0.00
							6323577.14	2283172.91	20.00	0.00
							6323576.95	2283205.03	20.00	0.00
							6323574.37	2283237.04	20.00	0.00
							6323569.42	2283268.77	20.00	0.00
							6323562.14	2283300.05	20.00	0.00
							6323552.55	2283330.71	20.00	0.00
							6323540.72	2283360.57	20.00	0.00
							6323526.71	2283389.47	20.00	0.00
							6323538.07	2283457.65	20.00	0.00
							6323562.42	2283459.27	20.00	0.00
BUILDING		BLDG08	x	0		20.00 a	6323401.71	2283506.35	20.00	0.00
							6323452.04	2283488.49	20.00	0.00
							6323430.93	2283381.35	20.00	0.00
							6323374.11	2283391.09	20.00	0.00
BUILDING		BLDG09	x	0		20.00 a	6323361.13	2283352.13	20.00	0.00
							6323406.58	2283334.27	20.00	0.00
							6323372.49	2283228.75	20.00	0.00
							6323317.30	2283249.86	20.00	0.00
BUILDING		BLDG10	x	0		20.00 a	6323270.22	2283158.95	20.00	0.00
							6323310.80	2283128.10	20.00	0.00
							6323255.61	2283038.82	20.00	0.00
							6323208.53	2283069.66	20.00	0.00
BUILDING		BLDG11	x	0		20.00 a	6323177.69	2283033.95	20.00	0.00
							6323211.78	2282991.74	20.00	0.00
							6323120.87	2282926.81	20.00	0.00
							6323091.65	2282965.77	20.00	0.00
BUILDING		BLDG12	x	0		20.00 a	6323356.26	2283105.38	20.00	0.00
							6323393.59	2283081.03	20.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z
						(ft)	(ft)	(ft)	(ft)	(ft)
							6323333.53	2282982.00	20.00	0.00
							6323296.19	2283007.98	20.00	0.00
BUILDING		BLDG13	x	0		20.00	6323265.35	2282933.30	20.00	0.00
							6323314.05	2282879.73	20.00	0.00
							6323296.19	2282866.74	20.00	0.00
							6323305.93	2282858.63	20.00	0.00
							6323307.56	2282757.98	20.00	0.00
							6323106.26	2282757.98	20.00	0.00
							6323112.75	2282811.55	20.00	0.00
							6323215.03	2282884.60	20.00	0.00
							6323210.15	2282895.96	20.00	0.00

APPENDIX 10.1:
CADNAA CONSTRUCTION NOISE MODEL INPUTS

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12398 - Beaumont Pointe

CadnaA Noise Prediction Model: 12398_15_Construction.cna

Date: 23.06.22

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	61.2	61.2	67.8	55.0	45.0	0.0				5.00	a	6318806.11	2292331.15	5.00
RECEIVERS		R2	62.3	62.3	68.9	55.0	45.0	0.0				5.00	a	6321134.99	2290808.09	5.00
RECEIVERS		R3	64.7	64.7	71.3	55.0	45.0	0.0				5.00	a	6323538.75	2288028.01	5.00
RECEIVERS		R4	68.7	68.7	75.4	55.0	45.0	0.0				5.00	a	6324208.60	2285233.27	5.00
RECEIVERS		R5	75.5	75.5	82.2	55.0	45.0	0.0				5.00	a	6322668.83	2282431.69	5.00
RECEIVERS		xBIO-1	74.4	74.4	81.1	0.0	0.0	0.0		x	Total	5.00	a	6315486.52	2289104.40	5.00
RECEIVERS		xBIO-2	75.2	75.2	81.8	0.0	0.0	0.0		x	Total	5.00	a	6317292.24	2288261.01	5.00
RECEIVERS		xBIO-3	77.7	77.7	84.4	0.0	0.0	0.0		x	Total	5.00	a	6317222.84	2286292.08	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			Height (ft)
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value norm. dB(A)	Day (min)	Special (min)	Night (min)	
SITEBOUNDARY		SITEBOUNDARY00001	142.4	142.4	142.4	79.0	79.0	79.0	Lw"	79				8

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
SITEBOUNDARY	8.00	a	6313356.36	2288514.52	8.00	0.00
			6315362.74	2288922.66	8.00	0.00
			6315532.04	2288939.05	8.00	0.00
			6315701.95	2288933.85	8.00	0.00

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
			6315869.86	2288907.05	8.00	0.00
			6316032.96	2288859.15	8.00	0.00
			6316188.66	2288790.84	8.00	0.00
			6316334.47	2288703.34	8.00	0.00
			6317974.42	2287587.41	8.00	0.00
			6318662.24	2287201.80	8.00	0.00
			6319222.36	2286971.29	8.00	0.00
			6320152.38	2286395.44	8.00	0.00
			6320146.12	2286501.03	8.00	0.00
			6321258.55	2285817.95	8.00	0.00
			6322134.25	2285280.24	8.00	0.00
			6323490.59	2284442.31	8.00	0.00
			6323668.60	2284254.31	8.00	0.00
			6323628.60	2284169.31	8.00	0.00
			6323653.60	2284152.31	8.00	0.00
			6323709.79	2284091.56	8.00	0.00
			6323748.20	2284076.50	8.00	0.00
			6323809.27	2284038.31	8.00	0.00
			6323808.23	2283814.49	8.00	0.00
			6323802.42	2282522.19	8.00	0.00
			6322527.01	2282524.31	8.00	0.00
			6322514.74	2282700.79	8.00	0.00
			6321870.89	2282690.98	8.00	0.00
			6321866.55	2282759.62	8.00	0.00
			6321231.53	2282760.23	8.00	0.00
			6321240.52	2283771.35	8.00	0.00
			6318670.64	2283728.18	8.00	0.00
			6318667.29	2285128.28	8.00	0.00
			6317313.41	2285137.40	8.00	0.00
			6317300.30	2286479.74	8.00	0.00
			6314685.22	2286514.56	8.00	0.00
			6314664.32	2287810.45	8.00	0.00
			6313381.18	2287837.03	8.00	0.00

APPENDIX 10.2:
NIGHTTIME CONCRETE POUR CALCULATIONS

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12398 - Beaumont Pointe

CadnaA Noise Prediction Model: 12398_18_Concrete.cna

Date: 16.11.22

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	26.8	26.8	33.5	55.0	45.0	0.0				5.00	a	6318806.11	2292331.15	5.00
RECEIVERS		R2	28.5	28.5	35.2	55.0	45.0	0.0				5.00	a	6321134.99	2290808.09	5.00
RECEIVERS		R3	33.9	33.9	40.5	55.0	45.0	0.0				5.00	a	6323538.75	2288028.01	5.00
RECEIVERS		R4	40.9	40.9	47.6	55.0	45.0	0.0				5.00	a	6324208.60	2285233.27	5.00
RECEIVERS		R5	45.4	45.4	52.0	55.0	45.0	0.0				5.00	a	6322668.83	2282431.69	5.00
RECEIVERS		xBIO-1	36.3	36.3	43.0	0.0	0.0	0.0		x	Total	5.00	a	6315486.52	2289104.40	5.00
RECEIVERS		xBIO-2	39.8	39.8	46.5	0.0	0.0	0.0		x	Total	5.00	a	6317292.24	2288261.01	5.00
RECEIVERS		xBIO-3	42.9	42.9	49.5	0.0	0.0	0.0		x	Total	5.00	a	6317222.84	2286292.08	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			Height (ft)	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)		Night (min)
CONCRETE		CONS01	100.3	100.3	100.3	48.9	48.9	48.9	Lw	100.3					8
CONCRETE		CONS02	100.3	100.3	100.3	52.1	52.1	52.1	Lw	100.3					8
CONCRETE		CONS03	100.3	100.3	100.3	51.7	51.7	51.7	Lw	100.3					8
CONCRETE		CONS04	100.3	100.3	100.3	50.1	50.1	50.1	Lw	100.3					8
CONCRETE		CONS05	100.3	100.3	100.3	48.4	48.4	48.4	Lw	100.3					8
CONCRETE		CONS06	100.3	100.3	100.3	69.2	69.2	69.2	Lw	100.3					8
CONCRETE		CONS07	100.3	100.3	100.3	72.6	72.6	72.6	Lw	100.3					8
CONCRETE		CONS08	100.3	100.3	100.3	72.8	72.8	72.8	Lw	100.3					8
CONCRETE		CONS09	100.3	100.3	100.3	73.0	73.0	73.0	Lw	100.3					8

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time			Height (ft)
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
CONCRETE		CONS10	100.3	100.3	100.3	73.1	73.1	73.1	Lw	100.3					8
CONCRETE		CONS11	100.3	100.3	100.3	67.0	67.0	67.0	Lw	100.3					8
CONCRETE		CONS12	100.3	100.3	100.3	57.6	57.6	57.6	Lw	100.3					8

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
CONCRETE	8.00	a	6315467.42	2288422.08	8.00	0.00
			6317150.69	2287591.34	8.00	0.00
			6316831.47	2286942.64	8.00	0.00
			6316803.17	2286870.87	8.00	0.00
			6315258.45	2287658.00	8.00	0.00
			6315123.84	2287724.67	8.00	0.00
CONCRETE	8.00	a	6317399.68	2287412.89	8.00	0.00
			6318383.47	2286868.65	8.00	0.00
			6318076.92	2286312.14	8.00	0.00
			6317091.24	2286858.27	8.00	0.00
CONCRETE	8.00	a	6318682.79	2286832.61	8.00	0.00
			6319289.87	2286462.32	8.00	0.00
			6318707.98	2285525.24	8.00	0.00
			6318102.16	2285899.32	8.00	0.00
CONCRETE	8.00	a	6319503.50	2286204.04	8.00	0.00
			6320839.09	2285605.03	8.00	0.00
			6320526.69	2284901.41	8.00	0.00
			6319189.67	2285503.29	8.00	0.00
CONCRETE	8.00	a	6321167.98	2285430.51	8.00	0.00
			6323063.72	2284270.89	8.00	0.00
			6322658.64	2283622.61	8.00	0.00
			6320775.04	2284796.04	8.00	0.00
CONCRETE	8.00	a	6323489.37	2283899.20	8.00	0.00
			6323601.39	2283697.90	8.00	0.00
			6323544.57	2283671.93	8.00	0.00
			6323435.80	2283874.85	8.00	0.00
CONCRETE	8.00	a	6323401.71	2283506.35	8.00	0.00
			6323452.04	2283488.49	8.00	0.00
			6323430.93	2283381.35	8.00	0.00
			6323374.11	2283391.09	8.00	0.00
CONCRETE	8.00	a	6323361.13	2283352.13	8.00	0.00
			6323406.58	2283334.27	8.00	0.00
			6323372.49	2283228.75	8.00	0.00
			6323317.30	2283249.86	8.00	0.00
CONCRETE	8.00	a	6323270.22	2283158.95	8.00	0.00
			6323310.80	2283128.10	8.00	0.00
			6323255.61	2283038.82	8.00	0.00
			6323208.53	2283069.66	8.00	0.00
CONCRETE	8.00	a	6323177.69	2283033.95	8.00	0.00
			6323211.78	2282991.74	8.00	0.00
			6323120.87	2282926.81	8.00	0.00
			6323091.65	2282965.77	8.00	0.00
CONCRETE	8.00	a	6323112.75	2282811.55	8.00	0.00
			6323215.03	2282884.60	8.00	0.00
			6323210.15	2282895.96	8.00	0.00
			6323265.35	2282933.30	8.00	0.00
			6323314.05	2282879.73	8.00	0.00
			6323296.19	2282866.74	8.00	0.00
			6323307.56	2282757.98	8.00	0.00
			6323106.26	2282757.98	8.00	0.00
CONCRETE	8.00	a	6323354.63	2282793.69	8.00	0.00
			6323353.01	2282892.72	8.00	0.00
			6323518.59	2283017.72	8.00	0.00
			6323546.19	2283017.72	8.00	0.00
			6323554.31	2283046.94	8.00	0.00
			6323563.51	2283077.71	8.00	0.00
			6323570.41	2283109.07	8.00	0.00
			6323574.96	2283140.87	8.00	0.00
			6323577.14	2283172.91	8.00	0.00
			6323576.95	2283205.03	8.00	0.00
			6323574.37	2283237.04	8.00	0.00
			6323569.42	2283268.77	8.00	0.00
			6323562.14	2283300.05	8.00	0.00
			6323552.55	2283330.71	8.00	0.00
			6323540.72	2283360.57	8.00	0.00
			6323526.71	2283389.47	8.00	0.00
			6323538.07	2283457.65	8.00	0.00
			6323562.42	2283459.27	8.00	0.00
			6323557.55	2283585.89	8.00	0.00
			6323752.36	2283582.65	8.00	0.00

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
			6323756.43	2282757.87	8.00	0.00
			6323450.41	2282759.60	8.00	0.00
			6323453.66	2282795.32	8.00	0.00

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APPENDIX 10.3:
BLASTING CALCULATIONS

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BLASTING INPUTS & CALCULATIONS

Scaled Distance

Source: ISEE's Blaster's Handbook, 2018 Edition.

Square Root Scaled Distance

$$SD_2 = R / W^{1/2}$$

$$R = 9384 \text{ feet}$$

Distance from blast to a point of interest (meters or feet)

$$W = 25 \text{ lbs}$$

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_2 = 1876.80 \text{ ft/lbs}^{1/2}$$

Peak Particle Velocity

$$PPV = A * (SD_2)^B$$

$$A = 160$$

"Best Fit" 160 per blasting contractor guidance based on site conditions.

$$SD_2 = 1876.80$$

All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

$$B = 1.6$$

Slope of the line (note that the slope is **negative** in the equation)

$$PPV = 0.00 \text{ in/sec}$$

Vibration Amplitude Equations For Various Blasting Industries

Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	$PPV = 1,140(SD_2)^{-1.6}$	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	$PPV = 1,730(SD_2)^{-1.6}$	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	$PPV = 4,320(SD_2)^{-1.6}$	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	$PPV = 1,252(SD_2)^{-1.31}$	$PPV = 138(SD_2)^{-1.31}$	Best Fit	USBM RI 9226

Air Overpressure/Airblast

Cubed Root Scaled Distance

$$SD_3 = R / W^{1/3}$$

$$R = 9384 \text{ feet}$$

Distance from blast to a point of interest (meters or feet)

$$W = 25 \text{ lbs}$$

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_3 = 3209.28 \text{ ft/lbs}^{1/3}$$

Air Overpressure Prediction

R1

$$P = A * SD_3^{-B}$$

$$A = 0.5$$

Partially confined.

$$SD_3 = 3209.28$$

$$B = 1.1$$

Slope of the line (note that the slope is negative)

$$P = 0.0001 \text{ psi}$$

Air Overpressure Prediction Equations				
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485

Decibels (Linear)

$$P_s = 20 * \log(P / P_0)$$

$$P = 0.0001 \text{ psi}$$

$$P_0 = 2.9E-09 \text{ pascals} \quad \text{Reference value: } 2.9 * 10^{-9} \text{ lbs/inch}^2$$

$$P_s = 87.59 \text{ dB}$$

BLASTING INPUTS & CALCULATIONS

Scaled Distance

Source: ISEE's Blaster's Handbook, 2018 Edition.

Square Root Scaled Distance

$$SD_2 = R / W^{1/2}$$

$$R = \frac{7310}{\text{feet}}$$

Distance from blast to a point of interest (meters or feet)

$$W = \frac{25}{\text{lbs}}$$

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_2 = \boxed{1462.00} \text{ ft/lbs}^{1/2}$$

Peak Particle Velocity

$$PPV = A * (SD_2)^{-B}$$

$$A = \frac{160}{\text{in/sec}}$$

"Best Fit" 160 per blasting contractor guidance based on site conditions.

$$SD_2 = \frac{1462.00}{\text{ft/lbs}^{1/2}}$$

All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

$$B = \frac{1.6}{\text{in/sec}}$$

Slope of the line (note that the slope is **negative** in the equation)

$$PPV = \boxed{0.00} \text{ in/sec}$$

Vibration Amplitude Equations For Various Blasting Industries

Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	$PPV = 1,140(SD_2)^{-1.6}$	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	$PPV = 1,730(SD_2)^{-1.6}$	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	$PPV = 4,320(SD_2)^{-1.6}$	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	$PPV = 1,252(SD_2)^{-1.31}$	$PPV = 138(SD_2)^{-1.31}$	Best Fit	USBM RI 9226

Air Overpressure/Airblast

Cubed Root Scaled Distance

$$SD_3 = R / W^{1/3}$$

$$R = \frac{7310}{\text{feet}}$$

Distance from blast to a point of interest (meters or feet)

$$W = \frac{25}{\text{lbs}}$$

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_3 = \boxed{2499.98} \text{ ft/lbs}^{1/3}$$

Air Overpressure Prediction

R2

$$P = A * SD_3^{-B}$$

$$A = 0.5$$

Partially confined.

$$SD_3 = 2499.98$$

$$B = 1.1$$

Slope of the line (note that the slope is negative)

$$P = 0.0001 \text{ psi}$$

Air Overpressure Prediction Equations				
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485

Decibels (Linear)

$$P_s = 20 * \log(P / P_0)$$

$$P = 0.0001 \text{ psi}$$

$$P_0 = 2.9E-09 \text{ pascals} \quad \text{Reference value: } 2.9 * 10^{-9} \text{ lbs/inch}^2$$

$$P_s = 89.98 \text{ dB}$$

BLASTING INPUTS & CALCULATIONS

Scaled Distance

Source: ISEE's Blaster's Handbook, 2018 Edition.

Square Root Scaled Distance

$$SD_2 = R / W^{1/2}$$

R = 4422 feet

Distance from blast to a point of interest (meters or feet)

W = 25 lbs

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_2 = 884.40 \text{ ft/lbs}^{1/2}$$

Peak Particle Velocity

$$PPV = A * (SD_2)^B$$

A = 160

"Best Fit" 160 per blasting contractor guidance based on site conditions.

SD₂ = 884.40

All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

B = 1.6

Slope of the line (note that the slope is **negative** in the equation)

$$PPV = 0.00 \text{ in/sec}$$

Vibration Amplitude Equations For Various Blasting Industries				
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	PPV = 1,140(SD ₂) ^{-1.6}	PPV = 160(SD ₂) ^{-1.6}	Best Fit	DuPont
Construction	PPV = 173(SD ₂) ^{-1.6}	PPV = 24.2(SD ₂) ^{-1.6}	Lower Bound	Oriard
Construction	PPV = 1,730(SD ₂) ^{-1.6}	PPV = 242(SD ₂) ^{-1.6}	Upper Bound	Oriard (2005)
Construction	PPV = 4,320(SD ₂) ^{-1.6}	PPV = 605(SD ₂) ^{-1.6}	Upper Bound - High Confinement	Oriard (2005)
Construction	PPV = 53(SD ₂) ^{-1.09}	PPV = 5(SD ₂) ^{-1.09}	Best Fit	USBM RI 8507
Quarries	PPV = 1,090(SD ₂) ^{-1.82}	PPV = 182(SD ₂) ^{-1.82}	Best Fit	USBM Bulletin 656
Coal Mines	PPV = 905(SD ₂) ^{-1.52}	PPV = 119(SD ₂) ^{-1.52}	Best Fit	USBM RI 8507
Coal Mines	PPV = 3,330(SD ₂) ^{-1.52}	PPV = 438(SD ₂) ^{-1.52}	Upper bound	USBM RI 8507
Coal - Low Frequency sites	PPV = 1,252(SD ₂) ^{-1.31}	PPV = 138(SD ₂) ^{-1.31}	Best Fit	USBM RI 9226

Air Overpressure/Airblast

Cubed Root Scaled Distance

$$SD_3 = R / W^{1/3}$$

R = 4422 feet

Distance from blast to a point of interest (meters or feet)

W = 25 lbs

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_3 = 1512.30 \text{ ft/lbs}^{1/3}$$

Air Overpressure Prediction

R3

$$P = A * SD_3^{-B}$$

$$A = 0.5$$

Partially confined.

$$SD_3 = 1512.30$$

$$B = 1.1$$

Slope of the line (note that the slope is negative)

$$P = 0.0002 \text{ psi}$$

Air Overpressure Prediction Equations				
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485

Decibels (Linear)

$$P_s = 20 * \log(P / P_0)$$

$$P = 0.0002 \text{ psi}$$

$$P_0 = 2.9E-09 \text{ pascals} \quad \text{Reference value: } 2.9 * 10^{-9} \text{ lbs/inch}^2$$

$$P_s = 94.78 \text{ dB}$$

BLASTING INPUTS & CALCULATIONS

Scaled Distance

Source: ISEE's Blaster's Handbook, 2018 Edition.

Square Root Scaled Distance

$$SD_2 = R / W^{1/2}$$

$$R = \frac{2254}{\text{feet}}$$

Distance from blast to a point of interest (meters or feet)

$$W = \frac{25}{\text{lbs}}$$

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_2 = \frac{450.80}{\text{ft/lbs}^{1/2}}$$

Peak Particle Velocity

$$PPV = A * (SD_2)^{-B}$$

$$A = \frac{160}{\text{in/sec}}$$

"Best Fit" 160 per blasting contractor guidance based on site conditions.

$$SD_2 = \frac{450.80}{\text{ft/lbs}^{1/2}}$$

All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

$$B = \frac{1.6}{\text{ft/lbs}^{1/2}}$$

Slope of the line (note that the slope is **negative** in the equation)

$$PPV = \frac{0.01}{\text{in/sec}}$$

Vibration Amplitude Equations For Various Blasting Industries

Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	$PPV = 1,140(SD_2)^{-1.6}$	$PPV = 160(SD_2)^{-1.6}$	Best Fit	DuPont
Construction	$PPV = 173(SD_2)^{-1.6}$	$PPV = 24.2(SD_2)^{-1.6}$	Lower Bound	Oriard
Construction	$PPV = 1,730(SD_2)^{-1.6}$	$PPV = 242(SD_2)^{-1.6}$	Upper Bound	Oriard (2005)
Construction	$PPV = 4,320(SD_2)^{-1.6}$	$PPV = 605(SD_2)^{-1.6}$	Upper Bound - High Confinement	Oriard (2005)
Construction	$PPV = 53(SD_2)^{-1.09}$	$PPV = 5(SD_2)^{-1.09}$	Best Fit	USBM RI 8507
Quarries	$PPV = 1,090(SD_2)^{-1.82}$	$PPV = 182(SD_2)^{-1.82}$	Best Fit	USBM Bulletin 656
Coal Mines	$PPV = 905(SD_2)^{-1.52}$	$PPV = 119(SD_2)^{-1.52}$	Best Fit	USBM RI 8507
Coal Mines	$PPV = 3,330(SD_2)^{-1.52}$	$PPV = 438(SD_2)^{-1.52}$	Upper bound	USBM RI 8507
Coal - Low Frequency sites	$PPV = 1,252(SD_2)^{-1.31}$	$PPV = 138(SD_2)^{-1.31}$	Best Fit	USBM RI 9226

Air Overpressure/Airblast

Cubed Root Scaled Distance

$$SD_3 = R / W^{1/3}$$

$$R = \frac{2254}{\text{feet}}$$

Distance from blast to a point of interest (meters or feet)

$$W = \frac{25}{\text{lbs}}$$

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_3 = \frac{770.86}{\text{ft/lbs}^{1/3}}$$

Air Overpressure Prediction

R4

$$P = A * SD_3^{-B}$$

$$A = 0.5$$

Partially confined.

$$SD_3 = 770.86$$

$$B = 1.1$$

Slope of the line (note that the slope is negative)

$$P = 0.0003 \text{ psi}$$

Air Overpressure Prediction Equations				
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485

Decibels (Linear)

$$P_s = 20 * \log(P / P_0)$$

$$P = 0.0003 \text{ psi}$$

$$P_0 = 2.9E-09 \text{ pascals} \quad \text{Reference value: } 2.9 * 10^{-9} \text{ lbs/inch}^2$$

$$P_s = 101.22 \text{ dB}$$

BLASTING INPUTS & CALCULATIONS

Scaled Distance

Source: ISEE's Blaster's Handbook, 2018 Edition.

Square Root Scaled Distance

$$SD_2 = R / W^{1/2}$$

R = 796 feet

Distance from blast to a point of interest (meters or feet)

W = 25 lbs

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_2 = 159.20 \text{ ft/lbs}^{1/2}$$

Peak Particle Velocity

$$PPV = A * (SD_2)^B$$

A = 160

"Best Fit" 160 per blasting contractor guidance based on site conditions.

SD₂ = 159.20

All blasts will be designed on-site by the blasting contractor to remain below 0.5 in/sec PPV

B = 1.6

Slope of the line (note that the slope is **negative** in the equation)

$$PPV = 0.05 \text{ in/sec}$$

Vibration Amplitude Equations For Various Blasting Industries				
Industry	Metric Equations mm/sec.	U.S. Equations in./sec.	Confidence level	Source
General	PPV = 1,140(SD ₂) ^{-1.6}	PPV = 160(SD ₂) ^{-1.6}	Best Fit	DuPont
Construction	PPV = 173(SD ₂) ^{-1.6}	PPV = 24.2(SD ₂) ^{-1.6}	Lower Bound	Oriard
Construction	PPV = 1,730(SD ₂) ^{-1.6}	PPV = 242(SD ₂) ^{-1.6}	Upper Bound	Oriard (2005)
Construction	PPV = 4,320(SD ₂) ^{-1.6}	PPV = 605(SD ₂) ^{-1.6}	Upper Bound - High Confinement	Oriard (2005)
Construction	PPV = 53(SD ₂) ^{-1.09}	PPV = 5(SD ₂) ^{-1.09}	Best Fit	USBM RI 8507
Quarries	PPV = 1,090(SD ₂) ^{-1.82}	PPV = 182(SD ₂) ^{-1.82}	Best Fit	USBM Bulletin 656
Coal Mines	PPV = 905(SD ₂) ^{-1.52}	PPV = 119(SD ₂) ^{-1.52}	Best Fit	USBM RI 8507
Coal Mines	PPV = 3,330(SD ₂) ^{-1.52}	PPV = 438(SD ₂) ^{-1.52}	Upper bound	USBM RI 8507
Coal - Low Frequency sites	PPV = 1,252(SD ₂) ^{-1.31}	PPV = 138(SD ₂) ^{-1.31}	Best Fit	USBM RI 9226

Air Overpressure/Airblast

Cubed Root Scaled Distance

$$SD_3 = R / W^{1/3}$$

R = 796 feet

Distance from blast to a point of interest (meters or feet)

W = 25 lbs

Maximum charge-weight detonated within any 8-millisecond period (kilograms or pounds)

$$SD_3 = 272.23 \text{ ft/lbs}^{1/3}$$

Air Overpressure Prediction

R5

$$P = A * SD_3^{-B}$$

$$A = 0.5$$

Partially confined.

$$SD_3 = 272.23$$

$$B = 1.1$$

Slope of the line (note that the slope is negative)

$$P = 0.0010 \text{ psi}$$

Air Overpressure Prediction Equations				
Blasting	Metric Equations mb	U.S. Equations psi	Statistical Type	Source
Open air (no confinement)	$P = 3589 \times SD_3^{-1.38}$	$P = 187 \times SD_3^{-1.38}$	Best Fit	Perkins
Coal mines (parting)	$P = 2596 \times SD_3^{-1.62}$	$P = 169 \times SD_3^{-1.62}$	Best Fit	USBM RI 8485
Coal mines (highwall)	$P = 5.37 \times SD_3^{-0.79}$	$P = 0.162 \times SD_3^{-0.79}$	Best Fit	USBM RI 8485
Quarry face	$P = 37.1 \times SD_3^{-0.97}$	$P = 1.32 \times SD_3^{-0.97}$	Best Fit	USBM RI 8485
Metal Mine	$P = 14.3 \times SD_3^{-0.71}$	$P = 0.401 \times SD_3^{-0.71}$	Best Fit	USBM RI 8485
Construction (average)	$P = 24.8 \times SD_3^{-1.1}$	$P = 1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Construction (highly confined)	$P = 2.48 \times SD_3^{-1.1}$	$P = 0.1 \times SD_3^{-1.1}$	Best Fit	Oriard (2005)
Buried (total confinement)	$P = 1.73 \times SD_3^{-0.96}$	$P = 0.061 \times SD_3^{-0.96}$	Best Fit	USBM RI 8485

Decibels (Linear)

$$P_s = 20 * \log(P / P_0)$$

$$P = 0.0010 \text{ psi}$$

$$P_0 = 2.9E-09 \text{ pascals} \quad \text{Reference value: } 2.9 * 10^{-9} \text{ lbs/inch}^2$$

$$P_s = 111.16 \text{ dB}$$