
APPENDIX G

INITIAL STUDY

Initial Study (IS)

CHADWICK RANCH ESTATES

Prepared for:

CITY OF BRADBURY



City of Bradbury Planning Department

Jim Kasama, City Planner
Trayci Nelson, Project Manager
600 Winston Avenue
Bradbury, CA 91008
Telephone: 626.358.3218

Prepared by:



UltraSystems Environmental Inc.

16431 Scientific Way
Irvine, CA 92618-4355
Telephone: 949.788.4900
FAX: 949.788.4901
www.ultrasystems.com

February 2020



PROJECT INFORMATION SHEET

- 1. Project Title**

Chadwick Ranch Estates
General Plan Amendment (Case No. GPA 19-001)
Zone Change (Case No. ZC 19-001)
Zoning Code Amendment (Case No. ZCA 19-001)
Specific Plan (Case No. SP-19-001)
Vesting Tentative Tract Map No. 82349
Tree Removal Permit (TRP Case No. 19-001)
Tree Preservation/Protection Plan (Case No. 19-001)
- 2. CEQA Lead Agency and Address**

City of Bradbury
600 Winston Avenue
Bradbury, CA 91008
- 3. Contact and Phone Number**

Trayci Nelson, Project Manager
(562) 200-7180
tnelson@cityofbradbury.org
- 4. Project Applicant**

Nevis Capital, LLC, C/O TRG Land Inc.
Mark S. Rogers, Principal
898 Production Place
Newport Beach, CA 92663
- 5. Project Location**

111.8 acres in the northeast quadrant of the City of Bradbury
- 6. Assessor's Parcel Numbers**

APNs 8527-005-001, 8527-005-004, 8517-001-010
- 7. Project Site General Plan Designation(s)**

Open Space–Privately Owned Undeveloped
- 8. Project Site Zoning Designation(s)**

Agriculture/Estate Residential, A-5 (SP)
- 9. Surrounding Land Uses and Setting**

The project site is located along the northern urban fringe of the City of Bradbury and is bordered by predominantly vacant land to the immediate east in the City of Duarte, vacant land to the north, both within the City of Bradbury and beyond the city's northern corporate limits in the City of Monrovia, and a combination of flood control facilities and vacant land within the City of Bradbury to the west. Urban development both in the City of Bradbury and City of Duarte generally occurs southwest, south and southeast of the project site.



10. Description of Project

Chadwick Ranch Estates is comprised of 14 numbered estate residential lots and 14 lettered non-residential lots. The proposed project also includes a site access roadway extending from the intersection of Bliss Canyon Road/Long Canyon Road, an on-site backbone circulation system, requisite infrastructure, as well as a water tank, a booster station, and debris and water quality basins, among others. Easements for a portion of the site access roadway will be required from the Los Angeles County Flood Control District (LACFCD). The 111.8-acre project has been designed in such a manner that more than half of the land area of the site will remain undisturbed. It is the Applicant's intent to ultimately dedicate this area to a conservancy to be named.

11. Selected Agencies whose Approval is Required

City of Bradbury

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code § 21080.3.1? If so, has consultation begun?

Tribes have been notified; however, consultation has not begun.

13. Other Public Agencies whose Approval is Required

Bradbury Estates Community Services District
Los Angeles County Flood Control District
California Department of Fish and Wildlife
Los Angeles County Department of Public Health



TABLE OF CONTENTS

Project Information Sheet.....	i
1.0 Introduction	1-1
1.1 Document Overview	1-1
1.2 Summary Description of the Proposed Project	1-1
1.3 CEQA and the Environmental Review Process	1-2
1.4 Initial Study Organization and Content.....	1-4
1.5 Initial Study Findings.....	1-5
2.0 Environmental Setting.....	2-1
2.1 Location and Boundaries.....	2-1
2.2 Land Use Plans, Policies and Controls	2-1
2.3 General Project Site and Vicinity Characteristics	2-8
3.0 Project Description	3-1
3.1 Location.....	3-1
3.2 Project Characteristics.....	3-1
3.3 Project Construction	3-11
3.4 Requested Entitlements.....	3-13
3.5 Other Approvals Required.....	3-13
4.0 Environmental Checklist	4-1
4.1 Aesthetics	4.1-1
4.2 Agriculture and Forestry Resources.....	4.2-1
4.3 Air Quality.....	4.3-1
4.4 Biological Resources	4.4-1
4.5 Cultural Resources.....	4.5-1
4.6 Energy	4.6-1
4.7 Geology and Soils.....	4.7-1
4.8 Greenhouse Gas Emissions.....	4.8-1
4.9 Hazards and Hazardous Materials.....	4.9-1
4.10 Hydrology and Water Quality	4.10-1
4.11 Land Use and Planning	4.11-1
4.12 Mineral Resources.....	4.12-1
4.13 Noise.....	4.13-1
4.14 Population and Housing.....	4.14-1
4.15 Public Services	4.15-1
4.16 Recreation.....	4.16-1
4.17 Transportation.....	4.17-1
4.18 Tribal Cultural Resources.....	4.18-1
4.19 Utilities and Service Systems.....	4.19-1
4.20 Wildfire.....	4.20-1
4.21 Mandatory Findings of Significance.....	4.21-1
5.0 References	5-1



6.0	List of Preparers.....	6-1
6.1	Lead Agency (CEQA)	6-1
6.2	Project Applicant	6-1
6.3	UltraSystems Environmental, Inc.	6-1
6.4	Other Firms.....	6-3
Acronyms and Abbreviations.....		v

TABLES

Table 3.2-1	- Chadwick Ranch Estates Project Statistical Summary by Parcel/Lot.....	3-6
--------------------	--	------------

FIGURES

Figure 2.1-1	- Regional Location Map.....	2-2
Figure 2.1-2	- Project Site Vicinity Location Map.....	2-3
Figure 2.1-3	- Aerial View of the Project Site and Vicinity	2-4
Figure 2.2-1	- Site Imagery One.....	2-5
Figure 2.2-2	- Site Imagery Two.....	2-6
Figure 2.2-3	- Site Imagery Location Key	2-7
Figure 2.2-4	- City of Bradbury General Plan Land Use Designation	2-9
Figure 2.2-5	- City of Bradbury Zoning Designations.....	2-10
Figure 3.2-1	- Conceptual Site Plan.....	3-3
Figure 3.2-2	- Conceptual Water Plan.....	3-5
Figure 3.2-3	- Conceptual Drainage Plan.....	3-7
Figure 3.2-4	- Circulation Plan	3-9
Figure 3.2-5	- Evacuation Plan.....	3-10
Figure 3.3-1	- Conceptual Grading Plan.....	3-12
Figure 3.4-1	- Proposed Tentative Tract Map.....	3-14
Figure 3.4-2	- Conceptual Utility Plan	3-15



1.0 INTRODUCTION

1.1 Document Overview

This document presents an assessment of the potential environmental consequences that might result from the construction and subsequent occupancy of Chadwick Ranch Estates (the proposed project), a proposed 111.8-acre exclusive master-planned residential community in the foothills of the San Gabriel Mountains in the northeastern part of the City of Bradbury.

The City of Bradbury, in its capacity as the Lead Agency for this project, has caused the preparation of this document in fulfillment of its environmental review obligations pursuant to applicable provisions of the California Environmental Quality Act (CEQA) of 1970, Guidelines for Implementation of the California Environmental Act (State CEQA Guidelines), and the City's local CEQA implementation procedures, all as amended. Identified as an Initial Study (IS) in the State CEQA Guidelines, this document is a critical component of the environmental review process and provides decision-makers, other public agencies, private groups, and/or individuals with an objective assessment of whether significant environmental impacts may result from implementation of the proposed project. The findings of this document also provide the Lead Agency with the substantial evidence necessary to arrive at a determination whether additional environmental documentation might be required.

With regard to the proposed project, the City of Bradbury has determined that the preparation of an environmental impact report (EIR) is required to address the significant and/or potentially significant environmental impacts which may result from the proposed project. It is noted that the City arrived at this determination prior to the preparation of this Initial Study. Thus, this Initial Study has a two-fold purpose. First, to refine and focus the scope of the issues to be addressed in the EIR, and second, to provide the substantial evidence underlying the rationales as to why those issues not included in the scope of the EIR do not require additional environmental analysis.

The discussion above described the nature of this document and its role in the environmental review process. Every step in that process has a statutory basis. Section 1.3, which follows the Summary Description of the Proposed Project below, provides an overview of CEQA and its attendant State CEQA Guidelines, and provides a more formal discussion of the environmental review process.

1.2 Summary Description of the Proposed Project

Chadwick Ranch Estates is comprised of 14 numbered estate residential lots and 14 lettered non-residential lots. The proposed project also includes a site access roadway extending from the intersection of Bliss Canyon Road/Long Canyon Road, an on-site backbone circulation system, requisite infrastructure, as well as a water tank, a booster station, and debris and water quality basins, among others. Easements for a portion of the site access roadway will be required from the Los Angeles County Flood Control District (LACFCD). The proposed project has been designed in such a manner that more than half of the land area of the site will remain undisturbed. It is the Applicant's intent to ultimately dedicate this area to a conservancy to be named. Detailed information about the proposed project is provided in **Section 3.0**, Project Description, later in this document.

1.3 CEQA and the Environmental Review Process

1.3.1 Purpose of CEQA

Unless otherwise exempted, all discretionary projects within California are required to undergo environmental review under CEQA. A project is defined in CEQA Guidelines § 15378 as the whole of the action having the potential to result in a direct physical change or a reasonably foreseeable indirect change to the environment and is any of the following:

- An activity directly undertaken by any public agency including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements.
- An activity undertaken by a person which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

CEQA Guidelines § 15002 lists the basic purposes of CEQA as follows:

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.3.2 Authority to Mitigate under CEQA

CEQA establishes that public agencies have a responsibility to avoid or minimize environmental damage where feasible. Under CEQA Guidelines § 15041 a Lead Agency for a project has authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the “nexus”¹ and “rough proportionality”² standards. However, CEQA also allows a Lead Agency to approve a project even though the project would cause a significant effect on the environment if the agency makes a fully informed and publicly disclosed decision that there is no feasible way to lessen or avoid the significant effect. In such cases, the Lead Agency must specifically identify expected benefits and other overriding considerations from the project despite the occurrence of one or more unmitigable significant environmental effects.

1 A nexus (i.e., connection) must be established between the mitigation measure and a legitimate governmental interest.

2 The mitigation measure must be “roughly proportional” to the impacts of the project.

1.3.3 Purpose of Initial Study

Once a project has been determined to be a “project” per § 15378 of the State CEQA Guidelines, the CEQA process begins with a public agency making a determination as to whether the project is subject to CEQA. If the project is exempt, the process does not need to proceed any further. If the project is not exempt, the Lead Agency takes the second step and conducts an Initial Study to determine whether the project may have a significant effect on the environment. The purposes of an Initial Study as listed in § 15063(c) of the CEQA Guidelines are to:

- Provide the Lead Agency with information necessary to decide if an Environmental Impact Report (EIR), Negative Declaration (ND), or Mitigated Negative Declaration (MND) should be prepared.
- Enable a Lead Agency to modify a project to mitigate adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a ND or MND.
- Assist in the preparation of an EIR, if required, by focusing the EIR on adverse effects determined to be significant, identifying the adverse effects determined not to be significant, explaining the reasons for determining that potentially significant adverse effects would not be significant, and identifying whether a program EIR, or other process, can be used to analyze adverse environmental effects of the project.
- Facilitate an environmental assessment early during project design.
- Provide documentation in the ND or MND that a project would not have a significant effect on the environment.
- Eliminate unnecessary EIRs.
- Determine if a previously prepared EIR could be used for the project.

In cases where no potentially significant impacts are identified and no mitigation measures are needed, the Lead Agency will issue a ND. Where potentially significant impacts are identified and mitigation measures are required to reduce potentially significant impacts to less than significant levels, the Lead Agency will prepare an MND for the proposed project. If the Lead Agency determines that individual or cumulative effects of a proposed project are potentially significant and further analysis of the potentially significant effects is warranted, the Lead Agency may require the preparation of an EIR.

As mentioned previously, with regard to the proposed project, the Lead Agency has determined that an EIR is required. Accordingly, the Lead Agency sent a Notice of Preparation (NOP) that an EIR is being prepared to the Office of Planning and Research, Responsible and Trustee agencies, and other Agencies with Jurisdiction by Law with a copy of this Initial Study attached. Each entity receiving the NOP shall have 30 days to review it and if warranted, prepare and submit to the Lead Agency written comments specific to their area of responsibility. The NOP circulation period for the proposed project began on February 27, 2020 and will end on March 30, 2020. Responsible and Trustee Agencies and Agencies with Jurisdiction by Law are defined as follows:

- A **Responsible Agency** (14 CCR § 15381) is a public agency, other than the Lead Agency, that has discretionary approval power over the project, such as permit issuance or plan approval authority.

- A **Trustee Agency**³ (14 CCR § 15386) is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California.
- **Agencies with Jurisdiction by Law** (14 CCR § 15366) are any public agencies that have authority (1) to grant a permit or other entitlement for use; (2) to provide funding for the project in question; or (3) to exercise authority over resources which may be affected by the project. Furthermore, a city or county will have jurisdiction by law with respect to a project when the city or county having primary jurisdiction over the area involved is: (1) the site of the project; (2) the area in which the major environmental effects will occur; and/or (3) the area in which reside those citizens most directly concerned by any such environmental effects.

1.4 Initial Study Organization and Content

The City of Bradbury employs an Initial Study format organized around the content and format recommendations promulgated by State CEQA Guidelines Appendix G: *Environmental Checklist Form*, and addresses the following environmental topics: *Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation and Traffic, Tribal Cultural Resources, Utilities and Service Systems, Wildfires, and Mandatory Findings of Significance*. For each of the environmental topics identified above, the discussion will (1) identify the **sources** employed to conduct the analysis; (2) characterize the **environmental setting**; (3) present **thresholds of impact significance**; (4) present and discuss the **impact analysis** and its relevant results; (5) if warranted, posit **mitigation measures** to reduce or eliminate any identified significant effects; and (6) conclude with an issue-specific determination of the **level of impact significance after mitigation**.

The primary factors affecting which determination the Lead Agency will make are articulated in § 15064 of the State CEQA Guidelines, as amended. However, as mentioned previously, with regard to the proposed project, the Lead Agency determined in advance of having prepared this Initial Study that the preparation of an EIR would be warranted. An annotated outline of the sections comprising this Initial Study is provided below.

- **Section 1.0 - Introduction**, which identifies the purpose and scope of the Initial Study.
- **Section 2.0 - Environmental Setting**, which describes location, existing site conditions, land uses, zoning designations, topography, and vegetation associated with the project site and surrounding area.
- **Section 3.0 - Project Description**, which provides an overview of the project, a description of the proposed development, project phasing during construction, and discretionary actions for the approval of the project.
- **Section 4.0 - Environmental Checklist**, which presents checklist responses for each resource topic to identify and assess impacts associated with the proposed project, and proposes mitigation measures, where needed, to render potential environmental impacts less than significant, where feasible.

3 The four Trustee Agencies in California listed in CEQA Guidelines §15386 are California Department of Fish and Wildlife, State Lands Commission, State Department of Parks and Recreation, and University of California.

- **Section 5.0 - References**, which includes a list of documents cited in the Initial Study.
- **Section 6.0 - List of Preparers**, which identifies the primary authors and technical experts that prepared the Initial Study.

1.5 Initial Study Findings

For each environmental topic analyzed in this Initial Study, one of four findings are made regarding the level of impact significance. These are:

- A finding of ***no impact*** is appropriate if the analysis concludes that the project would not affect the particular environmental threshold in any way.
- An impact is considered ***less than significant*** if the analysis concludes that the project would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered ***less than significant with mitigation incorporated*** if the analysis concludes that the project would cause no substantial adverse change to the environment with the inclusion of environmental commitments, or other enforceable measures, that would be adopted by the lead agency and executed by the project proponent.
- An impact is considered ***potentially significant*** if the analysis concludes that the project could have a substantial adverse effect on the environment.

Based on the analyses performed as part of this Initial Study, it was concluded that the environmental topics listed below would experience either **No Impact** or a **Less Than Significant Impact** for each of the thresholds of significance specific to that topic.

- Agriculture and Forestry Resources
- Hazards and Hazardous Materials
- Recreation
- Mineral Resources
- Population and Housing

Based on the analyses performed as part of this Initial Study, it was concluded that the environmental topics listed below would experience either a **Less than Significant Impact with Mitigation Incorporated** or a **Potentially Significant Impact** for at least one of the thresholds of significance specific to that topic.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Land Use and Planning
- Hydrology and Water Quality
- Noise
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance

2.0 ENVIRONMENTAL SETTING

2.1 Location and Boundaries

The City of Bradbury is located in Los Angeles County along the northern fringe of the urbanized portion of the Los Angeles basin at the base of the San Gabriel Mountains. As shown on **Figure 2.1-1, Regional Location Map**, the City is bordered by the City of Monrovia to the west and north and the City of Duarte to the south and east. Royal Oaks Drive serves as the City's southern boundary with the City of Duarte and parallels Interstate 210 (I-210) located approximately one mile to the south. Bradbury connects to this major regional transportation corridor through the City of Duarte via Buena Vista Street and Mountain Avenue.

Figure 2.1-2, Project Site Vicinity Location Map, depicts the project site relative to the City of Bradbury's corporate limits. As shown, the project site is located in the northeast quadrant of the City of Bradbury and abuts the City of Duarte along its eastern boundary. Flood control facilities, including the Spinks Debris Basin, Spinks Debris Disposal Area, and Bradbury Debris Basin, border the project site's southern boundary and are owned, operated, and maintained by the Los Angeles County Flood Control District (LACFCD).

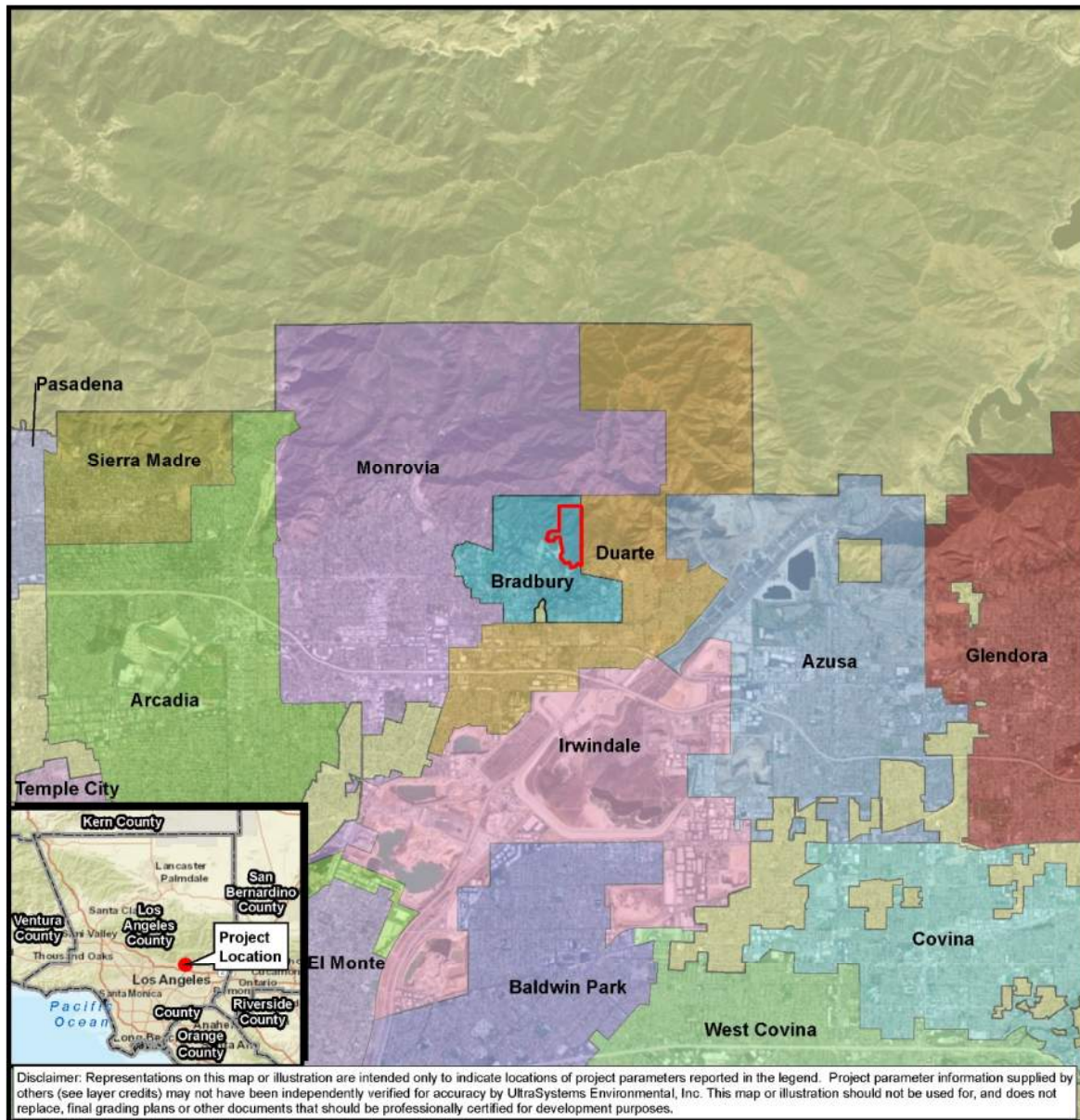
Figure 2.1-3, Aerial View of the Project Site and Vicinity, identifies the project site boundaries in relation to its immediate vicinity. As shown, the project site is irregularly shaped and undeveloped. The Assessor's Parcel Numbers (APNs) for the project site are 8527-005-001, 8527-005-004, and 8527-001-010. Collectively, these three parcels total approximately 111.8 acres. The subject property is depicted on the U.S. Geological Survey (USGS) topographic map Azusa, California (dated 1966 and photo revised in 1972) at Section 19, Township 1 North, Range 10 West. The Universal Transverse Mercator (UTM) coordinates approximately corresponding to the project site are 411407mE and 3779912mN (Zone 11S).

2.2 Land Use Plans, Policies and Controls

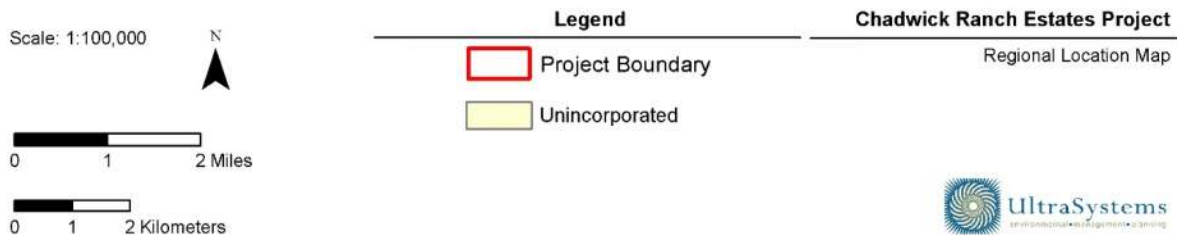
2.2.1 Land Use

The project site is vacant and devoid of man-made improvements. Adjacent land uses include vacant, undeveloped land to the west; open space to the east (Duarte Wilderness Preserve); open space, including the Angeles National Forest, to the north; and open space managed by LACFCD to the south. The project site is heavily vegetated with trees and shrubs and has expansive distant views in nearly all directions. **Figure 2.2-1, Site Imagery One**, and **Figure 2.2-2, Site Imagery Two**, contain photos taken both toward and from the project site. **Figure 2.2-3, Site Imagery Location Key**, depicts the locations and directions from which the photos in **Figures 2.2-1** and **2.2-2** were taken.

**Figure 2.1-1
REGIONAL LOCATION MAP**



September 24, 2019



**Figure 2.1-2
PROJECT SITE VICINITY LOCATION MAP**



September 26, 2019

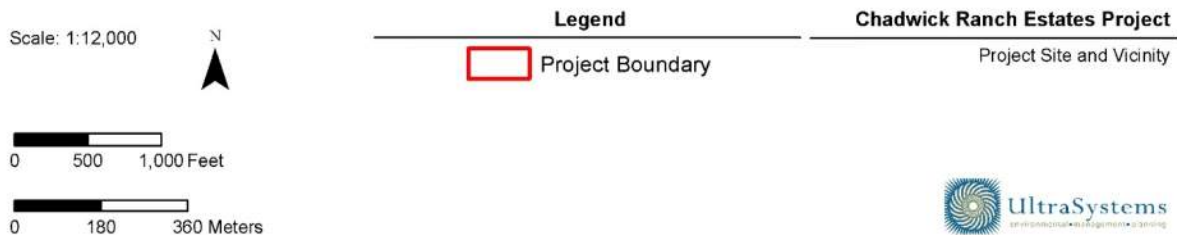


Figure 2.1-3
AERIAL VIEW OF THE PROJECT SITE AND VICINITY



Scale: 1:12,000



0 500 1,000 Feet

0 180 360 Meters

Legend

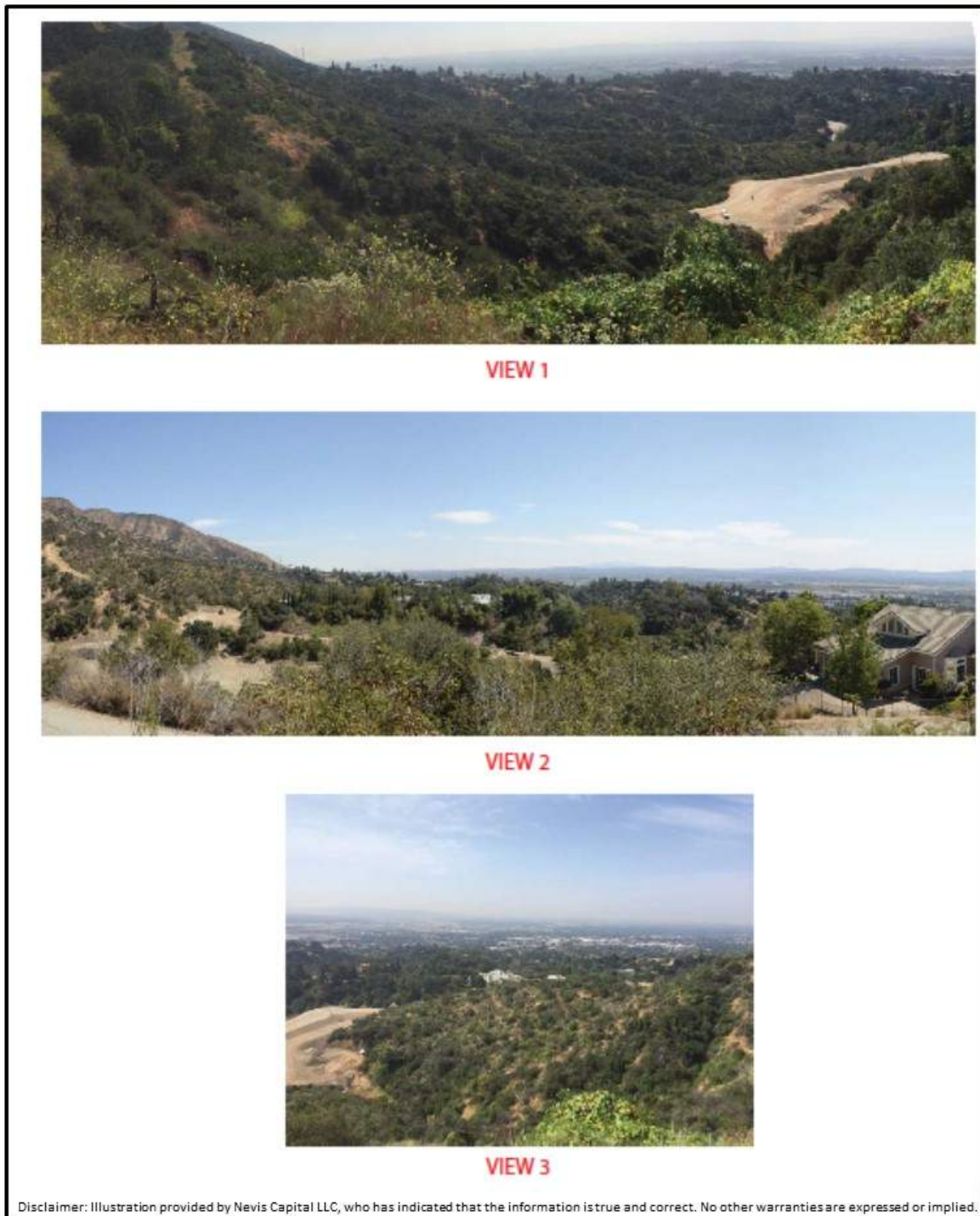
 Project Boundary

Chadwick Ranch Estates Project

Aerial View of Project Site and Vicinity



Figure 2.2-1
SITE IMAGERY ONE



Sources: Nevis Capital LLC, 2019



Chadwick Ranch Estates Project

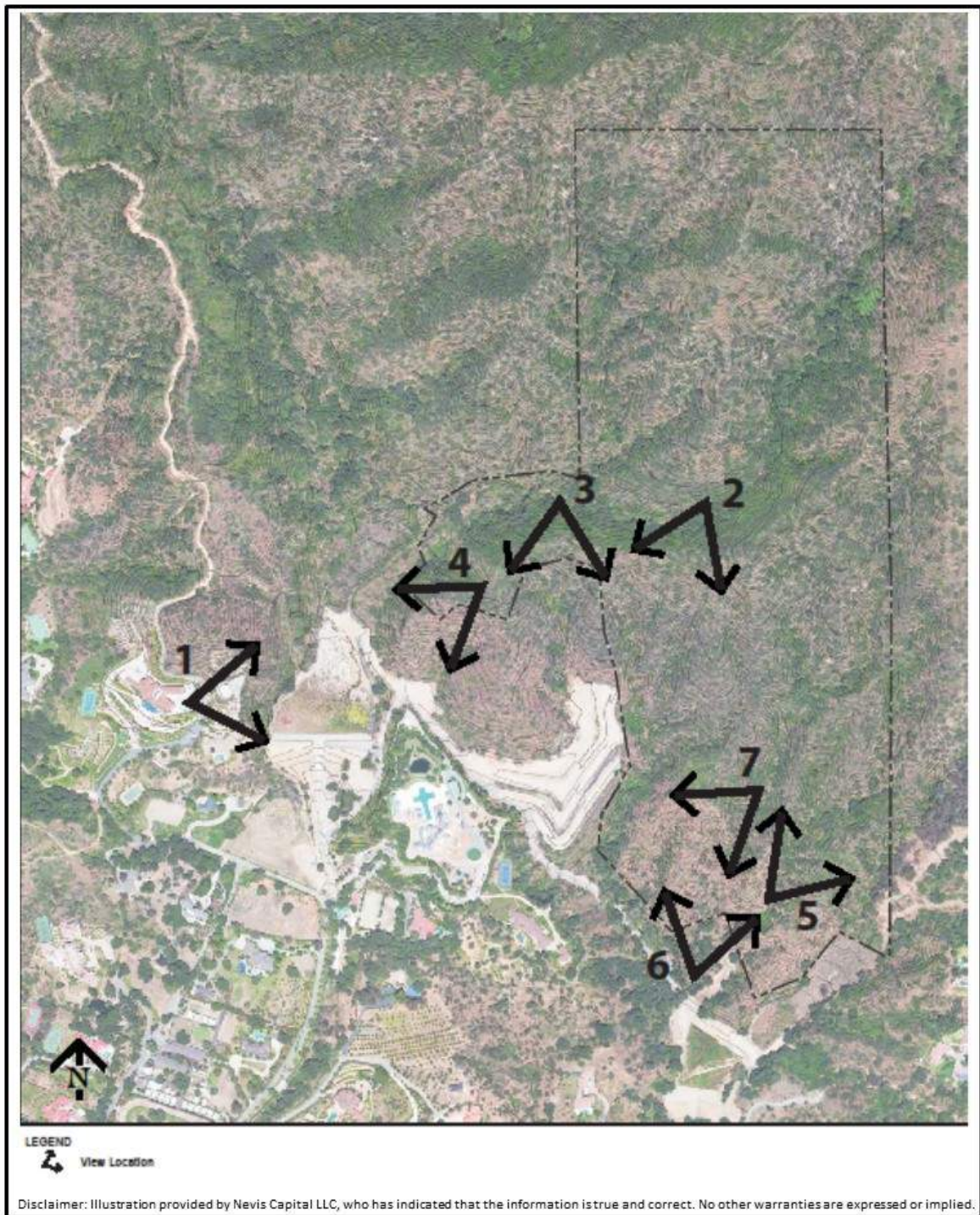
Site Imagery One

**Figure 2.2-2
SITE IMAGERY TWO**



Sources: Nevis Capital LLC, 2019

Figure 2.2-3
SITE IMAGERY LOCATION KEY



Sources: Nevis Capital LLC, 2019



Chadwick Ranch Estates Project

Site Imagery Location Key

2.2.2 General Plan Land Use Designations

Figure 2.2-4, *City of Bradbury General Plan Land Use Designations*, identifies the General Plan Land Use designations for the Project Site and vicinity. The project site has the land use designation of “Open Space–Privately Owned Undeveloped”. According to the General Plan Land Use Element, parcels with this designation have a maximum density of one dwelling unit per five acres.

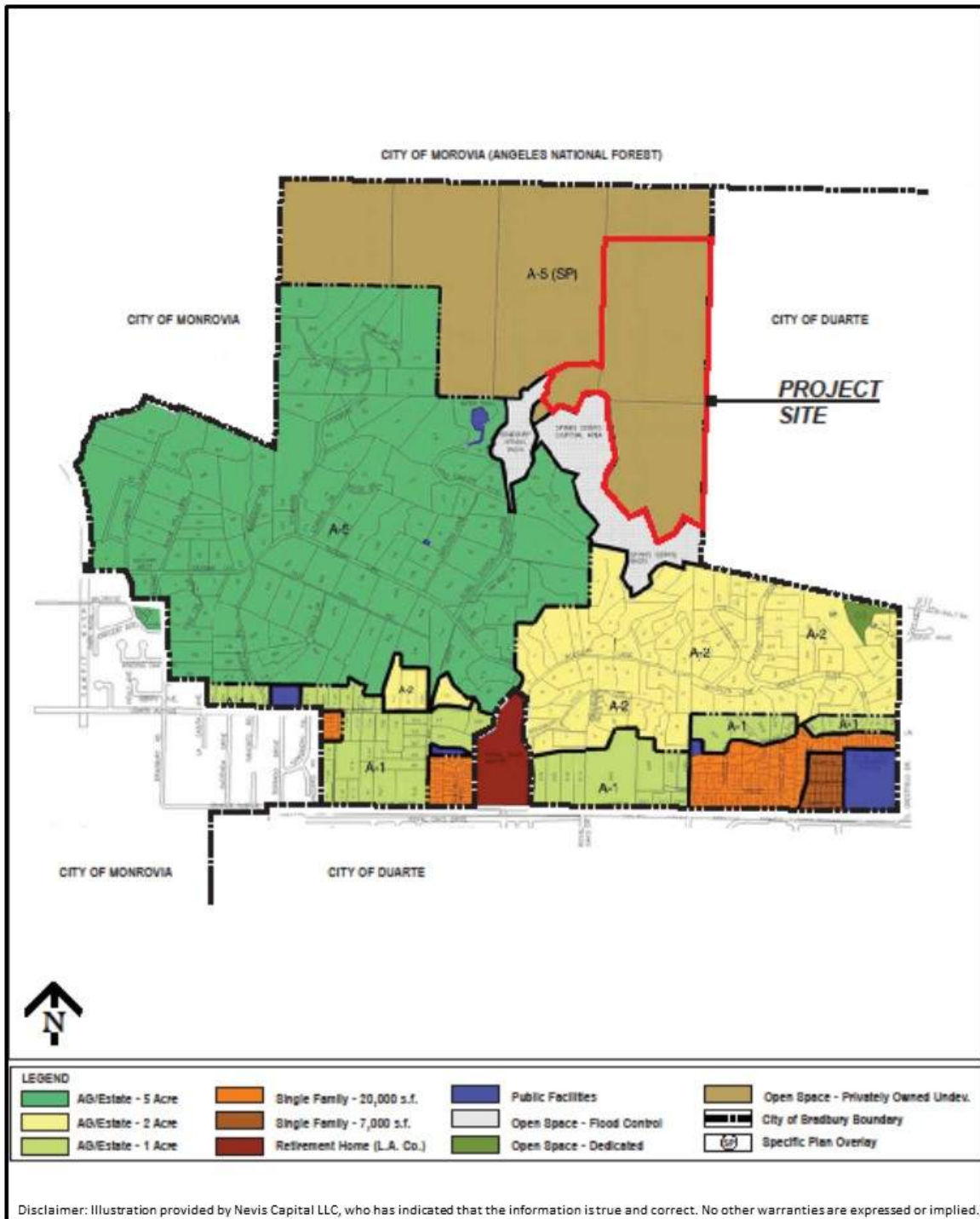
Figure 2.2-5, *City of Bradbury Zoning Designations*, identifies the zoning designations for the Project Site and vicinity. The project site is zoned “A-5 (SP)” (Agriculture Residential Estate, 5 Acre Minimum with a Specific Plan Overlay). Each parcel may be developed with one main dwelling and one accessory dwelling unit. However, any additional development or further subdivision would be subject to review and approval of a specific plan.

2.3 General Project Site and Vicinity Characteristics

The project site comprises approximately 111.8 acres, is located between the Bradbury and Spinks Debris Basins, and is heavily vegetated with trees and shrubs, the majority of which is mixed chaparral with inclusions of coastal sage scrub, as well as native scrub oak woodland and scattered large oaks on the canyon floor areas. The existing topography of the northern half of the project site is very steep, sloping from the northeast to the southwest with a high point of 1,790 feet above mean sea level (amsl). The southern half of the project site is also fairly steep, with rolling terrain sloping towards the south and a low point of 790 feet amsl. The project site and immediate vicinity are drained by Bradbury Canyon Creek and Spinks Canyon Creek, which are immediately south of the project site and discharge into the Bradbury and Spinks Debris Basins, respectively).

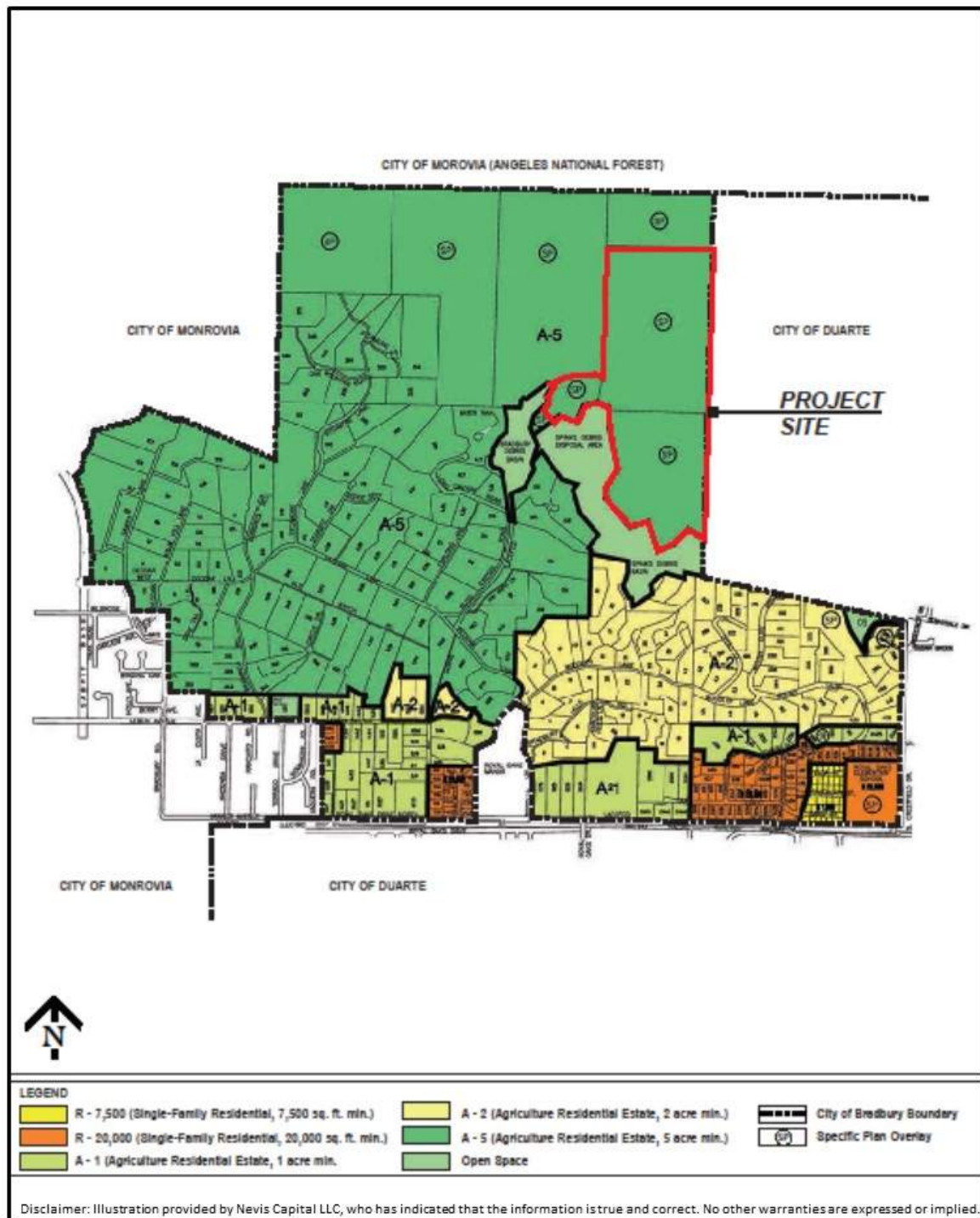
Geologically, the project site is underlain by Cretaceous Period granitic rocks, locally referred to as the San Dimas Formation. In addition, the project site exhibits stream laid alluvial deposits in the canyon bottoms. The project site is also located several hundred feet north of the main splay of the Sierra Madre Fault Zone, classified as “active” per the State of California Alquist-Priolo (AP) Earthquake Fault Act.

Figure 2.2-4
CITY OF BRADBURY GENERAL PLAN LAND USE DESIGNATIONS



Sources: Nevis Capital LLC, 2019

**Figure 2.2-5
CITY OF BRADBURY ZONING DESIGNATIONS**



Sources: Nevis Capital LLC, 2019

3.0 PROJECT DESCRIPTION

3.1 Location

The City of Bradbury is located in Los Angeles County along the northern fringe of the urbanized portion of the Los Angeles basin at the base of the San Gabriel Mountains in the Angeles National Forest. As previously shown on **Figure 2.1-1**, the City is bordered by the City of Monrovia to the west and north and the City of Duarte to the south and east. Royal Oaks Drive serves as the southern boundary of the City's corporate limits and parallels I-210, located approximately one mile south of the City; access to this major regional transportation corridor is available through the City of Duarte via Buena Vista Street and Mountain Avenue.

The project site is located near the northeastern edge of the City of Bradbury, abutting the City of Duarte along its eastern boundary. Bordering the project site's southern boundary are the Spinks Debris Basin, Spinks Debris Disposal Area, and Bradbury Debris Basin, which are flood control facilities owned and operated by the LACFCD. Future project site access would begin off-site near the Bliss Canyon Road/Long Canyon Road intersection, requiring travel through the aforementioned LACFCD property holdings to an entrance at the westernmost extension of the project site. **Figure 2.1-2** and **Figure 2.1-3**, above, provide graphic depictions of the project site in relation to its immediate vicinity.

The 111.8-acre project site is irregularly shaped and devoid of development. Site topography is comprised of canyons and slopes with elevations that range from 700 feet at the lower, southern portion of the site to 1800 feet at the highest points north. There are no existing buildings on-site; native vegetation, including chaparral plants, trees, and scrub oak, cover much of the project site.

3.2 Project Characteristics

The Chadwick Ranch Specific Plan

Chadwick Ranch Estates is an exclusive master-planned estate residential enclave proposed for development on 111.8 hillside acres along the northernmost urban fringe of the City of Bradbury. Site development will occur pursuant to the provisions of the Chadwick Ranch Estates Specific Plan. A specific plan is a tool for the systematic implementation of a jurisdiction's general plan for a specific area within its boundaries. Accordingly, the Chadwick Ranch Estates Specific Plan implements the goals and policies of the Bradbury General Plan applied specifically to the project site and the residential uses proposed for the area.

The proposed Specific Plan formalizes the development standards for the land within its boundaries. The Specific Plan will include Development Standards, covering such things as Permitted Uses, Prohibited Uses, Lot Configuration, Building/Site Design, Off-Street Parking, View Preservation, Grading, Building Placement, Streets, Landscaping, Public Utilities, and Hillside Development Standards. The proposed Specific Plan also presents Design Guidelines. The Design Guidelines in the Specific Plan reflect the City-wide Community Vision as set forth in the City of Bradbury's General Plan as applied to the project site and focuses on Site Design, Conceptual Landscape Design and Conceptual Architectural Design. Finally, the proposed Specific Plan identifies how it will be administered, including Procedures for Adoption, Amendment Procedures, Severability, and Design Review.

Following are descriptions of the key components of the proposed development as identified either in the proposed Specific Plan and/or associated supporting documents, such as the proposed Vesting Tentative Tract Map No. 82349.

Overview

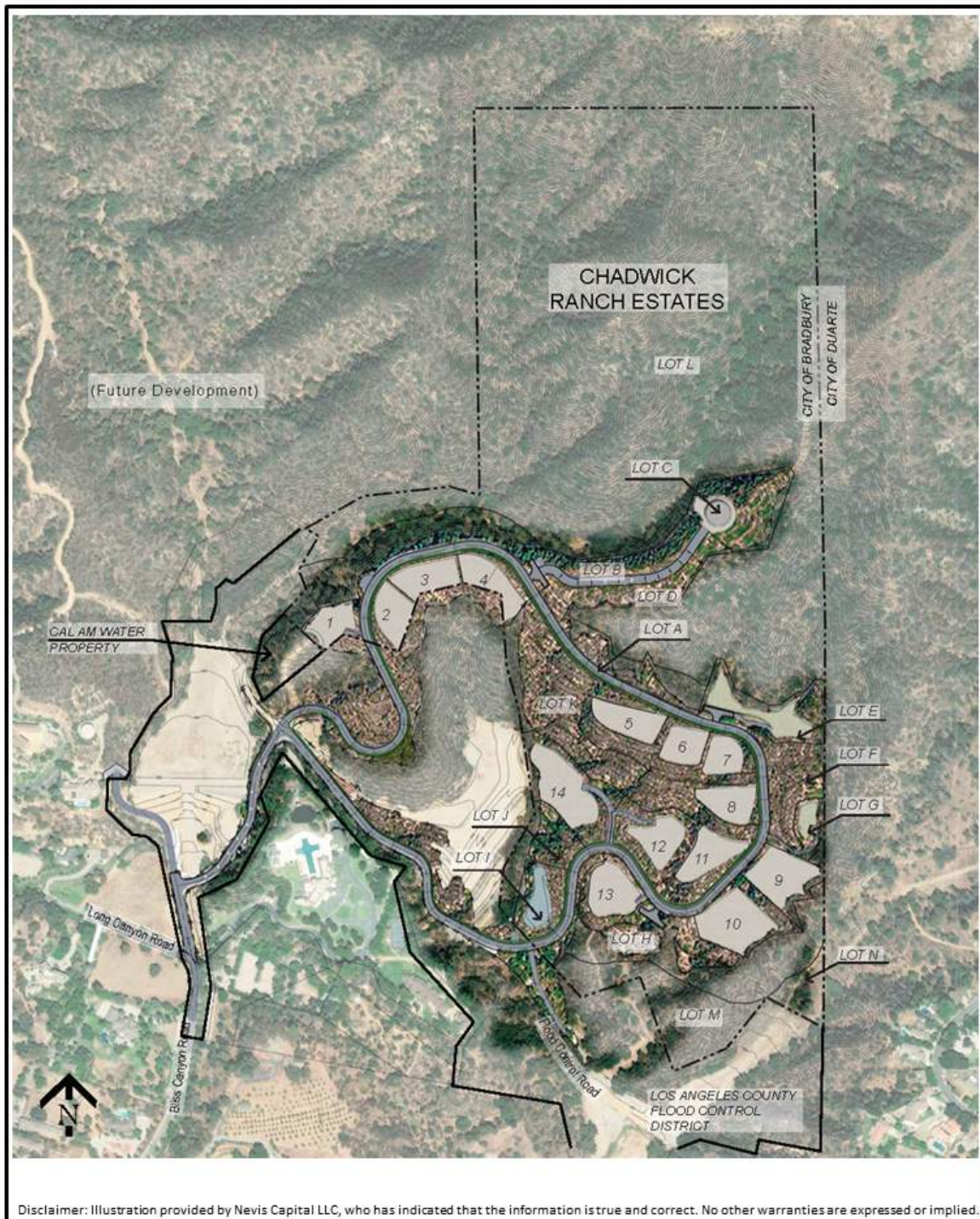
The project site exhibits highly varied topography with on-site elevations ranging between approximately 790 and 1,790 feet amsl. Utilizing a variety of grading techniques aimed at blending buildable areas with the natural terrain, minimizing abrupt elevation and slope transitions, and softening the slopes between building pads, the proposed Chadwick Ranch Estates Project would facilitate the ultimate construction of 14 estate homes. The residential estates would allow a primary home, a guest house, and other ancillary structures including, but not limited to, garages and stables.

The Chadwick Ranch Estates Specific Plan depicts the arrangement of the developable areas within each of the 14 residential lots and the spatial relationships between each residential developable area and the proposed project's circulation system, as shown in **Figure 3.2-1, Conceptual Site Plan**. Lot areas vary from approximately 26,000 square feet (0.6 acre) to nearly 91,500 square feet (2.1 acres). Site grading will create developable portions in each lot that range in size from 20,000 square feet to 49,000 square feet. **Table 3.2-1, Chadwick Ranch Estates Statistical Summary by Parcel/Lot**, provides a statistical breakdown of the lot areas, pad areas, and total areas associated with each of the 14 numbered residential parcels, and similar information for each of the 14 lettered non-residential parcels comprising the project site.

Development is estimated to disturb approximately 49 percent of the project site. Currently, it is the Applicant's intention ultimately to dedicate the remaining undisturbed acreage, about 51 percent of the site, to a conservancy yet to be named. By doing so, the preservation of open space in this portion of the project would be assured in perpetuity. While a conservancy would administer this open space preservation area, the common areas in the remaining portion of the project site would be maintained by a Homeowner's Association.

Although the number of homes ultimately to be constructed on the project site is relatively small, supporting infrastructure is still a necessity. Included among these improvement plans are roadways, drainage facilities, water and sewer systems, and dry utilities such as electrical, natural gas, and fiber optics for cable television and communications. Project-related infrastructure is discussed in greater detail in the following subsections.

Figure 3.2-1
CONCEPTUAL SITE PLAN



3.2.1 Water and Sewage Disposal Systems

California American Water Company (CAWC) provides domestic water service to Bradbury, including the Chadwick Ranch Estates project site. Currently, domestic water service lines exist in Bliss Canyon Road and Long Canyon Road. **Figure 3.2-2, *Conceptual Water Plan***, identifies the conceptual water service facilities that are required to provide domestic water to the community. Elements of the water system expansion required to accommodate the proposed project include tie-ins to an existing water main in Bliss Canyon Road, domestic water distribution lines to the residential parcels comprising the proposed project, one water reservoir at a pad elevation of 1,230 feet amsl and two pressure reducing stations booster stations. All water lines serving the proposed project would occur within the pavement width of the project circulation system. This includes the water reservoir access road. It is noted that CAWC is requiring the proposed project to construct a well within its service area to ensure that the water supply for the proposed project remains adequate even under drought conditions. A specific well site location has not yet been determined. However, eight prospective well sites are under consideration by the Applicant at present. None are located within the City of Bradbury, and all are located within the San Gabriel Valley Groundwater Basin, the CAWC service area and the City of Duarte. All of the prospective well sites are vacant despite also being in a predominantly urban environment and with the exception of trees appear to be devoid of other environmentally sensitive resources. It is noted that when a final well site location has been identified, approval for the well will be required from the City of Duarte. As such, the well site itself and any required improvements to make it operational will be the subject to environmental review pursuant to CEQA before City of Duarte decisionmakers can decide whether or not to approve the well site entitlement application.

With regard to sewage disposal, the proposed project would employ individual on-site wastewater treatment systems for each lot. The Los Angeles County Department of Public Health (Department) defines the requirements for “Conventional” and “Non-Conventional” on-site wastewater treatment systems. Conventional sewer systems are not currently available and it is unknown when sewer lines would be extended up to the boundary of the site as that area of the City is on septic systems. Given that the potential for “Conventional” systems is in the unforeseeable future, the Applicant has proposed and the Project would be required to employ Non-Conventional Onsite Wastewater Treatment Systems (NOWTS). Such systems would produce a higher quality effluent for disposal. Per the Department, NOWTS apply to domestic wastewater systems producing under 10,000 gallons per day (gpd), including single-family homes, where wastewater is primarily generated from toilets, sinks, clothes washers, bathtubs and showers. The granting of an approval for a domestic NOWTS by the Department grants an exemption from obtaining a Waste Discharge Requirement (WDR) permit from the local regional water quality control board. Prior to issuance of a building permit, the property owner must submit and obtain approval from the Department for their proposed NOWTS system. Although each property would employ NOWTS for the foreseeable future, each property would also be developed with a sewer stub out to the road in the event a public sewer system is developed at a later time.

Figure 3.2-2
CONCEPTUAL WATER PLAN

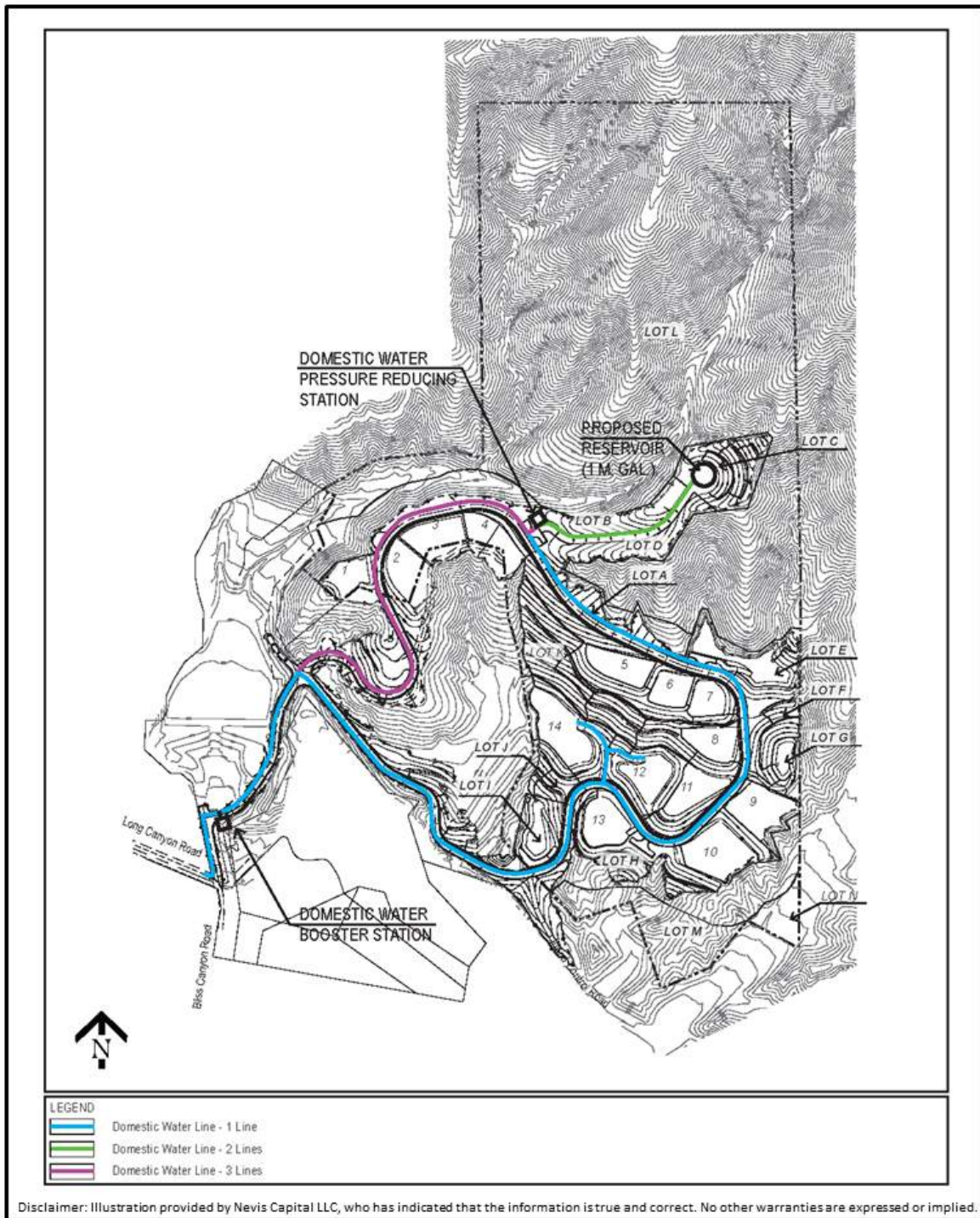


Table 3.2-1
CHADWICK RANCH ESTATES PROJECT STATISTICAL SUMMARY BY PARCEL/LOT

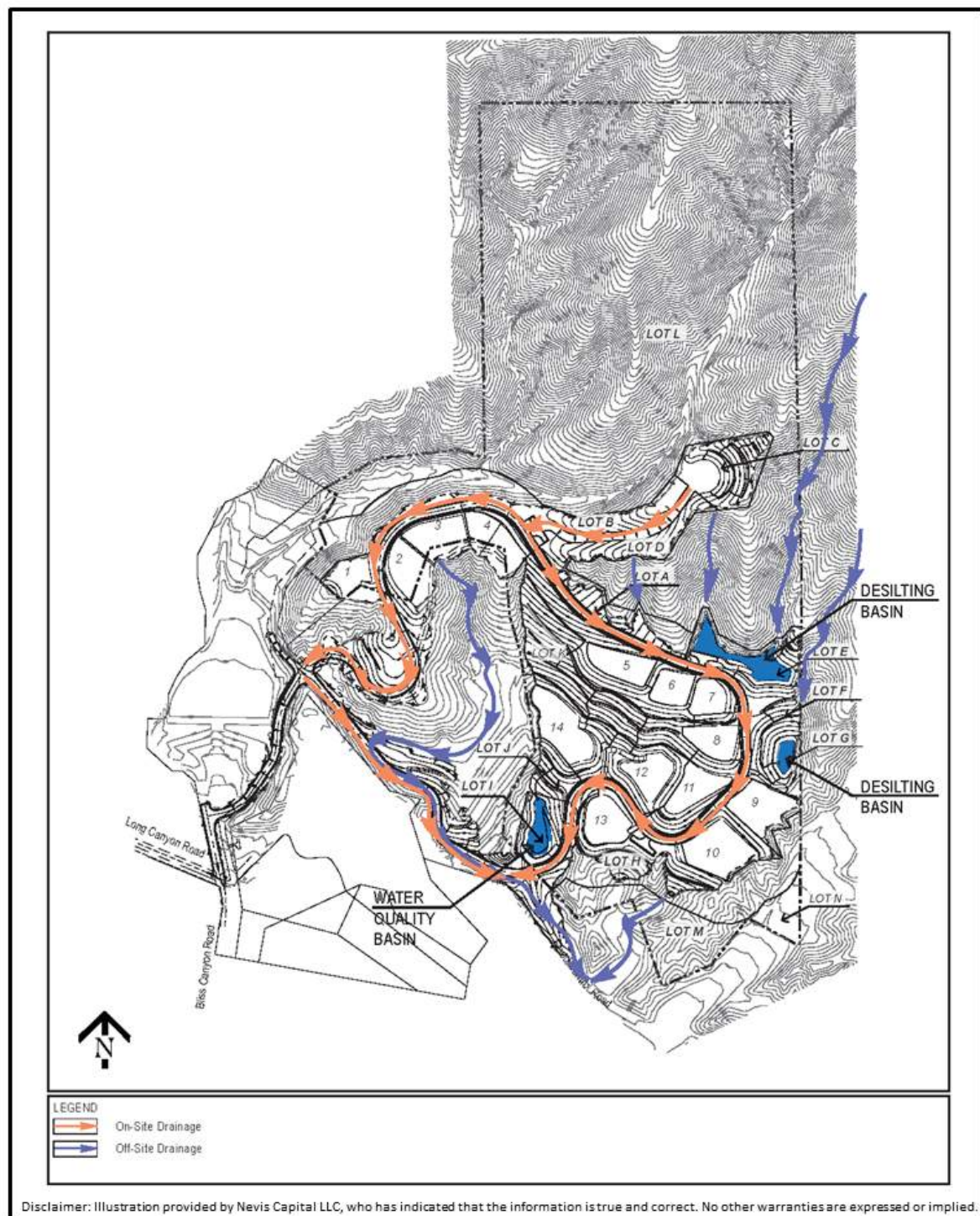
Parcel/Lot	Land Use	Pad Area	Total Area
1	Residential Estate	20,000 sf	0.7 ac
2	Residential Estate	26,000 sf	0.8 ac
3	Residential Estate	28,000 sf	0.7 ac
4	Residential Estate	29,000 sf	0.9 ac
5	Residential Estate	31,000 sf	0.7 ac
6	Residential Estate	22,000 sf	0.7 ac
7	Residential Estate	20,000 sf	0.6 ac
8	Residential Estate	26,000 sf	0.9 ac
9	Residential Estate	40,000 sf	1.2 ac
10	Residential Estate	48,000 sf	1.6 ac
11	Residential Estate	30,000 sf	1.5 ac
12	Residential Estate	27,000 sf	1.7 ac
13	Residential Estate	33,000 sf	0.9 ac
14	Residential Estate	49,000 sf	2.1 ac
Subtotal: Residential Estate Uses		429,000 sf	15.0 ac
Parcel/Lot	Land Use	-	Total Area
A	Private Street	-	3.7 ac
B	Open Space	-	4.7 ac
C	Water Reservoir	-	2.9 ac
D	Open Space	-	3.1 ac
E	Debris Basin	-	2.0 ac
F	Open Space	-	1.6 ac
G	Debris Basin	-	0.7 ac
H	Open Space	-	5.4 ac
I	Water Quality Basin	-	1.1 ac
J	Open Space	-	1.4 ac
K	Open Space	-	5.7 ac
L	Open Space	-	60.6 ac
M	Open Space	-	3.1ac
N	Open Space	-	0.8
Subtotal: Non-Residential Uses		-	96.8 ac
TOTAL		-	111.8 ac

Sources: Proactive Engineering Consultants and TRG Land, Inc., 2020

3.2.2 Conceptual Drainage Plan

The Chadwick Ranch Estates project has been designed to collect runoff from each residential pad and some of the open space areas along the main project roadway, direct such runoff to buried storm drains in the main project roadway, which ultimately conveys the runoff in a southeasterly direction and then discharges the collected runoff into one of two desilting/retention basins along the eastern boundary of the project site and a Water Quality basin at the south end of the developed area on-site. The basins have been designed to accommodate runoff resulting from a 100-year storm event. **Figure 3.2-3, Conceptual Drainage Plan**, shows the preliminary alignment of on-site storm drains and the locations of other drainage facilities associated with the proposed project.

Figure 3.2-3
CONCEPTUAL DRAINAGE PLAN



3.2.3 Circulation System

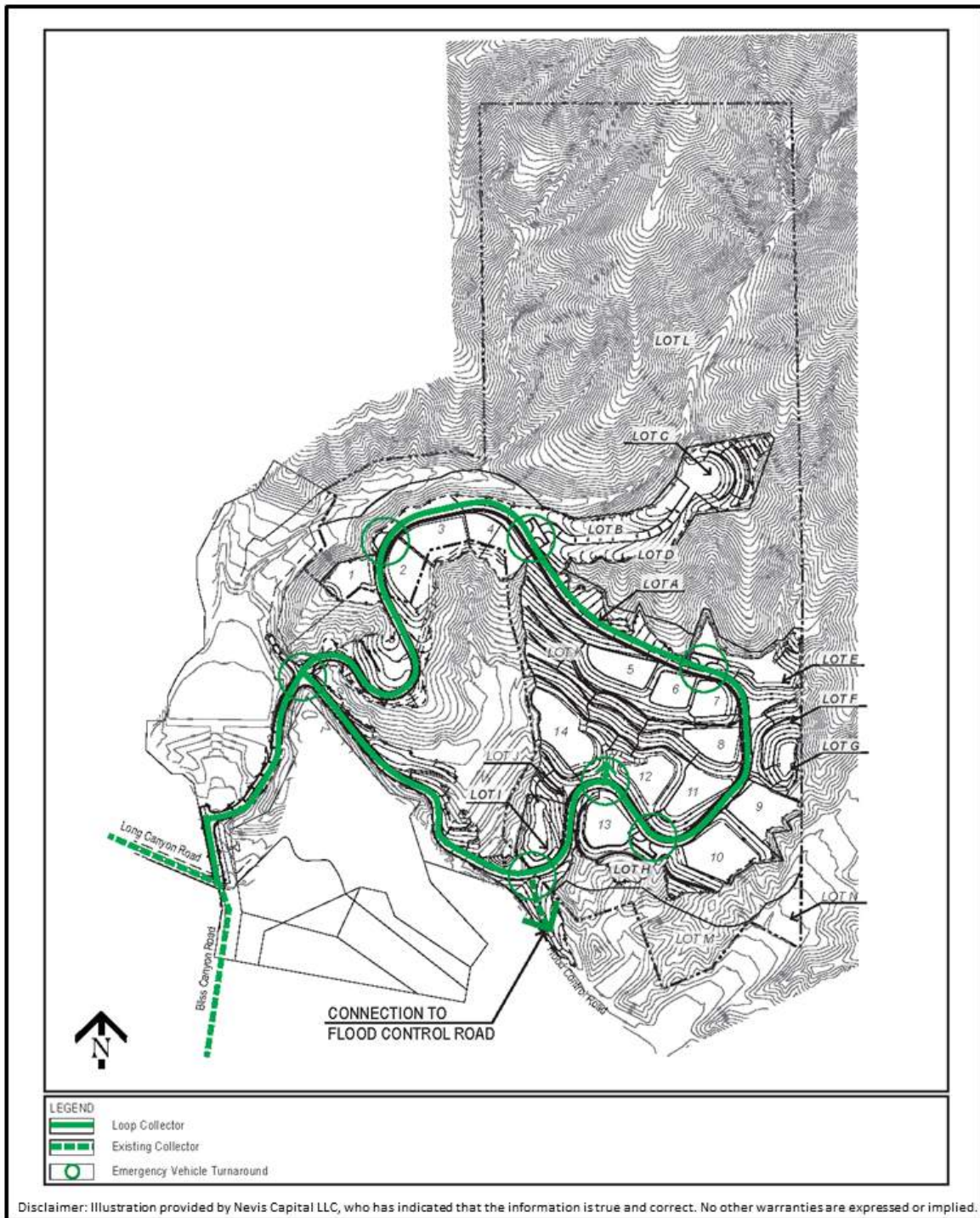
Primary vehicular access to the project site begins off-site at the intersection of Long Canyon Road and Bliss Canyon Road. From there, the project access road traverses Los Angeles County Flood Control District (LACFCD) property and utilizes a portion of the LACFCD road system using existing easements until it reaches the project site boundary. A large portion of the existing LACFCD road system would be improved for the safety of current and future residents, as well as for ongoing LACFCD operations. **Figure 3.2-4, *Circulation Plan***, shows the circulation system for the proposed project. As shown, from the point that the off-site roadway enters the project site, the on-site roadway climbs until it reaches its high point at the water tank access. From there, it proceeds downhill to provide access to the remaining residential lots and debris basins along the way. The access road continues to the southerly portion of the project site and connects to the LACFCD road creating a single-looped road throughout the project site.

3.2.4 Emergency Vehicle Access and Evacuations

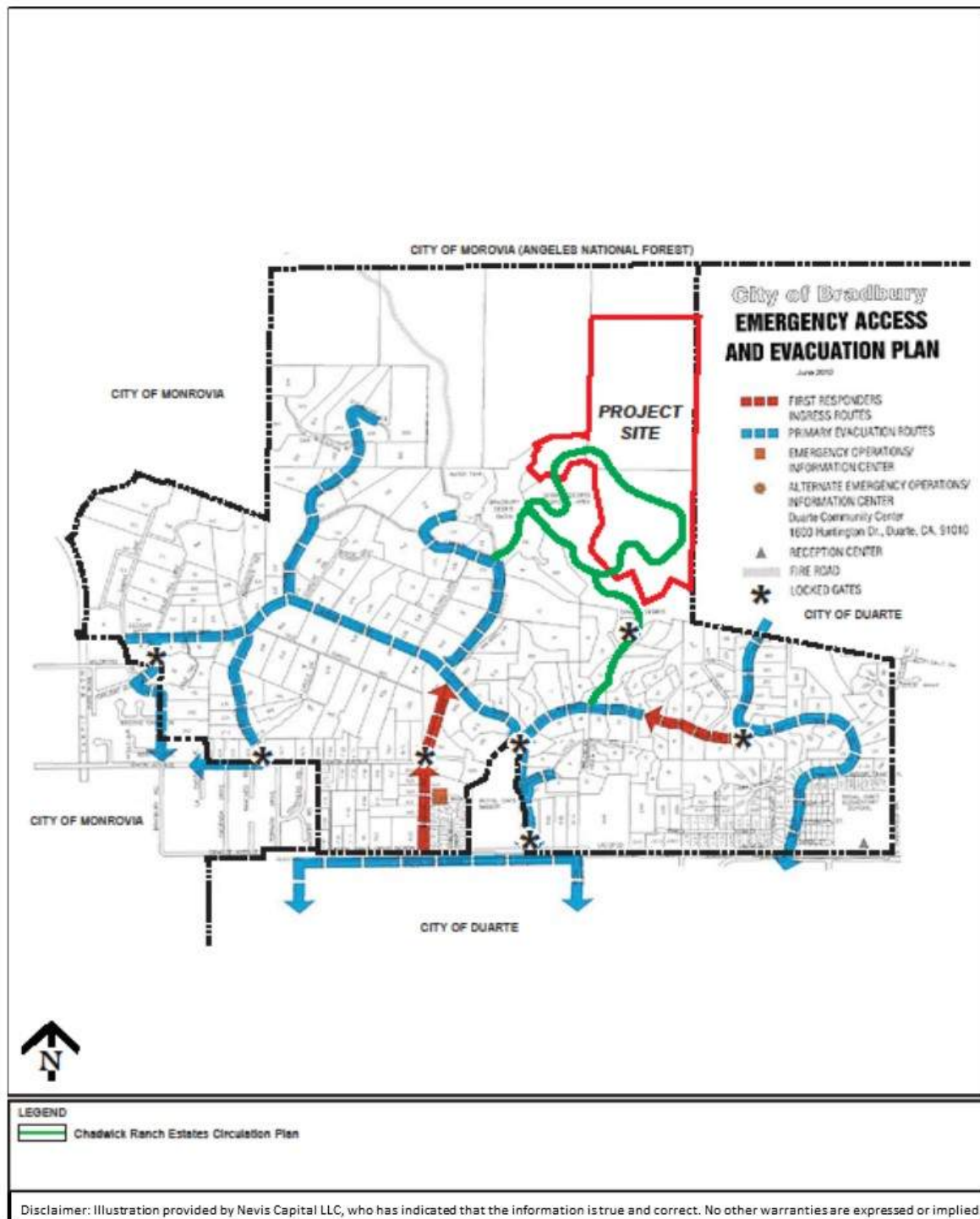
The project site is in a very high fire severity zone. Accordingly, the proposed project would adhere to the guidelines outlined by Los Angeles County Fire Department (LACoFD). The following project features are among the most important when the LACoFD reviews the plans for the proposed project: Interior fire sprinklers and/or additional fire hydrants; fire equipment access; and fuel modification zones. Through the incorporation of these features in the project design, the fire risk to persons and property on the project site would be reduced. In order to maximize fire safety on the project site and in the project vicinity, the project Applicant has commissioned an independent fire risk assessment which will provide additional fire risk reduction recommendations for incorporation into the proposed project. On-site, the circulation system is sited around the perimeter of the project area to provide an added safeguard against fires. The road system also provides access for emergency services from both Bliss Canyon and the Woodlyn Lane community via flood control roads near the Spinks Debris Basin.

Wildfire and other emergencies are often fluid events and the need for evacuations are typically determined by on-scene first responders or by a collaboration between first responders and designated emergency response teams, including Office of Emergency Services, established for larger emergency events. **Figure 3.2-5 *Evacuation Plan***, depicts the evacuation plan for the proposed project consistent with the City of Bradbury General Plan's Natural Disaster Plan, an adopted Natural Hazard Mitigation Plan (dated October 19, 2004).

**Figure 3.2-4
CIRCULATION PLAN**



**Figure 3.2-5
EVACUATION PLAN**



Sources: Nevis Capital LLC, 2019

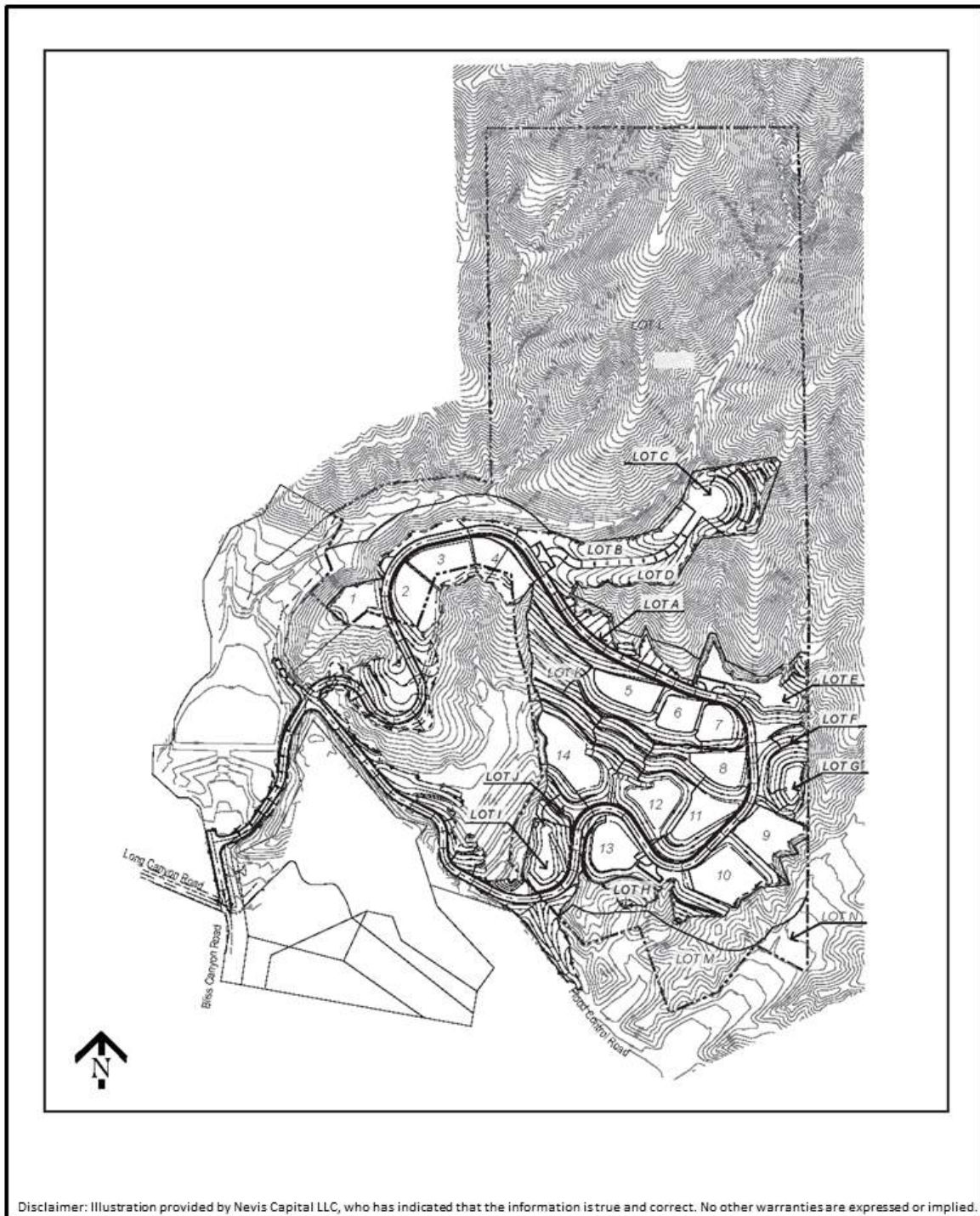
3.3 Project Construction

Due to the terrain on the project site, site preparation and earth movement activities comprise the first phase of construction activities to be undertaken and constitute the largest component of the construction program to build out the project site as currently proposed. During this first phase of construction, site grading is the largest and most significant construction activity. **Figure 3.3-1, Conceptual Grading Plan**, depicts the overall grading plan for the proposed project, highlighting areas of proposed cut and fill. The Applicant indicates that all site preparation and grading would be undertaken in a continuous manner and would take about a year to complete. No import or export of earth materials is anticipated since the grading plan has been designed to balance on-site. The proposed grading blends with the natural topography and is designed to vary the slope ratio from 2:1 to 5:1 (horizontal to vertical). Where proposed grades meet existing topography, the grades would be rounded to blend and provide a natural effect.

The parts of the project site and environs to be subject to site preparation and grading activities include off-site areas necessary to construct the access road leading to the project site boundary, the on-site circulation system, the pad for the water reservoir and its attendant access roadway, areas required for slope stabilization, building pads within each residential lot, and the creation of basins for stormwater retention and water quality management purposes. The grading plan prepared for the proposed project indicates that site grading would involve the movement of approximately one million cubic yards of earth materials. The total area to be disturbed by site grading is estimated to be approximately 44.4 acres. Site preparation activities generally include clearing and grubbing and are typically undertaken by a combination of scrapers, dozers, and haulers. Site preparation for portions of the project site may also involve the need to create soils suitable for development where rock presently exists. In such instances, blasting may be required. Such incidences are expected to be few, if any, and would be of limited duration. The project Applicant will notify the occupants of nearby residences when such activities are anticipated to occur.

Site grading would involve a mix of large earth-moving equipment and vehicles, including bulldozers, scrapers, compactors, and dump trucks, among others. The number and extent to which they would be present would depend on the complexity of a particular phase of grading at the time. Additional information in this regard will be forthcoming and serve as the basis for analysis in an EIR to be prepared for the proposed project. Overlapping the grading phase of project construction would be trenching for the installation of subsurface infrastructural elements, such as storm drains, water lines and utilities, among others. Once installed, finalization of the primary backbone features of the proposed project would occur, including, but not limited to, roadbed installation and paving, creation of emergency vehicle turnarounds, and improvement of common areas. Heavy equipment and machinery would only occasionally be required at this point in the construction process. Once this phase of construction is completed, the next phase would be the improvement of each residential estate pad as it occurs. Full residential buildout would be a function of market conditions and is currently anticipated to be five years from the start of construction.

Figure 3.3-1
CONCEPTUAL GRADING PLAN



3.4 Requested Entitlements

To develop Chadwick Ranch Estates as currently proposed, the project Applicant seeks approval of the following entitlement requests.

General Plan Amendment (Case No. GPA 19-001). A request for an amendment to the Land Use Element of the General Plan which modifies the current land use designation for the project site from Open Space, Privately Owned Undeveloped to Open Space, Privately Owned Undeveloped/Specific Plan and makes other corresponding changes to the Land Use Element to reflect this change.

Zone Change (Case No. ZC 19-001). A request for a Change of Zone from Agriculture/Estate Residential (A-5) SP, which allows for five-acre minimum single-family lots with the adoption of a Specific Plan, to Chadwick Ranch Estates Specific Plan. The Zone Change is required to amend the Bradbury Zoning Map and Development Code to be consistent with General Plan requirements.

Zoning Code Amendment (Case No. ZCA 19-001). An amendment to the Development Code of the City of Bradbury to add references to the revised General Plan Land Use designation and reference the Chadwick Ranch Estates Specific Plan.

Specific Plan (Case No. SP 19-001). A request for the approval of the proposed Chadwick Ranch Estates Specific Plan to guide development of, and become the zoning regulations for, a 111.8-acre vacant site located in the City of Bradbury and within the Bradbury Community Services District.

Vesting Tentative Tract Map No. 82349. Proposed Vesting Tentative Tract Map No. 82349 subdivides the project site into 14 numbered estate residential parcels and 14 lettered non-residential lots.

Tree Preservation and Protection Plan/Tree Removal Permit (Case No. TP 19-001). A plan identifying regulated trees within the project site classified as native, prominent, significant and orchard trees, the impacts associated with removal, and recommended measures for tree protection, relocation, removal and mitigation. A proposed plan for the removal of significant on-site trees.

3.5 Other Approvals Required (Currently Known)

- Grading Permit
- Building Permits
- Non-Conventional Onsite Wastewater Treatment System (NOWTS) Approval
- Flood Control Easements
- Tree Plan

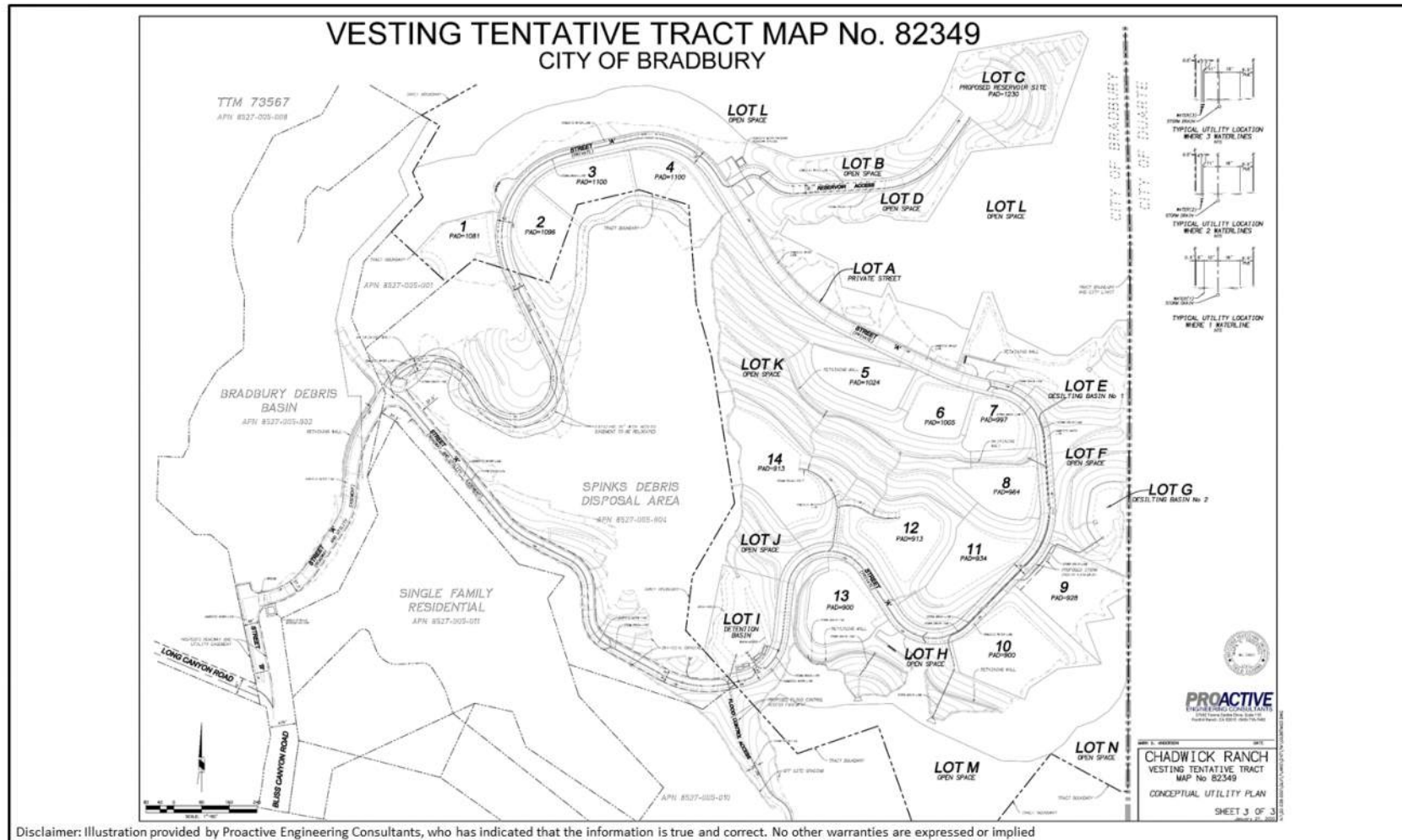
[illegible]

Disclaimer: Illustration provided by Proactive Engineering Consultants, who has indicated that the information is true and correct. No other warranties are expressed or implied.

Source: Proactive Engineering Consultants, February 5, 2020



Figure 3.4-2
CONCEPTUAL UTILITY PLAN





4.0 ENVIRONMENTAL CHECKLIST

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or as a “Potentially Significant Unless Mitigation Incorporated,” as indicated by the checklist on the following pages.

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forest Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology / Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology / Water Quality | <input checked="" type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input checked="" type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Determination (To Be Completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

Trayci Nelson
Printed Name

February 26, 2020
Date

City of Bradbury

Evaluation of Environmental Impacts

- (1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- (2) All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- (3) Once the lead agency has determined that a particular physical impact may occur then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- (4) “Negative Declaration: Less than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to less than significant level.
- (5) Earlier analyses may be use where, pursuant to the tiering, Program EIR, or other CEQA process, an affect has been adequately analyzed in an earlier EIR or negative declaration. (See Section 15063(c)(3)(D) of the CEQA Guidelines. In this case, a brief discussion should identify the following:
 - (a) Earlier Analyses Used. Identify and state where the earlier analysis available for review.
 - (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - (c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- (6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.



❖ SECTION 4.0 – ENVIRONMENTAL CHECKLIST ❖

- (7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- (8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- (9) The explanation of each issue should identify:
 - (a) The significance criteria or threshold, if any, used to evaluate each question; and
 - (b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	X			
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	X			
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	X			
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

- a) **Except as provided in Public Resources Code Section 21099, would the project have a substantial adverse effect on a scenic vista?**

Potentially Significant Impact

In addition to the Far View criteria specified by the City's Zoning Code, scenic vistas may also include extensive panoramic views of natural features, unusual terrain, or unique urban or historic features, for which the field of view can be wide and extend into the distance. The project site exhibits highly varied topography with on-site elevations ranging approximately between 790 and 1,790 feet amsl. Proposed development plans appear to be in general compliance with key evaluation criteria advanced in the City's Design Guidelines and underlying hillside development standards. However, unknown at this time is the extent, if any, to which scenic vistas from publicly accessible locations in nearby surrounding residential areas may be adversely affected by the proposed project.

A cursory analysis of the extent to which the proposed project may adversely affect scenic vistas from locations in the immediate vicinity of the project site indicated that adverse impacts to the scenic vistas from these locations could occur to a potentially significant degree. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) **Except as provided in Public Resources Code Section 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

Potentially Significant Impact

As part of the California Scenic Highway Program, the California Department of Transportation (Caltrans) provides information regarding officially designated or eligible state scenic highways. According to Caltrans, there are no officially designated scenic highways within or adjacent to the project area, and no roadways near the project site are currently eligible for scenic highway designation (Caltrans, 2014). However, the proposed project would result in the removal of protected trees from the project site, which may potentially damage scenic resources in the area. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- c) **Except as provided in Public Resources Code Section 21099, would the project in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

Potentially Significant Impact

The project site is located on the northern fringe of the Bradbury urban area. As indicated under Section a) above, localized views of the project site from proximal off-site publicly accessible areas will be addressed in an EIR to be prepared for the proposed project. There are several ridgelines between the project site and publicly accessible vantage points in areas at lower elevations in Duarte and Monrovia and other locations in the San Gabriel Valley. As such, it is possible that views of the project site from such areas are likely to be impaired by such intervening topography. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- d) **Except as provided in Public Resources Code Section 21099, would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

Less Than Significant Impact

The project site is currently vacant, undeveloped and in a natural state. Development of the project site as proposed would introduce a minimum of 14 new residences to this area. Associated with this new development would be outdoor nighttime lighting as well as human activities such as driving. All of these new sources of illumination at night would be noticeable by existing residents in the vicinity. However, it is expected that all new residential dwellings associated with the proposed project would be required to comply with the City's lighting requirements. Page II-12 of the City's Design Guidelines identifies the following four requirements with regard to exterior lighting:

- Exterior lighting fixtures visible from public right-of-way or adjoining parcels of land should be compatible with the architectural design of the dwelling;



❖ SECTION 4.1 - AESTHETICS ❖

- Exterior lighting shall be located and shielded so as to not generate glare and light on adjoining property;
- All lighting fixtures should meet applicable city standards with respect to height, number and size;
- All exterior illumination should be regulated to be extinguished during specified evening hours.

Based on the above, it is expected that while noticeable, potential project-related sources of nighttime illumination or glare will not impact day or nighttime views in the area significantly, and no further assessment of this issue is warranted.

**4.2 Agriculture and Forestry Resources**

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Codes § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

- a) **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Impact

The California Department of Conservation (DOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to identify critical agricultural lands and track the conversion of these lands to other uses. The FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California. The project site consists of APNs 8527-005-001, 8527-005-004, and 8527-001-010, and surrounding uses are designated by the FMMP as “Area not mapped” (California Department of Conservation, 2017). The proposed project is located within a low-density area, and all construction activities and on-site improvements would occur within the site. Therefore, no farmland would be converted to non-agricultural use and no impacts would occur. As such, no further assessment of this issue is warranted.



❖ SECTION 4.2 – AGRICULTURE AND FORESTRY RESOURCES ❖

- b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact

Although the project site and surrounding area are zoned as “A-5 (SP)” for Agriculture/Estate Residential uses, there are no current agricultural operations existing in the vicinity of the site (Google Earth Pro, 2019). According to the 2015/2016 Los Angeles County Williamson Act Contract Land Map, the project site is identified as “Non-Enrolled Land” and does not contain land enrolled in a Williamson Act contract (California Department of Conservation, 2016). In addition, the Specific Plan would allow the same uses as the A-5 Zone. Therefore, the project would not conflict with existing zoning for agriculture uses or any Williamson Act contracts, and no impacts would occur. As such, no further assessment of this issue is warranted.

- c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Codes § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?**

No Impact

The project site is located in a highly-urbanized setting and is zoned as “A-5,” Agriculture/Estate Residential according to the 2012 City of Bradbury Official Zoning Map (City of Bradbury, 2012). The site’s existing zoning of “A-5” does not support the definitions provided by PRC § 42526 for timberland, PRC § 12220(g) for forest land, or California Government Code § 51104(g) for timberland zoned for production. PRC § 12220(g) defines forest land as “land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” Since the project site is designated for agriculture/residential estate uses, project-related changes would not conflict with existing zoning for forest land or timberland, and no impacts would occur. As such, no further assessment of this issue is warranted.

- d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact

The project site is an undeveloped property and does not currently support forest land or forest use. All construction activities and on-site improvements would occur within the project site. Therefore, project implementation would not result in the loss of forest land or conversion of forest land to non-forest use, and no impact would occur. As such, no further assessment of this issue is warranted.



❖ SECTION 4.2 – AGRICULTURE AND FORESTRY RESOURCES ❖

- e) **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact

The site is primarily surrounded by similar rural residential uses. No existing farmland or forest land is located in the vicinity of the project (Google Earth Pro, 2019). Therefore, implementation of the proposed project would not result in changes to the environment, due to its location or nature, which could result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use, and no impacts would occur. As such, no further assessment of this issue is warranted.

4.3 Air Quality

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	X			
c) Expose sensitive receptors to substantial pollutant concentrations?	X			
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact

The SCAQMD has an AQMP that proposes policies and measures to achieve federal and state standards for healthful air quality in the SCAB. The AQMP incorporates land use assumptions from local general plans and regional growth projections developed by the SCAG to estimate stationary and mobile air emissions associated with projected population and planned land uses. If the proposed land use is consistent with the local general plan, then the impact of the project is presumed to have been accounted for in the AQMP. This is because the land use and transportation control sections of the AQMP are based on the SCAG regional growth forecasts, which incorporated projections from local general plans. The proposed project is consistent with the allowable land use type and meets the main objectives of the land use plans and ordinances governing the project site.

Another measurement tool in determining consistency with the AQMP is to determine whether a project would generate population and employment growth and, if so, whether that growth would exceed the growth rates forecasted in the AQMP and how the project would accommodate the expected increase in population or employment.

As a relatively small residential project in a predominantly residential city, the project is not significantly different from what was appropriately assumed for the site in any growth rate or trip generation assumptions. Therefore, the Project would not conflict with or obstruct the implementation of the AQMP or applicable portions of the SIP, and no impact would occur. As such, no further assessment of this issue is warranted.

- b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?**

Potentially Significant Impact

A project may have a significant impact if project-related emissions would exceed federal, state, or regional standards or thresholds, or if project-related emissions would substantially contribute to an existing or projected air quality violation. To address potential impacts from construction and operational activities, the SCAQMD currently recommends that impacts from projects with daily emissions that exceed any of their listed thresholds be considered significant. The City defers to these thresholds for the evaluation of construction and operational air quality impacts. Due to the extensive earthwork required to fully build out the project site as proposed, grading activities may result in the exceedance of SCAQMD's regional emissions thresholds. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- c) Would the project expose sensitive receptors to substantial pollutant concentrations?**

Potentially Significant Impact

Construction of the proposed project would generate short-term and intermittent emissions of criteria pollutants. The project would have the potential to create localized short-term air quality impacts from construction, which may potentially exceed the localized significance thresholds established by the SCAQMD for construction sites. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

During construction activities, diesel equipment would be operated, and diesel particulate matter (DPM) emissions are known by the State of California to contain toxic air contaminants. However, even though grading is expected to take about one year, exposure to DPM would be far less than the 70 years assumed in a cancer risk assessment. Furthermore, there are no short-term (acute) health risk criteria for DPM. As such, no further assessment of this issue is warranted.

- d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

Less Than Significant Impact

A project-related significant adverse effect could occur if construction or operation of the proposed project would result in other emissions, such as non-criteria pollutants (e.g., hazardous air pollutants and toxic air pollutants) and those leading to odors, that would be perceptible in adjacent sensitive areas. According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with non-criteria pollutant emissions and odor complaints include agricultural uses,



❖ SECTION 4.3 – AIR QUALITY ❖

wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. However, this is not the case with the proposed project. As such, no further assessment of this issue is warranted.

**4.4 Biological Resources**

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?	X			
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 Wildlife or US Fish and Wildlife Service?	X			
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?	X			
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 nursery sites?	X			
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	X			
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?				X

- a) **Would the project have a substantial adverse impact, 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 Wildlife or U.S. Fish and Wildlife Service?**

Potentially Significant Impact

Several special-status species including plant, avian, amphibian, and invertebrate organisms occur in the vicinity of this project site and would be potentially adversely impacted by habitat loss and other factors during the construction and post-construction activities of this development project. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) **Would the project have a substantial adverse impact 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 Wildlife or U.S. Fish and Wildlife Service?**

Potentially Significant Impact

The project site is situated on hilly slopes with drainages at the base of the slopes. More mesic woodlands occur along the drainages. Debris flow and altered hydrology resulting from development may have an adverse impact on sensitive woodland communities in the drainages. Therefore, further and more detailed analysis of these issues is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- c) **Would the project 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?**

Potentially Significant Impact

Considering that the project site consists of slopes that are located above drainages of ephemeral streams, which may contain state or federally protected wetlands, that receive flow from the San Gabriel Mountains, there is a likelihood that construction activities would have some impact on the water quality and sedimentation of those channels. The installation of pads for the 14 planned estate lots may make the newly restructured pads more susceptible to debris runoff that could terminate in the streambeds and adversely impact water quality. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- d) **Would the project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

Potentially Significant Impact

There are potentially active wildlife corridors (i.e., commonly used routes used by animals to obtain food, water or other resources) present on this project site, as well as wildlife nursery sites. Regarding wildlife migration, black bears, mountain lions and deer and other large mammals likely migrate through this area; their foraging habits may be adversely impacted by barriers to their



traditional routes. In addition, there are ephemeral streams on project site that, although unlikely, may serve as nursery sites for some fish species. Accordingly, construction activities may result in potentially significant impacts on both wildlife corridors and wildlife nursery sites. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Potentially Significant Impact

The proposed project will comply with the provisions of Chapter 118 of the Bradbury Development Code, Tree Preservation and Protection. This will include applying for a Tree Removal Permit and obtaining City approval of a Tree Preservation Plan. Accordingly, no further assessment of this issue is warranted. However, as indicated previously, there are several biological resources that are either on or immediately adjacent to the project site, which could be significantly impacted by the proposed project. The Conservation Element of the Bradbury General Plan has numerous goals, policies and/or objectives aimed at the protection of biological resources. The extent of such impacts has yet to be determined. As such, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR for the proposed project.

- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

No Impact

The project site is not located in a Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or another approved HCP area. The project site does not lie within the boundaries of a designated Los Angeles County's Significant Ecological Areas. Thus, the project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP and therefore, no impacts would result. As such, no further assessment of this issue is warranted.

4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	X			
c) Disturb any human remains, including those interred outside of formal cemeteries?	X			

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact

A cultural resources analysis was conducted for the Chadwick Ranch Estates project site that included a California Historic Resources Inventory System (CHRIS) records and literature search at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. Additionally, a pedestrian survey of the project site was completed.

Based on the cultural resources records search, it was determined that no historic cultural resources have been previously recorded within the project site boundary or within a half-mile buffer zone around it. There have been three previously recorded historic-era cultural resources in the general project area. Two are dirt roads to the north within the Angeles National Forest. The third, the Bradbury Debris Basin and Flood Control Channel (19-192459), is located at the confluence of Bradbury and Bliss Canyons in the City of Bradbury and sits at the central-west edge of the project site. Bradbury Canyon crosses the middle of the project site east/west.

A historical resource is defined in § 15064.5(a)(3) of the CEQA *Guidelines* as any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Historical resources are further defined as being associated with significant events, important persons, or distinctive characteristics of a type, period or method of construction; representing the work of an important creative individual; or possessing high artistic values. Resources listed in or determined eligible for the California Register, included in a local register, or identified as significant in a historic resource survey are also considered as historical resources under CEQA.

Similarly, the National Register criteria (contained in 36 CFR 60.4) are used to evaluate resources when complying with § 106 of the National Historic Preservation Act (NHPA). Specifically, the National Register criteria state that eligible resources comprise districts, sites, buildings, structures,

and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that: (a) are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or (d) that have yielded or may be likely to yield, information important to history or prehistory.

A substantial adverse change in the significance of a historical resource as a result of a project or development is considered a significant impact on the environment. Substantial adverse change is defined as physical demolition, relocation, or alteration of a resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Direct impacts are those that cause substantial adverse physical change to a historic property. Indirect impacts are those that cause substantial adverse change to the immediate surroundings of a historic property, such that the significance of a historical resource would be materially impaired.

With the absence of any historic cultural resources within the project site boundary or immediately adjacent, no impacts on historic resources would be associated with the development of the project. As such, no further assessment of this issue is warranted.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact

The natural open space nature of the project site and undisturbed hilly terrain indicate that ground on-site has been minimally disturbed, with the native surface soil remaining. Grading activities associated with development of the project would cause new subsurface disturbance and could potentially result in the unanticipated discovery of archaeological resources. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Potentially Significant Impact

Grading and trenching activities associated with development of the project would cause new subsurface disturbance and could result in the unanticipated discovery of unknown human remains, including those interred outside of formal cemeteries. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

4.6 Energy

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	X			
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	X			

a) **Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

b) **Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

Potentially Significant Impact

The Project would consume energy during construction and operational activities. Sources of energy for these activities would include electricity usage, natural gas consumption, and transportation fuels, such as diesel and gasoline. During Project construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Project construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the Project Site, construction worker travel to and from the Project Site, and delivery and haul truck trips (e.g., hauling of demolition material to off-site reuse and disposal facilities). During operation of the Project, energy use would include, but not be limited to, heating, ventilating, and air conditioning (HVAC); lighting; and the use of appliance, and electronics. Energy would also be consumed during Project operations related to water usage, solid waste disposal, and vehicle trips. In addition, the Project could result in a significant impact to state or local plans for renewable energy or energy efficiency if it failed to meet energy efficiency standards or prevented energy suppliers from meeting renewable energy source targets. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	X			
ii) Strong seismic ground shaking?	X			
iii) Seismic-related ground failure, including liquefaction?	X			
iv) Landslides?	X			
b) Result in substantial soil erosion or the loss of topsoil?	X			
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	X			
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	X			
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	X			

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			

a) **Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Potentially Significant Impact

The project site is located in the seismically active region of Southern California. The southernmost portion of the project site is located within an Alquist-Priolo Earthquake Fault Zone, the Sierra Madre Fault Zone (California Department of Conservation, 2019b). In the event of a fault rupture, the proximity of the project site to this Fault Zone could expose future project site residents to a risk of loss, injury, or death that could be potentially significant. As such, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

ii) **Strong seismic ground shaking?**

Potentially Significant Impact

In the event of strong seismic ground shaking, the proximity of the project site to this Fault Zone could expose future project site residents to a risk of loss, injury, or death that could be potentially significant. As such, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

iii) **Seismic-related ground failure, including liquefaction?**

Potentially Significant Impact

General types of ground failures that might occur as a result of severe ground shaking typically include landslides, ground subsidence, ground lurching and shallow ground rupture. The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from the faults, topography, subsoils and groundwater conditions, in addition to other factors. Potentially liquefiable soils are present on-site in the form of loose/soft alluvium, colluvium and non-engineered artificial fill. Bedrock units are not liquefiable. In the event of seismic-related ground failure, future project site residents could be exposed to a risk of loss, injury, or death that could be potentially significant. As such, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

iv) Landslides?**Potentially Significant Impact**

Landslides occur when the stability of the slope changes from a stable to an unstable condition. A change in the stability of a slope can be caused by a number of factors, acting together or alone. The existing topography of the northern half of the site is very steep, sloping from the northeast to the southwest with a high point of 1,790 feet amsl. The southern half of the site is also fairly steep, with rolling terrain sloping towards the south and a low point of 790 feet amsl. Consequently, landslides may potentially occur on-site. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

b) Would the project result in substantial soil erosion or the loss of topsoil?**Potentially Significant Impact**

Construction best management practices (BMPs) would be implemented to avoid and minimize the transport of soil or contaminants off-site during construction activities. However, earth movement activities could occur for more than a year and involve more than one million cubic yards of earth materials. It is possible that the protracted grading operations, combined with the volume of grading anticipated, and steep slopes could result in substantial soils erosion and loss of top soils. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**Potentially Significant Impact**

As discussed above, the liquefiable soils and steep slopes are present on-site. Accordingly, the potential for significant impacts related to unstable soil and potential on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse may occur from implementation of the project. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**Potentially Significant Impact**

The project site contains some alluvial, colluvium, and finer-grained materials that may possess medium and possibly even high expansion potential (Petra Geosciences, 2019). The potential for impacts associated with expansive soils, as defined in Table 18-1-B of the UBC (1994) requires further and more detailed analysis, which will be undertaken in an EIR to be prepared for the proposed project.

- e) **Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

Potentially Significant Impact

As discussed earlier, the proposed project intends to use a NOWTS wastewater treatment system. Soils suitability for the use of NOWTS requires further study. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- f) **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Potentially Significant Impact

Deeper excavations in the Quaternary Alluvium have a potential of encountering fossil vertebrate specimens. Project implementation could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature and result in a potentially significant impact. Grading and trenching activities associated with development of the project would cause new subsurface disturbance and could result in the unanticipated discovery of unique paleontological resources. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	X			

- a) **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Potentially Significant Impact

Direct greenhouse gas emissions (GHG) emissions include emissions from construction activities, area sources, and mobile (vehicle) sources. Typically, mobile sources make up the majority of direct emissions. Indirect GHG emissions are generated by incremental electricity consumption and waste generation. Project implementation would increase GHG emissions from mobile sources, electricity usage, natural gas consumption, solid waste generation, and water use. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) **Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

Potentially Significant Impact

The City has adopted a Climate Action Plan (CAP) as part of its General Plan that contains climate action goals, objectives, and policies to achieve identified energy efficiency targets it can take to reduce GHG emissions from City operations and from development in its jurisdiction. Accordingly, potential impacts related to the compatibility of the project with the published goals, objectives, and policies will be reviewed and considered along with sustainable development policies, goals, and regulations that are established within the General Plan and proposed Specific Plan, to determine the significance of potential impacts. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within 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 result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	X			
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	X			

- a) **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less than Significant Impact

Transportation of hazardous materials/wastes is regulated by *California Code of Regulations* (CCR) Title 26. The California Highway Patrol (CHP) and the California Department of Transportation



❖ SECTION 4.9 – HAZARDS AND HAZARDOUS MATERIALS ❖

(Caltrans) enforce federal and state regulations and respond to hazardous materials transportation emergencies. Emergency responses are coordinated as necessary between federal, state and local governmental authorities and private persons through a state-mandated Emergency Response Plan. Due to the significant short-term risks to public health and the environment associated with hazardous waste management during transportation of wastes, specific commercial hazardous waste shipping routes are designated with the intent of minimizing the distance that wastes are transported and the proximity to vulnerable locations.

As described above, the proposed project would include the construction of 14 residential lots with supporting infrastructure including roadways, drainage facilities, water and sewer systems, and dry utilities such as electrical, natural gas, and fiber optics for cable television and communications. Approximately 51 percent of the project site would remain undeveloped and conserved as designated as Open Space.

Construction activities would be temporary and would involve transport, storage, and use of chemical agents, solvents, paints, and other hazardous materials commonly associated with construction activities. Chemical transport, storage, and use would comply with Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Occupational Safety and Health Administration (OSHA); California hazardous waste control law; California Division of Safety and Health (DOSH); South Coast Air Quality Management District (SCAQMD); and Los Angeles County Fire Department Hazardous Materials Program requirements. Compliance with applicable laws and regulations would ensure that impacts associated with routine transport, use, or disposal of hazardous materials during project construction, on-site maintenance, and operation of the project would involve storage and use of small amounts of commercially available janitorial and landscaping supplies. All materials would be stored, used, and disposed of in accordance with all applicable laws/regulations. The proposed project is not anticipated to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, impacts would be less than significant. As such, no further assessment of this issue is warranted.

- b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less than Significant Impact

A record search of environmental databases was conducted in September 2019 for the project site consistent with American Society of Testing Materials (ASTM) Standard E1527-13, and the All Appropriate Inquiry (AAI) Rule (Title 40 CFR § 312). The purpose of the record search was to identify the potential for recognized environmental conditions (RECs) for the project site. These include: 1) presence or likely presence of hazardous substances or petroleum products on the site; 2) conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures, the ground, groundwater, or surface water of the Subject Property; and 3) issues that may have an environmental impact on the site (ERS, 2019).

Based on historical records, the project site has no history of agricultural use, commercial use, equipment storage, or residential use, and has been vacant land since at least 1894 (ERS, 2019; USDO, 1894). During the 2019 site reconnaissance, no evidence of existing or previously existing



dwelling was present. The project site was vegetated but was otherwise vacant (ERS, 2019). No RECs were identified on the project site.

On-site Construction

Construction phasing would include the following: vegetation removal, rough grading, including deeper excavation and shoring; vertical construction; undergrounding of utilities; concrete and paving improvements; final grading; construction of residences and associated structures, and landscaping for the on-site improvements. Due to the project site's lack of historic use for agricultural or other purposes, the potential for contamination of the soils is considered unlikely. In addition, any chemical or hazardous materials spills that may occur on-site during project construction would be handled in accordance with applicable City and state regulatory requirements. As such, no further assessment of this issue is warranted.

Off-site Construction

The project may include off-site undergrounding of various utility and infrastructure lines. Some of these improvements may require trenching in or near locations of existing pipelines and utilities. A review of available maps from the California Department of Toxic Substances Control (DTSC) and other State and local agencies was conducted to determine if any gas transmission and hazardous liquid pipelines exist in the area and, if so, ascertain if there could be a conflict with underground improvements associated with the proposed project. The closest gas transmission pipelines are located approximately seven miles to south of the project site in the City of El Monte and the closest hazardous liquid pipeline is located over 10 miles south of the project site in the City of Industry. Any proposed off-site improvements would be restricted to the proposed project site or to local roads and would not impact the existing pipelines. Therefore, there would be no impacts due to upset and accident conditions involving the release of hazardous materials from the existing pipelines, and no further assessment of this issue is warranted.

Operation

Operation of the project would involve storage and use of small amounts of commercially available janitorial and landscaping supplies. All materials would be stored, used, and disposed of in accordance with all applicable laws/regulations. Construction and operation of the proposed project is not anticipated to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts would be less than significant. As such, no further assessment of this issue is warranted.

- c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

No Impact

The area within 0.25 mile of the proposed project site is comprised mostly of open space, with some low-density residential development. There are no schools within 0.25 mile of the project site. Therefore, no impacts would occur. As such, no further assessment of this issue is warranted.



- d) **Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

No Impact

Government Code § 65962.5 requires the Department of Toxic Substances Control (DTSC) to compile and update, at least annually, lists of the following:

- Hazardous waste and substances sites from the DTSC EnviroStor database;
- Leaking Underground Storage Tank (LUST) sites by county and fiscal year in the State Water Resources Control Board (SWRCB) GeoTracker database;
- Solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside waste management units;
- SWRCB Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs);
- Hazardous waste facilities subject to corrective action pursuant to § 25187.5 of the Health and Safety Code, identified by DTSC.

These lists are collectively referred to as the “Cortese List” (CalEPA, 2019). A review of the latest iteration of the list indicates that the project site is not identified as a Cortese site. According to the GeoTracker website, the nearest active Cortese-listed property is a LUST cleanup site located approximately 0.2 mile south of the project site at 17 Woodlyn Lane. This site was cleaned up and the case was closed as of July 9, 1998. In light of the discussion above, no significant hazards to the public or the environment attributable to hazardous materials located on, or proximal to, the project site are anticipated, and no further assessment of this issue is warranted.

- e) **For a project located within 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 result in a safety hazard or excessive noise for people residing or working in the project area?**

No Impact

The nearest active public airport is El Monte Airport, located approximately six miles southwest of the project. The Los Angeles/Ontario International Airport is located approximately 22 miles southeast of the project site; the Hollywood Burbank Airport is located approximately 22 miles west of the project site; and the Los Angeles International Airport is located approximately 30 miles southwest of the project site. The proposed project would not be within the Airport Influence Area of any of these three airports.

Development of the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area. Therefore, no impact would occur, and no further assessment of this issue is warranted.



- f) **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Potentially Significant Impact

The Emergency Operations Plan of the City of Bradbury addresses the City's planned response to emergency or disaster situations associated with natural disasters, technological incidents and national security emergencies. The City's Evacuation Plan identifies numerous routes that would facilitate evacuation of the City (if necessary) while also designating routes to be used by emergency responders. The proposed project would be more than one mile north of designated evacuation routes and first responder access routes. The project site is relatively isolated and surrounded by heavily vegetated lands on three sides and residential development and flood control facilities to the southwest, south and southeast. All areas north of Royal Oaks Drive North in the City, including the project site, are considered to be in a Very High Extreme Fire Hazard Zone (VHEFHZ). The project's consistency with the City's emergency response plan or emergency evacuation plan will need to be determined. Therefore, this issue will be analyzed further in an EIR to be prepared for the proposed project.

- g) **Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

Potentially Significant Impact

The project site is in a VHEFHZ and is at significant risk in the event of a wildland fire. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

**4.10 Hydrology and Water Quality**

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	X			
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	X			
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on or offsite;	X			
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	X			
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	X			
(iv) impede or redirect flood flows?	X			
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	X			

- a) **Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**

Potentially Significant Impact

The proposed project would change the site through extensive landform modification and by adding impermeable surfaces and residential uses that would alter hydrological patterns and introduce new sources of water pollutants in site runoff. There is the potential for water pollutants to be generated



❖ SECTION 4.10 – HYDROLOGY AND WATER QUALITY ❖

in the short-term during construction activities and in the long-term due to the permanent changes to the project site.

Construction-related pollutants may include loose soils, liquid and solid construction materials and wastes, and accidental spills of concrete, fuels, and other materials. During project operation, the proposed project would add typical, nonpoint-source pollutants to stormwater runoff, primarily due to runoff from impervious surfaces where a variety of pollutants can collect over time, such as driveways, streets, roofs, patios, and other paved surfaces. Landscaped areas may also generate water pollutants, such as fertilizers and weed control agents, as well as green waste from landscape maintenance cuttings. Several measures to protect water quality and limit discharges are directed and implemented both through the preparation of various plans and adherence to established programs. The project will be required to demonstrate compliance with such plans and programs. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

Potentially Significant Impact

The proposed project would be within the service area of the Duarte service area of the CAWD, which is served entirely by groundwater sources from the Main San Gabriel Basin. The water supply is distributed for residential, commercial, and industrial use in the cities of Duarte and Bradbury; portions of Azusa, Irwindale, and Monrovia; and some unincorporated areas of Los Angeles County (California American Water, 2019, p. 5).

CAWD requires the project to provide a well with which CAWD can replenish the aquifer to compensate for the water extracted to serve the proposed project. At the time of this writing, eight possible well sites have been located, but none have been drilled or analyzed further. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.



- c) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**
- i) **Result in substantial erosion or siltation on- or off-site;**
 - ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**
 - iii) **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;**

Potentially Significant Impact

The project site is situated on hilly terrain containing ephemeral and intermittent streams, which may be potentially impacted by development of the proposed project as a result of erosion or siltation on- or off-site, increased rate or amount of surface runoff, or additional sources of polluted runoff. Therefore, further and more detailed analysis of these issues is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- iv) **Impede or redirect flood flows?**

Potentially Significant Impact

The proposed project would be in an undeveloped area on the southern foothills of the San Gabriel Mountains. The project site is situated between Bliss Canyon Creek on the north and west and Spinks Canyon Creek on the east and south and is bisected by Bradbury Canyon Creek. The Federal Emergency Management Agency (FEMA) has mapped the majority of the project site as **Zone D**, which is a designation used for areas where there are possible but undetermined flood hazards as no analysis of flood hazards has been conducted. Therefore, further and more detailed analysis of these issues is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- d) **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

No Impact

As described in Section 4.10 iv), the proposed project site is not located within the 100-year and the 500-year flood hazard zones and it is not anticipated that the site would become inundated due to flood.

A tsunami is a sea wave (or series of waves) of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands (California Seismic Safety Commission, 2019). Tsunami Inundation Zones are mapped for Los Angeles County; a review of these maps revealed that the tsunami inundation zone nearest to the proposed project site would be at the confluence of the San Gabriel River and Coyote Creek, approximately 30 miles downstream (south) of the project site (CEMA et. al., 2009). Therefore, it is not anticipated that the proposed project would become inundated due to a tsunami.



❖ SECTION 4.10 – HYDROLOGY AND WATER QUALITY ❖

A seiche is an oscillating wave caused by wind, tidal forces, earthquakes, landslides and other phenomena in a closed or partially closed water body such as a river, lake, reservoir, pond, and other large inland water body. A review of aerial imagery (Google Earth, 2018) revealed no water bodies within a five-mile radius of the proposed project site large enough to support a seiche. Therefore, it is not anticipated that the proposed project would be inundated by a seiche. Additionally, the project site is located above the Bradbury and Spinks debris basins, and thus is not within a dam inundation area.

Because of the project's inland location, elevation, and lack of an adjacent or upland body of water, the project site would not be at risk of flood hazard, tsunami, or seiche, and therefore would not be at risk of release of pollutants through inundation. Therefore, no impact would occur. As such, no further assessment of this issue is warranted.

4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	X			

a) Would the project physically divide an established community?

No Impact

The project site is located along the northern urban fringe of the City of Bradbury and is bordered by predominantly vacant land to the immediate east in the City of Duarte, vacant land to the north, both within the City of Bradbury and beyond the city's northern corporate limits in the City of Monrovia, and a combination of flood control facilities and vacant land within the City of Bradbury to the west. Urban development both in the City of Bradbury and City of Duarte generally occurs southwest, south and southeast of the project site. The proposed project constitutes a northerly extension of the existing Bradbury community; therefore, there is no possibility that it could or would physically divide an established community, and no impacts would occur. As such, no further assessment of this issue is warranted.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact

The project site is comprised of three parcels designated "Open Space Privately Owned Undeveloped" on the Land Use Map of the Bradbury General Plan. The General Plan contemplates a specific plan being prepared for development in this area beyond 1 unit/5 acres. A general plan amendment is proposed to change the land use designation for the 111.8-acre project site to Open Space Privately Owned Undeveloped/Specific Plan as a clarification. In addition, the proposed project also requests a Change of Zone from Agriculture/Estate Residential (A-5) SP to Chadwick Ranch Estates Specific Plan to ensure that the zoning for the project site is consistent with its General Plan Land Use Map designation requirements. The City's General Plan, Zoning Code, and Design Guidelines govern all development within the City limits and are oriented toward avoiding or minimizing adverse environmental consequences due to development. The forthcoming Chadwick Ranch Estates Specific Plan would serve to refine the mandates and guidelines set forth in the city's development policy and regulatory documents. Further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?**

b) **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No Impact

The project site falls within Mineral Resource Zone (MRZ)-3, which is an area that incorporates land containing mineral deposits in which the significance cannot be evaluated from available data (California Department of Conservation, 1982). Other parts of the City of Bradbury are also classified as MRZ-3 as well as MRZ-4 (CGS, 1994). MRZ-4 areas are places where geological information does not rule out either the presence or absence of mineral resources, indicating that they are not being used for their mineral resources since there is little to no information about their geological composition. There are currently no active mines within the City of Bradbury (California Department of Conservation, Mines Online, 2019). According to the California Department of Conservation Division of Oil, Gas, & Geothermal Resources Well Finder, no oil or gas wells were identified on or within one mile of the project site (California Department of Conservation, 2019b). For these reasons, the project would have no impact on the availability of known mineral resources of value to the region or state residents or on any locally important mineral resource recovery sites. As such, no further assessment of this issue is warranted.

4.13 Noise

Would the project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	X			
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?				X

- a) **Would the project result in 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?**

Potentially Significant Impact

Noise impacts associated with residential projects include short-term and long-term impacts. Construction activities, including heavy equipment operation and heavy-duty truck trips, may create noise and vibration effects on and adjacent to the construction site and along the access roads (for construction material delivery). Long-term noise impacts include project-generated on-site and off-site operational noise sources. On-site (stationary) noise sources from the Chadwick Ranch Estates project would include operation of mechanical equipment such as air conditioners, lawn mowers and leaf blowers. Off-site noise would be attributable to project-induced traffic, which would cause an incremental increase in noise levels within and near the project. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) **Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?**

Less than Significant Impact

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., subway operations, vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

Construction Vibration

Construction activities for the project have the potential to generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagate through the ground and diminishes in intensity with distance from the source. Vibration impacts can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage of buildings at the highest levels. Some of the equipment to be used during project construction may generate ground borne vibrations. However, construction equipment that would generate appreciable groundborne vibration would be too far from sensitive receivers to have an adverse effect. Therefore, no further assessment of potential construction vibration impacts is warranted.

Operational Vibration

The project would not have on-site or off-site vibration sources that would adversely affect sensitive receivers. The topic of vibration will, therefore, not be included in the EIR.

- 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?**

No Impact

The nearest active public airport is El Monte Airport, located approximately six miles southwest of the project. The nearest major airports are the Los Angeles/Ontario International Airport, located



approximately 22 miles to the southeast; the Hollywood Burbank Airport, located approximately 22 miles to the west; and the Los Angeles International Airport, located approximately 30 miles to the southwest. Due to the project's distance from the nearest active airports, it is not located within the boundary of an Airport Influence Area (AIA), or within two miles of a public airport or public-use airport. Therefore, the project would not expose people to safety hazards due to proximity to a public airport, and no impacts would occur. As such, no further assessment of this issue is warranted.

4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

- a) **Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Less than Significant Impact

The project proposes the development of 14 estate residential lots on approximately 111.8 acres. The projected population that the project would create is 42 new residents, based on the average household size in the City of Bradbury as set forth in SCAG's profile. Since this project is residential in nature, the population of Bradbury would be affected minimally. The City of Bradbury is currently home to 1,093 people, and with the addition of the proposed project, that population would only grow by about four percent (City Data, 2017). Therefore, the completion of the proposed project would have a less than significant impact on the local population.

During project construction, it is anticipated that those employed to build the project would be local and would not move into the area to work on the project. Therefore, the proposed project would have a less than significant impact on the population in the area. As such, no further assessment of this issue is warranted.

- b) **Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

No Impact

The project site does not contain any residential structures. Therefore, the project would not displace any houses nor people and the project would not necessitate the construction of replacement housing elsewhere. As such, no impacts would occur and no further assessment of this issue is warranted.

4.15 Public Services

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?			X	
d) Parks?			X	
e) Other public facilities?			X	

a) Fire Protection?

Less than Significant Impact

Fire Protection/Emergency Medical Services are provided to the City by the Los Angeles County Fire Department (LACoFD). Fire Station 44, the closest to the project, is located at 1105 Highland Avenue in the City of Duarte. The station is staffed with at least seven firefighters 24 hours a day. Equipment includes two fire trucks, one patrol vehicle and one water tender. Backup paramedic assistance is provided by Station 29, located in the City of Baldwin Park and Station 32, located in the City of Azusa. The City of Monrovia Fire Department offers additional mutual aid when necessary and requested by the County (City of Bradbury, 2014). LACoFD also provides Hazardous Material services. The U.S. Forest Service in San Dimas provides wildfire service in the Angeles National Forest. LACoFD has been consulted regarding the project and has determined that the addition of 14 residences would not result in impacts to its facilities and, as such, would not result in the need for new facilities (LACoFD, 2020). Therefore, no further assessment of this issue is warranted.

b) Police Protection?

Less than Significant Impact

The City of Bradbury contracts with the Los Angeles County Sheriff's Department (LASD) for law enforcement services. Although the City contracts for a minimum level of service, in times of emergency, LASD dedicates all available personnel and equipment to address the community's needs. The primary base of LASD law enforcement operations in the general area is the Temple Sheriff's Station, located at 8838 Las Tunas Drive in Temple City. Dispatch and booking facilities for its service area, which includes the City of Bradbury, are located there. In addition, there is an LASD satellite substation located in Duarte, which is operated as a launching center for officers who are responsible for providing police services to the City of Duarte, the City of Bradbury, and surrounding unincorporated areas (City of Bradbury, 2014). Incident and arrest data for the City of Bradbury indicate that in 2017, there were 38 reported incidents (LASD, 2017). In 2018, the number of



reported incidents was 50, which represents an increase of 32 percent. The proposed project constitutes an increase of less than 4 percent to the City's current housing stock. Using the 2010 Census average household size of 3.1 for the City, upon full buildout, the proposed project may add between 40 and 50 new residents to the City. LASD has been consulted regarding the project and has determined that the addition of 14 residences would not result in significant impacts to its facilities and, as such, would not result in the need for new facilities (LASD, 2020). Therefore, no further assessment of this issue is warranted.

c) Schools?

Less than Significant Impact

Public educational services are provided to City of Bradbury residents by the Duarte Unified School District (DUSD). Given the location of the proposed project, two schools would provide for K-12 educational needs. Royal Oaks STEAM Academy, serving grades K-8, is located at 2499 Royal Oaks Drive in Duarte. Duarte High School, serving grades 9-12, is located at 1565 E. Central Avenue, also in Duarte. Neither school is currently operating at capacity. Based on a per dwelling unit student enrollment rate of 1.1, up to 16 new enrollments can be expected to be added to the Duarte Unified School District upon full buildout. It is unlikely that the addition of up to 16 student enrollments to the DUSD generally and the two schools specifically serving the project site would generate a need for new or physically altered educational facilities to maintain current levels of educational services provided by the District. Therefore, any increase in demand for educational services attributable to the proposed project is considered to be less than significant, and no further assessment of this issue is warranted. It is noted that although no significant project-related impacts on schools are anticipated, each residential estate will be required to pay a State authorized school impact fee. At the present time, new residential construction is required to pay the DUSD a fee of \$2.97 per square foot (DUSD, 2020).

d) Parks?

Less than Significant Impact

The City of Bradbury does not have any city parks. There is, however, a citywide trail system that provides a range of recreational opportunities for City residents. It also provides a link to a comprehensive network of non-motorized transportation routes connecting the City's residential neighborhoods to commercial and business areas, schools, and area parks located outside the City. This is a shared-use trail, including equestrian, walkers, joggers, hikers, bicyclists, and other non-motorized users. The Royal Oaks Drive North trail currently serves the community as a venue for exercise, leisurely strolls, and an equestrian path for the City's horse community. From the Royal Oaks Drive North trail, the public can connect with the City of Duarte's Royal Oaks Trail that leads to the local elementary school, tennis courts and a children's park in the City of Duarte. It is unlikely that the addition of 14 estate homes to the City would require a need for new or physically altered park facilities. Therefore, any increase in demand for parks attributable to the proposed project are considered to be less than significant, and no further assessment of this issue is warranted.



e) **Other Public Facilities?**

Less than Significant Impact

The City of Bradbury does not have a public library. It is assumed that city resident demand for library services is met by library facilities in other jurisdictions. The public library nearest the City of Bradbury is the Duarte Library, a part of the Los Angeles County Library system. The Duarte Library is located at 1301 Buena Vista Street in Duarte. The Duarte Library has a full array of services available to the public. Other elements of the Los Angeles County Library System located in relatively close proximity to the City of Bradbury are found in Temple City, Arcadia and El Monte. It is unlikely that the addition of 14 estate homes to the City would require a need for new or physically altered library facilities. Therefore, any increase in demand for library services attributable to the proposed project are considered to be less than significant, and no further assessment of this issue is warranted.

4.16 Recreation

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

Less Than Significant Impact

The proposed project comprises 14 residential estates. The collective buildable area upon which these estates would be constructed totals 15.0 acres. Since these parcels are residential in nature, the associated demand for recreational facilities may increase of use of neighborhood and regional parks and/or other recreational facilities in the area. According to the Southern California Association of Governments (2017), the average persons per household in Los Angeles County from 2013-2017 is 3.00. Thus, an estimated 42 people would live in this neighborhood when it is completed; 42 people would not cause significant increased use of local recreational facilities. The closest parks to the project site are Royal Oaks Park (1 mile southeast) and Duarte Park Playground (1.5 miles south) in the City of Duarte, and Recreation Park (two miles southwest) and Monrovia Canyon Park (two miles west) in the City of Monrovia. The increased population to the area is not expected to significantly increase demand for existing parks and recreational facilities in the general area and certainly not to the extent that substantial physical deterioration of such facilities would occur or be accelerated. As such, no further assessment of this issue is warranted.

- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact

As described above, the project does not propose new or expanded recreational facilities that would have potential adverse effects on the environment. Therefore, no impact would occur. As such, no further assessment of this issue is warranted.

4.17 Transportation

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	X			
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	X			
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?	X			

- a) **Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

Potentially Significant Impact

The purpose of the General Plan Circulation-Transportation Element is to plan adequate circulation systems for the community's residents. Circulation includes all facilities that direct and accommodate motorized vehicles, bicycles, and pedestrian movement. The project would involve extending the City's roadway system to provide access to the proposed residential development. An analysis of this project's circulation and vehicular access as compared to the City's Circulation Element will be need to be conducted. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) **Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?**

Potentially Significant Impact

Based on the trip rate established by the Institute of Transportation Engineers (ITE) for single-family residential uses, the proposed project is anticipated to generate more than 110 daily trips (ITE, 2017). An analysis of the vehicle miles traveled (VMTs) created by the project will be conducted based on the California Governor's Office of Planning and Research's (OPR) suggested screening parameters as the City has not yet adopted a VMT threshold. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- c) **Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

Less than Significant Impact

Primary vehicular access to the project site begins off-site at the intersection of Long Canyon Road and Bliss Canyon Road. From there the project access road traverses LACFCD property and utilizes a portion of the Flood Control District road system using existing easements until it reaches the project site boundary. A large portion of the existing LACFCD road system would be improved for the safety of current and future residents, as well as for ongoing LACFCD operations. All on-site access and sight-distance setbacks would be in accordance with City of Bradbury and Caltrans design requirements. Therefore, the project would not increase hazards due to a geometric design feature, and traffic hazard impacts would be less than significant. As such, no further assessment of this issue is warranted.

- d) **Would the project result in inadequate emergency access?**

Potentially Significant Impact

As discussed in **Section 3.3**, the project's road system would provide access for emergency services from both Bliss Canyon and the Woodlyn Lane community via Flood Control Roads near the Spinks Debris Basin. The neighboring uses, access, terrain, and other factors were considered during the planning and design of the proposed project. Roads have been carefully sited to reinforce the community's rural character and provide adequate access for emergency services. However, since the project site is relatively isolated and surrounded by heavily vegetated lands on three sides and all areas north of Royal Oaks Drive North in the City, including the project site, are considered to be in a VHEFHZ, emergency access remains to be a concern in the project area. Therefore, this issue will be analyzed further in an EIR to be prepared for the proposed project.

**4.18 Tribal Cultural Resources**

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)?				X
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	X			

a) **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

i) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)?**

No Impact

The Cultural Resources investigation conducted for the project site determined that there are no tribal cultural resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k) within



the project site or within a half-mile buffer surrounding the project site. Therefore, no impact would occur. As such, no further assessment of this issue is warranted.

- ii) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Potentially Significant Impact

Assembly Bill 52 (AB 52) requires meaningful consultation with California Native American Tribes on potential impacts on tribal cultural resources (TCRs), as defined in Public Resources Code § 21074. TCRs are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources (California Natural Resources Agency [CNRA], 2007).

Senate Bill 18 (SB 18) requires cities and counties to contact, and consult with California Native American tribes before adopting or amending a General Plan or in the case of the proposed project, adopt a Specific Plan. The consultation is for the purpose of preserving or mitigating impacts to *Cultural Places*. The City of Bradbury will carry out the SB 18 consultation process because the project involves adoption of a Specific Plan.

It is noted that no prehistoric or historic archaeological resources were observed during the field survey. The results of the pedestrian assessment indicate it is highly unlikely that historic properties will be adversely affected by construction of the project. However, definitive information is not yet available to arrive at a defensible conclusion that no significant impacts on Tribal Cultural Resources would occur. As such, this issue will be analyzed further in an EIR to be prepared for the proposed project.

4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	X			
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	X			
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

- a) **Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

Potentially Significant Impact

Water

CAWC provides domestic water service to the City of Bradbury, including the Chadwick Ranch Estates project site. CAWC is requiring the proposed project to construct a well within its service area to ensure that the water supply for the proposed project remains adequate even under drought conditions. A specific well site location has not yet been determined. Therefore, this issue will be analyzed further in an EIR to be prepared for the proposed project.



Wastewater Treatment

As identified in the description of the project above, the proposed project would employ individual NOWTS for each lot to produce a higher quality effluent for disposal. Prior to issuance of a building permit, each property owner must submit and obtain approval from the Los Angeles County Department of Public Health (Department) for their proposed NOWTS system. Although each property would employ NOWTS for the foreseeable future, each property would also be developed with a sewer stub out to the road in the event a public sewer system is developed at a later time. The Department will be consulted to confirm that the installation of the individual NOWTS complies with the requirements of the Department. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

Storm Water Drainage

The Chadwick Ranch Estates project has been designed to collect runoff from each residential pad and some of the open space areas along the main project roadway and direct such runoff to buried storm drains in the main project roadway. Ultimately, the collected runoff is conveyed in a southeasterly direction and then discharged into one of two desilting/retention basins along the eastern boundary of the project site and a Water Quality basin at the south end of the developed area on-site. The basins have been designed to accommodate runoff resulting from a 100-year storm event. As indicated previously, the project site is currently in a natural state so any development which occurs on-site would result in a variety of potential impacts. These impacts will be associated primarily with grading and other site preparation activities. The nature and extent of the associated impacts (e.g., biological resources, geology and soils, hydrology and water quality) are discussed elsewhere in this document or require further study and will be addressed in an EIR to be prepared for the proposed project. Given this, in addition to required compliance with the City's Storm Water Ordinance, NPDES, and Regional Water Quality Control Board requirements, the construction of new storm drain facilities associated with the proposed project are expected to be less than significant, and no further assessment of this issue is warranted.

Electric Power

Electric power for the City of Bradbury is provided by Southern California Edison Company (SCE). Although the proposed project is located on an undeveloped site, electrical power transmission infrastructure is available in the immediate project vicinity. SCE typically utilizes existing utility corridors to reduce environmental impacts and has energy-efficiency programs to reduce energy usage and maintain reliable service throughout the year (SCE, 2019). The project would be constructed in accordance with all applicable Title 24 regulations and would not necessitate the construction or relocation of electric power facilities. Therefore, a less than significant impact would occur, and no further assessment of this issue is warranted.

Natural Gas

Southern California Gas Company (SoCalGas) is the primary distributor of retail and wholesale natural gas across Southern California, including the City of Bradbury. As indicated above, the proposed project is located on an undeveloped site, but, as with electrical power transmission infrastructure, gas transmission infrastructure is available in the immediate project vicinity. Other than project-related tie-ins to nearby natural gas distribution facilities, no natural gas facilities would have to be constructed or relocated to accommodate the proposed project. Therefore, a less than



significant impact would occur regarding this issue, and no further assessment of this issue is warranted.

Telecommunications Facilities

Although the proposed project is located on an undeveloped site, telecommunication facilities are available in the immediate project vicinity. Other than project-related tie-ins to nearby phone and cable facilities, no new phone or cable facilities would have to be constructed or relocated to accommodate the proposed project. Therefore, a less than significant impact would occur regarding telecommunications facilities, and no further assessment of this issue is warranted.

- b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

Potentially Significant Impact

As discussed above, CAWC provides domestic water service to the City of Bradbury, including the Chadwick Ranch Estates project site. CAWC is requiring the proposed project to construct a well within its service area to ensure that the water supply for the proposed project remains adequate even under drought conditions. A specific well site location has not yet been determined. Therefore, this issue will be analyzed further in an EIR to be prepared for the proposed project.

- c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

No Impact

As indicated under Item 4.19(a) *Wastewater Treatment* above, the proposed project would not utilize a public sanitary sewer system for the disposal, conveyance, and treatment of wastewater. Instead, each residential parcel would employ individual NOWTS. Based on the above, the proposed project would have no impact on the capacity of any public sewer system, and no further assessment of this issue is warranted.

- d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

Less than Significant Impact

Solid waste disposal services for the City of Bradbury are provided by Burrtec Waste Services (Burrtec) under a franchise agreement. The City is proactive about encouraging its residents to recycle and, in concert with Burrtec, has a variety of other programs aimed at source reduction, which, in addition to normal trash collection, includes a recycling program, bulky item collection protocol, green waste collection and participation in a program designed to prevent the introduction of items, such as needles and the like to enter the waste stream. The proposed project would be required to comply with the City's solid waste collection program as implemented by Burrtec Waste Services. This requirement and the fact that the proposed project represents an increase of less than four percent of the number of households subject to the City's solid waste reduction program,



impacts related to the generation of solid waste in excess of State and local standards are considered to be less than significant. As such, no further assessment of this issue is warranted.

- e) **Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

Less than Significant Impact

In 1989, the California Legislature enacted the California Integrated Waste Management Act (AB 939), in an effort to address solid waste problems and capacities in a comprehensive manner. The law required each city and county to divert 50 percent of its waste from landfills by the year 2000. The Los Angeles Countywide Integrated Waste Management Plan (LACIWMP) outlines the goals, policies, and programs the county and its cities would implement to create an integrated and cost-effective waste management system that complies with the provisions of AB 939 and its diversion mandates. In 2014, the County adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). It established a waste diversion goal of 80 percent by 2025, 90 percent by 2035, and 95 percent or more by 2045. In 2018, the latest full year for which data are available, the County and its' Cities achieved a diversion rate of 65 percent (LACDPW 2019). Through implementation measures carried out by Burrtec, the City of Bradbury will continue to comply with the LACIWMP. The proposed project would comply with the LACIWMP, the City's waste reduction procedures, applicable elements of AB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991), and other applicable local, State, and federal solid waste disposal standards. Thus, the solid waste stream to regional landfills is reduced in accordance with existing regulations, and as such, impacts regarding this issue are considered less than significant. Therefore, no further assessment of this issue is warranted.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	X			
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	X			
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	X			
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	X			

- a) **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?**

Potentially Significant Impact

The project site is relatively isolated and surrounded by heavily vegetated lands on three sides and residential development and flood control facilities to the southwest, south and southeast. All areas north of Royal Oaks Drive North in the City, including the project site, are considered to be in VHEFHZ, and are at significant risk in the event of a wildland fire. Therefore, this issue will be analyzed further in an EIR to be prepared for the proposed project.

- b) **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

Potentially Significant Impact

As indicated above, all areas north of Royal Oaks Drive North in the city, including the project site, are considered to be in a VHEFHZ, and are at significant risk in the event of a wildland fire. The project

site includes slopes, is subject to periodic Santa Ana winds where they are the prevailing winds, and contains other attributes which exacerbate wildfire risks, and thereby could expose project occupants to, pollutant concentrations to a significant extent from a wildfire or the uncontrolled spread of a wildfire. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR prepared for the proposed project.

- c) **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

Potentially Significant Impact

The project site is in a VHEFHZ. Accordingly, the proposed project would be required to adhere to the guidelines outlined by LACoFD. On-site, the circulation system is sited around the perimeter of the project area to provide an added safeguard against fires. The circulation system has been designed to provide the required water pressure for fire suppression and domestic services using available utility easements within LACFCD property. The road system also provides access for emergency services from both Bliss Canyon and the Woodlyn Lane community via Flood Control Roads near the Spinks Debris Basin. The neighboring uses, access, terrain, and other factors were considered during the planning and design of the proposed project. Roads have been carefully sited to reinforce the community's rural character and provide adequate access for emergency services.

Wildfire and other emergencies are often fluid events and the need for evacuations is typically determined by on-scene first responders or by a collaboration between first responders and designated emergency response teams, including Office of Emergency Services established for larger emergency events. Consistent with all emergency evacuation plans, the design of the proposed project supports existing pre-plans and provides for citizens who are familiar with the evacuation protocol, but is subordinate to emergency event-specific directives provided by agencies managing the event. It is unknown whether the site design characteristics described above, specialized fuel break requirements, and other features incorporated into the project's design may exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- d) **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

Potentially Significant Impact

The proposed project would be developed pursuant to applicable policies, regulations and guidelines established by the City of Bradbury and County of Los Angeles as formally set forth in the Chadwick Ranch Estates Specific Plan. However, the extent to which the proposed project could expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes requires additional analysis. As a result, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

4.21 Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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 animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	X			
c) Environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

- a) **Does the project have 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 animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Potentially Significant Impact

As discussed in **Section 4.4, Biological Resources**, (1) the project vicinity has been identified as an area containing several special-status plant, avian, amphibian and invertebrate species which may potentially be adversely impacted by habitat loss and other factors associated with project construction and post-construction activities; (2) the project area contains or is proximal to several sensitive natural communities as well as riparian areas which may potentially be adversely impacted associated with project construction and post-construction activities; (3) the project vicinity contains ephemeral streams which may experience water quality and sedimentation impacts due to the creation of project-related building pads; (4) due to the diversity of habitat types and abundant food



❖ SECTION 4.21 – MANDATORY FINDINGS OF SIGNIFICANCE ❖

sources for a variety of species, the project site and vicinity are significant candidates for containing wildlife migration corridors; and (5) the ephemeral streams in the project vicinity may serve as nursery sites for some fish species. Due to the absence of definitive information regarding the issues discussed above, further and more detailed analysis of these issues is warranted and will be undertaken in an EIR to be prepared for the proposed project.

As discussed in **Section 4.5, *Cultural Resources***, with regard to archaeological and historical resources, field surveys of the project site did not identify any examples of California history or prehistory. However, cultural resources could be uncovered during project construction. As such, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Potentially Significant Impact

The proposed project is residential in nature and serves as a northern extension of estate residential development already prevalent in the area. In fact, the project site is one of only a few vacant parcels of land available for development in the City of Bradbury. There are no other active proposals for development of any kind in the vicinity of the proposed project. However, the cities of Duarte and Monrovia have identified several specific plan, mixed-use, and other development projects that are under construction, entitled/approved projects but not constructed, or projects that are currently under review. The proposed project may potentially result in cumulative impacts when viewed in connection with the effects of these projects (e.g., water supply, air quality, noise, etc.). Therefore, further and more detailed analysis of cumulative impacts is warranted and will be undertaken in an EIR to be prepared for the proposed project.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

Potentially Significant Impact

As indicated in **Section 4.20, *Wildfire***, the City of Bradbury is vulnerable to very high fire hazard areas. The wildland interface area runs across the entire northern border of the City. The area includes residential properties as well as the project site. All streets north of Royal Oaks Drive North in the City are considered to be in the VHEFHZ, and are at significant risk in the event of a wildland fire. The project site is situated at the extreme northern end of the City. It is somewhat isolated from nearby estate residential development as it is separated from the developed area by flood control facilities owned and operated by the LACFCD. Further, the project site is located more than a mile from the nearest Primary Evacuation Route identified in the City's Emergency Plan. As a result, future residents of the project site may experience indirect adverse consequences since direct control and management of a wildfire in the immediate project area is indeterminable at this time. As such, further and more detailed analysis of this issue is warranted and will be undertaken in an EIR to be prepared for the proposed project.

In addition, other potentially significant impacts, including those related to air quality, geology and soils, hydrology and water quality, and noise, may occur as a result of the proposed project. As such,



❖ SECTION 4.21 – MANDATORY FINDINGS OF SIGNIFICANCE ❖

further and more detailed analysis of these issues is warranted and will be undertaken in an EIR to be prepared for the proposed project.

5.0 REFERENCES

- ARB, 2008. Climate Change Scoping Plan: A Framework for Change. California Air Resources Board. December 2008.
- ARB, 2011. Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. California Air Resources Board. August 19, 2011.
- ARB, 2014. First Update to the Climate Change Scoping Plan, Building on the Framework. California Air Resources Board. May 2014.
- ARB, 2017. California's 2017 Climate Change Scoping Plan. California Air Resources Board. November 2017.
- ARB, 2017a. Letter from Richard Corey, California Air Resources Board to Alexis Strauss, U.S. Environmental Protection Agency, Region IX, regarding submittal of South Coast 2016 Air Quality Management Plan. April 27, 2017.
- CalePA (California Environmental Protection Agency), 2020. Cortese List Data Resources. Available at <https://calepa.ca.gov/sitecleanup/corteselist/>. Accessed January 6, 2020.
- California American Water Company, 2019. 2018 Annual Water Quality Report, Duarte (PWS ID: 1910186). Available at <https://amwater.com/caaw/water-quality/water-quality-reports/duarte>. Downloaded January 3, 2020.
- California Department of Conservation, 1982. Special Report 143, Part IV.
- California Department of Conservation, 2016. Los Angeles County Williamson Act 2015/2016 Map.
- California Department of Conservation, 2017. GIS Data PDF Map, 2016: Los Angeles County Important Farmland 2016. Approved July 2017. Available at <https://www.conservation.ca.gov/dlrp/fmmp/Pages/LosAngeles.aspx>. Accessed September 4, 2019.
- California Department of Conservation, 2019a. Mines Online. Available at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_94-14/. Accessed September 4, 2019.
- California Department of Conservation, 2019b. DOGGR Well Finder. Available at <https://maps.conservation.ca.gov/doggr/wellfinder/#/-117.96564/34.14886/14>. Accessed September 4, 2019.
- California Department of Fish and Wildlife, Natural Diversity Database. August 2019. Special Animals List. Periodic publication. 67 pp.
- California Department of Fish and Wildlife, Natural Diversity Database. Multiple Occurrences per Page. Accessed November 18, 2019.
- California Energy Commission, 2019. 2018 Power Content Label, Southern California Edison. July 2019.

- California Geological Survey (CGS), 1994. Generalized Mineral Land Classification Map of Los Angeles County - South Half. Available at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_94-14/. Accessed September 6, 2019.
- California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available at <http://www.rareplants.cnps.org>. Accessed January 2, 2020.
- Caltrans, 2014. Scenic Highways 2014 (Caltrans). Available at <https://databasin.org/datasets/1b669cbb6b5341019625153f524ecd57>. Accessed February 24, 2020.
- Caltrans, 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. California Department of Transportation, Division of Environmental Analysis. September.
- CAPCOA, 2017. California Emissions Estimator Model®, Version 2016.3.2. California Air Pollution Control Officers Association. November 2017.
- CASQA, 2003. Stormwater Best Management Practice Handbook: New Development and Redevelopment Errata Pages. Available at <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>. Downloaded January 3, 2020.
- CEMA (California Emergency Management Agency), CGS (California Geological Society), and USC (University of Southern California). 2009. Tsunami Inundation Map for Emergency Planning: Los Alamitos Quadrangle/Seal Beach Quadrangle, County of Los Angeles, State of California [map]. Scale 1:24,000. Available at <https://www.conservation.ca.gov/cgs/tsunami/maps/los-angeles>. Downloaded January 3, 2020.
- CGS (California Geological Survey), 1999. Earthquake Zones of Required Investigation, Azusa Quadrangle [map]. Updated 2014. Scale 1:24,000. Available at <https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/>. Downloaded January 2, 2020.
- City Data, 2017. Bradbury, California. <http://www.city-data.com/city/Bradbury-California.html>. Accessed September 6, 2019.
- City of Bradbury, 2012. City of Bradbury Official Zoning Map. Approved July 27, 2012.
- City of Bradbury, 2014 – City of Bradbury General Plan 2012-2030. City of Bradbury Planning Department. February 2014.
- City of Bradbury, 2012b. City of Bradbury Energy Action Plan. City of Bradbury and San Gabriel Valley Council of Governments. December 2012.
- City of Bradbury General Plan 2012-2031 Update, Circulation-Transportation Element, 2018.



- City of Bradbury, 2014a. City of Bradbury General Plan 2012-2030 Update Climate Action Plan Element. City of Bradbury Planning Department.
- City of Bradbury, 2014b. City of Bradbury General Plan 2012-2030 Health and Safety Element. City of Bradbury Planning Department.
- City of Duarte, 2007. City of Duarte Comprehensive General Plan 2005 – 2020, Chapter 4, Noise. Adopted August 14, 2007.
- City of Los Angeles, 2000. (Stormwater Management Division, Bureau of Sanitation, Department of Public Works). Reference Guide for Stormwater Best Management Practices..
- CNRA (California Natural Resources Agency), 2007. The California Environmental Quality Act (CEQA). Guidelines for Implementation of the California Environmental Quality Act. Electronic document.
- County of Los Angeles, 2017. Park Design Guidelines and Standards. Approved in May 2017.
- Dibblee, Thomas W., Jr., 1998. Geological Map of the Mount Wilson & Azusa Quadrangles, Los Angeles County, California. *Dibblee Foundation Map DF-67*. Dibblee Geologic Foundation.
- DUSD, 2019. Duarte Unified School District, School Information. Available at: <https://www.duarteusd.org/Domain/920>. Accessed January 2020.
- DUSD, 2020. Personal Communication, Grace Reyes, Administrative Assistant. February 13, 2020.
- Email communication between David Moskovitz, Principal/Senior Biologist/Regulatory Specialist at Glenn Lukos Associates, Inc., and Mike Cho, Senior Designer at TRGLand, Inc., on June 12, 2019, regarding biological survey results.
- ERS (Environmental Record Search), 2019. Area Report Results for Foothills Of San Gabriel Mountains Northeast Portion Of Bradbury, Los Angeles County, CA 91008 (N 34-9-30, W 117-57-44) NAD83. Prepared for UltraSystems Environmental, Inc. September 20, 2019.
- ERS (Environmental Record Search), 2019. Aerial Photograph and Topographic Map Research Results for the Site at Foothills of San Gabriel Mountains City, State Zip: Northeast Portion of Bradbury, Los Angeles County, California. Prepared for UltraSystems Environmental, Inc. September 24, 2019.
- ESRL, 2018. Recent Global Monthly Mean CO2. Trends in Atmospheric Carbon Dioxide. Earth System Research Laboratory. National Oceanic and Atmospheric Administration. Available at <https://www.esrl.noaa.gov/gmd/ccgg/trends/global.html>. Accessed January 2019.

- FEMA (Federal Emergency Management Agency). 2008. Flood Insurance Rate Map (FIRM) for Los Angeles County, California, and Incorporated Areas. Map Number 06037C1415F. Effective date September 26, 2008. Available at <https://msc.fema.gov/portal/search#searchresultsanchor>. Downloaded January 3, 2020.
- GeoSolutions, 2020. Modular Wetlands: Advanced Stormwater Biofiltration. Available at <https://www.geosolutionsinc.com/products/lid-modular-wetlands-linear.html>. Downloaded January 3, 2020.
- GMI (GHG Management Institute), 2018. What is a Global Warming Potential? And Which One Do I Use? GHG Management Institute. Available at <https://ghginstitute.org/2010/06/28/what-is-a-global-warming-potential/>. Last accessed January 2, 2020.
- Google Earth Pro, 2019. City of Bradbury. Available at <https://earth.google.com/web/@34.15416885,-117.96949754,257.38498831a,4321.44856697d,35y,0.00000001h,11.44142723t,359.99999914r/data=ChlaEAoIL20vMHIwMDYYAiABKAI>. Accessed September 4, 2019.
- IPCC, 2007a. Historical Overview of Climate Change. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- IPCC, 2007b. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Intergovernmental Panel on Climate Change. Core Writing Team; Pachauri, R.K; Reisinger, A., eds., 2007. ISBN 92-9169-122-4.
- ITE (Institute of Transportation Engineers, 2017. ITE Trip Generation Manual, 10th Edition. September 2017.
- LACDPW (Los Angeles County Department of Public Works), 2019. Countywide Integrated Waste Management Plan, 2018 Annual Report. December 2019.
- LACoFD (Los Angeles County Fire Department), 2020. Manny Moshrefi, Inspector with the Fire Prevention Division, and Claudia Soiza, Fire Prevention Engineer with the Fire Prevention Division (Land Development Unit). Development Services Group Meeting with Public Agencies conducted on February 19, 2020.
- LASD (Los Angeles County Sheriff's Department), 2017. 2017 Crime and Arrest Statistics; Incident and Arrest Summary. Available at: <http://shq.lasdnews.net/CrimeStats/yir9600/yir2017/tem/40.htm>. Accessed January 2020.
- LASD, 2020. Frank Ruiz, Lieutenant, Temple Sheriff's Station. Development Services Group Meeting with Public Agencies conducted on February 19, 2020.

- McLeod, Samuel A, Ph.D, 2019. Paleontological Records Search for the proposed Chadwick Ranch Estates Project, UltraSystems Environmental Project No. 7023, in the City of Bradbury, Los Angeles County, project area. Natural History Museum Los Angeles County.
- NASA 2018 – Global Climate Change: Vital Signs of the Planet. National Air and Space Administration. Available at <https://climate.nasa.gov/evidence/>. Accessed January 2019.
- NASA (National Aeronautics and Space Administration), 2018. The Causes of Climate Change. Available at <https://climate.nasa.gov/causes/> in January 2018. Verified June 12, 2019.
- OPR, 2017. General Plan Guidelines: State of California, Governor’s Office of Planning and Research, Sacramento, California.
- Petra Geosciences, Inc., 2019. Geotechnical Review Report. Prepared for Nevis Capital, LLC. October 9, 2019.
- Q3 Consulting and Proactive Engineering Consultants, Inc. 2019a. Chadwick Ranch Estates (TTM No. 82349) Preliminary Hydrology and Hydraulics Report (City of Bradbury, California). Prepared for Nevis Capital, LLC. September 26, 2019.
- Q3 Consulting and Proactive Engineering Consultants, Inc. 2019b. Chadwick Ranch Estates (TTM No. 82349) LID Plan, City of Bradbury, California. Prepared for Nevis Capital, LLC. September 27, 2019.
- RWQCB (Los Angeles Regional Water Quality Control Board), 1994 (as amended). Water Quality Control Plan, Los Angeles Region. Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.
- SCAQMD, 2017. Final 2016 Air Quality Management Plan. South Coast Air Quality Management District. March 2017.
- SCE (Southern California Edison, 2020. Incorporated Cities and Counties Served by SCE.
- SoCalGas (Southern California Gas Company), 2020. Natural Gas Transmission. Available at: <https://www.socalgas.com/stay-safe/pipeline-and-storage-safety/natural-gas-transmission>. Last accessed January 2, 2020.
- Soil Survey Staff (Natural Resources Conservation Service, U.S. Department of Agriculture). 2020. Web Soil Survey. Available at <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Downloaded January 2, 2020.
- Thomas Harder & Co., 2019. Technical Memorandum: Evaluation of Potential Well Sites for the Chadwick Ranch Estates. Sent to Mr. Mike Cho, TRG Land, Inc. August 26, 2019.
- U.S. Census Bureau, 2017. Quickfacts, Los Angeles County, California. Available at <https://www.census.gov/quickfacts/fact/table/losangelescountycalifornia/HSD310217#HSD310217>. Accessed September 6, 2019.



- USDOI (U.S. Department of the Interior, Geological Survey), 1894. Pomona, California Quadrangle [map]. Scale 1:62,000. Available at <https://ngmdb.usgs.gov/topoview/>. Downloaded January 4, 2020.
- USEPA, 2017. What EPA Is Doing about Climate Change. EPA's Web Archive. United States Environmental Protection Agency.
- USEPA (U.S. Environmental Protection Agency), 2020. WATERS GeoViewer. Available at <https://www.epa.gov/waterdata/waters-geoviewer>. Accessed on January 2, 2020.
- USEPA, 2020a. 8-Hour Ozone (2015) Nonattainment Area State/Area/County Report: Green Book. U.S. Environmental Protection Agency Current Data as of December 31, 2019. Available at <https://www3.epa.gov/airquality/greenbook/jncs.html#CA>. Accessed January 2020.
- USEPA, 2020b. PM-10 (1987) Maintenance Area (Redesignated from Nonattainment) State/Area/County Report: Green Book. U.S. Environmental Protection Agency Current Data as of December 31, 2019. Available at <https://www3.epa.gov/airquality/greenbook/pmcs.html#CA>. Accessed January 2020.
- USEPA, 2020c. PM-2.5 (2012) Designated Area State/Area/County Report: Green Book. U.S. Environmental Protection Agency Current Data as of December 31, 2019. Available at <https://www3.epa.gov/airquality/greenbook/kbcs.html#CA>. Accessed January 2020.
- USEPA, 2020d. Carbon Monoxide (1971) Maintenance Area (Redesignated from Nonattainment) State/Area/County Report: Green Book. U.S. Environmental Protection Agency Current Data as of December 31, 2019. Available at <https://www3.epa.gov/airquality/greenbook/cmcs.html#CA>. Accessed January 2020.
- USEPA, 2020e. Nitrogen Dioxide (1971) Maintenance Area (Redesignated from Nonattainment) State/Area/County Report: Green Book. U.S. Environmental Protection Agency Current Data as of December 31, 2019. Available at <https://www3.epa.gov/airquality/greenbook/nmcs.html>. Accessed January 2020.
- United States Fish and Wildlife Service, Information for Planning and Conservation. 2020. IPaC Resource List (online edition). Available at <https://ecos.fws.gov/ipac/location/XDPYNWPX4ZCV3MEJ273EWZOFV4/resouces>. Accessed January 3, 2020.
- United States Fish and Wildlife Service, Environmental Conservation Online System – Critical Habitat Report. 2020. Critical Habitat for Threatened & Endangered Species (online edition). Available at <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed January 3, 2020.



6.0 LIST OF PREPARERS

6.1 Lead Agency (CEQA)

Kevin R. Kearney, City Manager

City of Bradbury

600 Winston Avenue

Bradbury, CA 91008

Jim Kasama, City Planner

City of Bradbury

600 Winston Avenue

Bradbury, CA 91008

Lisa Kranitz, City Attorney

Wallin, Kress, Reisman & Kranitz LLP

11355 Olympic Boulevard, Suite 300

Los Angeles, California 90064

Trayci Nelson, Project Manager

Michael Baker International

3760 Kilroy Airport Way, Suite 270

Long Beach, CA 90806

6.2 Project Applicant

Nevis Capital, LLC, C/O TRG Land Inc.

Mark S. Rogers, Principal

898 Production Place

Newport Beach, CA 92663

6.3 UltraSystems Environmental, Inc.

6.3.1 Environmental Planning Team

Betsy Lindsay, ENV SP, Project Director

M.A., Urban and Regional Planning, California State Polytechnic University, Pomona, CA

Public Policy and Administration, California State University, Long Beach, CA

Business Administration, Pepperdine University, Irvine, CA

B.A., Geography, California State University, Long Beach, CA

Years of Experience: 35+

Robert Verlaan, Project Manager

Master of Arts, Environmental Planning, University of California, Santa Barbara (Ventura Learning Center), Ventura, CA

M.S.W., Master of Social Work, California State University, San Francisco, San Francisco, CA

B.A. Experimental Psychology, Westmont College, Montecito, CA

Years of Experience: 35+



Robert Reicher, QA/QC

MBA, Marketing, University of Southern California, Los Angeles, CA
B.S., Marketing, University of California Los Angeles, Los Angeles, CA
Years of Experience: 35+

6.3.2 Technical Team

Allison Carver, Senior Biologist

B.S., Biology, California State University, San Bernardino, CA
B.A., Environmental Studies, California State University, San Bernardino, CA
Years of Experience: 17

David Luhrsen, Word Processor

B.S., Web Design and Interactive Media, The Art Institute of California, Santa Ana, CA
Years of Experience: 5

Hina Gupta, LEED-AP, Associate Planner

M.S., Urban and Regional Planning, University of Southern California, Los Angeles, CA
B.Arch., Chandigarh College of Architecture, Chandigarh, India.
Years of Experience: 12

Margaret Partridge, ENV SP, Senior Planner

M.A., Urban and Regional Planning, University of California, Irvine, CA
B.A., Environmental Analysis and Design, University of California, Irvine, CA
Years of Experience: 14

Megan Black, Archaeological Technician

M.A., Public Archaeology, California State University, Northridge, CA
B.A., Anthropology, California State University, Long Beach, CA
Years of Experience: 8

Michael Rogozen, Senior Principal Engineer

D. Env., Environmental Science and Engineering, University of California, Los Angeles, CA
M.S., Systems Engineering, University of California, Los Angeles, CA,
B.S., Engineering, University of California, Los Angeles, CA
Years of Experience: 40+

Michelle Tollett, Senior Biologist, Biological Resources Group Manager

B.A., Botany and Environmental Science, University of Montana, Missoula, MT
Certified Arborist (WE-12103-A)
Years of Experience: 19

Pam Burgett, Word Processor/Technical Editor

A.A., Network Systems Administration, DeVry University, Anaheim, CA
Years of Experience: 16



Stephen O'Neil, Cultural Resources Manager
M.A., Anthropology, California State University, Fullerton, CA
B.A., Anthropology, California State University, Long Beach, CA
Register of Professional Archaeologists #16104
Years of Experience: 35+

Sukhmani Brar, Environmental Intern
B.S., Environmental Policy Analysis and Planning
Years of Experience: 3

Victor Paitimusa, Associate Planner
B.A. Environmental Science, Minor in Urban Studies, University of California, Irvine
Years of Experience: 1

6.4 Other Firms

Glenn Lukos Associates, Inc. – Biological Resources and Jurisdictional Delineation
David Moskovitz, Senior Biologist

Dudek - Tree Preservation and Protection Plan
Christopher Kallstrand, Senior Urban Forestry Specialist, ISA Certified Arborist WE-8208A

OB-1 AIR ANALYSES, INC.
Joe O'Bannon, President/CEO

Petra Geosciences, Inc. - Geotechnical Review Report
Theodore M. Wolfe, Senior Associate Geologist
Ronald A. Reed, Senior Associate Engineer

Proactive | Q3 Consulting/Proactive Engineering Consultants - Preliminary Hydrology & Hydraulics Report and LID Plan
Mark Anderson, PE, Principal/CFO, Proactive Engineering Consultants
John McCarthy, PE, Principal, Q3 Consulting

**ACRONYMS AND ABBREVIATIONS**

Acronym/Abbreviation	Term
°F	degrees Fahrenheit
AAQS	ambient air quality standards
AB	Assembly Bill
AB 32	California Global Warming Solutions Act of 2006
AB 939	California Integrated Waste Management Act
AB 1327	California Solid Waste Reuse and Recycling Access Act of 1991
amsl	above mean sea level
AP	Alquist-Priolo
APE	area of potential effect
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
ARB	Air Resources Board
AR4	Fourth Assessment Report
ATCM	airborne toxic control measure
ATP	Active Transportation Plan
BAU	business as usual
BGS	below ground surface
BMPs	Best Management Practices
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAWC	California American Water Company
CalGreen	2016 California Green Building Standards Code
Caltrans	California Department of Transportation
CAOs	Cleanup and Abatement Orders
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CHP	California Highway Patrol
CHRIS	California Historic Resources Inventory System
City	City of Bradbury
CIWMA	State of California Integrated Waste Management Act
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CDOs	Cease and Desist Orders
CNRA	California Natural Resources Agency



Acronym/Abbreviation	Term
CO	Carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
dB	decibel
dBA	A-weighted decibel scale
DCV	Design Capture Volume
DOC	California Department of Conservation
DOSH	California Division of Safety and Health
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DUSD	Duarte Unified School District
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gas
GWP	global warming potential
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HUC	Hydrologic Unit Code
Hz	hertz
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
IS	Initial Study
kWh	killowatt hours
L ₉₀	noise level that is exceeded 90% of the time
L _{eq}	equivalent noise level
LACoFD	Los Angeles County Fire District
LACFCD	Los Angeles County Flood Control District
LASD	Los Angeles County Sheriff Department
LID	Low Impact Development
L _{max}	root mean square maximum noise level
LUST	Leaking Underground Storage Tank
Metro	Los Angeles County Metropolitan Transportation Authority
MLD	Most Likely Descendant
MM	mitigation measure
MMT	million metric tons
MMTCO _{2e}	million metric tons of CO _{2e}
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer systems
MT	metric tons
N ₂ O	nitrous oxide



Acronym/Abbreviation	Term
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
ND	Negative Declaration
NHPA	National Historic Preservation Act
NO	nitric oxide
NO ₂	nitrogen dioxide
NO _x	Nitrogen oxides
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
Pb	lead
PFCs	perfluorocarbons
PM	particulate matter
PM _{2.5}	fine particulate matter
PM ₁₀	respirable particulate matter
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC(s)	recognized environmental condition(s)
RMS	root mean square
ROG	Reactive organic gases
RPS	Renewables Portfolio Standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
sf	square feet
SCE	Southern California Edison
SF ₆	sulfur hexafluoride
SGVCOG	San Gabriel Valley Council of Governments
SIP	State Implementation Plan
SLF	Sacred Lands File
SO ₂	sulfur dioxide
SoCalGas	Southern California Gas Company
SRA	State Responsibility Area
SRAs	source receptor areas
SUSMP	Standard Urban Stormwater Mitigation Plan
SWRCB	California State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TCRs	tribal cultural resources
TIA	Transportation Impact Analysis
TSS	total suspended solids



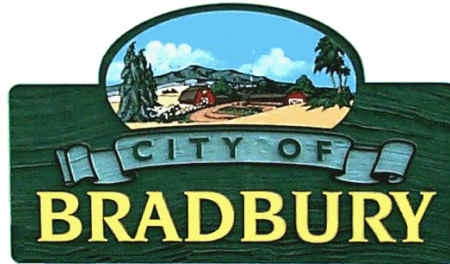
❖ ACRONYMS AND ABBREVIATIONS ❖

Acronym/Abbreviation	Term
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UTM	Universal Transverse Mercator
VdB	vibration decibels
VHEFHZ	Very High Extreme Fire Hazard Zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WEG	wind erodibility group
WQMP	Water Quality Management Plan

APPENDIX A

PHASE I CULTURAL RESOURCES INVENTORY

**PHASE I
CULTURAL RESOURCES INVENTORY
FOR THE
CHADWICK RANCH ESTATES PROJECT**



Prepared for:

**Jim Kasama, City Planner
City of Bradbury
600 Winston Avenue
Bradbury, CA 91008**

Prepared by:



**UltraSystems Environmental Inc.
16431 Scientific Way
Irvine, CA 92618**

December 2019

Key Words: City of Bradbury; San Gabriel Mountains; Los Angeles, Calif. USGS 7.5' topo map;
survey; negative findings

**PHASE I
CULTURAL RESOURCES INVENTORY**

FOR THE

CHADWICK RANCH ESTATES PROJECT

Jim Kasama, City Planner
City of Bradbury
600 Winston Avenue
Bradbury, CA 91008

Prepared by:
Stephen O'Neil, M.A., RPA
Megan Black Doukakis, M.A.

UltraSystems Environmental Inc.
16431 Scientific Way
Irvine, CA 92618

December 24, 2019

Prepared by:



Stephen O'Neil, M.A., RPA
UltraSystems Environmental Inc.

Date: December 24, 2019

TABLE OF CONTENTS

1.0	Introduction	1-1
1.1	Overview.....	1-1
1.1.1	Project Description.....	1-1
1.1.2	Site Description.....	1-1
1.1.3	Project Location.....	1-1
1.1.4	Methods.....	1-1
1.1.5	Disposition of Data	1-2
2.0	Background Settings	2-1
2.1	Natural Setting	2-1
2.2	Cultural Setting.....	2-2
2.2.1	Prehistoric Context.....	2-2
2.2.2	Ethnohistoric Context.....	2-3
2.2.3	Historic Context	2-4
3.0	Research Methods.....	3-1
3.1	Records Search.....	3-1
3.2	Field Survey.....	3-1
3.3	Native American Outreach.....	3-1
4.0	Findings	4-1
4.1	Records Search.....	4-1
4.1.1	Archaeological Sites	4-1
4.1.2	Previous Archaeological Investigations.....	4-2
4.2	Native American Outreach	4-3
4.2.1	Tribal Cultural Resources (Assembly Bill 52)	4-4
4.3	Pedestrian Survey Results.....	4-4
5.0	Management Considerations	5-1
5.1	Site Evaluation Criteria.....	5-1
5.2	Potential Effects.....	5-1
6.0	Conclusions and Recommendations.....	6-1
7.0	References	7-1

TABLES

Table 4.1-1	- Known Cultural Resource Sites Within a Half-Mile Radius.....	4-1
Table 4.1-2	- Known Cultural Resource Studies Within a Half-Mile Radius.....	4-3

FIGURES

Figure 4.3-1	- Canyons and Slopes in South Area of the Project Site.....	4-7
Figure 4.3-2	- Southwest Ridgeline Cut with Grass and Shrubs; View to the South.....	4-8
Figure 4.3-3	- Bradbury Canyon South Ridgeline Cut with Grass and Shrubs; View to Northeast.....	4-9

Figure 4.3-4 – Bradbury Canyon Wash Showing Riparian Environment; View to Northeast.....	4-10
Figure 4.3-5 – Hunting Perch in Oak Tree in Bradbury Canyon on North Bank; View to the South.....	4-11

ATTACHMENTS

Attachment A	Project Maps
Attachment B	Personnel Background
Attachment C	Native American Heritage Commission Records Search and Native American Contacts
Attachment D	CHRIS Records Search

1.0 INTRODUCTION

1.1 Overview

UltraSystems Environmental Inc. (UltraSystems) conducted a Phase I Cultural Resources Inventory of the proposed project site.

1.1.1 Project Description

The Project area is approximately 111 acres and involves the construction of 14 estate residential parcels with trails and 11 additional non-residential lots. The project includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including, but not limited to, garages and stables on each lot.

1.1.2 Site Description

The existing project site is open space bordered by suburban landscape to the south. The project site is situated in the southern foothills of the San Gabriel Mountains on two steep ridgelines generally trending north/south with Bradbury Canyon between. The southeast corner of the project site dips into Spinks Canyon at a low elevation of 790 feet above mean sea level (amsl), while Bradbury Canyon runs through the center of the site, starting at an elevation of approximately 820 feet amsl at the west edge of the project site just above the Debris Basin. The west-side ridgeline reaches an elevation of 1800 feet amsl at the northern point of the project site. These foothills are covered with chaparral vegetation.

1.1.3 Project Location

The Project is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California with elevations ranging from approximately 790 feet amsl in the southeast corner in Spinks Canyon to 1800 feet amsl at the northern boundary (**Attachment A, Figure 5**). More specifically, the project site is bound by Flood Control Road to the south and southwest, Spinks Canyon Road to the east and Spanish Canyon Mountain Way to the west (**Attachment A, Figure 6**). Primary regional access is provided by the 605 Freeway, which runs north-south approximately one mile east of the project site and I-210 Foothill Freeway, which runs east and west approximately one mile south of the project site. Major arterials providing regional access to the project site vicinity include East Huntington Drive, East Foothill Boulevard, and South Mountain Avenue.

The archival/records search study area includes a 0.5-mile-radius buffer surrounding the project site. The project is mapped on the *Azusa, Calif.*, USGS 7.5-minute quadrangle map, Range 10 W, Township 1 N, in the E ½ of the NE ¼ and the NE ¼ of the SE ¼ of Section 19 (**Attachment A, Figure 7**).

1.1.4 Methods

A literature search, Native American outreach, and an intensive pedestrian cultural resources survey were undertaken by Stephen O'Neil, M.A., RPA, who qualifies as a Principal Prehistoric Archaeologist and Historic Archaeologist per United States Secretary of the Interior Standards, and

Mrs. Megan B. Doukakis, M.A (**Attachment B**); the cultural resources records search was conducted by Mrs. Doukakis. The purpose of the records search was to identify previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the project area and a half-mile radius. The records search also included a review of listed cultural resource surveys and/or excavation reports within that same geographical area. The research was conducted at the South Central Coastal Information Center (SCCIC) at the California State University, Fullerton, which is the local California Historic Resources Information System (CHRIS) Information Center.

Mr. Stephen O'Neil contacted the Native American Heritage Commission (NAHC) requesting a Sacred Lands File (SLF) search and also asked for a list of interested local tribal organizations and potentially affiliated Native American individuals. The identified parties were contacted to comply with the requirement for outreach with Native American tribal organizations.

An intensive pedestrian cultural resources survey of the project site was conducted by Mr. O'Neil and Mrs. Doukakis in accordance with Office of Historic Preservation (OHP) and California Environmental Quality Act (CEQA) guidelines.

1.1.5 Disposition of Data

This report will be filed with the SCCIC, California State University, Fullerton; the City of Bradbury Planning Department; and UltraSystems Environmental, Inc. Irvine, California. All field notes and other documentation related to the study will remain on file at the Irvine office of UltraSystems.

2.0 BACKGROUND SETTINGS

2.1 Natural Setting

The Project lies within the City of Bradbury, Los Angeles County, in southern coastal California. Bradbury is located in the San Gabriel Valley which is separated from the Los Angeles Basin by the Puente Hills on the south. Bradbury is located at the base of the foothills of the San Gabriel Mountains and borders the Angeles National Forest on the north. The valley itself consists primarily of grasslands. Much of the city remains zoned for agriculture and maintains open space in the foothill portion of the city through the presence of two and five-acre minimum residential lots. Numerous canyons and valleys characterize the region, making it an area of diverse micro-climates. The native vegetation here is predominantly chaparral (chamise or mixed chaparral) and southern coastal scrub with occasional woodlands (coast live oak or California walnut), riparian communities (California sycamore or mixed riparian woodlands), and grasslands (native bunchgrass in valley and southern coastal grassland).

The Project area itself is in a landscape of chaparral vegetation, and includes several different shrubland community types (Pratt 2011). The undisturbed chaparral surrounding the area is dominated by laurel sumac (*Malosma laurina*), with California buckwheat (*Eriogonum fasciculatum*) and hoaryleaf ceanothus (*Ceanothus crassifolius*) as subordinate species. A California buckwheat dominated shrubland alliance with widely spaced deerweed (*Lotus scoparius*) and laurel sumac shrubs exists nearby. A number of other conspicuous native shrubs exist in the project vicinity, including holly-leaf redberry (*Rhamnus ilicifolia*), toyon (*Heteromeles arbutifolia*), chamise (*Adenostoma fasciculatum*), bush monkey flower (*Mimulus aurantiacus*) golden yarrow (*Eriophyllum confertiflorum*), black sage (*Salvia mellifera*), Eastwood's manzanita (*Arctostaphylos glandulosa*), chaparral bush mallow (*Malacothamnus fasciculatus*) and chaparral yucca (*Hesperoyucca whipplei*).

The forb and grass layer is dominated by annuals and perennials, including California everlasting (*Pseudognaphalium californicum*), grape lupine (*Lupinus excubitus*), slender sunflower (*Helianthus gracilentus*), wreath plant (*Stephanomeria virgata*) and western ragweed (*Ambrosia psilostachya*). These mountain foothills also contain oak and sycamore trees.

Fauna in the area include mule deer (*Odocoileus hemionus*), cottontail rabbits (*Sylvilagus* sp.), hare (*Lepus* sp.), quail (*Callipepla gambelii*), mourning dove (*Zenaida macroura*), mice (*Perognathus* spp.), kangaroo rats (*Dipodomys* spp.) and various types of reptiles. Predators include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*) and mountain lion (*Felis concolor*). Several species of rodents, reptiles and birds are also commonly found.

The predominant weather influences in the Los Angeles area is the warm, moist Pacific air, keeping temperatures mild throughout the year. Summers are dry and sunny with most of the precipitation falling during winter, receiving on average 17 inches of rain per year. The city is among the smallest of Los Angeles County at 1.96 square miles and averaging only 676 feet above mean sea level.

Prior to urbanization, creeks flowed across the Los Angeles Basin (better identified as a plain) from the San Gabriel Mountains to the ocean with little hindrance. These water courses often meandered across the plain to different physical locations over time.

The metropolitan area that is the southern portion of the Los Angeles County today is the second most populous community in the United States (second only to New York City) and is home to an

estimated 9 million people in the Los Angeles metropolitan area in 2018 according to the U.S. Census Bureau. It is recognized worldwide for its diverse economy fueled by entertainment, culture, media, fashion, science, sports, technology, education, medicine and research. It exhibits one of the most substantial economic engines within the United States with a gross metropolitan product of \$1.004 trillion (as of 2017). This makes it the third largest economy in the world, only surpassed by Tokyo (second) and New York (first).

2.2 Cultural Setting

2.2.1 Prehistoric Context

The term "prehistoric period" refers to the period of pre-contact Native California lifeways and traditions prior to the arrival of Euroamericans.

It is widely acknowledged that human occupation in the Americas began about 13,000 or more years ago (all dates presented here are calibrated radiocarbon ages or calendar dates). However, recent discoveries in areas outside of California have pushed that age back several thousand years more to about 15,000 or even perhaps up to nearly 20,000 years ago (Smith and Barker, 2017).

To describe and understand the cultural processes that occurred during prehistory, archaeologists have routinely developed a number of chronological frameworks to correlate technological and cultural changes recognized in the archaeological record. These summaries bracket certain time spans into distinct archaeological horizons, traditions, complexes, and phases.

There are many such models even for the various sub-regions of Southern California (cf. Grayson, 2011; Warren, 1984; Jones and Klar, 2007). Given the variety of environments and the mosaic of diverse cultures within California, prehistory is typically divided into specific sub-regions that include: the interior of Southeastern California and the Mojave Desert (Warren and Crabtree, 1986) and San Diego and the Colorado Desert (Meighan, 1954; True 1958, 1970).

Many archaeologists tend to follow the regional syntheses adapted from a scheme developed by William J. Wallace in 1955 and modified by others (Chartkoff and Chartkoff, 1984; Moratto, 1984; Sutton 2008a, 2008b; Wallace, 1978; Warren, 1968 and others). Although the beginning and ending dates vary, the general framework of prehistory in the Southern California area consists of the following four periods:

- **Paleoindian and Lake Mojave Periods** [Pleistocene and Early Holocene] (ca. 11000 B.C. to 6000 B.C.). This time period is characterized by highly mobile foraging strategies and a broad-spectrum of subsistence pursuits. These earliest expressions of aboriginal occupation in America were marked by the use of large dart or spear points (Fluted and Concave Base Points) that are an element of the Western Clovis expression. Following the earliest portions of this time span there was a change in climate coincident with the retreat of the glaciers. Large bodies of water existed and lakeside aboriginal adaptations were common. Large stemmed points (Western Stemmed Series – Lake Mojave and Silver Lake point types) were accompanied by a wide variety of formalized stone tools and were employed with the aid of atlatls (dart throwing boards). The latter archaeological materials are thought to be representative of an adaptation that was in part focused on lacustrine and riverine environments.

- **Millingstone Horizon** [Middle Holocene] (ca. 6000 B.C. to A.D. 1000). During this time span mobile hunter-gatherers evolved and became more sedentary. Certain plant foods and small game animals came to the forefront of indigenous subsistence strategies. This prehistoric cultural expression is often notable for its large assemblage of millingstones. These are especially well-made, deep-basin metates accompanied by formalized, portable handstones (manos). Additionally, the prehistoric cultural assemblage of this time period is dominated by an abundance of scraping tools (including scraper planes and pounding/pulping implements), with only a slight representation of dart tipped - projectile points (Pinto, Elko and Gypsum types).
- **Late Prehistoric Period** (ca. A.D. 1000 to 1500). Following the Millingstone Horizon were cultures that appeared to have a much more complex sociopolitical organization, more diversified subsistence base and exhibited an extensive use of the bow and arrow. Small, light arrow points (Rose Spring Series), and, later, pottery mark this period along with the full development of regional Native cultures and tribal territories.
- **Protohistoric Period** (ca. A.D. 1500 to 1700s). This final cultural period ushered in long-distance contacts with Europeans, and thereby led to the Historic Period (ca. A.D. 1700 to contemporary times). Small arrow points recognized as Desert Side-notched and Cottonwood forms are a hallmark of this time period.

2.2.2 Ethnohistoric Context

The Project area lies within the area of the Gabrielino/Tongva ethnolinguistic group (Bean and Smith, 1978:538), who speak a language classified as a member of the Uto-Aztecan language stock family. This language is further affiliated as an element of the Northern Takic Branch of that linguistic group (Golla, 2011).

The Gabrielino, with the Chumash, were considered the most populous, wealthiest, and therefore most powerful ethnic nationalities in aboriginal Southern California (Bean and Smith, 1978:538). Unfortunately, most Gabrielino cultural practices had declined long before systematic ethnographic studies were conducted. Today, the leading sources on Gabrielino culture are Bean and Smith (1978) and McCawley (1996).

According to the recent research of several prehistorians, Takic groups were not the first inhabitants of the region. Archeologists suggest that the Takic in-migration may have occurred as early as the Middle Holocene, replacing or intermarrying with indigenous Hokan speakers (Howard and Raab, 1993; Porcasi, 1998). By the time of European contact, the Gabrielino territory included the southern Channel Islands and the Los Angeles Basin. Their territory reached east into the present-day San Bernardino-Riverside area and south to the San Joaquin Hills in central Orange County.

Different groups of the Gabrielino adopted varied subsistence strategies, based on gathering, hunting, and/or fishing. Because of the similarities to other Southern California tribes in economic activities, inland Gabrielino groups' industrial arts, exemplified by basket weaving (Kroeber, 1925). Coastal Gabrielino material culture, on the other hand, reflected an elaborately developed artisanship most recognized through the medium of steatite, which was rivaled by few other groups in Southern California.

The intricacies of Gabrielino social organization are not well known. There appeared to have been at least three hierarchically ordered social classes, topped with an elite consisting of the chiefs, their immediate families, and the very rich (Bean and Smith, 1978). Some individuals owned land, and property boundaries were marked by the owner's personalized symbol. Villages were politically autonomous, composed of non-localized lineages, each with its own leader. The dominant lineage's leader was usually the village chief, whose office was generally hereditary through the male line. Often several villages were allied under the leadership of a single chief. The villages frequently engaged in warfare against one another, resulting in what some consider to be a state of constant enmity between coastal and inland Gabrielino groups.

The first Franciscan establishment in Gabrielino territory and the broader region was Mission San Gabriel, founded in 1772. Priests from here proselytized the Tongva throughout the Los Angeles Basin region. As early as 1542, however, the Gabrielino were in contact with the Spanish as a result of the coastal sea expedition of Juan Rodríguez Cabrillo, but it was not until 1769 that the Spaniards took steps to colonize Gabrielino territory. Shortly afterwards, most of the Gabrielino people were incorporated into Mission San Gabriel and other missions in Southern California (Engelhardt, 1931). Due to introduced diseases, dietary deficiencies, and forceful *reduccion* (removal of non-agrarian Native populations to the mission compound), Gabrielino population dwindled rapidly from these impacts. By 1900, the Gabrielino Native community had almost ceased to exist as a culturally identifiable group. In the late 20th century, however, a renaissance of Native American activism and cultural revitalization among a number of groups of Gabrielino descendants took place. Among the results of this movement has been a return to a traditional name for the tribe, the Tongva, which is employed by several of the bands and organizations representing tribal members. Many of the bands focus on maintaining and teaching traditional knowledge, with special focus on language, place names and natural resources.

The San Gabriel Valley, situated among a foothill transition zone and several streams traversing it on their way to the San Gabriel River, was an ideal location for Native settlements (McCawley, 1996:42). The villages of *Shevaanga* and *Sonaanga*, *Sheshiikwanonga* and *'Akuuronga* were in "a fertile, well-watered region that was eventually chosen as the permanent site of Mission Sn Gabriel" (McCawley 1996:41), approximately eight miles to the west of Bradbury. The Tongva community of *'Ashuukshanga* was set at the base of the foothills, near the current city of Azusa two and a half miles east of Bradbury, while the village of *'Ahwiinga* was located within the Puente Hills (McCawley, 1996:45-46) to the south. The Gabrielino village of *Guinibit*, a smaller ranchería, was located approximately 5 miles to the south, in the area of south Glendora. These villages were situated in a landscape particularly rich in water and other natural resources, inhabited by a populous hunting and gathering people. These Tongva communities would have made extensive economic use of the Bradbury region for the gathering of both plant and animal resources.

2.2.3 Historic Context

2.2.3.1 Spanish/Mexican Era

Spanish occupation of California began in 1769, in San Diego. The first Europeans to explore the area that would become the state of California were members of the A.D. 1542 expedition of Juan Rodriguez Cabrillo. Cabrillo sailed along the coast of California, but did not explore the interior. Europeans did not attempt inland exploration until 1769, when Lieutenant Colonel Gaspar de Portolá led an overland expedition from San Diego to Monterey. This expedition of 62 people passed north and west of the current study area in August 1769 (Brown, 2001), and may have encountered the Tongva village of *Koruuvunga* in the Santa Monica region (Brown, 2001:347;

McCawley, 1996:61). The Expedition camped near here, at the village's water supply, near a spring which still flows to this day on the grounds of University High School. The name was said to mean "we are in the warmth, it says we are in the sun now..." (Harrington, 1986; in McCawley, 1996:61).

Mission San Gabriel was established in the Los Angeles Basin in 1771, 16 miles to the southwest of the study area. The Los Angeles Pueblo, the Pueblo of *Nuestra Señora de la Reina de Los Angeles de Porciuncula*, was founded September 4, 1781 by the Spanish government. The new pueblo was granted a large tract of land by the Spanish crown for the colonists' (or *pobladores*) dwellings and small gardens, and a large outlying area as a commons. The first structures there are described as "a dozen or so adobe structures surrounded by wooden palisades." This village housed 44 people, with a military guard of four soldiers (Dillon, 1994). This was in the midst of Tongva territory, and only a few of the indigenous peoples had been converted to the nearby Mission San Gabriel (established 1771) by this time. The government's plan was to start settling the new territory with a mix of missionaries, military and civilian institutions, with the colonists providing grain and other food stuffs to the presidios. Soon, retired soldiers were seeking land for cattle raising following retirement, and portions of the Los Angeles Basin were chosen. Both the *rancheros* and *pobladores* had local Native Americans working their land, much to the dismay of the missionaries.

Mexico rebelled against Spain in 1810, and by 1821 Mexico, including California, achieved independence. The Mexican Republic began to grant private land to citizens to encourage emigration to California. Huge land grant ranchos took up large sections of land in California. Ranchos surrounded the mission lands in all directions. Except for those ranchos, the Mission San Gabriel lands were used for the support of the mission and provided for the large population of Tongva Native Americans. The mission lands were held in trust for Native peoples by the Franciscan missionaries for eventual redistribution. The lands along the coast, however, were open for early settlement by the colonists from New Spain.

In 1833, Mexico also secularized the Franciscan missions and opened lands previously held in trust for the Indian population to ownership by ranchers, which included the Rancho Azusa bordering the Angeles National Forest to the south, just three miles from the project site.

Cattle ranching rapidly came to overshadow the agricultural economy in this region during the Mexican Period, and minor industries and trade grew around this shift. San Pedro, south of Los Angeles, became a port for export of tallow and hides to Boston and Europe. At that time, the pueblo of Los Angeles was also the largest town in California. Shipments to San Pedro from Los Angeles proceeded south across the open plain of the Los Angeles Basin. This early trail system was situated along the west side of the river, in the area that would become the Alameda Corridor. In 1836, Los Angeles was elevated from a pueblo to a *ciudad* or municipality.

After Mexican independence from Spain (1821), the Rancho Azusa (de Duarte) (6,596 acres) was granted in 1841 to Andres Avelino Duarte by Governor Juan Alvarado. Duarte was the son of an Army colonial family, baptized in 1805 at Mission San Juan Capistrano. He joined the Mexican Army at the age of 16 where he raised to the rank of corporal, married Maria Gertrudes Valenzuela and raised a family. He served much of his career at Mission San Gabriel and so knew the Los Angeles region well. Upon retiring from the Army after twenty years he petitioned for the rancho and settled there. His rancho lies adjacent to the west of the Rancho Azusa (de Dalton), where the village of *'Ashuukshanga* was located and gave its name to the area. The original name for Rancho Azusa Dalton was Rancho El Susa (a mispronunciation of the Tongva place names), and Rancho Azusa Duarte, as a smaller adjunct, was often called Susita in a Hispanicized version of the term. It includes what are now all of the towns of Arcadia, Bradbury, Duarte, and portions of the cities of

Monrovia, Irwindale and Azusa. Of Bradbury, the southern half of the city was Rancho Azusa (Duarte) land while the northern half was never officially part of a rancho.

The Mexican-American War of 1846 saw the invasion of California from both land and sea. Following several skirmishes in the San Diego and Los Angeles areas, and the capture of the territorial capital in Monterey, United States rule was firmly established. Following the rapid influx of population to the north because of the Gold Rush of 1849, California was made a state in 1850. The economic and social order was slow to change in the southern portion of the state, however, and rancheros were left in control of their vast estates through the 1860s. Los Angeles was a part of the “Cow Counties” and had little representation in the state legislature because of the sparse population. This allowed the predominantly Anglo population of the north to pass laws aimed at breaking up the ranches for settlement by Eastern farmers and, coupled with devastating droughts that crippled many livestock raisers, their dismemberment soon came. This helped pave the way for the “Boom of the Eighties” which saw an influx of people from the rest of the United States and the beginning of many of the towns we see today (Dumke, 1944). This was the first spurt of growth for Los Angeles, and satellite communities started to form around the city to the east, south and west, and much of the plains between these areas came to be filled with farms and orchards.

2.2.3.2 The American Ranch Period to Founding of Bradbury

Like other Mexican ranchers, Duarte had to defend the title to his land grant in the United States Land Claim Commission following domination by the U.S. This process took place over years, sometimes decades of litigation and testimony, during which Duarte incurred legal expenses and other debts. Also, like many of his compatriots, Duarte covered these costs by selling portions of his rancho to the very willing Anglos moving to California in large numbers. “His first sale was a 225-acre parcel at the southern end of the rancho to Michael Whistler. Whistler later sold the entire parcel to Dr. Nehemiah Beardsley, who started the first school in [the town of] Duarte and laid out the first section of Duarte’s water lines” (Rancho Azusa de Duarte, 2019). (The city of Duarte borders Bradbury to the east and south.) Duarte himself continued to sell portions of his land in an organized manner, dividing it into 40-acre lots and selling them individually to farmers and land speculators. A patent for the rancho was awarded in 1878, over 20 years after the process had started – but Andres Duarte had already died in 1863, so this possibly would have been received by his son Santiago. By then, however, he had been forced to sell off his entire land grant, but his patent did make a clear title for all of its subsequent owners.

The rancho would have been used predominantly for cattle ranching through the 1870s, though the smaller lots purchased by Anglos were likely turned to agricultural use during the late 1800s. The northern portion of the Rancho Azusa (de Duarte) consisting of 2,750 acres was eventually purchased by Lewis Bradbury in 1892. Bradbury had already made his fortune in gold and silver mining, mostly in Mexico. This joined his other local land holdings such as a smaller ranch in the City of San Moreno to the west. He also invested in real estate in downtown Los Angeles, constructing the famous Bradbury Building in 1893 at 304 South Broadway, opening several months following Lewis Bradbury’s death in 1892 (this five-story structure still exists and is on the National Register of Historic Places). He made the Rancho Azusa property his home, building here “an elegant home on his land and surrounded it by a notable garden that is now the site of the Royal Oaks Manor” (City of Bradbury, 2019). In evidence of his influence, the Pacific Electric Railroad placed a line through the towns of Duarte and Bradbury that passed by his residence in an otherwise unpopulated region at the time.

Lewis Bradbury died in 1892, his wife Simona in 1903, and by the 1930s his holdings soon passed out of control of his heirs. “Prolonged legal battle between family members resulted in foreclosure proceedings by the Security National Bank against most of the Bradbury Estate” (City of Bradbury, 2019). Soon the cloud of World War II came over the southland and then passed, and the Post War boom started. Large tracts of land in what had been the Bradbury Estate “were sold to people seeking spacious building sites, which afforded privacy and country living in the foothills of the San Gabriel Mountains” (City of Bradbury, 2019), while southern portions of the Rancho Azusa de Duarte in the flat lands were subdivided into more modest tract homes available at more affordable costs to the returning servicemen and their families. By the late 1950s the Bradbury Estate Property Owners Association joined with other adjacent property owners in the area surrounded by Woodlyn Lane, Bradbury Hills Road, Royal Oaks Drive North, Mount Olive Drive and Lemon Avenue to seek incorporation which was approved by the Los Angeles County Board of Supervisors, becoming a municipal corporation on July 26, 1957. This sudden drive had been spurred on by residents in what would become the City of Duarte to incorporate, and the Bradbury Estate Association were fearful of the tract home craze spreading into their foothills and losing control of “their vision for the future” of their unique foothills. (City of Bradbury, 2019).

The City of Bradbury has remained little developed over the decades since. Comprised of 1.9 square miles and with only 3.2 miles of public streets, there are just two small neighborhoods in the southeast and southwest corners of the city that are open, while the overwhelmingly greater portion of the town, upwards of 80%, being comprised of various gated neighborhoods. Much of the city is zoned for agriculture resulting in much open space, and further open space is maintained through rules requiring one and five-acre minimum residential lot in the foothill area.

The project site abuts the Angeles National Forest on the north side. During the Spanish period the local mountains were regarded more as a source of water and timber than as a place to settle. Irrigation ditches were dug from the canyon mouths to transport water to mission fields. In the valleys below the San Gabriel Mountains were Ranchos San Jose and Cucamonga, and the two Azusa Ranchos, Duarte and Dalton segments, directly south of the San Gabriel River and Dalton Canyon. Dalton Canyon was named to “commemorate Henry Dalton, an English trader from Lima” Peru and claimant of the Azusa and Santa Anita Ranchos below (Gudde 2004:101). Gold miners were the first to explore the mountains in detail following the Gold Rush; prospecting along the rivers started in San Gabriel Canyon in 1854. The town of Eldoradoville was established and then washed away in the flood of 1862. After the gold miners came the water seekers. The drainages within the San Gabriel Canyon and San Antonio Canyons were tapped to supply domestic and irrigation water for the towns and cities in the valley below that came with the “Boom of the ‘80s.” Robinson (1991:35) notes that the San Gabriel Mountains were slow to be surveyed, mapped and explored by scientists. The first reconnaissance was conducted for possible railroad grades in 1853. This was the Pacific Railroad Survey conducted for the Army Corps of Topographic Engineers. In the latter part of the 1880s as increasing numbers of people ventured into the San Gabriel Mountains for recreational activities, primarily fishing and hunting, several mountain resorts were established. By 1900, however, over-hunting had seriously depleted the mountain wildlife. Nevertheless, hunting continued unrestricted until 1915 when most of the Angeles National Forest was declared a game preserve (Robinson 1991:26).

Civic and agricultural concerns about watershed destruction were major concerns that lead to federal protection of forests and brushlands in the San Gabriel Mountains. President Benjamin Harrison signed the 555,520-acre San Gabriel Timberland Reserve into law on December 20, 1892. In 1907, the San Gabriel Forest Reserve became the San Gabriel National Forest. In July of 1908,

President Theodore Roosevelt combined the San Gabriel and San Bernardino forests as the Angeles National Forest. They were administered as one until 1925. In October 2014, President Barack Obama designated 346,177 acres within central and northern portions of the Angeles National Forest as the San Gabriel National Monument (Sahagun, 2014). "This area is also rich in cultural and scientific history. More than 600 archaeologically and culturally significant sites are found within the new monument..." (Obama White House, 2019). The Monument does not encompass the entire Angeles National Forest, and does not include a band along the southwest border adjacent to the City of Bradbury's corporate boundary and therefore, is not adjacent to the project site.

2.2.3.3 Project Site Land Use History

Historic aerial maps are available for the City of Bradbury (NETR Online, 2019), the earliest dating to 1952. These maps indicate that the project site was open land with natural native vegetation, vacant and undeveloped up through the present time (NETR Online, 2019: 1952 - 2016). The land to the south and west of the project site is within the City of Bradbury, and this area developed slowly. In 1952 approximately 75% of the land was in agricultural use with scattered homes surrounded by orchards. In the 1962 aerial photo the debris basin at the mouth of Bree Canyon, at the southwest edge of the project site, was in place, while orchards still dominated the area in this 1964 and the following 1965 aerial photos. In the 1979 and 1980 aerial photos orchards remained at the mouth of Bradbury Canyon at the southwest edge of the project site but were mostly gone from the rest of the city, there was an increase in the number of residences in the city (though still relatively few and widely scattered) and the roads throughout the city were now paved. In successive aerial photos starting in 1994 through the present time (NETR Online, 2019: 1994, 2002, 2003, 2005, 2009, 2010, 2012, 2014 and 2016) the land use has not changed significantly.

Topographic maps are also available for the project area with the earliest in 1897 (USGS, 2019). The larger project area was not named until shown as part of the City of Bradbury on maps from 1960 onward (the most recent being 2015). Similar to the aerial photos, these maps indicate that the project site was open land with natural native vegetation, vacant and undeveloped up through the present time. The topographic map available in 1897 was in use through 1946 (USGS, 2019: 1897, 1898, 1902, 1904, 1908, 1912, 1923, 1932, 1941 and 1946), indicating only five widely scattered homes below the mouth of Bradbury Canyon with several dirt roads connecting the homes and through orchards there and at the mouth of Spinks Canyon, and going up the lower portion of Bradbury Canyon. The topo map changed in 1955 and remained unchanged until 1960 (USGS, 2019: 1955 and 1960); there are several scattered homes surrounded by orchards in the city of Bradbury south and west of the project site at the mouth of Bradbury and Spinks Canyon, dirt roads and a road going up the north/south trending ridgeline just west of the project site. In the topo map available in 1968 (through the present) further residential development is seen in the city of Bradbury with more paved roads and almost a complete absence of orchards. The debris basin at the mouth of Bree Canyon, on the southeast edge of the project site, is now present.

3.0 RESEARCH METHODS

This cultural resources inventory and related archival research included a background archaeological records check (archival research) at the SCCIC, California State University, Fullerton, a Sacred Lands File (SLF) search request to the NAHC, as well as a list of local Native American entities to contact from the NAHC. A pedestrian cultural resource survey of the entire project area was conducted. This report presents the results of these cultural resource studies including cultural resource management recommendations.

3.1 Records Search

A cultural resource records search was conducted by Mrs. Doukakis, at the SCCIC on August 29, 2019 to identify historic properties on or near the project site. The California State Historic Resources Inventory for Los Angeles County was reviewed to identify local cultural resources that have been previously evaluated for historic significance, as well as survey reports.

Also searched and reviewed were the official records and maps for archaeological sites and surveys in Los Angeles County, the City of Los Angeles, National Register of Historic Places; Listed Properties and Determined Eligible Properties (2012), California Register of Historical Resources (CRHR)(2012), California Points of Historical Interest (2012), California Inventory of Historic Resources (1976), California Historical Landmarks (2012), Handbook of North American Indians, Vol. 8, California (1978), and Historic Spots in California (2002).

For the current study, the scope of the records search included a 0.5-mile buffer zone from the project's footprint to assess the sensitivity of the project area for subsurface archaeological resources and to assist in determining the potential to encounter such resources, especially prehistoric—i.e., Native American—cultural remains, during earth-moving activities associated with the undertaking.

3.2 Field Survey

On November 22, 2019, Mr. O'Neil and Mrs. Doukakis personally visited the project area to conduct a pedestrian survey. During the survey, the project site was carefully inspected for any indication of human activities dating to the prehistoric and/or historic periods (i.e., 50 years or older).

3.3 Native American Outreach

On August 23, 2019, Mr. O'Neil sent a request to the NAHC via email and fax mail notifying them of the proposed project activities and describing its location. The NAHC was requested to conduct a search of its SLF, as well as to make recommendations of local Native American tribes, organizations and individuals that should be contacted regarding knowledge they may have on local traditional cultural properties and possible concerns they may have about potential impacts on cultural resources resulting from implementation of the project. The Commission's SLF results were received by email on September 12, 2019. The five tribes listed by the NAHC were contacted by mail and email on September 16, 2019.

4.0 FINDINGS

4.1 Records Search

4.1.1 Archaeological Sites

Based on the cultural resources records search conducted at the SCCIC on August 29, 2019, no prehistoric cultural resource sites or isolates have been recorded within the project boundary or within the half-mile buffer zone surrounding the project area. The records search did show the presence of three historic properties within the half-mile buffer zone but none within the project boundary (**Table 4.1-1**). The Spanish Canyon Motorway (19-004717) extends along ridgelines from north Bradbury through Angeles National Forest land and into Monrovia; it appears to have been constructed between 1946 and 1952, likely as a firebreak (Garcia 2016:3). It travels north/south along the western ridgeline overlooking Bree Canyon just west of the project site. The Rincon-Red Box-Sawpit Roads Complex (19-186917), Forest Service Number 05-01-52-102, is a set of dirt roads that extends through the Angeles National Forest east to west (Vance 2001: 1). The Sawpit Road (2N30.2) spur runs from the middle south out of the ANF, and the east branch (Van Tassel Truck Trail [1N36]) of this south spur road passes just north of the heads of Bradbury and Spinks Canyons into the cities of Duarte and Azusa, passing approximately 2000 feet to the northeast of the project site. The north half of Van Tassel Truck Trail is shown as a trail in 1924, and was improved to a good motor road to the head of Spanish Canyon by 1942; the southern portion, Van Tassel Road, first appears on the *Azusa* topo map in 1939 as an unimproved dirt road and as a good motor road on a Forest Service map in 1942 (Vance 2005:2). The Bradbury Debris Basin and Flood Control Channel (19-192459) is located at the conjunction of Bradbury and Bliss Canyons in the City of Bradbury (Chasteen 2015:1). These were constructed in 1954 and designed by the Los Angeles County Flood Control District. This was built to prevent flooding out of the Bree and Bradbury Canyons of the San Gabriel Mountains foothills into the Bradbury, Duarte and surrounding communities of the San Gabriel Valley. The bowl-shaped basin was cut from the hillside; there is a large vent within the basin, the southern end is fortified with a small, cast concrete dam approx. 450 by 65 wide; a central spillway reinforced with steel I-beams connects the basin with the channel; and there is a pumping station east of the dam (Chasteen 2015:1).

Table 4.1-1
KNOWN CULTURAL SITES WITHIN A HALF-MILE RADIUS

Site Number	Author(s)	Date	Description
P-19-004717	Kyle Garcia	2016	The Spanish Canyon Motorway, which extends along ridgelines from north Bradbury through Angeles National Forest land and into Monrovia, appears to have been constructed between 1946 and 1952, likely as a firebreak. It is a 1.5-mile dirt road maintained by the County of Los Angeles Fire Department. While closed to public vehicles, it is open for recreational use.

Site Number	Author(s)	Date	Description
P-19-186917; Forest service Number 05- 01-52-102	D. W. Vance	2001, updated 2005	The Rincon-Red Box-Sawpit Roads Complex, Forest Service Number 05-01-52-102, is a set of dirt roads that extends through the Angeles National Forest east to west, with a spur from the middle (Sawpit Road [2N30.2]) that extends south out of the ANF. The east branch (Van Tassel Truck Trail [1N36]) of this south spur road passes just north of the heads of Bradbury and Spinks Canyons into the cities of Duarte and Azusa. The eastern half of the Complex was a trail in 1907 connecting with the Sawpit Truck Trail, and was improved to a good motor road by 1942. The north half of Van Tassel Truck Trail is shown as a trail in 1924, and was improved to a good motor road to the head of Spanish Canyon by 1942; the southern portion, Van Tassel Road, first appears on the <i>Azusa</i> topo map in 1939 as an unimproved dirt road and as a good motor road on a Forest Service map in 1942.
P-19-192459	Carrie Chasteen	2015	The Bradbury Debris Basin and Flood Control Channel is located at the conjunction of Bradbury and Bliss Canyons in the City of Bradbury. These were constructed in 1954 and designed by the Los Angeles County Flood Control District; there do not appear to be any alterations to the Basin or channel itself, though pipes on sides of the canyon have been added to channel water to the basin. The bowl-shaped basin was cut from the hillside; there is a large vent within the basin, the southern end is fortified with a small, cast concrete dam approx. 450 by 65 wide; a central spillway reinforced with steel I-beams connects the basin with the channel; and a pumping station east of the dam.

4.1.2 Previous Archaeological Investigations

Records at the SCCIC indicated that there have been no previous cultural resource surveys that included a portion of the project site, and no surveys were conducted within the 0.5-mile-radius project buffer of the project site boundary (**Table 4.1-2**). One survey record (LA-03528) was indicated on the SCCIC *Azusa* topo map in the project buffer zone, but a search of the report

indicated that the survey location was “undefinable” and the report tile indicated it was for an area in Ventura County.

Table 4.1-2
KNOWN CULTURAL RESOURCE STUDY WITHIN A HALF-MILE RADIUS

Report Number	Author(s)	Date	Title	Resources
LA-03528	King, Chester	1966	UCAS – 133 Albertson Ranch, Thousand Oaks, Ventura County.	NA

4.2 Native American Outreach

On August 23, 2019, Mr. O’Neil submitted a request to the NAHC via email and fax for a SLF search within the 0.5-mile project buffer. The results of the search request were received September 12, 2019, at the office of UltraSystems from Mr. Steven Quinn, Associate Governmental Program Analyst. The NAHC letter stated that “A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced Project. The results were positive [emphasis in the original].” The Commission identified the Gabrielino Band of Mission Indians – Kizh Nation to contact for information regarding the site in the SLF. (See **Attachment C**.)

UltraSystems prepared letters to each of the five tribal contacts representing five tribal organizations provided by the NAHC (**Attachment C**). On September 16, 2019 Mr. O’Neil mailed letters with accompanying maps to all five tribal contacts describing the project and showing the project’s location, requesting a reply if they have knowledge of cultural resources in the area that they wished to share, and asking if they had any questions or concerns regarding the project. On the same day the same five tribal contacts that provided an email address were sent the contact letter and map by this method as well.

The Administrative Specialist for the Gabrieleño Band of Mission Indians – Kizh Nation, replied for Chairperson Andrew Salas by email on September 17, 2019 stating that they wished to have AB 52 consultation on the project; O’Neil replied by email the same day explaining that such consultation would be between the tribe and the project’s lead agency, which would be the City of Bradbury’s Planning Department, and not with the client’s cultural resource consultant; O’Neil took the opportunity to again request information on the potential traditional cultural resource in the project area listed on the SLF as recommended by the NAHC. The Kizh Nation Admin Specialist replied on September 18 requesting contact information for the project’s lead agency, which O’Neil provided the same day (See **Attachment C**). Chairperson Salas provided no information regarding the SLF traditional cultural site. On October 3, 2019, an email was received from the Tribal Specialist, indicating that they would like to consult with the Lead Agency if any ground disturbance will be taking place for this project. On December 10, 2019 O’Neil sent another email to Mr. Salas and the Gabrielino – Kizh Nation requesting information on the SLF site noted by the NAHC; no reply to date.

Following up on the initial letter and email contacts, telephone calls were conducted by Mrs. Doukakis on October 17, 2019 to the three tribal organizations who had not previously responded by email. Two calls were placed with no answer (see **Attachment C**). A message was left with Mr. Charles Alvarez of the Gabrielino-Tongva Tribe. A message was not left for Chairperson

Sandonne Goad of the Gabrielino/Tongva Nation as her telephone inbox was full and would not allow for a message to be left.

When telephoned on October 17, 2019, Mr. Anthony Morales, Chairman of the Gabrieleno/Tongva San Gabriel Band of Mission Indians, stated that the area around the project site was of concern for the Band as that region had been inhabited by the Tongva and so would be sensitive for cultural resources. Furthermore, the project area is a watershed as such would contain many natural resources that would have been of importance to the Tongva tribe. He noted that the adjacent Angeles National Forest was declared a national monument by President Obama in 2014 giving special protection to archaeological resources in the vicinity. Based on these factors Mr. Morales stated that Native American monitoring should be conducted during ground disturbance for construction of the project, and further recommended that monitors from the San Gabriel Band be used for this work. He requested that O'Neil telephone him following an archaeological field survey to let him know the results. On December 20, 2019, O'Neil telephoned Chairperson Morales to provide a summary of the archaeological field survey results, noting the lack of cultural resources and the topography that would make the presence of such resources unlikely, and the abundance of natural resources that were observed. Morales expressed the belief that the abundance of natural resources and presumed water sources would make this area heavily used by the Tongva people and stated his strong recommendation that both archaeological and tribal monitors be present during construction grading for the project. (See **Attachment C.**)

During the October 17th telephone call Mr. Robert Dorame, Chairman of the Gabrielino Tongva Indians of California Tribal Council stated that he was unable to give an answer at the time but requested that the original letter and map be resent to him. This was done the same day. No further response from this group has been received.

These contacts and replies are documented in the Native American Contact Log in **Attachment C.**

4.2.1 Tribal Cultural Resources (Assembly Bill 52)

Assembly Bill 52 requires meaningful consultation with California Native American Tribes by the Project Lead Agency on potential impacts on tribal cultural resources (TCRs), as defined in Public Resources Code § 21074. TCRs are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the CRHR or local register of historical resources. The lead agency for the Chadwick Ranch Estates Project, the City of Bradbury Planning Department, will conduct the AB 52 tribal consultation.

4.3 Pedestrian Survey Results

On November 22, 2019, Mr. O'Neil and Mrs. Doukakis conducted a Phase I pedestrian cultural resources survey using standard archaeological procedures and techniques that meet the Secretary of Interior's standards and guidelines for cultural resources inventory.

The project site area is completely undeveloped, with a paved access road to adjacent debris basins and related graded hillsides along the southern boundary of the project. The project site consists of foothills of the San Gabriel Mountains with steep sided ridges overlooking Spinks, Bradbury and Bliss Canyons which drain southward into two debris (Debris Basin for Bliss and Bradbury Canyons to the southwest and the Spinks Canyon debris basin to the southeast) just outside the project boundary. Due to the steepness of the slopes and the dense vegetation (**Figure 4.3-1**), such areas

could not be accessed and surveyed; approximately 80% of the project site. Because of the density of brush in the project area and predominance of steep ridgelines, it was decided to search out and walk the various ridgelines to look for any cultural resources along them, as well as to seek out large rock outcrops that might contain bedrock mortars/grinding slicks. If canyon/ravine bottoms looked wide enough to walk, these would also be surveyed. The relatively flat areas along the top of the ridgelines as well as canyon bottoms were accessible and surveyed. Los Angeles County Flood Control District and Public Works personnel were encountered throughout Flood Control Road this day.

Access to the project site was through Flood Control Road at the Debris Basin (Bliss Canyon), the entrance being at end of Bliss Canyon Road. Driving Flood Control Road to the Spinks Canyon debris basin, we entered an unnamed canyon immediately west of Spinks Canyon. Along the road observed saw oak (*Quercus* spp.), sycamore (*Platanus racemosa*), yucca (dried) (*Yucca whipplei*), tree tobacco (*Nicotiana glauca*) and many shrubs on the hillsides.

The first set of ridgelines that could be accessed was in this far southern section of the project site, between the small unnamed canyon on the east (immediately west of Spinks Canyon which is outside the project boundary) and the graded hillsides (identified as Spinks Debris Disposal Area on the Bradbury City map) to the west just outside the project boundary. The crew walked generally north up the unnamed canyon a few hundred feet and then turned west to reach the foot of the ridgeline. The first ridgeline went north; had been graded in the past, possible as a firebreak, but was now partially overgrown with brush and fully covered with grass (**Figure 4.3-2**). This trail ended at another connecting ridgeline that went southwest/northeast that had also been graded by a firebreak in the past. This was followed to the northern end while to the south the survey continued past the firebreak and down an animal trail to the cliff edge. Oak (*Quercus dumosa* and *Q. agrifolia*), toyon (the dominant plant) (*Heteromeles arbutifolia*) (**Figure 4.3-3**), *Opuntia* (flat), black sage (infrequent) (*Salvia mellifera*), creosote (*Larrea tridentata*) at north end of ridgeline cut, California sagebrush (*Artemisia californica*), wild oats (*Avena fatua*), monkey flower (*Mimulus* sp.) (infrequent) were observed, along with yucca (infrequent - dried stalks and new plants), dried spiny cucumber (*Marah macrocarpus*) and dodder (*Cuscuta subinclusa*) in the toyon and poison oak (one patch at ridgeline crossing). Rabbit (*Sylvilagus audubonii*) pellets and runs were observed. A bear cub (*Ursus* sp.) was encountered at the base of trail to ridgeline when returning; it ran up canyon to the north.

Observed a line of roughly poured concrete on the right (east) side of the ravine was observed. It appeared to have been purposeful, not construction material dump, but was situated too far up the slope and was too short in length to really direct water flowing down the canyon. As a function or handiwork could not be determined, and as it is located outside the project boundary, the feature was not recorded.

The wide mouth of Spinks Canyon just beyond the far southeast corner of the project site is crossed by Flood Control Road, with its own debris basin on the south side. This is outside the project boundary, but the slope on west edge of mouth is within project site and animals and plants pass freely among the properties. Multiple fresh deer tracks were observed here, and within the Spinks debris basin there is mule fat (*Baccharis salicifolia*), rush (*Scirpus californicus*), and some nutgrass (*Cyperus rotundus*) within this damp basin.

Bradbury and Bliss Canyons enter the main Debris Basin from the east, at the southwest corner of the project site. The south ridgeline overlooking Bradbury Canyon was also surveyed by Mr. O'Neil and Mrs. Doukakis. This ridgeline extends southwest to northeast with a relatively straight

east/west segment in the middle. This ridgeline had also been graded, likely for a firebreak, but long ago and not maintained. The irregular surface was covered with various grasses and sometimes brush blocked the way (**Figure 4.3-4**). There were generally the same dominant plants here as along the southern ridgeline and along the Flood Control Road – oak and toyon. There were also patches of penstemon (*Penstemon* sp.) and white sage (*Salvia apiana*) along the Bradbury Canyon ridgeline. Deer tracks on the west start of the ridgeline, a pile of rabbit pellets scattered along the ridgeline, and extensive appearance of both old and fresh coyote (*Canis latrans*) scat were observed.

The Bradbury Canyon wash, accessible from the back of the Debris Basin, was surveyed. (This is the right (east) canyon entering into the Debris Basin; the west or north canyon entrance is to Bliss Canyon.) The wash is narrow at the canyon entrance, but opens wider a few hundred feet in, a flat canyon bottom with grass, shrubs and some oaks, while the narrow wash cutting down the middle is sandy with small and large rocks. This is a riparian environment containing numerous tree tobacco, abundant mugwort (*Artemisia douglasiana*) and mule fat along the edge of the bank (**Figure 4.3-5**); and an oak grove on south slope facing north, while the north slope facing south is drier, containing open brush. There is some mature elderberry (*Sambucus nigra*) in creek bed (the first seen on the project site), a patch of native grape vine (*Vitis californica*) growing over a prickly pear cactus (*Opuntia littoralis*) patch; gooseberry (uncommon) (*Ribes californicum*), and California fuchsia (*Epilobium canum*). Pits resembling those of the holly leafed cherry (*Rhamnus ilicifolia*) were observed in a deposit of coyote scat. A small (five member) flock of mourning doves (*Zenaida macroura*) was observed at the entrance to Bradbury Canyon, and there were some small lizards throughout. A mature doe (*Odocoileus hemionus*) was seen up the south bank, and the scapula of a medium size deer was observed on the adjacent ridgeline.

A large oak on the north bank of Bradbury Canyon had a metal chair positioned about ten feet high facing upstream (**Figure 4.3-6**); a possible deer stand. An LA County Flood Control District equipment operator was met at the eastern stretch of Flood Control Road, who stated that he has seen numerous trespassers in this area who come here to hunt deer, who will cut the entrance locks and remove “no hunting” signs.

Until the survey entered Bradbury Canyon no lizards or birds had been observed or heard; only crows in the lowlands of Bradbury among the houses. No elderberry, usually a common shrub in coastal southern California, was seen until in the creek bed of Bradbury Canyon. Very common on the ridgelines is a dense low-growing bush that may be a variety of scrub oak (*Quercus dumosa*) with small leaves.

Boulder outcrops potentially suitable for groundstone were looked for but there were none on ridgelines we walked, nor were there suitable bedrock outcrops observed on the surrounding slopes. No suitable lithic deposits that could be used for worked material were observed. No cultural isolates or features were observed during the survey.

The foothills do contain numerous plants and animals utilized by the Tongva tribe, which inhabited this region. Deer, rabbit, bear, various reptiles and birds are present. Several species of oak, toyon, Opuntia, grape, elderberry, multiple sage species, creosote, sage and other edible and medicinal plants are available in abundance. This area would have been extensively used to harvest and gather natural resources by the various clans inhabited the nearby villages of ‘Ashuukshanga, ‘Ahwiinga and Guinibit described in **Section 2.2.2** above.

Figure 4.3-1
CANYONS AND SLOPES IN SOUTH AREA OF THE PROJECT SITE



Figure 4.3-2
SOUTHWEST RIDGELINE CUT WITH GRASS AND SHRUBS; VIEW TO THE SOUTH



Figure 4.3-3
BRADBURY CANYON SOUTH RIDGELINE CUT WITH GRASS AND SHRUBS; VIEW TO
NORTHEAST



Figure 4.3-4
BRADBURY CANYON WASH SHOWING RIPARIAN ENVIRONMENT; VIEW TO THE NORTHEAST

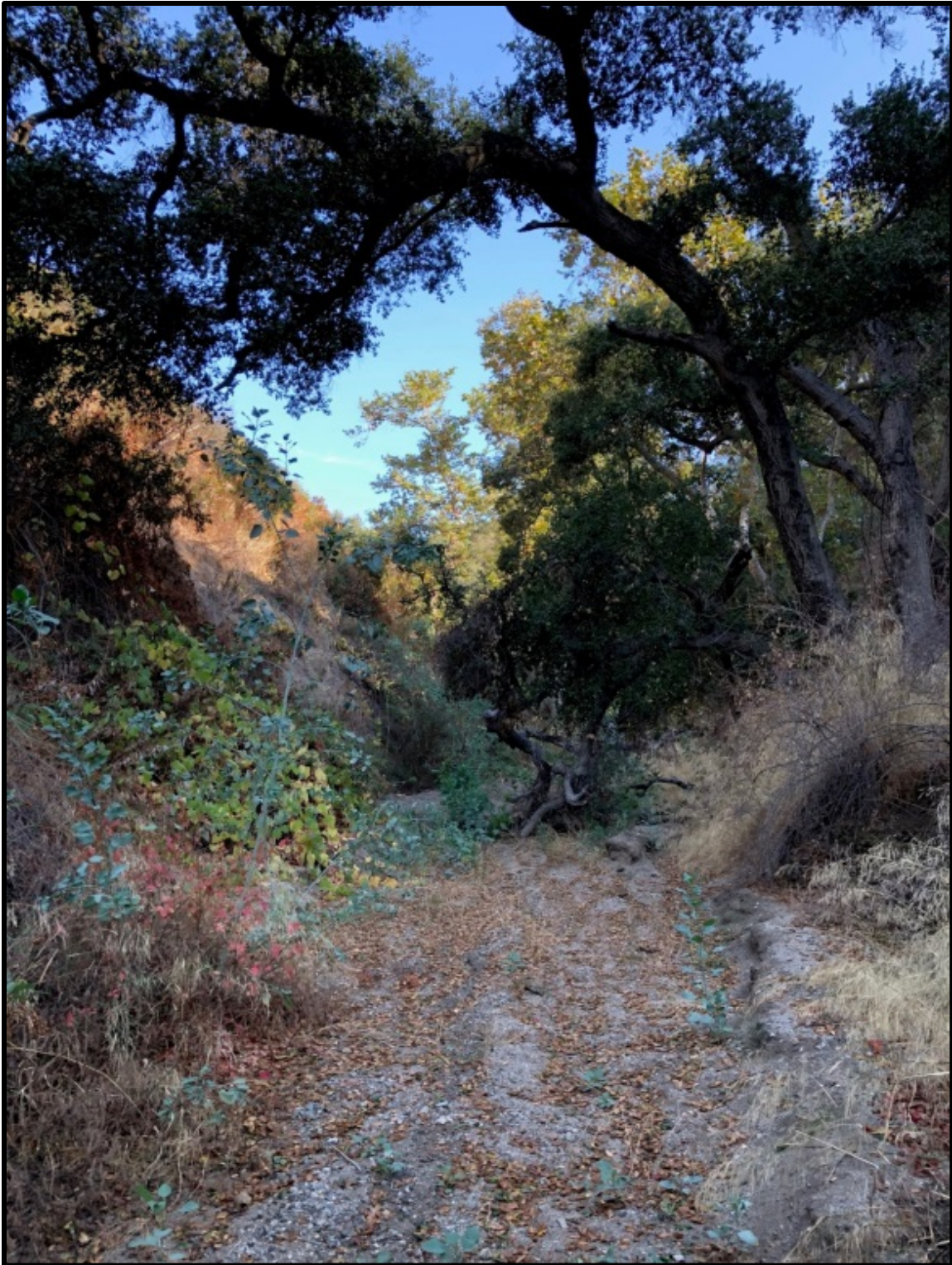


Figure 4.3-5
HUNTING PERCH IN OAK TREE IN BRADBURY CANYON ON NORTH BANK; VIEW TO THE SOUTH



5.0 MANAGEMENT CONSIDERATIONS

5.1 Site Evaluation Criteria

Evaluation of significance under the CEQA uses criteria found in eligibility statements for the CRHR. Generally, a resource is to be considered historically significant if it meets the criteria for listing in the California Register [Public Resources Code § 5024.1; California Code of Regulations § 15064.5(a)(3)]. These criteria provide that a resource may be listed as a potentially significant if it:

- Is associated with the events that have made a significant contribution to the broad patterns of California history and cultural heritage.
- Is associated with the lives of person important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
- Has yielded, or may be likely to yield, information important in prehistory or history.

The four primary evaluation criteria to determine a resource's eligibility to the NRHP, in accordance with the regulations outlined in 36 CFR 800, are identified by 36 CFR 60.4. These criteria (listed below) are used to facilitate the determination of which properties should be considered for protection from destruction or impairment resulting from project-related impacts (36 CFR 60.2).

These include impacts to the quality of significance in American history, architecture, archaeology, engineering, and culture present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- Resources that are associated with events that have made a significant contribution to the broad patterns of our history.
- Resources that are associated with the lives of persons significant in our past.
- Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- Resources that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

5.2 Potential Effects

No cultural resource finds were made during the archaeological survey. There are no other potentially significant cultural resources on the project site and therefore, no other sites will be adversely impacted by the project.

6.0 CONCLUSIONS AND RECOMMENDATIONS

No archaeological resource was observed during the pedestrian field survey. There have been no cultural resources surveys within the project boundary in the past. The previous cultural resource surveys in the half-mile buffer zone of the project site resulted in no prehistoric archaeological sites or isolates being recorded. No prehistoric cultural resources were observed during the project pedestrian field survey.

The Gabrieleno/Tongva San Gabriel Band of Mission Indians recommended archaeological and tribal monitoring take place during ground disturbance construction activity associated with the project undertaking. No other local tribal organizations replied stating concerns for cultural resources on the project site or area.

Because of the lack of presence of the prehistoric/historic feature, and that only one of the four contacted local Gabrielino tribal groups requested monitoring at the project site, it is not recommended that archaeological monitoring of subsurface excavation during construction of the project be conducted. However, if prehistoric and/or historic items are observed during subsurface activities, a qualified archaeologist should be called to evaluate the find and make recommendations to mitigate the resource(s), including that an archaeological monitor be present at subsequent excavation and have the authority to stop work in that area and be allowed to assess the findings and retrieve the material.

It is also recommended that if human remains are encountered during excavations associated with this project, work will halt and the Los Angeles County Coroner will be notified (§ 5097.98 of the Public Resources Code). The Coroner will determine whether the remains are recent human origin or older Native American ancestry. If the coroner, with the aid of the supervising archaeologist, determines that the remains are prehistoric, they will contact the NAHC. The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by § 7050.5 of the California Health and Safety Code. The MLD will make recommendations within 24 hours of his or her notification by the NAHC and being allowed access to the project site to observe the remains. These recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials (§ 7050.5 of the Health and Safety Code).

7.0 REFERENCES

Bean, Lowell John, and Charles R. Smith

1978 Gabriellino. In *Handbook of North American Indians*, William C. Sturtevant, general editor, vol. 8, *California*, edited by Robert F. Heizer, pp. 538-549. Smithsonian Institution, Washington, DC.

Brown, Alan K. (editor)

2001 *A Description of Distant Roads: Original Journals of the First Expedition into California 1769-1770*, by Juan Crespí. San Diego State University Press, San Diego, California.

Chartkoff, Joseph L., and Kerry Kona Chartkoff

1984 *The Archaeology of California*. Stanford University Press, Stanford, California.

Chasteen, Carrie

2015 Archaeological Site Record, Primary Record, for 19-192-459, Bradbury Debris Basin and Flood Control Channel. On file, South Central Coastal Information Center, California State University, Fullerton.

City of Bradbury

2019 *About Bradbury – City History*. Accessed October 29, 2019, at <https://cityofbradbury.org/about-bradbury/city-history>.

Dumke, Glenn S.

1944 *The Boom of the Eighties in Southern California*. Huntington Library, San Marino, California.

Engelhardt, Zephryn, O.F.M.

1931 *San Gabriel Mission and the Beginnings of Los Angeles*. Franciscan Herald Press, Chicago.

Garcia, Kyle

2016 Archaeological Site Record, Primary Record, for 19-004717, Spanish Canyon Motorway. On file, South Central Coastal Information Center, California State University, Fullerton.

Grayson, Donald K.

2011 *The Great Basin: A Natural Prehistory*. University of California Press, Berkeley.

Gudde, Erwin G.

2004 *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth Edition, Revised and Enlarge by William Bright. University of California Press: Los Angeles.

Howard, W. J., and L. M. Raab

1993 Olivella Grooved Rectangle Beads as Evidence of an Early Period Southern California Channel Island Interaction Sphere. *Pacific Coast Archaeological Society Quarterly* 29(3):1-11.

Jones, Terry L., and Kathryn A. Klar (edited by)

2007 *California Prehistory: Colonization, Culture, and Complexity*. AltaMira Press, New York.

Kroeber, Alfred

1925 *Handbook of the Indians of California*. *Bureau of American Ethnology Bulletin* No. 78, Washington, D.C.

McCawley, William

1996 *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press, Banning, California / Ballena Press, Novato, California.

Meighan, C. W.

1954 A Late Complex in Southern California Prehistory. *Southwest Journal of Anthropology* 10(2):215-227.

Moratto, Michael J.

1984 *California Archaeology*. Academic Press, Orlando, Florida.

NETR Online

2019 Aerial photographs of the project vicinity, taken in 1952, 1994, 2002, 2003, 2005, 2009, 2010, 2012, 2014, 2016. <http://www.historicaerials.com>. Accessed October 30, 2019.

Obama White House

2019 *President Obama Designates San Gabriel Mountains National Monument*. Retrieved November 1, 2019, from <https://obamawhitehouse.archives.gov/the-press-office/2014/10/10/president-obama-designates-san-gabriel-mountains-national-monument>.

Office of Historic Preservation

n.d. *Office of Historic Resources, Department of City Planning*. Retrieved June 7, 2019, from <https://preservation.lacity.org/hpoz/la/lincoln-heights>.

Porcasi, Judith F.

1998 Middle Holocene Ceramic Technology on the Southern California Coast: New Evidence from Little Harbor, Santa Catalina Island. *Journal of California and Great Basin Anthropology* 20:270-284.

Pratt, Riley

2011 Biological Assessment (BA) / Biological Evaluation (BE) of the proposed Glendora Mountain Road Culvert Repair Project; Los Angeles County, California, Angeles National Forest, San Gabriel River Ranger District. Prepared for: County of Los Angeles Department of Public Works. UltraSystems Environmental, Inc.: Irvine, California.

Sahagun, Louis

2014 *Obama to publicly name San Gabriel Mountains a national monument today*. Retrieved November 1, 2019, from <https://www.latimes.com/local/la-me-lnh-obama-san-gabriel-mountains-national-monument-20141010-story.html>.

Sutton, Mark Q.

2008a The Del Ray Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(2):1-54.

2008b The Palomar Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(4):1-74.

True, Delbert L.

1958 An Early Complex in San Diego County, California. *American Antiquity* 23(3):255-263.

- 1970 Investigations of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California. *Archaeological Survey Monographs* 1. University of California, Los Angeles.

USGS (United States Geological Survey, U.S. Department of the Interior)

- 1897 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1898 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1902 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1904 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1908 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1912 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1923 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1941 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1946 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1955 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.
- 1960 *Los Angeles, Calif.* 7.5', USGS Quadrangle map.

Vance, D. W.

- 2001 Archaeological Site Record, Primary Record, for 19-186917, Rincon-Red Box-Sawpit Roads Complex, USDA-Forest Service, Angeles National Forest. On file, South Central Coastal Information Center, California State University, Fullerton.
- 2005 Archaeological Site Record, Site Record Update, for 19-186917, Van Tassel Road, USDA-Forest Service, Angeles National Forest. On file, South Central Coastal Information Center, California State University, Fullerton.

Wallace, William J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Archaeology* 11(3):214-230.
- 1978 Post-Pleistocene Archeology, 9,000 to 2,000 BC. In Robert F. Heizer (ed.), *Handbook of North American Indians*, Vol. 8: *California*; pp. 25-36. Smithsonian Institution, Washington, D.C.

Warren, Claude N.

- 1968 Cultural Traditions and Ecological Adaptations on the Southern California Coast. In Cynthia Irwin-Williams (ed.), *Archaic Prehistory in Western United State*, pp. 1-14. *Eastern New Mexico University Contributions in Anthropology* 1(3). Portales, New Mexico.

- 1984 The Desert Region. In Michael J. Moratto (ed.), *California Archaeology*, pp. 339-430. Academic Press, Orlando, Florida.

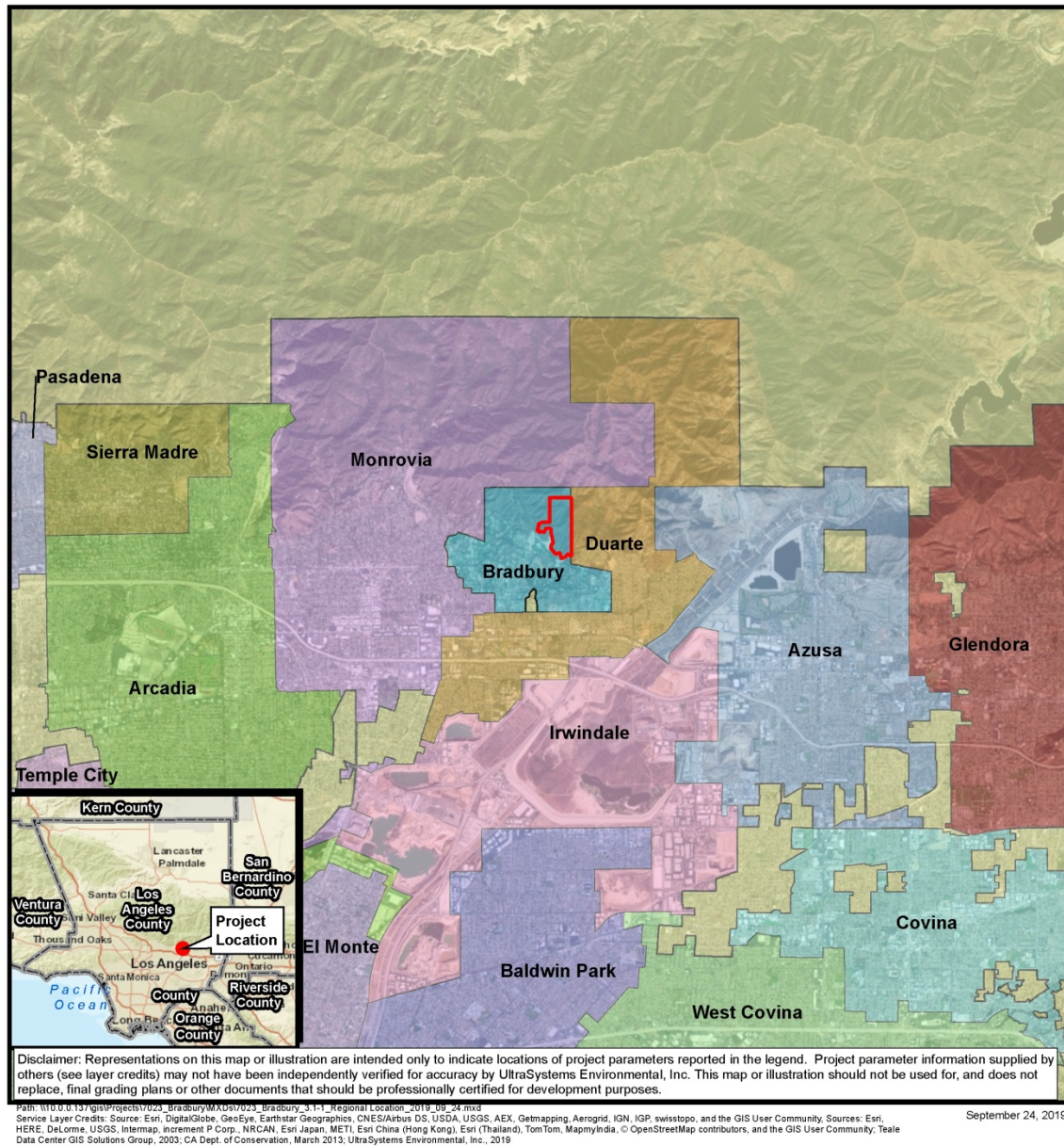
Warren, Claude N., and Robert H. Crabtree

- 1986 Prehistory of the Southwestern Area. In Handbook of North American Indians, William C. Sturtevant, general editor, Vol. 11, *Great Basin*, edited by Warren L. D'Azevedo, pp. 183-193. Smithsonian Institution, Washington, DC.

ATTACHMENTS

ATTACHMENT A
PROJECT MAPS

Figure 5
PROJECT REGIONAL LOCATION MAP



Scale: 1:100,000



0 1 2 Miles

0 1 2 Kilometers

Legend

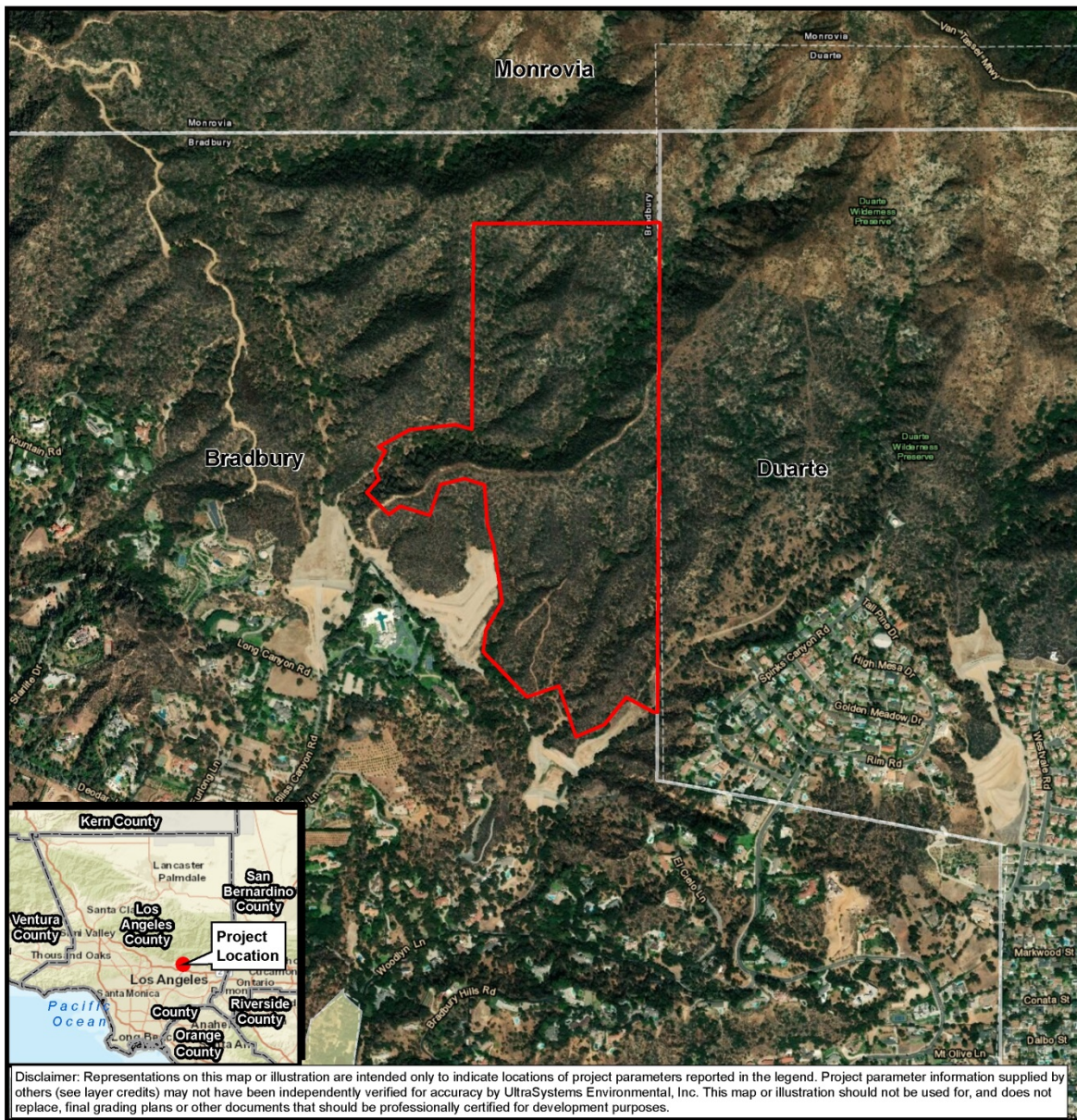
- Project Boundary
- Unincorporated

Chadwick Ranch Estates Project

Regional Location Map



Figure 6
PROJECT STUDY AREA



Scale: 1:12,000



0 500 1,000 Feet

0 180 360 Meters

Legend

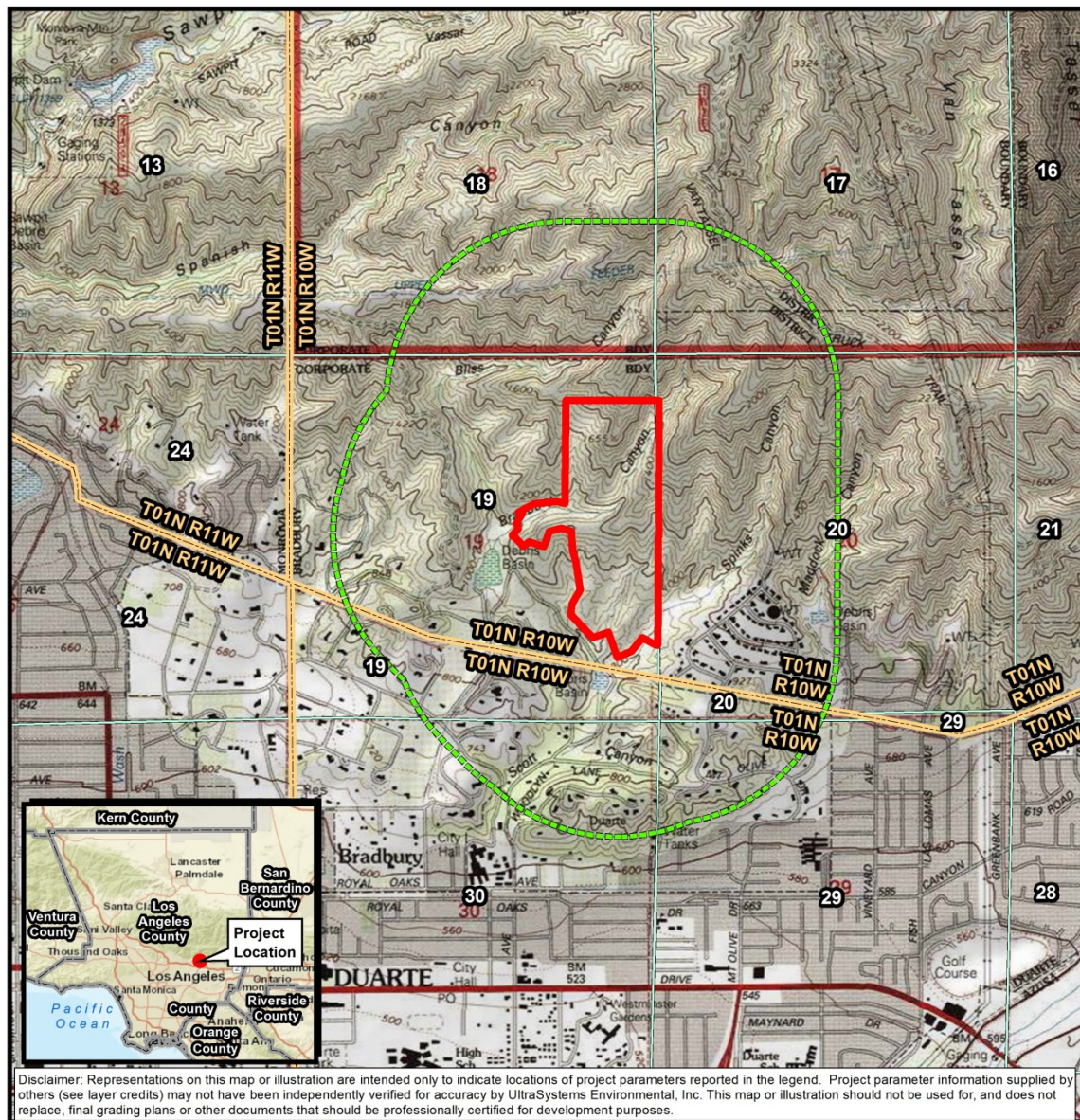
 Project Boundary

Chadwick Ranch Estates Project

Aerial View of Project Site and Vicinity



Figure 7
USGS TOPO MAP OF PROJECT STUDY AREA



Path: J:\Projects\7023_Bradbury\MXD\7023_Bradbury_4_5_Topo_2019_08_13.mxd

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community, Teale Data Center GIS Solutions Group, 2003; CA Dept. of Conservation, March 2013; UltraSystems Environmental, Inc., 2019

August 13, 2019

Scale 1:24,000



0 1,000 2,000 Feet

0 250 500 Meters

Legend

- Half-Mile Buffer
- Project Boundary
- Section Boundary
- Township Boundary

Chadwick Ranch Estates Project

Topographic Map
USGS Quadrangle: Azusa
Township: 01N Range: 10W



ATTACHMENT B
PERSONNEL BACKGROUND

Stephen O'Neil, M.A., RPA*Cultural Resources Manager, Cultural Anthropology/Archaeology***Education**

- M.A., Anthropology (Ethnography emphasis), California State University, Fullerton, CA, 2002
- B.A., Anthropology, California State University, Long Beach, CA, 1979

Professional and Institutional Affiliations

- California Mission Studies Association
- City of Laguna Beach Environmental Sustainability Committee, appointed 2012
- Orange County Natural History Museum; Board Member
- Pacific Coast Archaeological Society; Board Member and Past President
- Society of California Archaeology

Professional Registrations and Licenses

- Register of Professional Archaeologists (No. 16104) (current)
- Riverside County, CA, Cultural Resource Consultant (No. 259) (current)
- Cultural Resource Field Director, BLM Permit (CA-13-19) – California, 2013
- NEPA and CEQ Consultation for Environmental Professionals; course by the National Association of Environmental Professionals, 2013

Professional Experience

Mr. O'Neil has 30 years of experience as a cultural anthropologist in California. He has researched and written on archaeology, ethnography, and history. Mr. O'Neil has archaeological experience in excavation, survey, monitoring, and lab work. Most of this has been on Native American prehistoric sites, but also includes Spanish, Mexican, and American period adobe sites. His supervisory experience includes excavation and survey crew chief and project director of an adobe house excavation. He has a wide range of expertise in Phase I & II Environmental Site Assessments, archaeological resource assessment surveys, salvage operations, and cultural background studies for various EIR projects. Mr. O'Neil has worked for cultural resource management firms as well as government agencies and Native American entities. He has prepared technical reports as well as published journal articles.

Select Project Experience***Inglewood Avenue Corridor Widening Project, City of Lawndale, Los Angeles County, CA: 2013–2014***

Mr. O'Neil directed and conducted archaeological field survey, cultural resource records search, Native American contacts and report writing for this project. The City of Lawndale is widening Inglewood Avenue from Marine Avenue north. The project uses Caltrans funds and the cultural resources report was prepared in Caltrans format. A separate historic properties report was prepared as well. Prepared for Huitt-Zollars Engineering.

Via Ballena Storm Drain Relocation, City of San Clemente, Orange County, CA: 2013

Mr. O'Neil directed and conducted archaeological field survey, cultural resource records search, Native American contacts and report writing for this project. This residential area has a damaged storm drain under Via Ballena that was causing earth movement and erosion. The meet requirements for state funding, and cultural resources inventory report was required. Prepared for the City of San Clemente

Pine Canyon Road – Three Points Road to Lake Hughes Road, Los Angeles County, CA: 2013

Mr. O'Neil directed and conducted archaeological field survey, cultural resource records search, Native American contacts and report writing for this project. This nine-mile portion of Pine Canyon Road lies partially within the Angeles National Forest. A series of widening and culvert repairs is planned by the Los Angeles County Department of Public Works (LACDPW). An assessment was made of possible cultural resources, historic and prehistoric that may be affected by the construction, and four historic sites were recorded. Prepared for LACDPW.

Alton Parkway Extension Project, Cities of Irvine and Lake Forest, Orange County, CA: 2012

Mr. O'Neil directed and conducted archaeological and paleontological monitoring, archaeological excavation, cultural resource records search, Native American contacts and report writing for this project. Alton Parkway was extended 2.1 miles between the cities of Irvine and Lake Forest. For the portion within the City of Irvine, UltraSystems conducted monitoring and excavation services. One prehistoric site was excavated and reported on; a series of living features were discovered and also reported. The final monitoring report described the paleontological and archaeological findings. A separate technical report on the archaeological excavations was also prepared. Mr. O'Neil directed research into historic and prehistoric background, and prepared the final assessment of potential impacts. Prepared for the Orange County Department of Public Works.

NEPA and CEQA Documentation, Los Angeles Regional Interoperable Communications System (LA-RICS), Los Angeles County, CA: 2011–2014

Mr. O'Neil is part of UltraSystems team currently preparing technical studies and NEPA and CEQA documentation toward the construction of LA-RICS, an \$800-million emergency communications system due to be operational in 2016. LA-RICS will provide a highly coordinated emergency communications system to all first-responders to natural and man-made disasters throughout Los Angeles County. Mr. O'Neil is the cultural and historical resources studies team leader, directing five researchers. These studies include coordination of field visits to all 260-plus locations for an archaeologist and/or an architectural historian with agency escorts to observe and record any onsite prehistoric and historic features, performing records and literature searches at archaeology information centers and local archives, contacting local agencies for historically listed structures and districts, coordinate public notices of the project throughout Los Angeles County, consultation with the NAHC and all local tribal organizations, and direct consultation with the California State Historic Preservation Officer (SHPO). This information was compiled by Mr. O'Neil and is used to prepare FCC historical resource forms which were submitted to the SHPO for review.

Megan B. Doukakis, M.A.

Archaeological Technician

Education

- M.A. Public Archaeology, California State University, Northridge, 2012–2018
- B.A., Anthropology, California State University, Long Beach, 2011
- University of California, Los Angeles - Pimu Catalina Archaeological Field School, 2010
- International Scholar Laureate Program: Delegation on Anthropology and Archaeology in China, 2009
- Earthwatch Institute, “Unearthing Mallorca’s Past” archaeological excavation, Mallorca, Spain, 2005

Professional and Institutional Affiliations

- Phi Kappa Phi National Honor Society, 2011
- Sigma Alpha Lambda, National Leadership and Honor Organization, 2010
- Society for California Archaeology Membership 2012–2015

Professional Experience

Mrs. Doukakis has worked in the field of cultural resource management for seven years at environmental firms. Before this Mrs. Doukakis had participated in multiple field schools in Southern California and abroad. She has experience in survey, excavation, laboratory work, and information searches. Mrs. Doukakis holds the title of Archaeological Technician at UltraSystems Environmental. Prior to this, she completed a CRM internship at UltraSystems. These positions have provided her with the opportunity to contribute to proposals, final reports, project scheduling, archaeological record searches and paleontological, archaeological and Native American monitor organizing for projects.

Select Project Experience

Results of the Condition Assessment, Site Monitoring, and Effects Treatment Plan (CASMET) Marine Corps Base Camp Pendleton, San Diego County, CA

Client: Marine Corps Base Camp Pendleton, Duration: 5/11 to 9/11

Mrs. Doukakis conducted survey and excavation for the USMC Base Camp Pendleton condition assessment project. Areas were tested around Camp Pendleton for the presence and condition of cultural material previously recorded. She also conducted laboratory work and curation for the material collected within excavations. Mrs. Doukakis contributed to the final report with background records searches and prehistoric and historic background writing for the report.

Archaeological Excavation Results Report for the Alton Parkway Extension Project, Orange County, CA

Client: Orange County Department of Public Works; Contract: \$357,170, 10/10 to 6/12

Mrs. Doukakis participated in the Alton Parkway project, City of Irvine, Orange County, CA. She was responsible for cleaning and cataloging the artifacts recovered from the excavation and surface collections. She also contributed to the final report by compiling the historical background information.

Identification and Evaluation of Historic Properties ADA Wheelchair Access Ramp Improvement Project, City of Lake Forest, Orange County, CA***Client: City of Lake Forest/Penco, Contract: \$2,981.62, Duration: 6/12 to 7/12***

Mrs. Doukakis contributed to the cultural resource records search, field survey, Native American contacts and report writing for this project. This residential area required wheelchair access ramps on every corner in this neighborhood. An assessment of the possible cultural resources that may be affected with this construction was made for the City of Lake Forest. Mrs. Doukakis contributed the historic and prehistoric background, and the assessment of the possible resources in the area.

Tenaska Solar Projects Imperial Solar Energy Center-South; Imperial Solar Energy Center-West; and Wistaria Ranch, Imperial County, CA***Client: Tenaska/CSOLAR Development, Contract: \$3,441,809, 10/13 to 8/15.***

Mrs. Doukakis conducted Native American contacts for field monitoring, coordinated with subcontractors to initiate cultural and paleontological field surveys, for the several solar energy projects being handled by UltraSystems Environmental in the El Centro area, Imperial County, CA. She contributed different parts of the survey report and monitoring program documents, including historic and prehistoric background, editorial review. At ISEC- West, Mrs. Doukakis was responsible for contacting and organizing Tribal monitors for this project. She contacted tribal organizations and inquired about their interest in providing tribal monitors for this project. directly organized with Native American groups to sign agreements, and fill out tax paperwork. She was also responsible for organizing and keeping track of and gathering field log from monitors from six tribal groups. She also recovered previously recorded artifacts in the field before the start of the project.

NEPA and CEQA Documentation, Los Angeles Regional Interoperable Communications System -Long Term Evolution, Los Angeles County, CA***Client: LARICS Joint Powers Authority, Contract: \$3,051,312, 1/12 to 1/15.***

UltraSystems' team prepared technical studies and NEPA and CEQA documentation toward the construction of LA-RICS-LTE, an \$800-million emergency communications system that will provide a highly coordinated emergency communications system to all first-responders to natural and man-made disasters throughout Los Angeles County. For this project Mrs. Doukakis conducted record searches at the South Central Coastal Information Center for the Department of Commerce on over 300 project sites throughout the County of Los Angeles. She helped prepare letters to the NAHC and tribal organizations associated with the project area. Mrs. Doukakis contributed to contacting, organizing, and scheduling architectural historians to conduct historical research around the project areas. Letters were written for contact to local agencies and cities. A public notice was constructed and published in three local newspapers. Mrs. Doukakis also constructed hundreds of Federal Communications Commission 620 and 621 forms for submission to California State Historic Preservation Office.

Newton Canyon Monitoring Project, CA***Client: County of Los Angeles Department of Public Works, Contract: \$2,930.00, Duration: 7/13 to 12/13***

Mrs. Doukakis was an archaeological monitor for this project. She monitored all ground disturbing activities as well as lightly surveying the area for cultural material. Mrs. Doukakis also conducted the records center research at the South Central Coastal Information Center at CSUF. Through email, letter, and telephone correspondence, Mrs. Doukakis contacted the NAHC and associated tribal groups.

ATTACHMENT C

Native American Heritage Commission Records Search and Native American Contacts



August 23, 2019

Government Program Analyst
Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, California 95691

Subject: Cultural Resources Study, Chadwick Ranch Estates Project, in the City of Bradbury, Los Angeles County, California. UltraSystems Environmental Project No. 7023.

Dear NAHC Staff,

UltraSystems Environmental, Inc. (UEI) has been contracted by the City of Bradbury to conduct a cultural resources inventory in support of the Chadwick Ranch Estates Project (Project) for residential development. UltraSystems will conduct a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary. I am requesting a Native American Contact List of interested tribes, organizations and individuals in the general Project area, and a search of the Sacred Lands File for potential traditional cultural sites.

The Project area is approximately 111-acres and involves the construction of 14 estate residential parcels. The Project also includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables on each lot.

The Project area is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California. The project is specifically located on the *Azusa, Calif.*, USGS 7.5' topographic quadrangle, Range 10 W, Township 1 N, in the NE ¼ and SE ¼ of Section 19. This is shown on the attached map and the Project area is depicted with a one-half mile buffer zone.

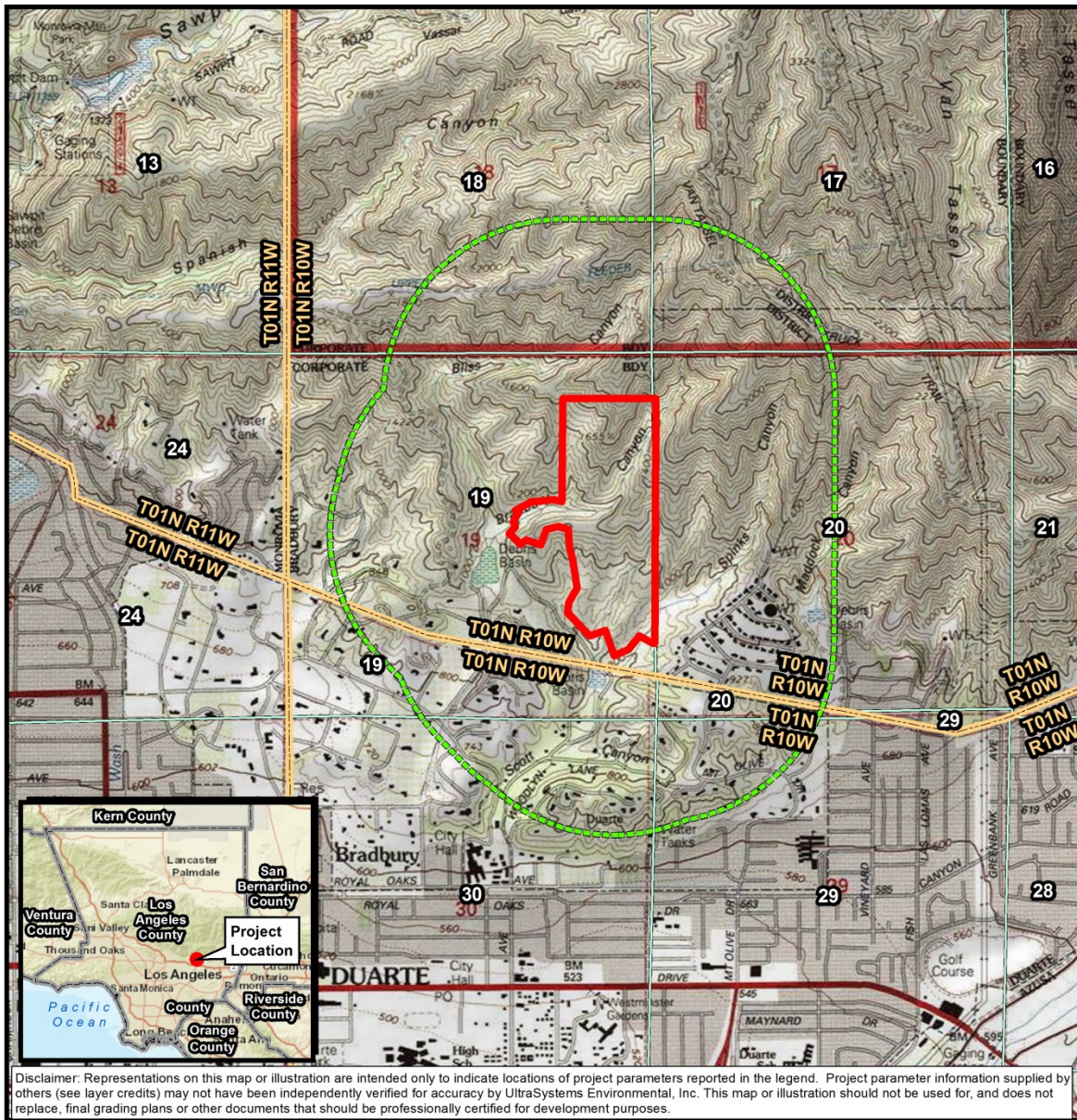
If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

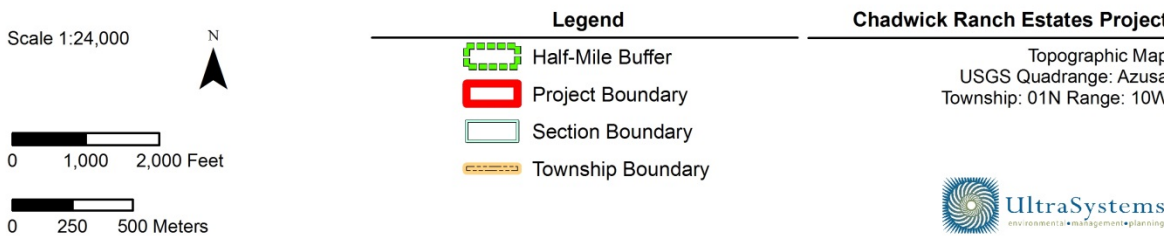
Stephen O'Neil, M.A., RPA
Cultural Resources Manager
(949) 788-4900, ext. 276
soneil@ultrasystems.com

Corporate Office – Orange County
16431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901
Website: www.ultrasystems.com



Path: J:\Projects\7023_Bradbury\MXDs\7023_Bradbury_4_5_Topo_2019_08_13.mxd
 Service Layer Credits: Copyright © 2013 National Geographic Society, I-cubed, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community, Teale Data Center GIS Solutions Group, 2003, CA Dept. of Conservation, March 2013; UltraSystems Environmental, Inc., 2019

August 13, 2019



STATE OF CALIFORNIA

GAVIN NEWSOM, Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: naahc@naahc.ca.gov
Website: <http://www.nahc.ca.gov>
Twitter: @CA_NAHC



September 12, 2019

Stephen O'Neil
UltraSystems

VIA Email to: soneil@ultrasystems.com

RE: Chadwick Ranch Estates Project, Los Angeles County

Dear Mr. O'Neil:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Gabrieleno Band of Mission Indians – Kizh Nation on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Steven Quinn".

Steven Quinn
Associate Governmental Program Analyst

Attachment



September 16, 2019

Charles Alvarez,
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, CA, 91307

Re: Cultural Resources Study, Chadwick Ranch Estates Project, in the City of Bradbury, Los Angeles County, California. UltraSystems Environmental Project No. 7023.

Dear Mr. Alvarez,

UltraSystems Environmental, Inc. (UEI) has been contracted by the City of Bradbury to conduct a cultural resources inventory in support of the Chadwick Ranch Estates Project (Project) for residential development. UltraSystems will conduct a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

As part of the cultural resources study for the Project, I am writing to request your input on potential Native American resources in or near the Area of Potential Effect (APE). In a letter dated September 12, 2019, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive" [emphasis in the original]. (The Commission did not identify or provide a location for the traditional cultural resource.) They recommended that local Native American individuals and organizations be contacted for further information, including the Gabrielino-Tongva Tribe.

The Project area is approximately 111-acres and involves the construction of 14 estate residential parcels. The Project includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables on each lot.

The Project area is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California. The project is specifically located on the Azusa, Calif., USGS 7.5' topographic quadrangle, Range 10 W, Township 1 N, in the NE ¼ and SE ¼ of Section 19. This is shown on the attached map and the Project area is depicted with a one-half mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Respectfully yours,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
sonil@ultrasystems.com
(949) 788-4900, ext. 276

Corporate Office – Orange County
18431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 278
Facsimile: 949.788.4901



September 16, 2019

Robert Dorame, Chairperson
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA, 90707

Re: Cultural Resources Study, Chadwick Ranch Estates Project, in the City of Bradbury, Los Angeles County, California. UltraSystems Environmental Project No. 7023.

Dear Chairperson Dorame,

UltraSystems Environmental, Inc. (UEI) has been contracted by the City of Bradbury to conduct a cultural resources inventory in support of the Chadwick Ranch Estates Project (Project) for residential development. UltraSystems will conduct a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

As part of the cultural resources study for the Project, I am writing to request your input on potential Native American resources in or near the Area of Potential Effect (APE). In a letter dated September 12, 2019, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive" [emphasis in the original]. (The Commission did not identify or provide a location for the traditional cultural resource.) They recommended that local Native American individuals and organizations be contacted for further information, including the Gabrielino Tongva Indians of California Tribal Council.

The Project area is approximately 111-acres and involves the construction of 14 estate residential parcels. The Project includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables on each lot.

The Project area is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California. The project is specifically located on the Azusa, Calif., USGS 7.5' topographic quadrangle, Range 10 W, Township 1 N, in the NE $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 19. This is shown on the attached map and the Project area is depicted with a one-half mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Respectfully yours,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
sonail@ultrasystems.com
(949) 788-4900, ext. 276

Corporate Office – Orange County
18431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901



September 16, 2019

Sandonne Goad, Chairperson
Gabrielino /Tongva Nation
106 1/2 Judge John Aiso St., #231
Los Angeles, CA, 90012

Re: Cultural Resources Study, Chadwick Ranch Estates Project, in the City of Bradbury, Los Angeles County, California. UltraSystems Environmental Project No. 7023.

Dear Chairperson Goad,

UltraSystems Environmental, Inc. (UEI) has been contracted by the City of Bradbury to conduct a cultural resources inventory in support of the Chadwick Ranch Estates Project (Project) for residential development. UltraSystems will conduct a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

As part of the cultural resources study for the Project, I am writing to request your input on potential Native American resources in or near the Area of Potential Effect (APE). In a letter dated September 12, 2019, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive" [emphasis in the original]. (The Commission did not identify or provide a location for the traditional cultural resource.) They recommended that local Native American individuals and organizations be contacted for further information, including the Gabrielino /Tongva Nation.

The Project area is approximately 111-acres and involves the construction of 14 estate residential parcels. The Project includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables on each lot.

The Project area is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California. The project is specifically located on the Azusa, Calif., USGS 7.5' topographic quadrangle, Range 10 W, Township 1 N, in the NE ¼ and SE ¼ of Section 19. This is shown on the attached map and the Project area is depicted with a one-half mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Respectfully yours,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
sonail@ultrasystems.com
(949) 788-4900, ext. 276

Corporate Office – Orange County
18431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901



September 16, 2019

Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA, 91778

Re: Cultural Resources Study, Chadwick Ranch Estates Project, in the City of Bradbury, Los Angeles County, California. UltraSystems Environmental Project No. 7023.

Dear Mr. Morales,

UltraSystems Environmental, Inc. (UEI) has been contracted by the City of Bradbury to conduct a cultural resources inventory in support of the Chadwick Ranch Estates Project (Project) for residential development. UltraSystems will conduct a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

As part of the cultural resources study for the Project, I am writing to request your input on potential Native American resources in or near the Area of Potential Effect (APE). In a letter dated September 12, 2019, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive" [emphasis in the original]. (The Commission did not identify or provide a location for the traditional cultural resource.) They recommended that local Native American individuals and organizations be contacted for further information, including the Gabrieleno/Tongva San Gabriel Band of Mission Indians.

The Project area is approximately 111-acres and involves the construction of 14 estate residential parcels. The Project includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables on each lot.

The Project area is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California. The project is specifically located on the Azusa, Calif., USGS 7.5' topographic quadrangle, Range 10 W, Township 1 N, in the NE ¼ and SE ¼ of Section 19. This is shown on the attached map and the Project area is depicted with a one-half mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Respectfully yours,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
sonail@ultrasystems.com
(949) 788-4900, ext. 276

Corporate Office – Orange County
18431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901



September 16, 2019

Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians - Kizh Nation
P.O. Box 393
Covina, CA, 91723

Re: Cultural Resources Study, Chadwick Ranch Estates Project, in the City of Bradbury, Los Angeles County, California. UltraSystems Environmental Project No. 7023.

Dear Mr. Salas,

UltraSystems Environmental, Inc. (UEI) has been contracted by the City of Bradbury to conduct a cultural resources inventory in support of the Chadwick Ranch Estates Project (Project) for residential development. UltraSystems will conduct a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

As part of the cultural resources study for the Project, I am writing to request your input on potential Native American resources in or near the Area of Potential Effect (APE). In a letter dated September 12, 2019, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive" [emphasis in the original]. The Commission recommended that we contact the Gabrieleno Band of Mission Indians - Kizh Nation for more information regarding the listed traditional cultural resources. Please remember that this current letter is not related to AB 52 consultation, which is government-to-government, and so background regarding the SLF recorded site that may be used for the cultural resources report would need to be provided to UltraSystems.

The Project area is approximately 111-acres and involves the construction of 14 estate residential parcels. The Project includes undisturbed open space that will be controlled by a land conservancy to be determined. The development will also include installation of a water tank, a booster station, debris and water quality basins. The residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables on each lot.

The Project area is located in the foothills of the San Gabriel Mountains in the northeast portion of the City of Bradbury, Los Angeles County, California. The project is specifically located on the Azusa, Calif., USGS 7.5' topographic quadrangle, Range 10 W, Township 1 N, in the NE ¼ and SE ¼ of Section 19. This is shown on the attached map and the Project area is depicted with a one-half mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Respectfully yours,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
sonail@ultrasystems.com
(949) 788-4900, ext. 276

Corporate Office – Orange County
18431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901

**Chadwick Ranch Estates Project; City of Bradbury, Los Angeles County, California.
Native American Contact Log**

Name	Tribe/ Affiliation	Letter and Fax Contacts	Email Contacts	Telephone Contacts	Comments
Steven Quinn, Ass. Government Program Analyst	Native American Heritage Commission	August 23, 2019 (Fax)	August 23, 2019 (email)	N/A	Request for Sacred Lands File search and local Native American representatives contact information. Reply received September 12, 2019 from Steven Quinn.
Sandonne Goad, Chairperson	Gabrielino/Tongva Nation	September 16, 2019 (letter, no fax available)	September 16, 2019 (email)	October 17, 2019	Letter and email describing project and requesting input on concerns, September 16, 2019. No fax number available. Telephone call made October 17, 2019, no answer, mailbox was full, no message was left. No response.
Anthony Morales, Chairperson	Gabrielino/Tongva San Gabriel Band of Mission Indians	September 16, 2019 (letter, and fax)	September 16, 2019 (email)	October 17, 2019; December 20, 2019	Letter, fax and email describing project and requesting input on concerns, September 16, 2019. Telephone call made October 17, 2019. Chairman Morales stated that the project site is in an area of cultural sensitivity, an area of concern, and would have been inhabited by the Tongva tribe. He stated that the area is sensitive for natural and cultural resources as indicated by being in a region declared a national monument by President Obama in 2014. He recommended Native American monitoring during construction. He asked that UltraSystems call him back following the cultural resources survey. Telephoned Mr. Morales on December 20 to describe results of survey; he

Name	Tribe/ Affiliation	Letter and Fax Contacts	Email Contacts	Telephone Contacts	Comments
					expressed recommendation for tribal and archaeological monitoring during construction grading.
Robert F. Dorame, Chairperson	Gabrielino Tongva Indians of California Tribal Council	September 16, 2019 (letter, and fax)	September 16, 2019 (email)	October 17, 2019	Letter, fax and email describing project and requesting input on concerns, September 16, 2019. Telephone call made October 17, 2019; Chairperson Dorame stated that he was unable to respond at the moment but requested that the letter and map be sent to him again and he would get back to us. This material was emailed to him the same day. No response to date.
Andrew Salas, Chairperson	Gabrielino Band of Mission Indians- Kizh Nation	September 16, 2019 (letter, no fax available)	September 16, 2019; September 16, 2019; October 3, 2019; December 10, 2019 (email)	N/A	Letter and email describing project and requesting input on concerns, September 16, 2019. No fax number available. Email response was received on September 17, 2019 from the Kizh Nation Admin Specialist stating that they would like to conduct consultation regarding the project. O'Neil replied the same date explaining that AB 52 consultation is conducted between the tribe and the project Lead agency, which in this case would be the City of Bradbury Planning Department; also, that the NAHC stated that information on the traditional site listed in the SLF should be directed to the Kizh Nation. On September 18, 2019 the Kizh Nation

Name	Tribe/ Affiliation	Letter and Fax Contacts	Email Contacts	Telephone Contacts	Comments
					Admin Specialist replied requesting contact information for the project lead agency; O'Neil replied the same day with contact information of the Bradbury Planning Department. An email received October 3, 2019 from the Tribal Specialist indicated that they would like to consult with the Lead Agency if any ground disturbance is going to take place. Email sent to Mr. Salas and tribal office requesting information on SLF site mentioned by NAHC; no reply to date.
Charles Alvarez	Gabrielino-Tongva Tribe	September 16, 2019 (letter, no fax available)	September 16, 2019	October 17, 2019	Letter and email describing project and requesting input on concerns, September 16, 2019. No fax number available. Telephone call made October 17, 2019, no answer, message was left. No response.

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Tuesday, September 17, 2019 2:36 PM
To: steve oneil
Subject: Re: Project 7023 - Chadwick Ranch Estates, Bradbury, Los Angeles County

Hello Steve

Thank you for your letter our Tribal government would like to consult with you regarding the above project.

Thank you

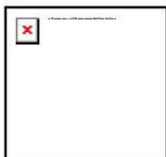
Sincerely,

Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org



On Tue, Sep 17, 2019 at 3:12 PM steve oneil <soneil@ultrasystems.com> wrote:

Dear Brandy,

Thank you for the tribe's reply to my inquiry concerning the Chadwick Ranch Estates project. I would be happy to talk with a tribal representative about the project and information you may have on traditional cultural resources in and around the project site. As stated in my letter, the NAHC said that there is such a site recorded their Sacred Lands File in the area and that the Kizh Nation would have knowledge of it.

Please understand that I am preparing the cultural resources inventory report and am conducting outreach to you and other tribes. It is only the Lead Agency, here the Bradbury City Planning Department, that can conduct AB 52 government-to-government "consultation" with you. If the tribe can provide traditional resources information for my report, that would be greatly appreciated, and any information the tribe wishes to remain confidential will not go into the public record.

Would a telephone call later this week be of help?

Best regards,

Steve

Stephen O'Neil | Cultural Resources Manager | M.A./RPA

UltraSystems Environmental | WBE/DBE/SBE/WOSB

16431 Scientific Way

Irvine, CA 92618
Office **949.788.4900 ext. 276**
Fax 949.788.4901

Cell 949.677.2391



Please consider the environment before printing this e-mail. Thank you.

E-Mail Confidentiality Notice: The information contained in this e-mail message is intended only for the personal and confidential use of the recipient(s) named above. This message may be an attorney-client communication and/or work product and as such is privileged and confidential. If the reader of this message is not the intended recipient, you are hereby notified that you have received this document in error and that any review, dissemination, distribution, or copying of this message is strictly prohibited. If you have received this communication in error, please notify us immediately by e-mail, and delete the original message.

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Wednesday, September 18, 2019 2:07 PM
To: steve oneil
Subject: Re: Project 7023 - Chadwick Ranch Estates, Bradbury, Los Angeles County

Hello Steve

Can you provide the lead person's contact info.

Thank you

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org



megan black

From: steve oneil
Sent: Wednesday, September 18, 2019 4:42 PM
To: Administration Gabrieleno
Cc: Megan Black
Subject: RE: Project 7023 - Chadwick Ranch Estates, Bradbury, Los Angeles County

Follow Up Flag: Follow up
Flag Status: Flagged

Brandy,

The Lead Agency for the Chadwick Estates project is the City of Bradbury's Planning Department. Small town, so they have limited office hours. Here is the contact person for there:

Jim Kasama, City Planner
CITY OF BRADBURY
600 Winston Avenue
Bradbury, CA 91008
(626) 358-3218
jkasama@CityofBradbury.org
Office Hours: Tuesdays & Wednesdays
8:30 a.m. to 11:00 a.m.

Yours,

Steve

Stephen O'Neil | Cultural Resources Manager | M.A./RPA

UltraSystems Environmental | WBE/DBE/SBE/WOSB
16431 Scientific Way
Irvine, CA 92618
Office **949.788.4900 ext. 276**
Fax 949.788.4901
Cell 949.677.2391



Please consider the environment before printing this e-mail. Thank you.

***E-Mail Confidentiality Notice:** The information contained in this e-mail message is intended only for the personal and confidential use of the recipient(s) named above. This message may be an attorney-client communication and/or work product and as such is privileged and confidential. If the reader of this message is not the intended recipient, you are hereby notified that you have received this document in error and that any review, dissemination, distribution, or copying of this message is strictly prohibited. If you have received this communication in error, please notify us immediately by e-mail, and delete the original message.*

megan black

To: steve oneil
Subject: RE: Chadwick Estates project in the City of Bradbury, Los Angeles County

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Thursday, October 3, 2019 12:14 PM
To: Steve O'Neil
Subject: Chadwick Estates project in the City of Bradbury, Los Angeles County

Thank you for your letter dated September 16, 2019. If there will be any type of ground disturbance taking place at the above project our Tribal Government would like to consult. Please get back to us so we can provide you with a date and time to consult.
Thank you,

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org



Attachments area

ATTACHMENT D

CHRIS Records Search Bibliography

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-03528		1966	King, Chester	Ucas-133 Albertson Ranch Thousand Oaks, Ventura County	UCAS	

APPENDIX B

LID PLAN

Chadwick Ranch Estates (TTM No. 82349)

LID Plan

City of Bradbury, CA

Prepared for:

Nevis Capital, LLC
335 N. Berry Street
Brea, CA 92821

Prepared by:

Q3 Consulting
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610

In association with:

Proactive Engineering Consultants, Inc.
JN 20.038.000

Prepared: September 27, 2019

Table of Contents

1. INTRODUCTION	1
2. STORMWATER QUALITY	1
2.1 Infiltration Infeasibility	1
2.2 Source Control Measures	2
2.3 Stormwater Quality Design Volume (SWQDv)	3
2.4 Stormwater Runoff Harvest and Use Feasibility	4
2.5 Alternative Compliance On-Site Biofiltration	4
3. HYDRMODIFICATION EXEMPTION	6
4. MAINTENANCE PLAN	7
5. REFERENCES	8

Exhibits

Exhibit A –BMP Exhibit

Technical Appendices

Appendix A: HydroCalc SWQDv Calculations

1. INTRODUCTION

The Chadwick Ranch Estates, Tentative Tract Map (TTM) No. 82349 is located in the San Gabriel River watershed in the City of Bradbury. The property is approximately 111 acres and is located on the foothills of the San Gabriel Mountains, with elevations ranging from approximately 1,790 feet above mean sea level (amsl) to 790 feet amsl. The site is currently undeveloped and drains to the Bradbury and Spinks Debris Basins. The debris basins are owned and maintained by the Los Angeles County Flood Control District (LACFCD).

The Chadwick Ranch Estates Project area will create 14 estate residential parcels with trails on the property. The development will include the installation of a water tank, a booster station, and debris and detention basins. The residential estates would allow a primary home and a guest house, and other ancillary structures including but not limited to garages and stables. The undisturbed open space will be dedicated to a conservancy and will ensure that 51% of the site remains undisturbed in perpetuity. Flow runoff from the project site is proposed to outlet at Spinks Basin.

This plan summarizes the project's stormwater quality methodology and results in order to demonstrate compliance with the County's LID Ordinance and LID Standards Manual.

2. STORMWATER QUALITY

The Chadwick Ranch Estates Project is a Designated Project. The proposed development will generate more than 1 acre of disturbed area and adds more than 10,000 square feet of impervious surface area.

2.1 INFILTRATION INFEASIBILITY

Based on preliminary engineering evaluation and site investigation, the geotechnical consultant Petra Geosciences, Inc. does not recommend infiltration for the project site due to the site's rock/soil characteristics. The infiltration of surface waters would have an adverse impact on the stability of the proposed and existing slopes.

Therefore, the project will meet stormwater quality mitigation requirements through biofiltration, which is further discussed in Section 2.5.

2.2 SOURCE CONTROL MEASURES

The table below summarizes the source control measures to be implemented.

Table 1 : Source Control Measures			
Source Control Measure	Included	Not Applicable	Reason Source Control is Not Applicable
Storm Drain Message and Signage (S-1)	×		
Outdoor Material Storage Area (S-2)		×	No outdoor storage areas proposed
Outdoor Trash Storage and Waste Handling Area (S-3)		×	No designated trash enclosures proposed
Outdoor Loading/Unloading Dock Area (S-4)		×	No loading docks proposed
Outdoor Vehicle/Equipment Repair /Maintenance Area (S-5)		×	No outdoor vehicle repair and maintenance area proposed
Outdoor Vehicle/Equipment /Accessory Wash Area (S-6)		×	No outdoor vehicle wash areas proposed
Fuel & Maintenance Area (S-7)		×	No vehicle/equipment fueling areas proposed
Landscape Irrigation Practices (S-8)	×		
Building Materials (S-9)	×		
Animal Care and Handling Facilities (S-10)	×		
Outdoor Horticulture Areas (S-11)		×	No horticulture areas proposed

2.3 STORMWATER QUALITY DESIGN VOLUME (SWQDV)

Per the LID Standards Manual, HydroCalc was used to calculate the SWQDV for each subarea of the watershed. The soil type was developed using the guidelines set in the Los Angeles County Hydrology Manual. The storm frequency was selected per LID Standards Manual guidelines.

Subareas 5B and 7B encompass the residential development area while the rest of the subareas are primarily undisturbed or include minimal slope grading whose runoff does not confluence with the primary runoff from the residential areas. Therefore, the SWQDV was only calculated subareas 5B and 7B.

Subarea 7B encompasses undisturbed slope area on its western boundary. The runoff from this area, which amounts to approximately 1.79 ac, is captured by an existing ditch along the street which joins a proposed v-ditch and ultimately outlets to Spinks Basin. The flows from the undisturbed area do not confluence with the proposed project storm drain and is therefore not included in the area for SWQDV calculations. Thus the area used to calculate SWQDV for subarea 7B is $26.74 - 1.79 = 24.95$ ac.

Table 2 : HydroCalc Input Parameters								
Subarea	Area (ac)	Length (ft)	Slope (ft/ft)	Depth (in)	Imperv	Soil Type	Frequency	Fire Factor
5B	14.53	3,292	0.11	1.3	0.31	88	85th percentile storm	0
7B	24.95	2,838	0.10	1.3	0.32	88	85th percentile storm	0

Table 3 : Total SWQDV		
Subarea	Total Area (ac)	SWQDV (cf)
5B	14.53	23,421.4
7B	24.95	41,758.6
Total	39.48	65,180

2.4 STORMWATER RUNOFF HARVEST AND USE FEASIBILITY

The irrigation demands for the project site are not expected to be enough for harvest and use to be feasible.

The project site's stormwater runoff will be treated with biofiltration per the LID Manual standards and is further discussed in the section below.

2.5 ALTERNATIVE COMPLIANCE ON-SITE BIOFILTRATION

Since the SQWDv is unable to be fully retained on the project site due to the site's infiltration infeasibility, the project will meet stormwater quality requirements through biofiltration.

Per Section 7.4 of the LID Standards Manual, the biofiltration volume (V_b) is calculated by the equation below:

$$V_b = 1.5 \times (SWQDv - V_r)$$

Since there is no on-site retention proposed for this project, the equation is simplified to the following:

$$V_b = 1.5 \times SWQDv$$

Subareas 5B and 7B encompass the residential development area while the rest of the subareas are primarily undisturbed or include minimal slope grading. Therefore, only the runoff from the proposed developed areas of subareas 5B and 7B will be treated for water quality.

A total of 4 Modular Wetland System (MWS) units are proposed in order to treat the biofiltration volume.

As shown in Exhibit A, subarea 5B and the west side of 7B are treated at BMPs M3& M4. The SWQDv for the west side of 7B was calculated by prorating the SWQDv for the entire developed 7B subarea. The remaining area of 7B on the east side is treated at BMPs M1 & M2.

Table 4 summarizes the V_b calculations and MWS sizing.

Table 4 : MWS Units						
BMP	MWS Model #	MWS Unit Capacity (cf)	Tributary Subarea	Tributary Area (ac)	SWQDv (cf)	V _b (cf)
M1	L-8-24	30,216	East side of 7B	24.95 – 1.34	41,758.6 – 2,238.5	59,280.2
M2	L-8-24	30,216		=23.61	= 39,520.1	
M3	L-8-16	20,145	5B & West side of 7B	14.53+1.34	West side of 7B: $1.34 \text{ ac} \times \frac{41,758.6 \text{ cf}}{24.95 \text{ ac}} = 2,238.5$	38,489.7
M4	L-8-16	20,145		= 15.87	5B + West side of 7B: $23,421.4 + 2,238.5 = 25,659.9$	
Total		100,722		39.48	65,180	97,769.9

3. HYDRMODIFICATION EXEMPTION

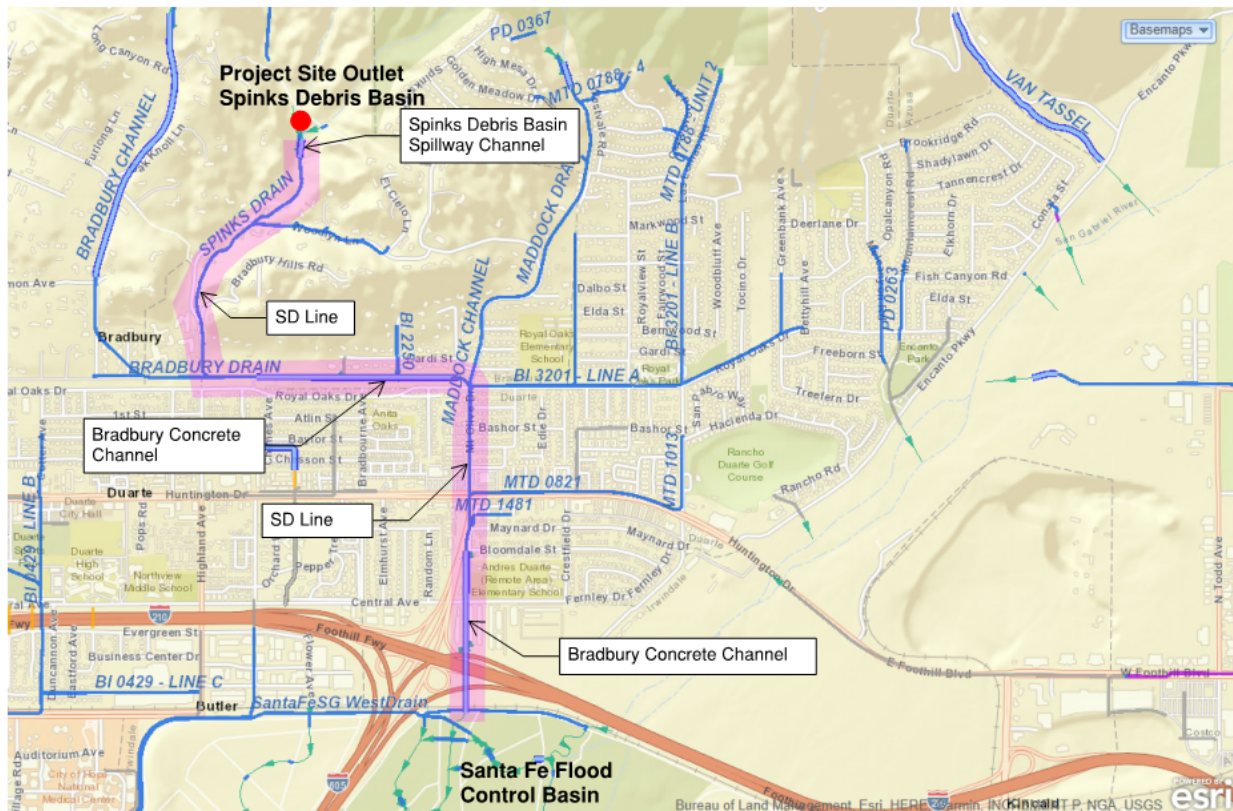
The proposed project meets the following hydromodification exemption requirements per the LID Standards Manual :

1. The project discharges directly or through a storm drain into an engineered channel and discharges into a receiving water that is not susceptible to hydromodification impacts.
2. The project is single family residence developments that incorporate LID BMPs in accordance with the LID Standards Manual

Figure 1 was generated from the web-based Los Angeles County Storm Drain System. The total runoff from the project site outlets into the Spinks Debris Basin. From the Spinks Debris Basin, flows are conveyed through storm drain lines and engineered concrete channels until they are ultimately discharged into the Santa Fe Flood Control Basin.

In the worst case scenario of a burned watershed, the proposed project's 50-year peak discharge of 259.7 cfs is not a significant contribution of flow to cause hydromodification to the Santa Fe Flood Control Basin.

Figure 1 : Project Downstream Flow Path



In addition, the project proposes 14 single family residential estates and incorporates LID BMPs per the LID Standards Manual and therefore meets the hydromodification exemption per the LID Standards Manual.

4. MAINTENANCE PLAN

All common areas within the project and areas that require ongoing maintenance will be maintained through a Homeowner's Association.

A Maintenance Plan and Maintenance Agreement will be submitted during the final design phase.

5. REFERENCES

Los Angeles County Department of Public Works (LACDPW), 2014. LID Standards Design Manual. February.

Los Angeles County Department of Public Works (LACDPW), 2006. Hydrology Manual. January.

EXHIBITS

BMP SIZING CALCULATIONS					
BMP	TRIBUTARY AREA	AREA (AC)	SWQDv (CF)	BIOFILTRATION VOLUME V _B (CF)	MWS LINEAR MODEL #
M1	7B EAST	23.61	39,520.2	59,280.2	L-8-24
M2					L-8-24
M3	5B & 7B WEST	15.87	25,659.8	38,489.7	L-8-16
M4					L-8-16

1A
15.87

TRIBUTARY AREA ID
TRIBUTARY AREA (ACRES)

2A

OUTLET ID

TENTATIVE TRACT BOUNDARY

=====

DRAINAGE BOUNDARY

SUBAREA DRAINAGE BOUNDARY

----->

FLOW LINE (LENGTH, FT)

PROPOSED STORM DRAIN

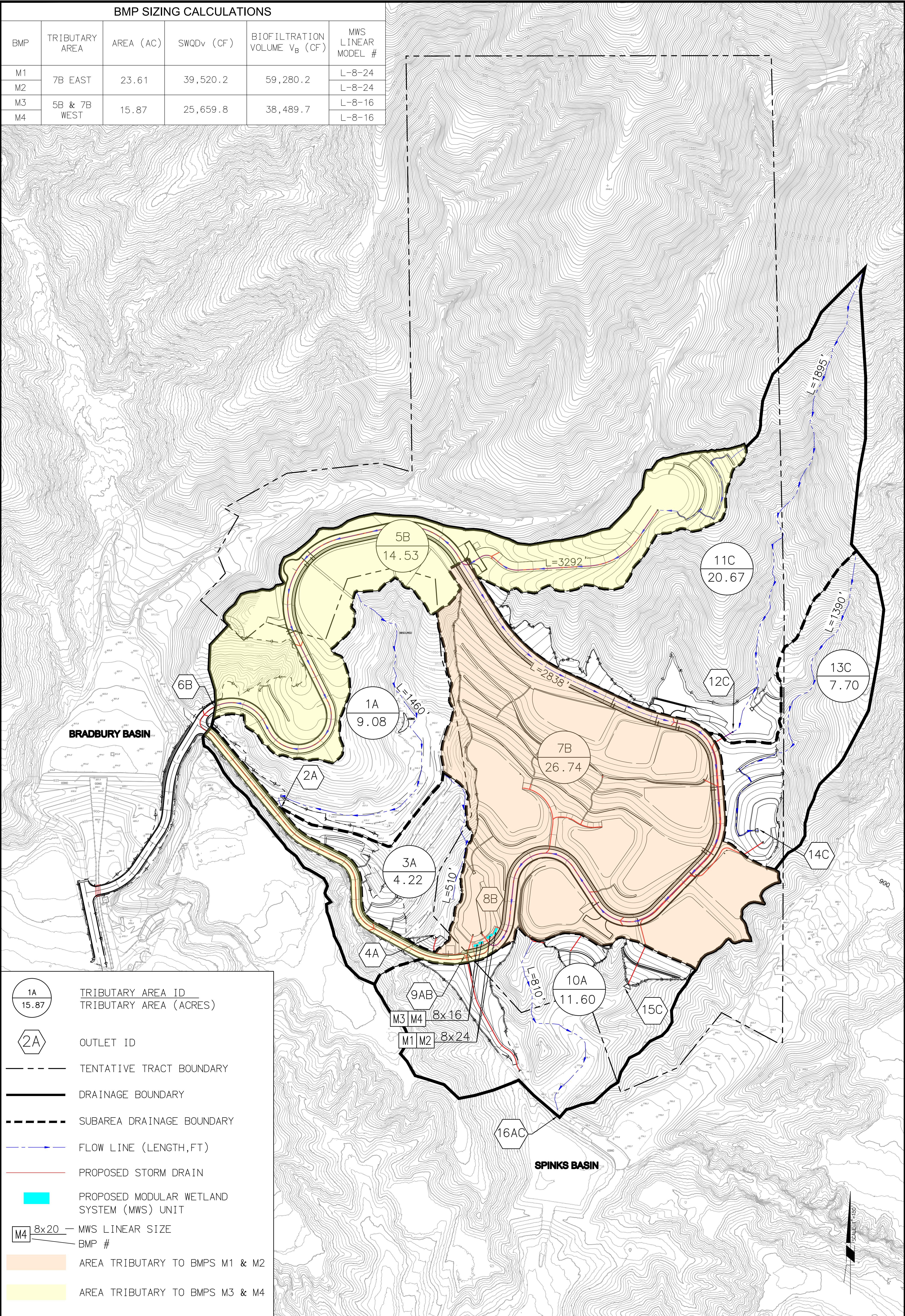
PROPOSED MODULAR WETLAND SYSTEM (MWS) UNIT

M4 8x20

MWS LINEAR SIZE
BMP #

AREA TRIBUTARY TO BMPS M1 & M2

AREA TRIBUTARY TO BMPS M3 & M4



SEAL

REGISTERED PROFESSIONAL ENGINEER
JOHN A. MCCARTHY
No. 47583
Exp. 12/31/19
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE
DIRECT SUPERVISION OF:

JOHN A. MCCARTHY
R.C.E. No. 47583

XXXX
DATE
EXP. DATE: 12/31/19

Q3 Consulting

27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610
949.259.6770

SCALE:
1"=150'
ONE INCH ON ORIGINAL

CHADWICK RANCH ESTATES

BMP EXHIBIT

FOR NEVIS CAPITAL, LLC

SHEET No.
1
OF 1 SHTS.
DRAWING NO.
-
W.O.

N:\20.038.000\DLV\REPORTS\LD Plan\2038-LD Exhibit PLOTTED: 9/26/2019 12:20:57 PM

TECHNICAL APPENDIX

APPENDIX A

HydroCalc SWQDv Calculations

Peak Flow Hydrologic Analysis

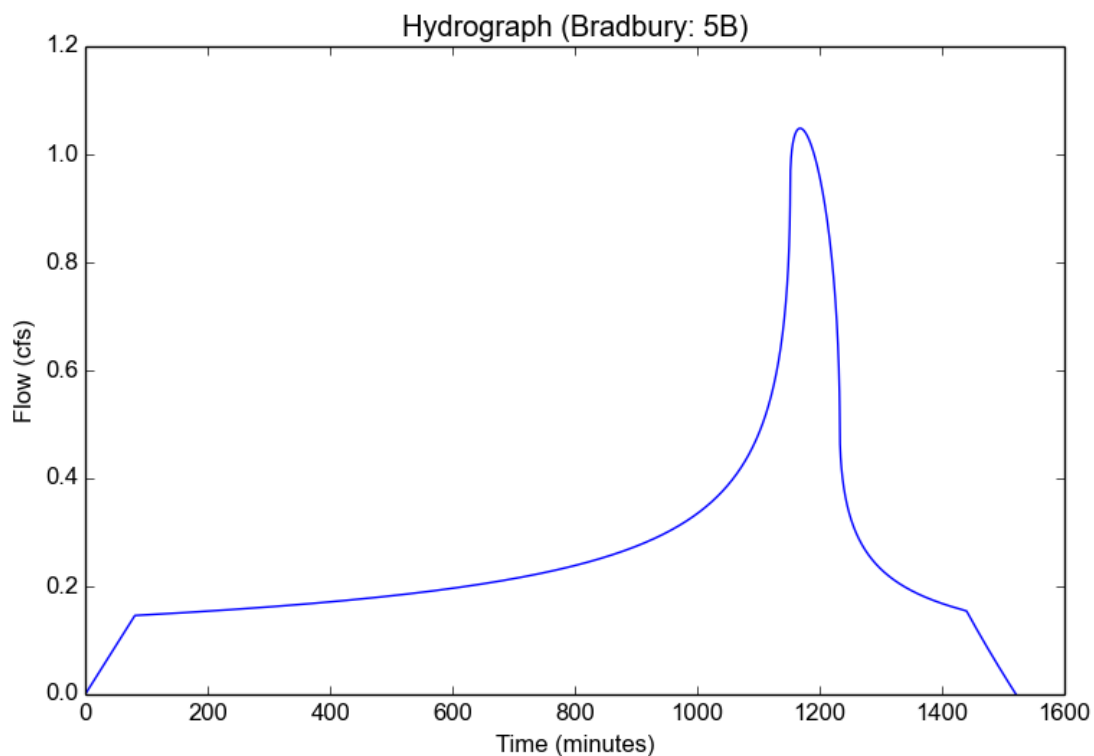
File location: N:/20.038.000/DLV/CALCS/WQ/HydroCalc/Bradbury Report_WQ_5B7B.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Bradbury
Subarea ID	5B
Area (ac)	14.53
Flow Path Length (ft)	3292.065
Flow Path Slope (vft/hft)	0.1139
85th Percentile Rainfall Depth (in)	1.3
Percent Impervious	0.3055
Soil Type	88
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.3
Peak Intensity (in/hr)	0.2095
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.3444
Time of Concentration (min)	81.0
Clear Peak Flow Rate (cfs)	1.0483
Burned Peak Flow Rate (cfs)	1.0483
24-Hr Clear Runoff Volume (ac-ft)	0.5377
24-Hr Clear Runoff Volume (cu-ft)	23421.3653



Peak Flow Hydrologic Analysis

File location: N:/20.038.000/DLV/CALCS/WQ/HydroCalc/Bradbury Report_WQ_5B7B.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Bradbury
Subarea ID	7B
Area (ac)	24.95
Flow Path Length (ft)	2837.624
Flow Path Slope (vft/hft)	0.0952
85th Percentile Rainfall Depth (in)	1.3
Percent Impervious	0.322
Soil Type	88
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.3
Peak Intensity (in/hr)	0.2172
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.3576
Time of Concentration (min)	75.0
Clear Peak Flow Rate (cfs)	1.938
Burned Peak Flow Rate (cfs)	1.938
24-Hr Clear Runoff Volume (ac-ft)	0.9586
24-Hr Clear Runoff Volume (cu-ft)	41758.6085

