Bowman Cell Tower Project

Biological Resources Assessment

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ACRONYMS AND ABBREVIATIONS

BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSA	California Special Animals
CWA	Clean Water Act
DBH	diameter at breast height
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
amsl	above mean sea level
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
OHWM	ordinary high water mark
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) conducted a Biological Resources Assessment (BRA) for the ±18.78-acre Bowman Cell Tower Project (Study Area) on November 21, 2022. The Study Area is located at 3321 El Dorado Hills Boulevard, in El Dorado Hills, California, and is situated in Sections 34 and 35 of Township 10 North and Range 08 East, as depicted on the U.S. Geological Survey (USGS) *Clarksville, CA* 7.5-minute quadrangle map. The approximate center of the Study Area is at latitude 38.674557 and longitude -121.076126, NAD 83, and is located at an elevation between 750 feet and 885 feet above mean sea level. For the purpose of this report, the Study Area is comprised of the proposed impact area and a surrounding 250-foot buffer.

The purpose of this BRA is to assess the general biological resources on the Study Area, assess the suitability of the Study Area to support special-status species and sensitive vegetation communities or habitats, analyze any potential impacts to biological resources that could occur as a result of the proposed project and provide suggested mitigation measures to avoid and/or reduce any such impacts to less than significant.

The ±18.78-acre Study Area is located in a mostly undeveloped area and is currently used as an archery club. The Study Area is comprised of blue oak woodland (14.15 acres) and developed/disturbed areas (4.63 acres). Surrounding land uses include open space, residential housing, Oak Ridge High School, and El Dorado Hills Boulevard.

Known or potential biological constraints in the Study Area include:

- Potential habitat for special-status and nesting migratory birds including Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), and purple martin (*Progne subis*).

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1.0 INTRODUCTION

This report summarizes the findings of a Biological Resources Assessment (BRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the ±18.78-acre Bowman Cell Tower Project (Study Area) located at 3321 El Dorado Hills Boulevard in El Dorado Hills, California. For the purpose of this report the Study Area is comprised of the proposed impact area and a surrounding 250-foot buffer. This document addresses the on-site physical features, plant communities present, and the common plant and wildlife species occurring or potentially occurring in the Study Area. In addition, the suitability of habitats to support special-status species and sensitive habitats are analyzed, as well as any potential impacts to biological resources that could occur as a result of development of the proposed project. Where applicable, mitigation measures are provided to avoid and/or reduce any such impacts to less than significant.

1.1 PROJECT DESCRIPTION

Under the proposed Project, a 115-foot tall monopine tower, a pre-manufactured equipment shelter, a standby generator, and other associated equipment will be installed within a 30-foot by 35-foot fenced lease area. An existing gravel road is proposed to be used as part of the Project with some improvements proposed to a portion of the road for re-alignment to El Dorado Hills Boulevard, and an extension of the road to the lease area. A utility easement is also proposed from El Dorado Hills Boulevard to the existing gravel road and lease area. No trees are proposed to be removed or trimmed as part of the Project.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. Applicable CEQA significance criteria are also addressed in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed Project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in the potential for take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors, migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species. It also directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

2.2.2 California Department of Fish and Game Codes

A number of species have been designated as "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch,*

capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

Any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

Waters of the U.S. generally consist of the following four categories of regulated waters:

- The territorial seas and traditional navigable waters;
- Tributaries to those waters;
- Certain lakes, ponds, and impoundments; and
- Wetlands adjacent to jurisdictional waters.

Features generally not considered waters of the U.S. include the following:

- Groundwater
- Diffuse stormwater run-off
- Artificial ditches constructed wholly in uplands
- Prior converted cropland (PCC)
- Artificially irrigated areas
- Artificial lakes and ponds
- Water-filled depressions incidental to mining or construction activity
- Stormwater control features
- Groundwater recharge, water reuse, and wastewater recycling structures
- Waste treatment systems

With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and

indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

> *"those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."*

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

Clean Water Act (33 USC 1251-1376). The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the U.S. Environmental Protection Agency (USEPA) in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts.

2.3.2 State Jurisdiction

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal Clean Water Act. Although the Clean Water Act is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water

Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;
II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and
IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S."

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

California Department of Fish and Wildlife

The CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601." Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the State CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist included in Appendix G of the State CEQA Guidelines. Appendix G provides

examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- 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 CDFW or USFWS;

- 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 CDFW or USFWS;

- 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;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere

Rank 2A: Plants presumed extirpated in California but common elsewhere

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere

Rank 3: Plants about which we need more information – A Review List

Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA. Furthermore, the CNPS Rare Plant Rankings include levels of threat for each species. These threat ranks include the following:

0.1 - Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.), be fully considered during preparation of environmental documents under CEQA.

2.4.2 California Department of Fish and Wildlife Species of Concern

Additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or listed as fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 EL DORADO COUNTY POLICIES AND REGULATIONS

2.5.1 General Plan

In addition to federal and State regulations described above, the *El Dorado County Adopted General Plan* (General Plan) includes goals, objectives, and policies regarding biological resources within the County limits (El Dorado County 2018). Sections of the General Plan regarding biological resources can be found under the Conservation and Open Space Element and applicable sections to the Project are included below:

CONSERVATION OF BIOLOGICAL RESOURCES

Goal 7.4: Wildlife and Vegetation Resources

Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

Objective 7.4.2: Identify and Protect Resources

Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

Policy 7.4.2.1: The County will coordinate wildlife and vegetation protection programs with appropriate Federal and State agencies.

Policy 7.4.2.2: The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

Policy 7.4.2.3: Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

Policy 7.4.2.4: Protect and preserve wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

Policy 7.4.2.5: Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

Policy 7.4.2.8: Conserve contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the County through a Biological Resource Mitigation Program (Program). The Program will result in the conservation of:

1. Habitats that support special status species;
2. Aquatic environments including streams, rivers, and lakes;
3. Wetland and riparian habitat;
4. Important habitat for migratory deer herds; and
5. Large expanses of native vegetation.

2.5.2 Oak Resources Management Plan

The County of El Dorado (County) adopted the Oak Resources Management Plan (ORMP) on October 24, 2017, and the ORMP went into effect on November 24, 2017. The ORMP designates three classes of protected oak resources:

1. oak stands with a greater than 10-percent canopy cover or that may have historically supported greater than 10-percent canopy cover;

2. Heritage Trees, defined as any live native oak tree of the genus *Quercus* (including blue oak [*Quercus douglasii*], valley oak [*Quercus lobata*], California black oak [*Quercus kelloggii*], interior live oak [*Quercus wislizeni*], canyon live oak [*Quercus chrysolepis*], Oregon oak [*Quercus*

garryana], oracle oak [*Quercus x morehus*], or hybrids thereof) with a single main trunk measuring 36 inches DBH or greater, or with a multiple trunk with an aggregate trunk diameter measuring 36 inches or greater (a tree removal permit shall be required for removal of any Heritage Tree, regardless of location within or outside of an oak woodland); and

3. and individual oak trees, defined as native oak trees with a single main trunk measuring greater than six but less than 36 inches DBH or with a multiple trunk with an aggregate trunk diameter measuring greater than ten inches DBH and is not a Heritage Tree.

The ORMP recognizes six oak woodland types: blue oak woodland, blue oak-foothill pine, coastal oak woodland, montane hardwood, montane hardwood-conifer, and valley oak woodland. An oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland and an oak tree removal permit is required prior to removal of Heritage Trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted, mitigation ratios are outlined in Table 1.

Table 1
OAK WOODLAND MITIGATION

Percent of Oak Woodland Impact	Oak Woodland Mitigation Ratio
0-50 %	1:1
50.1-75%	1.5:1
75.1-100%	2:1

Mitigation for removal of Heritage Trees or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees, respectively, to the number of trunk inches removed. Replacement requirements are outlined in Table 2 for impacts to individual oak trees.

Table 2
OAK TREE REPLACEMENT QUANTITIES

Replacement Tree Size	# of Trees Required Per Inch of Trunk Diameter Removed
Acorn	3
1-gallon/Tree Pot 4	2
5-gallon	1.5
15-gallon	1

Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Any oak woodland preserved on-site and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed prior to conducting the field survey. The following published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2022. *California Natural Diversity Database* (CNDDB); For: *Latrobe, Shingle Springs, Coloma, Folsom SE, Folsom, Clarksville, Pilot Hill, Rocklin,* and *Buffalo Creek* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [November 17, 2022];

- California Native Plant Society (CNPS). 2022. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.45) For: *Latrobe, Shingle Springs, Coloma, Folsom SE, Folsom, Clarksville, Pilot Hill, Rocklin,* and *Buffalo Creek* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [November 17, 2022];

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1993. *Placer County, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station);

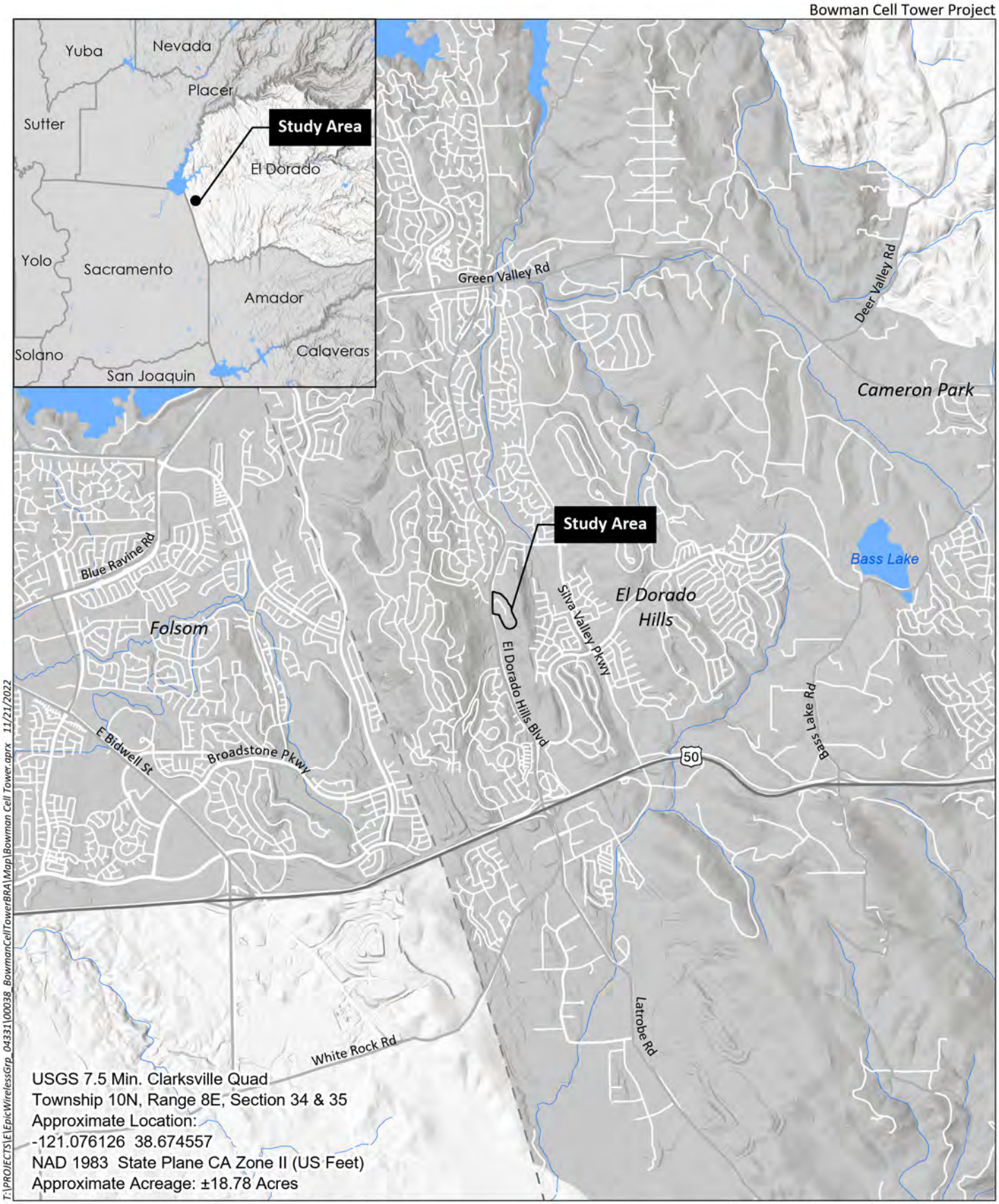
- USDA, NRCS. 2022. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov. Accessed [November 17, 2022];

- U.S. Fish and Wildlife Service (USFWS). 2022. *Information for Planning and Consultation* (IPaC) *Bowman Cell Tower.* Accessed [November 17, 2022]; and

- USGS. 2021 *Clarksville, California*. 7.5-minute series topographic quadrangle. United States Department of Interior.

Prior to conducting the biological field survey, existing information concerning known habitats and special-status species that may occur in the Study Area was reviewed. The results of the database query and a five-mile radius CNDDB query for the Study Area are included in Appendix A. The biological field survey was conducted on November 21, 2022, by HELIX biologist, Christine Heckler. The weather during the field survey was mostly sunny with an average temperature of 55°F. The Study Area was systematically surveyed on foot to ensure total search coverage, with special attention given to portions of the Study Area with the potential to support special-status species and sensitive habitats. Binoculars were used to further extend site coverage and identify species observed. All plant and animal species observed were recorded, and all biological communities occurring on-site were characterized. All resources of interest were mapped with Global Positioning System (GPS)-capable tablets equipped with GPS receivers running ESRI Field Maps for ArcGIS with sub-meter accuracy.

Following the field survey, the potential for each species identified in the database query to occur within the Study Area was determined based on the site survey, soils, habitats present within the Study Area, and species-specific information, as shown in Appendix B. Species observed within the Study Area during the survey are included in Appendix C, and photographs taken during the survey are included in Appendix D.



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Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The ±18.78-acre Study Area is located at 3321 El Dorado Hills Boulevard, in El Dorado Hills, California. The site is situated in Sections 34 and 35 of Township 10 North and Range 08 East, and is depicted on the USGS *Clarksville, CA* 7.5-minute quadrangle map (Figure 1). The Study Area is currently used as an archery club that has been open to the public since 1963. Various ranges with fixed targets occur throughout the Study Area as part of the club as well as benches, picnic tables, a clubhouse, and a storage building. The club is situated in a blue oak woodland, and targets and cleared dirt trails are weaved throughout the understory of the oak trees. An existing gravel road occurs from El Dorado Hills Boulevard to the clubhouse and storage building parking lot. The approximate center of the Study Area is at latitude, 38.674557 and longitude -121.076126, NAD 83. A topographic map of the Study Area is included as Figure 2, and an aerial image of the Study Area is included as Figure 3.

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

Terrain in the majority of the Study Area is gently sloped with various undulating microtopography. Topography is generally level in the portion of the Study Area surrounding the club house and storage building, and in the proposed lease area. Elevations range from approximately 876 feet above mean sea level (amsl) in the east to 734 feel amsl in the west.

The Study Area is located on the border of the Upper Consumnes watershed (USGS Hydrologic Unit Code [HUC8] 18040013) and the South Fork American watershed (USGS Hydrologic Unit Code [HUC8] 18020129). The site appears to drain downslope to the west towards El Dorado Hills Boulevard. A small roadside ditch occurs along the existing gravel access road and exists the site via a culvert to El Dorado Hills Boulevard. No aquatic resources were observed within the Study Area and the site has no apparent natural source of water other than direct precipitation.

4.2.2 Soils

Three soil map units are mapped within the Study Area: Argonaut gravelly loam, 2 to 15 percent slopes, Auburn very rocky silt loam, 2 to 30 percent slopes, and Auburn very rocky silt loam, 30 to 50 percent slopes (Figure 4). The general characteristics and properties of these soil map units are described below.

Argonaut gravelly loam, 2 to 15 percent slopes has a parent material derived from residuum weathered from andesite and/or residuum weathered from metasedimentary rock. It is typical of ridges and is found from 120 to 2,500 feet amsl. A typical soil profile is gravelly loam, clay, and weathered bedrock. This soil unit is well drained, has a medium runoff class, and no frequency of flooding or ponding. Minor components of this soil are considered hydric (NRCS 2022).

Auburn very rocky silt loam, 2 to 30 percent slopes has a parent material derived from residuum weathered from basic igneous rock and/or basic residuum weathered from metamorphic rock. It is typical of hills and is found from 120 to 3,000 feet amsl. A typical soil profile is silt loam and

unweathered bedrock. This soil unit is well drained, has a medium runoff class, and no frequency of flooding or ponding. This soil unit is not considered hydric (NRCS 2022).

Auburn very rocky silt loam, 30 to 50 percent slopes has a parent material derived from residuum weathered from basic igneous rock and/or basic residuum weathered from metamorphic rock. It is typical of hills and is found from 120 to 3,000 feet amsl. A typical soil profile is silt loam and unweathered bedrock. This soil unit is well drained, has a high runoff class, and no frequency of flooding or ponding. This soil unit is not considered hydric (NRCS 2022).

4.3 BIOLOGICAL COMMUNITIES

Two biological communities occur within the Study Area: blue oak woodland and developed/disturbed. These habitat types are discussed below. A comprehensive list of all plant and wildlife species observed within the Study Area in these habitats is provided in Appendix C. Representative site photographs are included in Appendix D.

4.3.1 Blue Oak Woodland

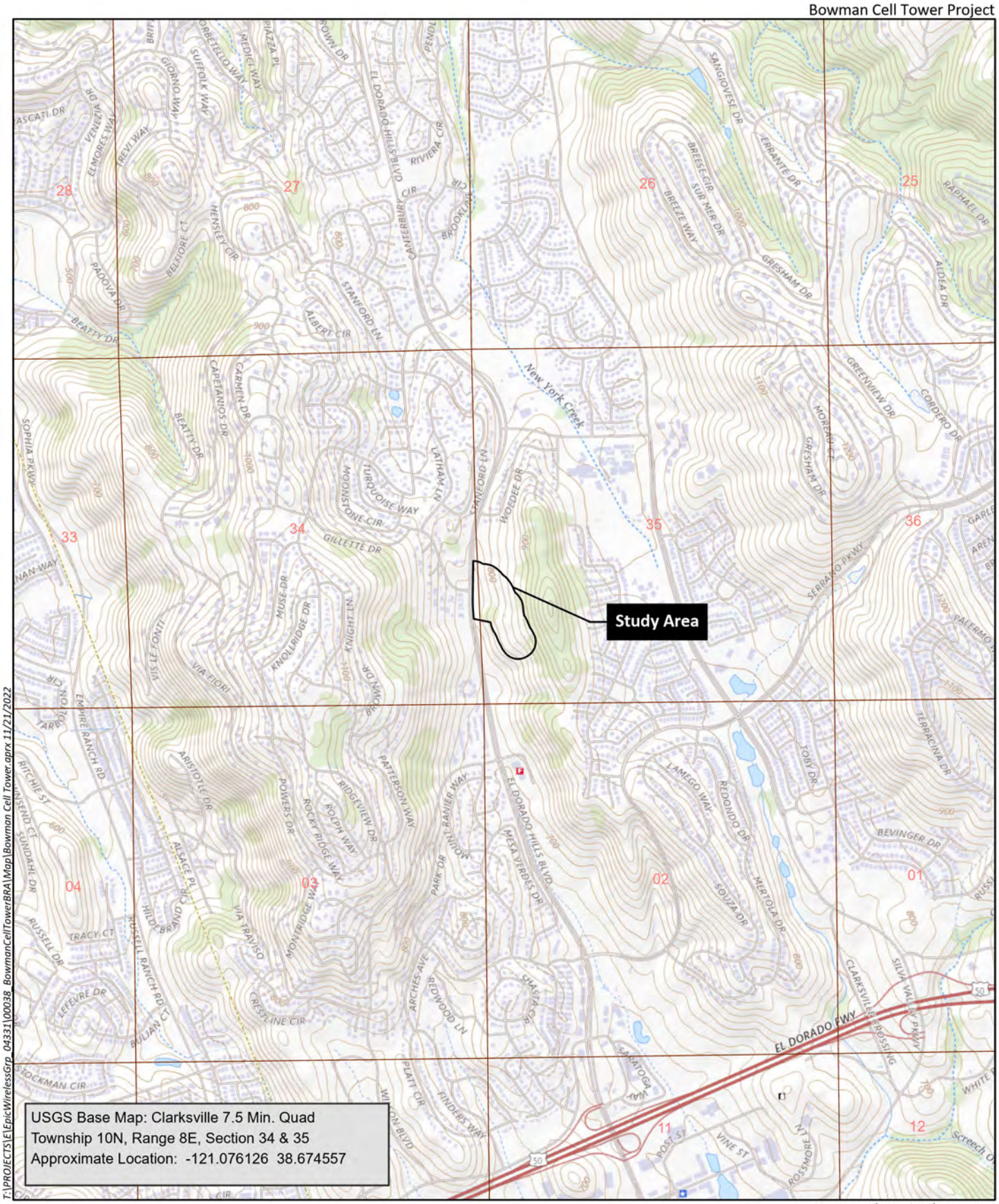
Blue oak woodland dominates the Study Area and is the only natural habitat type observed. This habitat is common in the local region and is typically dominated by blue oaks (*Quercus douglasii*), with other species such as interior live oak (*Quercus wislizeni*) and valley oak (*Quercus lobata*) also occurring. Shrubs are often present but are rarely extensive, often occurring on rock outcrops. The understory of this community is an extension of annual grassland habitat (Mayer and Laudenslayer 1988). Open areas of the blue oak woodland habitat within the Study Area are best described as an annual grassland understory. Some portions of the understory appear to be mowed in association with the archery range and are visible on aerial imagery. These sections would likely revert back to an annual grassland understory if maintenance stopped. Approximately 14.15 acres of blue oak woodland occurs within the Study Area (Figure 5).

Blue oak trees dominate the canopy of this habitat within the Study Area with very few interior live oaks also present. The understory is comprised of annual grassland species including slim oats (*Avena barbata*), medusa head (*Elymus caput-medusae*), common ripgut grass (*Bromus diandrus*), narrow tarplant (*Holocarpha virgata*), and brodiaea (*Brodiaea* spp.).

4.3.2 Developed/Disturbed

Developed habitat is often comprised of little to no vegetation and typically contains built structures and/or maintained surfaces such as roads or parking lots. Vegetation that does occur within this habitat type is often ornamental, rather than invasive or noxious weeds such as in ruderal habitat types. Disturbed habitats typically retain a soil substrate, but the vegetation communities are either lacking or are comprised of mostly ruderal plant species. Approximately 4.63 acres of developed/disturbed habitat occurs within the Study Area and is made up of the gravel access road and parking lots, on-site buildings, and cleared target ranges and dirt roads. (Figure 5).

Few plant species were observed within the developed/disturbed areas within the Study Area; plant species observed include yellow star thistle (*Centaurea solstitialis*) and stinkwort (*Dittrichia graveolens*) along the shoulder of the access roads, and medusa head, common ripgut grass, and slim oats near the cleared target ranges.



USGS Base Map: Clarksville 7.5 Min. Quad
Township 10N, Range 8E, Section 34 & 35
Approximate Location: -121.076126 38.674557

T:\PROJECTS\E\EpicWirelessGrp_04331\00038_BowmanCellTowerBRA\Map\Bowman Cell Tower.aprx 11/21/2022

0 2,000 Feet

Source: USGS, The National Map, 2021

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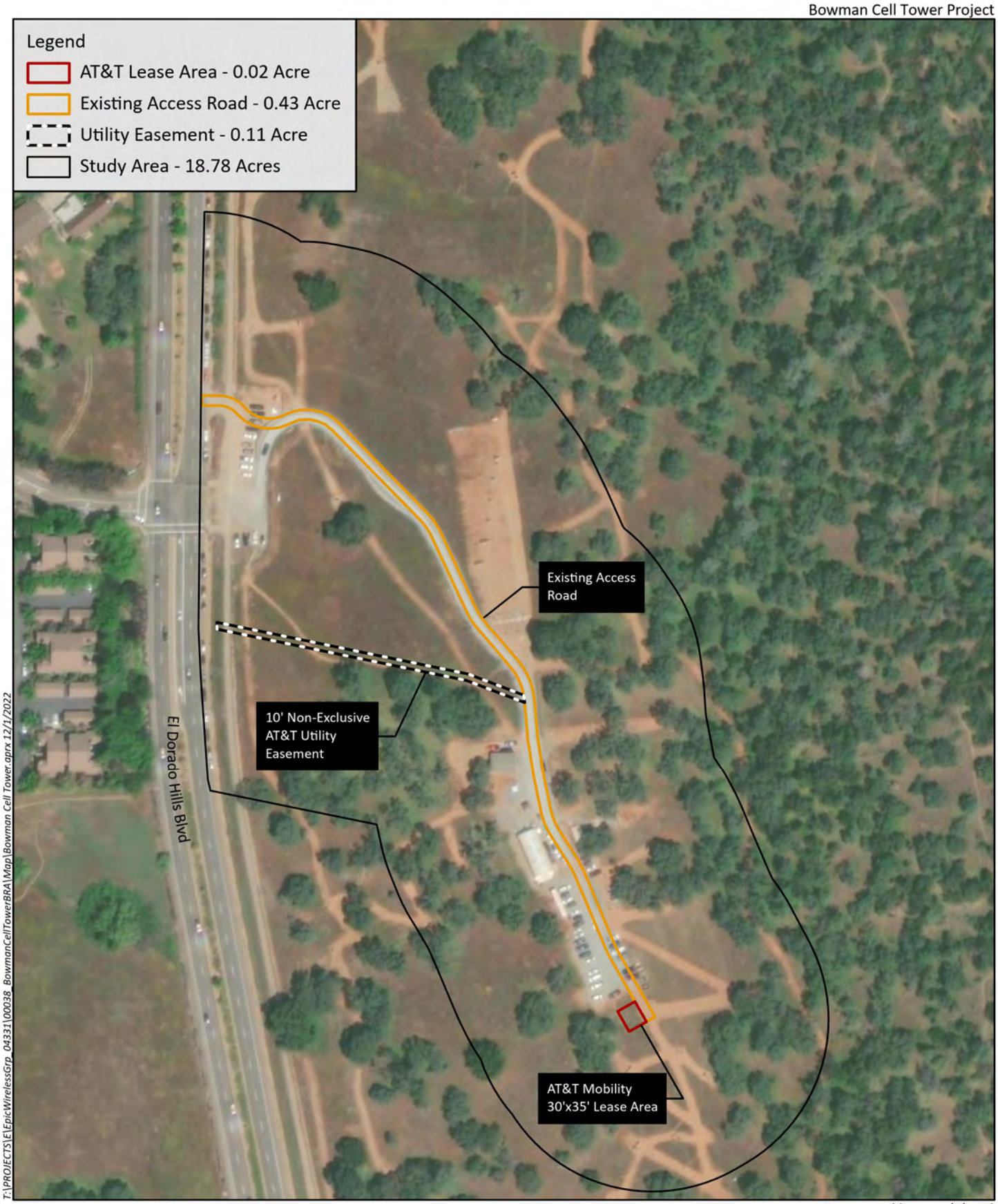
USGS Topographic Map

Figure 2



Source: Aerial (Maxar, 5/1/2022)

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Aerial Map

Figure 3

HELIX Environmental Planning

Soils Map

Figure 4

Source: Aerial (Maxar, 5/1/2022)

HELIX Environmental Planning

Biological Communities

Figure 5

4.4 AQUATIC RESOURCES

No aquatic resources were observed within or adjacent to the Study Area.

4.5 SPECIAL-STATUS SPECIES

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., the PCCP, MBTA);
- Included on the CDFW Special Animals List or Watch List;
- Identified as Rare Plant Rank 1 to 4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Clarksville, CA* USGS quadrangle and eight surrounding quadrangles (Appendix A). Appendix B includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species' potential for occurrence within the Study Area:

Will Not Occur: Species is either sessile (i.e., plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the Study Area;

Not Expected: Species moves freely and might disperse through or across the Study Area, but suitable habitat for residence or breeding does not occur in the Study Area, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100% certainty;

Presumed Absent: Habitat suitable for residence and breeding occurs in the Study Area; however, focused surveys conducted for the current project were negative;

May Occur: Species was not observed on the site and breeding habitat is not present but the species has the potential to utilize the site for dispersal;

High: Habitat suitable for residence and breeding occurs in the Study Area and the species has been recorded recently in or near the Study Area, but was not observed during surveys for the current project; and

Present: The species was observed during biological surveys for the current project and is assumed to occupy the Study Area or utilize the Study Area during some portion of its life cycle.

Only those species that are known to be present, have a high potential to occur, or may occur are discussed further in the following sections. Species that are not expected to occur or will not occur are included in Appendix B.

4.5.1 Listed and Special-Status Plants

According to the database query, twenty-one listed and/or special-status plants have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2022; CNPS 2022). Based on field observations, published information, and literature review, only one special-status plant, Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), has potential to occur within the Study Area. The majority of the regional special-status plants identified in the query occur on serpentine or gabbro soils, within vernal pools, or within other habitats which do not occur in the Study Area.

Special-Status Plants with Potential for Occurrence

Brandegee's Clarkia

Brandegee's clarkia is an annual herb that is rated 4.2 by CNPS. This rating describes plants that are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly but they are not listed under State or federal regulation. Brandegee's clarkia is often found in roadcuts within chaparral, foothill woodland, and lower montane coniferous forests from 75 to 915 meters amsl. This species appears to prefer areas with minimal grassy cover and is often found on slopes. The blooming period is May through July (CNPS 2022).

The blue oak woodland within the Study Area provides suitable habitat for Brandegee's clarkia. The road cut and archery course contain ideal habitat characteristics for this species as well as the varying slopes within the Study Area. There is one documented occurrence of this species within five miles of the Study Area, approximately 2.92 miles away (CDFW 2022). Based on suitable habitat within the Study Area as well as nearby documented occurrences, Brandegee's clarkia has a high potential to occur.

4.5.2 Listed and Special-Status Wildlife

According to the database query, thirty-three listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2022; USFWS 2022). Based on field observations, published information, and literature review, three special-status wildlife species have the potential to occur within the Study Area. These include Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), and purple martin (*Pronge subis*). These species are discussed in more detail below. In addition to these special-status wildlife species, other birds and raptors protected under federal, State, and local laws/policies also have potential to occur within the Study Area.

The following species may pass through the Study Area, but are not expected to use the Study Area in any significant way and are not discussed further in this report: crotch bumblebee (*Bombus crotchii*), western bumblebee (*Bombus occidentalis*), Monarch butterfly (*Danaus plexippus*), Blainville's horned lizard (*Phrynosoma blainvillii*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), merlin (*Falco columbarius*), bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*), and pallid bat (*Antrozous pallidus*).

Special-Status Wildlife with Potential for Occurrence

Cooper's Hawk

The Cooper's hawk is included on CDFW's Watch List. This species occurs in open woodlands, riparian forests, montane coniferous forests, and other open woodland habitats. It is also known to occur in wooded suburban habitats. Nests are built in a variety of trees, often in a crotch or on a horizontal branch, and are typically 25-50 feet high.

The entire Study Area provides suitable habitat for this species. Trees suitable for nesting are located in the blue oak woodland and suitable foraging habitat occurs throughout the Study Area. This species is not regularly tracked by the CNDDB, but it is a common species within El Dorado County and the vicinity of the Study Area (eBird 2022). Because suitable nesting and foraging habitat is present in the Study Area and it is a common species in the area, Cooper's hawk has a high potential to occur.

White-Tailed Kite

The white-tailed kite is classified as Fully Protected by CDFW. This species occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nesting generally occurs within riparian or edge habitats or in lone trees that are adjacent to foraging habitat. Foraging habitat consists of a variety of open habitats that contain a high rodent population; especially grasslands, pastures, alfalfa fields, and other agricultural crops/fields.

The entire Study Area provides suitable habitat for this species. Trees suitable for nesting are located in the blue oak woodland and suitable foraging habitat occurs throughout the Study Area, especially in open areas. There are two documented occurrences within five miles of the Study Area, with the nearest occurring approximately 1.51 miles from the Study Area (CDFW 2022). Based on suitable habitat within the Study Area and nearby documented occurrences, white-tailed kite has a high potential to occur.

Purple Martin

The purple martin is designated as a CDFW Species of Special Concern. This species in an uncommon California migrant that breeds in low to mid-elevation wooded habitats. They typically occur in oak woodland, coniferous forest, riparian woodland, and suburban areas. Purple martins nest in natural tree cavities, abandoned woodpecker holes, rock crevices, within bridges, or in other artificial structures. This species tends to prefer nest sites with low canopy cover and hilly or mountainous terrain.

The entire Study Area provides suitable habitat for this species. Trees suitable for nesting are located in the blue oak woodland and suitable foraging habitat occurs throughout the Study Area. There are no documented occurrences within five miles of the Study Area by the CNDDB; however, this species has been documented in the vicinity of the Study Area by other resources (eBird 2022). Purple martin, although an uncommon migrant in California, may occur within the Study Area during spring or summer.

Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations

(50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; and Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

A number of migratory birds and raptors have the potential to nest in or adjacent to the Study Area. Suitable nest locations include trees, shrubs, grass, artificial structures, and bare ground.

4.6 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA; Section 1600 of the California Fish and Game Code, which includes riparian areas; and/or Sections 401 and 404 of the Clean Water Act, which include wetlands and other waters of the U.S. Sensitive habitats or resource types within the Study Area are discussed below.

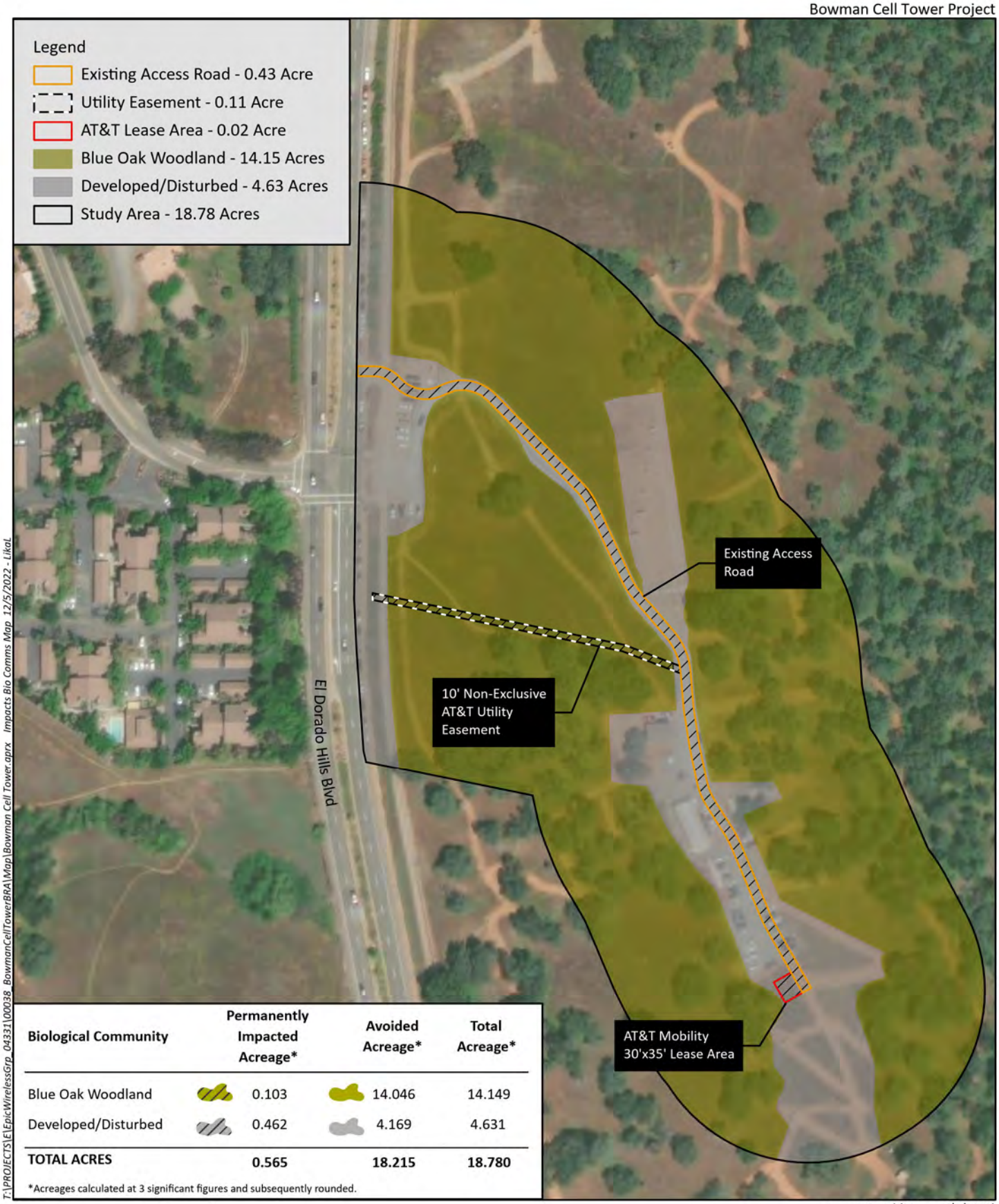
4.6.1 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The Study Area is located within an open space area that is surrounded by residential properties and streets. Although wildlife may disperse through the Study Area on a local level, the Study Area is not considered a wildlife migration or movement corridor.

4.6.2 Oak Trees and Oak Woodland

A total of 14.15 acres of blue oak woodland habitat has been mapped within the Study Area (Figure 5). Impacts to oak trees are not expected as part of the proposed project as the project design will avoid all oak trees. However, approximately 0.103-acre of impacts are anticipated to the understory of the blue oak woodland habitat in areas that lack any tree canopy (Figure 6). Blue oak woodland understory is not regulated by the County if impacts to oak trees are not expected. If impacts to individual oak trees or oak woodland habitat (multiple oak trees) are anticipated, the County will require mitigation for impacts to oak resources under the ORMP as described in Section 2.5.2.



Biological Community	Permanently Impacted Acreage*	Avoided Acreage*	Total Acreage*
Blue Oak Woodland	0.103	14.046	14.149
Developed/Disturbed	0.462	4.169	4.631
TOTAL ACRES	**0.565**	**18.215**	**18.780**

*Acreages calculated at 3 significant figures and subsequently rounded.

0 200 Feet

Source: Aerial (Maxar, 5/1/2022)

T:\PROJECTS\E\EpicWirelessGrp_04331\00038_BowmanCellTowerBRA\Map\Bowman Cell Tower.aprx Impacts Bio Comms Map 12/5/2022 - LikaL

HELIX Environmental Planning

Impacts to Biological Communities

Figure 6

5.0 CONCLUSIONS AND RECOMMENDATIONS

The Study Area contains 14.15 acres of blue oak woodland habitat and 4.63 acres developed/disturbed habitat. Based on the current site plan, the proposed Project is expected to result in permanent impacts to ±0.103 acre of blue oak woodland and ±0.462 acre of developed/disturbed habitat (Figure 6). Impacts in the blue oak woodland community are expected to be confined to an area that lacks any tree canopy and no trees are expected to be removed.

No special-status plants or special-status wildlife species were observed within the Study Area during the field survey on November 21, 2022. However, suitable habitat is present for several special-status species and there is potential these species may occur within the Study Area. Recommendations, including avoidance and minimization measures to limit or avoid impacts to special-status species and sensitive aquatic habitats are included in Section 5.1.

Known or potential biological constraints in the Study Area include:

- Potential habitat for special-status and nesting migratory birds including Cooper's hawk (*Accipiter cooperi*), white-tailed kite (*Elanus leucurus*), and purple martin (*Progne subis*).

5.1 RECOMMENDATIONS

5.1.1 Special-Status Plants

Special-status plants with potential to occur in the Study Area include Brandegee's clarkia. This species has a CRPR ranking of 4.2; CRPR 4 taxa do not clearly meet CEQA standards and thresholds for impact considerations and are not typically addressed in CEQA documents. These species may be locally uncommon or of limited distribution but do not hold any legal protection. Therefore, impact considerations for Brandegee's clarkia are not required for any CEQA analysis and no measures are recommended for this species.

5.1.2 Special-Status Birds and Nesting Migratory Birds and Raptors

Special-status birds and migratory birds and raptors protected under federal, State, and/or local laws and policies have potential to nest and forage within the Study Area, including Cooper's hawk, white-tailed kite, and purple martin. Although no active nests were observed during the field survey, the Study Area and adjacent land contain suitable habitat to support a variety of nesting birds within trees, shrubs, structures, and on bare ground.

Active nests and nesting birds are protected by the California Fish and Game Code Sections 3503 and 3503.5, 3513 and the MBTA. Ground-disturbing and other development activities including grading, vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity should be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, the following measures are recommended:

- If construction activities occur during the nesting season, a qualified biologist should conduct a nesting bird survey to determine the presence of any active nests within the Study Area. Additionally, the surrounding 500 feet of the Study Area should be surveyed for active raptor

nests, where accessible. The nesting bird survey should be conducted within 14 days prior to commencement of ground-disturbing or other development activities. If the nesting bird survey shows that there is no evidence of active nests, then a letter report should be prepared to document the survey and be provided to the project proponent and no additional measures are recommended. If development does not commence within 14 days of the nesting bird survey, or halts for more than 14 days, then an additional survey is required prior to starting or resuming work within the nesting season.

    - If active nests are found, then the qualified biologist should establish a species-specific buffer to prohibit development activities near the nest to and minimize nest disturbance until the young have successfully fledged or the biologist determines that the nest is no longer active. Buffer distances may range from 30 feet for some songbirds and 0.5 miles for some raptors. Nest monitoring may also be warranted during certain phases of construction to ensure nesting birds are not adversely impacted. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the tree and all trees within the buffer should not be removed until a qualified biologist determines that the nest has successfully fledged and/or is no longer active.

- A qualified biologist should conduct an environmental awareness training to all project-related personnel prior to the initiation of work. The training shall follow the same outline described above for special-status plants, and may be combined with other trainings, as applicable.

- If construction occurs outside of the nesting bird season (September 1 to January 31) a nesting bird survey and environmental training for nesting birds would not be required.

6.0 REFERENCES

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Appendix A

CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Latrobe (3812058) OR Shingle Springs (3812068) OR Coloma (3812078) OR Folsom SE (3812151) OR Folsom (3812162) OR Clarksville (3812161) OR Pilot Hill (3812171) OR Rocklin (3812172) OR Buffalo Creek (3812152))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Allium jepsonii Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Banksula californica Alabaster Cave harvestman	ILARA14020	None	None	GH	SH	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Calystegia stebbinsii Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Carex xerophila chaparral sedge	PMCYP03M60	None	None	G2	S2	1B.2
Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.1
Central Valley Drainage Hardhead/Squawfish Stream Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Cosumnoperla hypocrena Cosumnes stripetail	IIPLE23020	None	None	G2	S2	
Crocanthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2?Q	S2?	3.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Fremontodendron decumbens Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S1	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Nannopterum auritum double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Navarretia myersii ssp. myersii pincushion navarretia	PDPLM0C0X1	None	None	G2T2	S2	1B.1
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Pekania pennanti Fisher	AMAJF01020	None	None	G5	S2S3	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S4	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rana boylii pop. 5 foothill yellow-legged frog - south Sierra DPS	AAABH01055	Proposed Endangered	Endangered	G3T2	S2	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Wyethia reticulata El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 66

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2023-0018277
Project Name: Bowman Cell Tower

November 22, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2023-0018277
Project Name: Bowman Cell Tower
Project Type: Communication Tower New Construction
Project Description: Telecommunications
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.674508599999996,-121.07623511498272,14z

Counties: El Dorado County, California

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/2891	
California Tiger Salamander *Ambystoma californiense*	Threatened
Population: U.S.A. (Central CA DPS)	
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/2076	

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/321	

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
El Dorado Bedstraw *Galium californicum ssp. sierrae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5209	Endangered
Layne's Butterweed *Senecio layneae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Ceanothus *Ceanothus roderickii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3293	Endangered
Pine Hill Flannelbush *Fremontodendron californicum ssp. decumbens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4818	Endangered
Stebbins' Morning-glory *Calystegia stebbinsii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3991	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency:	HELIX Environmental Planning Inc.
Name:	Christine Heckler
Address:	1677 Eureka Road Suite 100
Address Line 2:	Suite 100
City:	Roseville
State:	CA
Zip:	95661
Email	christineh@helixepi.com
Phone:	9164351202

CNPS Rare Plant Inventory

California Native Plant Society

Search Results

7 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [**1A:1B:2A:2B:3:4**] Fed List is one of [**FE:FT:FC**] **and** State List is one of [**CE:CT:CR:CE:CT**] , 9-Quad include [**3812058:3812068:3812078:3812151:3812162:3812161:3812171:3812172:3812152**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	FE	CE	G1	S1	1B.1	No Photo Available
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Apr-Jun	FE	CR	G1	S1	1B.1	No Photo Available
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	FE	CR	G1	S1	1B.2	No Photo Available
Galium californicum ssp. *sierrae*	El Dorado bedstraw	Rubiaceae	perennial herb	May-Jun	FE	CR	G5T1	S1	1B.2	 © 2019 John Doyen
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	 © 2013 Justy Leppert
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	FE	CE	G1	S1	1B.1	No Photo Available
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	FT	CR	G2	S2	1B.2	No Photo Available

Showing 1 to 7 of 7 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 17 November 2022].

Appendix B

Special-Status Species to Occur in the Study Area

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Plants			
Allium jepsonii Jepson's onion	1B.2	A perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodlands from 300 – 1,320 meters elevation. Blooms April – August (CNPS 2022).	**Will not occur.** Serpentine or volcanic soils do not occur in the Study Area and the Study Area is at the very lower end of the known elevational range of this species.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B.2	Perennial herb found in serpentine soils within chaparral, cismontane woodland, and valley and foothill grassland habitats from 90 - 1,550 meters amsl. Blooming period: March – June (CNPS 2022).	**Will not occur**. Serpentine soils do not occur in the Study Area.
Calystegia stebbinsii Stebbins' morning-glory	FE, SE, 1B.1	A perennial rhizomatous herb found on gabbroic or serpentine soils in chaparral and cismontane woodlands from 185 – 1,090 meters elevation. Blooming period: April – July (CNPS 2022).	**Will not occur.** Gabbro or serpentine soils do not occur in the Study Area.
Carex xerophila Chaparral sedge	1B.2	A perennial herb found on serpentine and gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 440 – 770 meters elevation. Blooms March – June (CNPS 2022).	**Will not occur.** Serpentine or gabbro soils do not occur in the Study Area.
Ceanothus roderickii Pine Hill ceanothus	FE, SR, 1B.1	A perennial evergreen shrub in serpentinite or gabbroic soils in cismontane woodlands and chaparral found 245 – 1,090 meters elevation. Blooms April – June (CNPS 2022).	**Will not occur.** Serpentine or gabbro soils do not occur in the Study Area. Two documented occurrences within five miles of the Study Area (CDFW 2022).
Chlorogalum grandiflorum Red Hills soaproot	1B.2	A perennial bulbiferous herb found on serpentine and gabbroic soils in lower montane coniferous forest, cismontane woodland and chaparral from 245 – 1,690 meters elevation. Blooms April – May (CNPS 2022).	**Will not occur.** Serpentine or gabbro soils do not occur in the Study Area and the Study Area is at the very lower end of the known elevational range of this species. Two documented occurrences within five miles of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Clarkia biloba ssp. *brandegeeae* Brandegee's clarkia	4.2	Annual herb often found in roadcuts within chaparral, foothill woodland, and lower montane coniferous forests from 75 to 915 meters. Appears to prefer areas with minimal grassy cover and often found on slopes. Blooming period: May – July (CNPS 2022).	**High.** The blue oak woodland within the Study Area provides suitable habitat for this species, especially along the slopes and access road. One documented occurrence within five miles of the Study Area (CDFW 2022).
Crocanthemum suffrutescens Bisbee Peak rush-rose	3.2	Shrub that occurs on serpentine, gabbroic, or Ione formation soils; in openings of chaparral habitat from 45 - 840 meters. Blooming period: April – June (CNPS 2022).	**Will not occur.** Suitable soil types or chaparral habitat do not occur in the Study Area. Three documented occurrences within five miles of the Study Area (CDFW 2022).
Downingia pusilla Dwarf downingia	2B.2	An annual herb found in vernal pools within valley and foothill grassland habitats from 1 to 455 meters amsl. Blooming period: March – May (CNPS 2022).	**Will not occur**. The Study Area does not contain vernal pools.
Eryngium pinnatisectum Tuolumne button-celery	1B.2	An annual herb that occurs in vernal pools within grassland and cismontane woodland habitats from 32 – 1,700 meters. Generally restricted to volcanic soils. Blooming period May – August (CNPS 2022).	**Will not occur.** Vernal pools or volcanic soils do not occur in the Study Area.
Fremontodendron decumbens Pine Hill flannelbrush	SE, 1B.2	A shrub that occurs chaparral and foothill woodland habitats, often in dry, sandy washes. This species sometimes occurs on serpentine soils and is found from 395 – 2,011 meters. Blooming period: April – July (CNPS 2022).	**Will not occur.** The Study Area is below the known elevational range of this species. Two documented occurrences within five miles of the Study Area (CDFW 2022).
Galium californicum ssp. *sierrae* El Dorado bedstraw	FE, 1B.2	A perennial herb found on gabbroic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 100 – 585 meters elevation. Blooms May – June (CNPS 2022).	**Will not occur.** Gabbro soils do not occur in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Gratiola heterosepala Boggs Lake hedge-hyssop	SE, 1B.2	Annual herb that is restricted to clay soils in or near shallow water such as at the margins of lakes and vernal pools from 9 to 2,300 meters amsl. Blooming period: April – August (CNPS 2022).	**Will not occur**. Clay soils and aquatic habitat do not occur in the Study Area.
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	1B.2	Annual herb found in vernally mesic valley and foothill grassland habitats from 30 to 229 meters above mean sea level (amsl). Blooming period: March – May (CNPS 2022).	**Will not occur**. The Study Area does not contain vernally mesic grassland habitats and is above the known elevational range of this species.
Legenere *Legenere limosa*	1B.1	An annual herb found in vernal pools from 1 – 880 meters amsl. Blooming period: April – June (CNPS 2022).	**Will not occur**. The Study Area does not contain vernal pools.
Navarretia myersii ssp. *myersii* Pincushion navarretia	1B.1	An annual herb found in vernal pools (often acidic) from 20 – 330 meters amsl. Blooming period: April – May (CNPS 2022).	**Will not occur**. The Study Area does not contain vernal pools.
Orcuttia tenuis Slender Orcutt grass	FT, SE, 1B.1	Annual grass that occurs in vernal pools within valley grassland and foothill woodland habitats from 10 – 1,500 meters. Blooming period: May – September (CNPS 2022).	**Will not occur**. The Study Area does not contain vernal pools.
Orcuttia viscida Sacramento Orcutt grass	FE, SE, 1B.1	An annual herb found in vernal pools from 15 – 85 meters amsl. Blooming period: April – July (CNPS 2022).	**Will not occur**. The Study Area does not contain vernal pools and is above the known elevational range of this species.
Packera layneae Layne's ragwort	FT, 1B.2	An annual herb found on serpentine, rocky, or gabbroic soils in chaparral and cismontane woodlands from 200 – 1,085 meters elevation. Blooms April – August (CNPS 2022).	**Will not occur.** Suitable soil types do not occur in the Study Area. Six documented occurrences within five miles of the Study Area (CDFW 2022).
Sagittaria sanfordii Sanford's arrowhead	1B.2	An emergent perennial rhizomatous herb that occurs in marshes, swamps, ponds, and slow-moving drainages from 0 to 650 meters. Blooming period: May – October (CNPS 2022).	**Will not occur**. Suitable aquatic habitats do not occur in the Study Area. One documented occurrence within five miles of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Wyethia reticulata El Dorado County mule ears	1B.2	A perennial herb found on clay or gabbroic soils in chaparral, cismontane woodlands and lower montane coniferous forest from 185 – 630 meters. Blooming period April – August (CNPS 2022).	**Will not occur.** Suitable clay or gabbro soils do not occur in the Study Area. Nine documented occurrences within five miles of the Study Area (CDFW 2022).
Wildlife			
Invertebrates			
Bombus crotchii Crotch bumblebee	SC	Known range includes the California coast east to the Sierra-Cascade crest and south into Mexico. Occurs in grassland and shrubland habitats and requires hotter and drier conditions than other bumblebee species. Forages on milkweeds, dusty maidens, lupines, medics, phacelias, sages, clarkias, poppies, and wild buckwheats. Currently considered rare throughout its range.	**Not expected.** Plant species suitable for foraging may occur in the Study Area but were not observed during the survey. Because this species is considered rare throughout its range, it is not expected to occur in the Study Area.
Bombus occidentalis Western bumblebee	SC	Former range included southern British Columbia south to Central California, but this species is now considered rare throughout its range. Floral plants such as *Lupinus, Ceanothus, Centaurea, Rubus, and Trifolium* are necessary food sources. Queen establishes a colony within an abandoned rodent hole or other underground crevice.	**Not expected.** Plant species suitable for foraging may occur in the Study Area but were not observed during the survey. Because this species is considered rare throughout its range, it is not expected to occur in the Study Area.
Branchinecta lynchi Vernal pool fairy shrimp	FT	Generally occurs in vernal pools but may also be found in seasonal wetlands, swales, and alkali pools. Typically found in turbid water but also occurs in clear water with abundant aquatic vegetation.	**Will not occur**. Vernal pools and other suitable aquatic habitats do not occur in the Study Area. One documented occurrence within five miles of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Monarch butterfly *Danaus plexippus*	FC	In winter, aggregates in clusters at forested groves scattered along the Pacific coast from Mendocino County to Baja California, Mexico. Disperses in spring and summer. Females lay eggs on milkweed (*Asclepias* spp.), and sometimes *Gomphocarpus* spp. and *Calotropis* spp. These plant species are critical for successful development of the caterpillar into an adult butterfly.	**Not expected**. This species may pass through the Study Area in spring or summer but critical plant species necessary for development were not observed in the Study Area.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	Depends on elderberry shrubs (*Sambucus* spp.) and typically occurs near rivers or streams. Stems at least a 1-inch diameter or greater are necessary for larvae and pupae development. Adults emerge in spring until early summer and exit holes are visible on shrub stems year-round.	**Will not occur**. Elderberry shrubs do not occur in the Study Area. Two documented occurrences within five miles of the Study Area (CDFW 2022).
Lepidurus packardi Vernal pool tadpole shrimp	FE	Occurs in a variety of seasonally inundated habitats, particularly low-alkalinity seasonal pools in grasslands. Known to occur in vernal pools, wetlands, and other freshwater habitats. Generally occurs in larger, deeper features where dissolved oxygen levels are higher and features remain inundated for longer periods.	**Will not occur**. Vernal pools and other suitable aquatic habitats do not occur in the Study Area.
Fishes			
Delta smelt *Hypomesus transpacificus*	FT	Occurs in estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	**Will not occur**. Suitable estuarine habitat does not occur in the Study Area.
Oncorhynchus mykiss irideus Steelhead, Central Valley DPS	FT	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample riparian vegetation cover or overhanging banks. Spawning occurs in streams with pool and riffle complexes. This species requires cold water and gravelly streambed to successfully breed.	**Will not occur**. Suitable riparian habitat does not occur in the Study Area.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Amphibians			
Ambystoma californiense California tiger salamander	FT, ST	Occurs in a grasslands, open oak woodlands, and oak savannah habitats. Breeding site requirements include fish-free ephemeral ponds that are wet in winter and dry in the summer; however, some have been known to breed in slow streams and semi-permanent waters. Adults spend majority of life underground in small mammal burrows.	**Will not occur.** Suitable aquatic habitats do not occur in the Study Area.
Rana boylii pop. *5* Foothill yellow-legged frog	SE	Occurs in rocky, perennial streams, creeks, and rivers, especially in areas with sunny banks and riffles. Rarely travels far from water. Typically found in forest, chaparral, and woodland habitats.	**Will not occur.** Suitable aquatic habitats do not occur in the Study Area. One documented occurrence within five miles of the Study Area (CDFW 2022).
Rana draytonii California red-legged frog	FT, SSC	Adults require dense, shrubby or emergent riparian vegetation and are closely associated with deep, still or slow-moving water. Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. Aestivate (enter a dormant state during summer or dry weather) in small mammal burrows, moist leaf litter, and under woody debris. Requires suitable aquatic habitat, estivation habitat, and 11-20 weeks of permanent water for larval development.	**Will not occur.** Suitable aquatic habitats or estivation habitats do not occur in or near the Study Area. One documented occurrence within five miles of the Study Area (CDFW 2022).
Spea hammondii Western spadefoot	SSC	Occurs in a variety of open habitats including grasslands, coastal sage scrub, chaparral, sandy washes, and playas. Can also be found in valley-foothill woodlands. This species spends the majority of its life underground and typically emerges between October to May to breed. Breeding occurs in vernal pools, depressional wetlands, and sometimes puddles. Breeding sites must remain inundated for at least 30 days for larvae to mature.	**Will not occur**. Suitable aquatic habitat does not occur in the Study Area. One documented occurrence within five miles of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Reptiles			
Emys marmorata western pond turtle	SSC	Occurs in a variety of aquatic habitats; typically, permanent ponds, lakes, streams, irrigation ditches, canals, marshes, or pools in intermittent drainages. Prefers areas lined with abundant vegetation and either rocky or muddy substrates. Requires basking sites such as logs, rocks, cattail mats or exposed banks. Active from February to November, and breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil.	**Will not occur**. Suitable aquatic habitats do not occur in the Study Area. Four documented occurrences within five miles of the Study Area (CDFW 2022).
Phrynosoma blainvillii Blainville's horned lizard	SSC	Occurs in the Coast Ranges, southwestern Sierra Nevada, Transverse and Peninsular Ranges, and the southern deserts. Habitat types include chaparral, cismontane woodland, coastal scrub, desert washes, and grasslands. Most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Not expected.** This species may occur in the blue oak woodland habitat; however, because habitat preferences such as bushes, loose soil, abundant ants, and washes are absent from the Study Area, it is not expected to occur. One documented occurrence within five miles of the Study Area (CDFW 2022).
Thamnophis gigas Giant garter snake	FT	Occurs in aquatic habitats with open, sunny areas for basking, vegetation cover along banks, and abundant prey. Typically occurs in agricultural wetlands, canals, and sloughs; especially near rice fields. Upland habitat with small mammal burrows present above flood level is also required for this species.	**Will not occur**. Suitable aquatic habitat does not occur in the Study Area.
Birds			
Accipiter cooperii Cooper's hawk	WL	Occurs in open woodlands, riparian forests, montane coniferous forests, and other open woodland habitats. May also occur in wooded suburban habitats. Nests high within a large tree.	**High**. The Study Area contains suitable nesting and foraging habitat for this species.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Agelaius tricolor tricolored blackbird	ST, SSC	Common locally throughout central California. Nests and seeks cover in emergent wetland vegetation and thorny vegetation. Nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Forages on ground in croplands, grassy fields, flooded land, and edges of ponds.	**Will not occur.** Suitable nesting or foraging habitat does not occur in the Study Area. Ten documented occurrences within five miles of the Study Area (CDFW 2022).
Ammodramus savannarum Grasshopper sparrow	SSC	Occurs in large dense, dry, or well-drained grasslands, especially native grasslands. Nests at base of overhanging clump of grass. This species is known from Los Angeles, Mendocino, Orange, Placer, Sacramento, San Diego, San Luis Obispo, Solano, and Yuba counties.	**Will not occur**. Suitable habitat types do not occur in the Study Area and the Study Area is outside of the current known range of this species.
Aquila chrysaetos Golden eagle	FP	Occurs in a variety of habitats including shrublands, canyons, woodlands, and grasslands. Typically avoids areas with human activity. Constructs nest on a platform of a cliff, within a large tree, or on isolated structures such as transmission towers. Often nests near open foraging habitat, preferably hilly grasslands.	**Not expected.** Suitable nesting habitat for this species does not occur in the Study Area and the Study Area is located in an area with human activity. This species may soar over the Study Area but is not expected to be impacted by the project. Two documented occurrences within five miles of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Athene cunicularia Burrowing owl	SSC	Occurs in a variety of open habitats; typically grasslands, desert scrub, agricultural fields, washes, and disturbed areas such as golf courses or vacant lots. Burrows, perch sites, and friable soil are necessary for this species, and areas with low-lying, sparse vegetation are preferred. May utilize culverts, abandoned pipes, rubble piles, and other artificial structures for nesting if burrows are absent. Often associated with high densities of burrowing mammals. Breeding pairs stay near a nesting burrow and wintering owls may move around or roost outside of burrows.	**Not expected**. California ground squirrel burrows were observed in the Study Area that may be suitable for this species. However, this species typically does not occur in oak woodland habitats and the Study Area is an active archery range which receives human activity and maintenance which would likely drive burrowing owls away. Three documented occurrences within five miles of the Study Area (CDFW 2022).
Buteo regalis Ferruginous hawk	WL	Occurs in a variety of habitats including open grasslands, sagebrush flats, desert scrub, foothills, and fringes of pinyon and juniper habitats. This species mainly winters in California except for portions of the far northeast. Nests on cliffs, rocky outcrops, large trees, or utility structures.	**Not expected.** This species may pass through the Study Area in winter but nesting will not occur as the Study Area is outside of the known breeding range of this species. One documented occurrence within five miles of the Study Area (CDFW 2022).
Buteo swainsoni Swainson's hawk	ST	Found in a variety of open habitats including expansive grasslands, agricultural areas, and open woodlands. Often nests peripherally to riparian systems or other aquatic habitats; nests in lone trees or groves of trees in agricultural fields or road break trees when aquatic habitat is absent. Prefers nest sites adjacent to open areas suitable for foraging. Trees greater than 30 feet in height are generally used for nesting.	**Not expected**. Suitable open foraging habitat does not occur in the Study Area and suitable nesting habitat is also absent. The Study Area is also at the easternmost edge of its known range. This species may pass through the Study Area but is not expected to be impacted by the project. Two documented occurrences within five miles of the Study Area (CDFW 2022).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Elanus leucurus White-tailed kite	FP	Occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nests in lone trees or trees near aquatic habitats. Foraging occurs within un-grazed or lightly-grazed fields, agricultural areas, and open grasslands.	**High**. The Study Area contains suitable nesting and foraging habitat for this species. Two documented occurrences within five miles of the Study Area (CDFW 2022).
Falco columbarius Merlin	WL	A winter resident of California that occurs in open and semi-open habitats including estuaries, Great Basin grassland, and valley and foothill grasslands. This species does not breed within California.	**Not expected**. This species may pass through the Study Area in winter but nesting will not occur and this species is not expected to be impacted by the project.
Haliaeetus leucocephalus Bald eagle	SE, FP	Occurs in a variety of forested habitats near aquatic resources such as lakes, rivers, or the coast. Nests in large trees or snags, often in remote mixed stands adjacent to water. Typically nests in the largest tree in a stand and forages near water.	**Not expected**. Suitable nesting or foraging habitat does not occur in the Study Area. This species may soar over the Study Area but is not expected to be impacted by the project. Two documented occurrences within five miles of the Study Area (CDFW 2022).
Laterallus jamaicensis coturniculus California black rail	FP, ST	Occurs in marsh habitats; typically saltwater or brackish marshes that border bays. However, small, isolated populations are known from the Sierra Nevada foothills. Requires shallow permanent water within the marsh and dense vegetation.	**Will not occur**. The Study Area does not contain marsh habitat and is outside of the current known range of this species.
Pandion haliaetus Osprey	WL	Occurs in a variety of habitats near large water sources such as lakes, rivers, and revisors. Nests in semi-open areas near water, often in snags or on human-made structures.	**Not expected**. Suitable nesting or foraging habitat does not occur in the Study Area. This species may pass through the Study Area but is not expected to be impacted by the project.
Phalacrocorax auratus Double-crested cormorant	WL	Occurs in ponds, lakes, reservoirs, slow-moving rivers, lagoons, estuaries, and open coastlines.	**Will not occur**. The Study Area does not contain suitable aquatic habitat for this species.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Purple martin *Progne subis*	SSC	Uncommon California migrant that breeds in low to mid-elevation wooded habitats. Common habitat types include oak woodland, coniferous forest, riparian woodland, and wooded suburban areas. Typically nests within tree cavities, abandoned woodpecker holes, rock crevices, within bridges, or in other artificial structures	**May occur**. This species is uncommon in California but may occur in the blue oak woodland habitat within the Study Area.
Riparia riparia bank swallow	ST	Found primarily in riparian and lowland habitats in California. Nests in colonies along cliffs or steep riverbanks in holes. In California, most of the population is situated along the Sacramento River and the Feather River. Other smaller populations persist near Monterey and north of Shasta counties.	**Will not occur.** Suitable nesting habitat does not occur in the Study Area and the Study Area is not located near the Sacramento or Feather rivers.
Mammals			
Antrozous pallidus pallid bat	SSC	Occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet. Most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, and under bridges.	**Not expected**. The Study Area provides suitable foraging habitat for this species; however, no suitable roost locations are present in the Study Area. This species may forage within the Study Area but is not expected to be impacted by the project.
Pekania pennanti Fisher	SSC	Occurs in large, mature, dense forest stands with snags and greater than 50% canopy closure. Typically found at elevations from 1,070 – 2,135 meters elevation. Dens in a variety of protected cavities such as hollow logs, trees, rock outcrops, and snags. Typically avoids areas with human activity.	**Will not occur**. Suitable habitat does not occur in the Study Area and the Study area is below the known elevational range of this species.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur
Taxidea taxus American badger	SSC	Occurs in a variety of dry, open habitats including grasslands, open woodlands, shrublands, and open chaparral. Loose, friable soil is required for this species to dig den sites. Needs sufficient food, friable soils and open, uncultivated ground. Typically found in areas away from human activity.	**Will not occur**. The Study Area is an active archery course which receives human activity and maintenance which would likely drive American badgers away. In addition, no dens were observed in the Study Area during the survey. One documented occurrence within five miles of the Study Area (CDFW 2022).

[1] Sensitive species reported in CNDDB or CNPS on the "*Latrobe, Shingle Springs, Coloma, Folsom SE, Folsom, Clarksville, Pilot Hill, Rocklin,* and *Buffalo Creek*" USGS quads.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; FP=Fully Protected; SSC=Species of Special Concern; WL=Watch List.

[3] Status in the Study Area is assessed as follows. **Will Not Occur**: Species is either sessile (*i.e.* plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the Study Area; **Not Expected**: Species moves freely and might disperse through or across the Study Area, but suitable habitat for residence or breeding does not occur on the Study Area, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100% certainty; **Presumed Absent:** Habitat suitable for residence and breeding occurs on the Study Area; however, focused surveys conducted for the current project were negative; **May Occur**: Species was not observed on the site and breeding habitat is not present but the species has the potential to utilize the site for dispersal, **High**: Habitat suitable for residence and breeding occurs on the Study Area and the species has been recorded recently on or near the Study Area, but was not observed during surveys for the current project; **Present**: The species was observed during biological surveys for the current project and is assumed to occupy the Study Area or utilize the Study Area during some portion of its life cycle.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered.

Appendix C

Plant and Wildlife Species Observed in the Study Area

Family	Scientific Name	Common Name	Status/Rating[1]
Native			
Asteraceae	*Holocarpha virgata*	narrow tarplant	-
Euphorbiaceae	*Croton setiger*	turkey-mullein	-
Fagaceae	*Quercus douglasii*	blue oak	-
	Quercus wislizeni	interior live oak	-
Themidaceae	*Brodiaea* sp.	brodiaea	-
Non-native			
Asteraceae	*Carduus pycnocephalus*	Italian thistle	Moderate
	Centaurea solstitialis	yellow-star thistle	High
	Cichorium intybus	chicory	-
	Dittrichia graveolens	stinkwort	Moderate
Brassicaceae	*Brassica nigra*	black mustard	Moderate
Fabaceae	*Trifolium hirtum*	rose clover	Limited
	Vicia villosa	hairy vetch	-
Poaceae	*Avena barbata*	slim oats	Moderate
	Bromus diandrus	common ripgut grass	Moderate
	Bromus hordeaceus	soft brome	Limited
	Elymus caput-medusae	medusa head	High

[1] California Rare Plant Rank (CRPR) = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; Extension codes: .2 – moderately threatened; Cal-IPC Rating = Limited; Moderate; High

Family	Scientific Name	Common Name
Birds		
Aegithalidae	*Psaltriparus minimus*	bushtit
Columbidae	*Zenaida macroura*	mourning dove
Corvidae	*Aphelocoma californica*	California scrub jay
Fringillidae	*Haemorhous mexicanus*	house finch
Mimidae	*Mimus polyglottos*	northern mockingbird
Parulidae	*Setophaga coronata*	yellow-rumped warbler
Paridae	*Baeolophus inornatus*	oak titmouse
Picidae	*Colaptes auratus*	northern flicker
	Melanerpes formicivorus	acorn woodpecker
Sittidae	*Sitta carolinensis*	white-breasted nuthatch
Trochilidae	*Calypte anna*	Anna's hummingbird
Turdidae	*Sialia mexicana*	western bluebird
Tyrannidae	*Sayornis nigricans*	black phoebe
Mammals		
Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

Appendix D

Representative Site Photographs

Photo 1. Representative view of the Study Area and the proposed lease area; facing southeast. Photo date 11/21/2022.

Photo 2. Representative view of the Study Area and the proposed lease area; facing west. Photo date 11/21/2022.

Photo 3. Portion of developed habitat and the archery course within the blue oak woodland; facing north. Photo date 11/21/2022.

Photo 4. Developed habitat within the Study Area; facing north. Photo date 11/21/2022.

Photo 5. Proposed utility easement area within the blue oak woodland; facing northwest. Photo date 11/21/2022.

Photo 6. Existing gravel access road; facing east. Photo date 11/21/2022.

Photo 7. Representative view of blue oak woodland habitat with fixed archery targets; facing north. Photo date 11/21/2022.

Photo 8. Developed habitat within the Study Area; facing south. Photo date 11/21/2022.