BIOLOGICAL RESOURCES
OF THE LINCOLN40 PROJECT SITE
CITY OF DAVIS, CALIFORNIA

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Introduction

This report addresses biological resources known or having potential to occur on or nearby the Lincoln40 project site and describes potential effects of project implementation on those resources. Biological resources include common vegetation and habitat types, special-status plant and animal species, and sensitive plant communities.

The proposed 5.92-acre infill project site is located east of Richards Boulevard between Olive Drive and the Union Pacific Railroad (UPRR) tracks in the City of Davis, Yolo County. The site is bisected by Hickory Lane. Interstate 80 (I-80), located to the south, provides regional access to the Lincoln40 project site. The project site is comprised of 11 separate parcels, identified by Assessor's Parcel Numbers (APNs) 070-280-010, -012, -013, -014, -015, -016, -017; 070-290-001, -002, -003, and -004.

Residential structures currently exist throughout the site. Twenty-three residential units are currently present on the site, including nine single-family homes and a lodging facility that was previously converted into a 14-unit apartment complex. The apartment complex is currently fully occupied and renters also occupy six of the nine single-family homes. The remainder of the single-family homes is vacant. Portions of the project site not containing structures are mostly dominated by weedy, ruderal vegetation, with approximately 180 existing on-site trees, including several mature cork oaks fronting Olive Drive (Tree Associates 2016).

Environmental Setting

METHODS

To evaluate and describe the presence or absence and quality of common and sensitive biological resources on the project site and identify potential effects of project implementation on those resources, project biologists (Miriam Green, M.S. and Ed Whisler, B.S.) reviewed several existing biological data sources for the project site and vicinity and subsequently conducted reconnaissance-level surveys on September 29, 2015 and October 7, 2016. Based on our review of existing data and the results of reconnaissance-level surveys, we determined that no protocol-level or intensive species-specific surveys were required for the project site. The data sources reviewed included:

- California Department of Fish and Game's Natural Diversity Database (CNDDB) record search within a 5-mile radius of the project site (CNDDB 2016),
- Potential modeled habitat for Lincoln40 project area (Yolo Habitat Conservancy),
- Tree Evaluation, Appraisal, Development Impact Assessment and Preservation Guidelines Lincoln40 Project, Olive Drive, Davis, California (Tree Associates 2016), and
- Species of local concern to the City of Davis (J. McNerney pers. comm.)

The following sections describe the biological resources within the boundaries of the project site and the immediate surrounding area that are most relevant to the impact analysis for the proposed project.

VEGETATIONAL COMMUNITIES AND HABITATS

The project site consists of an urban biological community. There are no natural habitats such as riparian forests/woodlands, seasonal wetlands, or swales on the project site, although the site supports several native valley oaks.

Tree Associates (2016) identified 180 trees on the project site, of which three species are native to the Davis area: Valley oak (*Quercus lobata*) (41 trees), Northern California black walnut (*Juglans hindsii*) (15 trees), and box elder (*Acer negundo*) (1). Valley oak was the most common tree on the site, representing 23% of the total population. Twenty-eight tree species were identified on the site, of which seven species comprised 73% of the trees. The other species included exotic (non-native) species, such as Modesto ash (*Fraxinus velutina*) (10 trees), cork oak (*Quercus suber*) (15 trees), goldenrain tree (*Koelreuteria paniculata*), olive (*Olea europea*) (14 trees), beefwood (*Casuarina* sp.), London plane (*Platanus* x *acerifolia*), almond (*Prunus dulcis*) (21 trees), myrtle (*Myrtus* sp.), English walnut (*Juglans regia*) (16 trees), purple leaf plum (*Prunus cerasifera*), coast redwood (*Sequoia sempervirens*), fruitless mulberry (*Morus alba*), turkey oak (*Quercus cerris*), persimmon (*Diospyros kaki*), coast live oak (*Quercus agrifolia*), fig (*Ficus carica*), orange (*Citrus sinensis*), deodar cedar (*Cedrus deodara*), common hackberry (*Celtis occidentalis*), Chinese hackberry (*Celtis sinensis*), and Canary Island date palm (*Phoenix canariensis*).

Many of the oaks on the project site are large stature [mature] trees. Of the 15 cork oaks, four are likely more than 100 years old (Tree Associates 2016) and constitute trees of significance pursuant to Davis Municipal Code section 37.03.050. One of the cork oaks, located at 1225 Olive Drive, is identified as a landmark tree by the City of Davis (2015).

The project site supports a small ruderal field, approximately 2 acres in size, sandwiched between the railroad, Hickory Lane, and residential structures. Existing herbaceous vegetation consists of non-native grasses and forbs, such as wild oat (*Avena* sp.), filaree (*Erodium* sp.), and bindweed (*Convolvulus arvensis*). It was mowed at the time of the 2016 field surveys.

The variety of trees bordering the site and on the project site itself supports high quality nesting habitat, cover, and foraging habitat for urban wildlife, especially avian species; however, its attractiveness to many wildlife species is limited by its small size and surrounding urbanization. During the two fall field surveys, 23 bird species, four mammal species, and one reptile species were observed on the project site. A list of species observed and their scientific names is included in Appendix A.

The adjacent railroad tracks also provide habitat and a movement corridor for local small mammals and reptiles. Desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), western fence lizard (*Sceloporus occidentalis*) were observed on the site and along the UPRR tracks. While the presence of an active railroad is unlikely to disturb nesting birds or ground-dwelling mammals the human presence in the adjacent residences, domestic animals, small size, of the parcel and foot and vehicular traffic on adjacent roadways reduce the attractiveness of the site as a foraging area for many species, especially birds of prey.

SPECIAL-STATUS SPECIES

Special-status species are plants and animals in the following categories:

- Listed or proposed for listing as threatened or endangered under federal Endangered Species Act (ESA) or candidates for possible future listing (USFWS 2015);

- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);
- Listed as Fully Protected under the California Fish and Game Code;
- Animals identified by CDFW as species of special concern;
- Plants considered by CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR). The CDFW system includes five rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:
- CRPR 1A Plants presumed to be extinct in California;
- CRPR 1B Plants that are rare, threatened, or endangered in California and elsewhere;
- CRPR 2 Plants that are rare, threatened, or endangered in California but more common elsewhere;
- CRPR 3 Plants about which more information is needed (a review list); and
- CRPR 4 Plants of limited distribution (a watch list);
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section15125 (c)) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G); or
- Otherwise meets the definition of rare or endangered under CEQA Sections 15380(b) and (d).

Special-Status Plants

Queries of the CNDDB and other information sources returned records of eight (8) special-status plant species that occur within 5 miles of the project site (Table 1). With the exception of the Northern California black walnut, none of these species have been reported from the project site and there is no suitable habitat for any of these species within the project site boundary. Although no protocol-level botanical surveys for any special-status plant species were conducted on the project site, the lack of required habitat (i.e., vernal pools, wetlands, riverine, etc.), soils (i.e., alkaline, serpentinite, etc.), and the urban nature of the project site preclude the likely presence of any of these species. Seven of these species were eliminated from further evaluation because there is no suitable habitat on-site.

Northern California black walnut: Northern California black walnut (*Juglans hindsii*) is included on the California Rare Plant Rank 1B.1 list. (The .1 means that the species is seriously endangered in California.) The Northern California black walnut is a deciduous tree typically found in riparian forest and riparian woodland habitats. It is widely naturalized in northern California. This species is threatened by hybridization with orchard trees, urbanization, and conversion of riparian habitat to agriculture. Black walnuts were formerly cultivated as rootstocks for English walnut, with which it hybridizes readily, because they grew vigorously and were more tolerant of saline and saturated soils, and had more resistance to soil-borne pests than English walnut seedlings.

The arborist survey conducted for the project identified 15 Northern California black walnuts on the Lincoln40 site (Tree Associates 2016).

Special-Status Wildlife

Queries of the CNDDB and other information sources identified 23 special-status wildlife species that have been documented or have potential to occur within a 5-mile radius of the project site (Table 2). Of the 23 wildlife species, 14 are considered unlikely to occur on the project site because they are restricted

to particular habitat types (e.g., vernal pools, seasonal wetlands, streams, creeks, sloughs, and/or rivers) that are not present on or adjacent to the project site.

Table 2 lists the special-status species that are known or have the potential to occur in the vicinity of the project site based on their local and regional distribution and indicates whether or not they occur or have potential to occur on the project site or on immediately adjacent lands based on reported observations or the availability of suitable habitat.

White-tailed kite: White-tailed kite (*Elanus leucurus*) is a CDFW fully protected species. This nomadic hawk is typically found in the foothills and valleys in California with scattered oaks and river bottomlands or marshes near deciduous forests or woodlands. Kites require open grasslands, meadows, marshes, or agricultural fields for foraging. They typically nest in dense-topped trees along rivers and streams or near wetlands. They also nest in suburban areas and farmyards. The nearest occurrence of an active white-tailed kite nest is about 2 miles east of the project site, across I-80. They also nest in east Davis, north Davis, and on the UC Davis campus. This species was not observed during the 2015 or 2016 field surveys and its potential for occurrence is low. Although the project site provides potential nesting habitat (mature trees) foraging opportunities are limited by the small size of the open area, limited prey base, and disturbances due to the urbanized nature.

Burrowing owl: Burrowing owl (*Athene cunicularia*) is a ground nesting raptor species that is afforded protection the by the California Fish and Game Code and as a species of special concern because of declining populations in California. They are typically found in open grasslands, large urban vacant lots, golf courses, and agricultural fields. These owls nest in abandoned ground squirrel burrows (within active colonies), cavities associated with mounds, levees, or soft berm features. They have also been observed along railroad berms. The nearest known occurrence is located approximately one mile east of the project site, in south Davis, across I-80. They also have been observed in east Davis and the UC Davis campus.

The Lincoln40 project site provides suitable foraging and nesting habitat for burrowing owls; however, it is probably too small and fragmented to support this species. The likelihood of burrowing owls to occur on the project site is considered low unless all existing structures were removed and the open area was left undisturbed for an extended period of time. If that were to happen individual owls could move in, as long as ground squirrels continued to occupy the site. No burrowing owls were observed during the 2015 and 2016 field surveys although the project site supports an active ground squirrel colony.

Swainson's hawk: Swainson's hawk (*Buteo swainsoni*) is listed as threatened in California by CDFW. This species typically nests in tall cottonwoods, valley oaks, or willows associated with riparian corridors, grasslands, irrigated pasture, and cropland with a high density of small rodents. The Central Valley population of Swainson's hawks breeds and nests in the late spring through summer before migrating to Central and South America for the winter. CDFW considers any nest active within the last five years as active. The CNDDB and other sources indicated that at least six nest occurrences lie within one mile of the project site. The Yolo Habitat Conservancy (HCP/NCCP Joint Powers Agency) also provided a map with a documented Swainson's hawk nest approximately 0.3 mile east of the Lincoln40 site. This occurrence appears to correlate with a CNDDB record of a nest that was last active in 2007 (Interstate 80 and Richards Blvd. interchange).

The nearest known active Swainson's hawk nest is approximately 1,000 feet from the project site near the southeast corner of I and 4th streets in Old East Davis, on the opposite side of the railroad tracks. This nest, active in 2016, was located in a deodar cedar in the backyard of a private residence. This pair failed to fledge young in 2016 (E. Whisler pers. obs.). Following its failure, the pair began roosting and bringing twigs to another deodar cedar near the southeast corner of 3rd and J streets, although they did not

re-nest at the 3rd and J Street location in 2016. This location could become an alternate nest site for this pair in the future.

Swainson's hawks are known to nest within the urban portion of the City of Davis; thus, the mature trees on and adjacent to the project site provide suitable nesting habitat for this species. With respect to foraging, the ruderal field on the Lincoln40 property is likely too small to support an adequate prey base. Also, because private residences and other structures fragment the property, it is unlikely to provide suitable foraging habitat for Swainson's hawks unless there was a nest on, or immediately adjacent to, the project site. If this were the case, the adults might occasionally forage in the field but it would not serve as their primary food source. The Yolo Habitat Conservancy did not identify the project site as likely Swainson's hawk foraging habitat in their habitat maps of the Davis area (YHC 2014).

Yellow-billed Magpie: While this species is not federally or state-listed as endangered or threatened, the yellow-billed magpie (*Pica nuttalli*) is of local concern to the City of Davis (McNerney pers. comm.). This species occurs in the Central Valley and foothill valleys in the Sierra Nevada and Coast Ranges. Yellow-billed magpies nest in large stature trees (e.g., oaks, walnuts) in oak woodlands, riparian forests, farmyards, and urban edges. They forage in open oak woodlands, agricultural fields, and urban areas.

There are no reported occurrences for this species in the project area, although magpies likely nest along the North and South Forks of Putah Creek. This species was not observed during the 2015 or 2016 field surveys and no nests were found. Although the mature trees on the project site provide suitable nesting habitat for this species its potential for occurrence is considered low.

Western Bluebird: While this species is not federally or state-listed as endangered or threatened, the western bluebird (*Sialia mexicana*) is of local concern to the City of Davis (McNerney pers. comm.). This species occurs in the Central Valley and foothill valleys in the Sierra Nevada and Coast Ranges. Western bluebirds are cavity nesters; they typically nest in old woodpecker holes or cavities in oaks or pines. They inhabit open oak woodlands, riparian forests, and farmyards and forage in grasslands, meadows, open oak woodlands, open riparian forests, and along agricultural field edges.

There are no reported occurrences of this species in the project area, although they likely nest along the South Fork of Putah Creek. In recent years, nesting has been confirmed in the Davis Cemetery and north Davis greenbelt (E. Whisler pers. obs.).

No western bluebirds were observed during the 2015 or 2016 field surveys. While the mature trees on the project site may provide potential nesting habitat, the project site does not constitute their preferred foraging habitat; bluebirds prefer an open overstory in more wooded areas. There is a low potential for western bluebirds to occur on the project site.

Pallid Bat: Pallid bat (*Antrozous pallidus*) is a California species of special concern. This species of bat favors roosting sites in crevices and cavities in trees, cliffs, rock outcrops, caves, abandoned mines, and human-made structures such as bridges, tunnels, barns, attics, and sheds. The pallid bat prefers habitats outside of urban areas. The CNDDB has a recorded occurrence southwest of the project site that dates back to a collected specimen from 1964.

This species was not observed during the field surveys; however, the mature trees on the project site may provide suitable roosting sites. Individuals may forage over the Lincoln40 site if they occur in the general area.

Silver-haired Bat: Silver-haired bat (*Lasionycteris noctivagans*) is a designated as a CDFW special animal. This species is primarily considered a coastal and montane forest species. The silver-haired bat

roosts in trees in abandoned woodpecker holes, hollows, and under bark, and occasionally in rock crevices. This insectivore's favored foraging sites include open wooded areas near water features. The CNDDB recorded occurrence near the project site dates back to a specimen collected in 1957.

This species is most common at mid to high elevations in conifer forest though the silver-haired bat may occur in foothill woodlands. This species is not expected to occur in the plains of the Central Valley and was not observed during the field surveys.

Hoary Bat: The hoary bat (*Lasiurus cinereus*) is a listed CDFW special animal. Hoary bats often roost in the foliage of older large leaf tree species such as cottonwoods, willows, and fruit or nut trees, but also roost in oak trees, and occasionally in shrub foliage. The hoary bat is considered a forest and woodland species, and in California they are often associated with undisturbed riparian or stream corridors. The CNDDB contains one recorded occurrence attributed to three collections dating back to 1925, 1956 and 1991.

This species was not observed during the field surveys. Although the project site does not support undisturbed riparian corridors, the mature trees on the project site may provide suitable roosting habitat. If hoary bats were present in the general area they may forage over the project site.

Western Red Bat: The western red bat (*Lasiurus blossevillii*) is a California species of special concern. This species typically roosts in the foliage of cottonwoods, sycamores, willows, and fruit or nut trees but also roosts in oak trees, and occasionally in shrubs. It has been found roosting in larger urban trees in Davis and Sacramento though it is most often associated with riparian habitats.

This species was not observed during the field surveys. The trees within the site may provide suitable roosting and foraging habitat.

Western Gray Squirrel: Although the western gray squirrel (*Sciurus griseus*) is a harvest species, it is of local concern to the City of Davis (J. McNerney pers. comm.). This species occurs in oak woodlands and forests throughout California and typically nests in tree cavities; they rarely occur in urban areas. Western gray squirrels have been recorded in oak woodlands and riparian forests in Yolo and Solano counties and are known to occur along the North and South Forks of Putah Creek (J. McNerney pers. comm.).

There are no reported occurrences for this species in the project area and this species was not observed during the 2015 or 2016 field surveys. While it is unlikely to occur on the project site because of its urban and fragmented nature, the mature trees remaining on the project site and in the adjacent area following construction would continue to provide potential nesting habitat for gray squirrels should any move into the area.

Impacts and Mitigation Recommendations

Potential impacts on special-status plant and wildlife species are described below. Mitigation measures are recommended for significant impacts or potential impacts on plants and wildlife.

Impact: Disturbance or Loss of Northern California Black Walnuts

Implementing the Lincoln40 project would result in the removal of Northern California black walnut trees.

The California black walnut is in the 1B.1 California Rare Plant Rank list, which indicates plants that are rare, threatened, or endangered in California and elsewhere by the California Native Plant Society (CNPS).

The tree survey report identified 15 California black walnut trees on the Lincoln40 project site. The arborist survey report also included the health and structural rating of the trees. The majority of the California black walnuts are rated fair and poor. Thirteen of the identified California black walnut trees were recommended for removal because of structural concerns or poor health (Tree Associates 2016). These 13 trees are considered in poor health and are not anticipated to recover with or without the project. As a result, the removal of these trees would not be considered a significant effect of the project. Only two of the California black walnuts received other recommendations besides removal, such as trimming and crown cleaning (Tree Associates 2016). Although it is not anticipated that the two healthy walnuts would be removed during construction, they could be damaged by heavy equipment. Therefore, the potential loss of Northern California black walnuts is considered a potentially significant impact.

Mitigation: Construction activities should avoid the removal of and damage to Northern California black walnut trees that were identified as healthy or requiring trimming. Dead trees may be removed and do not require mitigation. The following mitigation measure to be implemented by the project proponent would reduce the potential impacts to Northern California black walnut trees to a less-than-significant level.

MM-1: Heavy equipment buffers shall be used to protect the two healthy black walnut trees located on the project site (#5 and #6). Specifically, heavy equipment operation shall be prohibited within the drip lines of the trees to be preserved. Only hand tools should be used within the drip line. The tree protection measures described in the tree report should be implemented (Tree Associates 2016).

Impact: Loss of Potential Swainson's Hawk Foraging Habitat

Development of the Lincoln40 site could result in a reduction in available potential foraging habitat for Swainson's hawks as a result of conversion of ruderal grassland. Loss of ruderal grassland on the project site is considered less than significant because the field is surrounded by urban uses, it is mowed periodically for fire and weed management, it is fragmented by structures, and the habitat is low quality. Therefore, no mitigation is recommended.

Impact: Potential Nest Disturbance to Swainson's Hawks during Construction

Although no Swainson's hawk nests were observed on or adjacent to the project site during the 2015 or 2016 fall surveys [which were conducted outside of the breeding season], it is possible that before the onset of construction, a pair could establish a nest on, or adjacent to the project site. In 2016, the closest known active nest was located approximately 1,000 feet from the project site (at 4th and I streets) in Old East Davis. Construction activities associated with the project could result in the direct loss of potential nesting habitat or temporary disruption of breeding. Removal of existing mature trees could remove an active nest and nest trees that may establish before the initiation of construction. Although no raptor nests were observed during our surveys, the project site provides suitable nesting habitat. Disturbance or loss of potential Swainson's hawk nesting trees and/or active nests is considered a significant impact.

Mitigation: The following mitigation measures to be implemented by the project proponent would reduce the potential impacts to Swainson's hawks to a less-than-significant level.

MM-2: For construction activities occurring between February 1 and August 31, the applicant should retain a qualified biologist to conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee 2000 guidelines (SHTAC 2000) or currently accepted guidance/industry standards, subject to City of Davis review and approval. Surveys should encompass a

minimum of a 0.5-mile radius around the construction area. If nesting Swainson's hawks are detected, a 0.5-mile, no-disturbance buffer should be established, depending on location. The buffer shall be maintained until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. The buffer distance may be reduced in consultation with CDFW and the City of Davis if there is an adequate visual buffer between the construction and an active nest and if the nesting pair is not disturbed by the noise and activity on the construction site. This is done on a case-by-case basis if a nest has been established prior to or during construction.

MM-3: If an active Swainson's hawk nest is found within the project site and the nesting tree is to be removed during construction activities, removal should take place only after (1) the qualified biologist has determined that the young have fledged [typically by August 31st) and are no longer reliant upon the nest or parental care for survival, and (2) outside of the Swainson's hawk nesting season (February 1 to August 31). If any nesting tree is removed, a tree replacement plan shall be prepared, in consultation with CDFW and the City of Davis, to replace the nest trees. The tree replacement plan shall require the nesting tree(s) be replaced on a 1:1 basis and planted at an on-site or offsite location selected by the project proponent in consultation with CDFW and the City of Davis. The tree replacement plan shall also require that a qualified biologist monitor any replacement trees on an annually basis for 5 years to ensure the survivability of replacement trees. Results of the monitoring shall be submitted to the City of Davis for review and approval.

Impact: Potential Nest Disturbance to Burrowing Owl during Construction

The project site could provide potential nesting habitat for burrowing owls. As a result, construction activities associated with development of the project site could result in the direct loss of burrowing owls or temporary disruption of feeding or breeding behavior. The potential impacts from construction activities would vary depending on the location and timing of construction. Also, as construction removes structures and vegetation, the project site could become more attractive to burrowing owls. Disturbance or loss of active burrowing owl nests would be a potentially significant impact.

Mitigation: The following mitigation measures to be implemented by the project proponent would reduce the potential impacts to burrowing owls to a less-than-significant level.

MM-4: The applicant should retain a qualified biologist to conduct pre-construction surveys for burrowing owls in areas supporting potentially suitable habitat (sparsely vegetated areas and those containing suitable burrows) no more than 30 days before the start of construction activities that could affect the subject areas. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site should be resurveyed. The surveys for burrowing owls shall be conducted by a qualified biologist in accordance with protocols established in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

MM-5: If burrowing owls are detected, construction buffers shall be established around occupied burrows in accordance with guidance provided in the Staff Report on Burrowing Owl Mitigation (CDFG 2012) and the City of Davis. This guidance requires buffers around occupied burrows to be a minimum of 656 feet during the nesting season (February 1 through August 31), and 160 feet during the non-breeding season (September 1 through January 31).

During the nesting season exclusion of owls from occupied burrows [by any technique] shall not occur. Outside of the nesting season owls may be excluded from occupied and potential burrows by installing one-way doors in burrow entrances within the 160-foot buffer.

After the doors have been in place for at least 48 hours and a qualified biologist has determined that the owls have departed, burrows may be excavated by a qualified biologist using hand tools and refilled to

prevent reoccupation. Sections of flexible plastic pipe should be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. After this exclusion process is completed, ground-disturbing activities may recommence in a non-breeding season buffer area. During the nesting season or outside of the nesting season (if exclusion techniques are not employed), the buffer area should be monitored daily for one week to confirm owl departure from burrows before ground disturbing activities may recommence within a buffer zone.

Impact: White-tailed Kite, Other Raptors and Migratory Birds, including but not limited to Yellow-billed Magpie and Western Bluebird

Development of the project site would result in impacts to trees that provide nesting opportunities for birds and potential habitat for special status birds (white-tailed kite, yellow-billed magpie, and western bluebird) and other raptor species. Construction activities within the project site, especially vegetation removal, could result in the direct impacts to birds and raptor species. The potential impacts from construction activities would vary depending on the location and timing of construction. The disturbance or loss of an active nest or special-status bird or raptor species would be a potentially significant impact.

Mitigation: The project proponent should implement the following measures to avoid or minimize impacts to special-status birds, raptors, or other birds protected under the California Fish and Game Code.

MM-9: A qualified biologist shall conduct field surveys at least 30 days prior to the onset of construction to identify any active nests that may be occupied by special-status avian species. If active nests are detected during field surveys, the biologist shall establish a minimum 500-foot no-disturbance buffer for raptors and a 100-foot no-disturbance buffer around all other active nests until the nest is no longer active or the young have fledged, as determined by the qualified biologist. The size of the buffer may be adjusted by the project biologist if, in consultation with CDFW and the City of Davis, it is determined that such an adjustment would not be likely to adversely affect the nest. Factors to be considered when considering whether a reduced buffer size would be appropriate include: the presence of natural screening provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers shall be maintained until a qualified biologist has determined that young have fledged and are no longer reliant upon the nest or parental care for survival.

Impact: Potential Disturbance to Nesting Western Gray Squirrel

Development of the project site would result in the loss of trees that could provide nesting opportunities for western gray squirrels; however, this is considered a less-than-significant impact because the continued existence of mature tress both on-site and along Olive Drive will continue to provide suitable habitat for this species. In addition, mitigation for the loss of trees as a result of project construction will help to ensure future habitat.

Impact: Construction of the Lincoln40 Project Could Disturb or Remove Roosts of Special-status Bats.

Although no bats or roosts were observed during the reconnaissance surveys, the mature trees within the Lincoln40 site could provide suitable roosting habitat for special-status bats such as pallid bat, western red bat, and hoary bat.

Development of the project site and tree removal could disturb bat roosts, which is considered a potentially significant impact.

Mitigation: The applicant should implement the following measures to avoid or minimize impacts to special-status bat species:

MM-11: Before ground disturbance is initiated, a qualified biologist shall conduct a habitat assessment survey to determine whether the removal of trees greater than 10 inches in diameter at breast height (dbh) support bat roosts. Trees shall be surveyed within 14 days before the onset of construction. Surveys shall consist of daytime pedestrian surveys looking for potential roosting habitat such as branch and bole hollows, exfoliating bark and other crevices and cavities, and may include an evening emergence survey with acoustic equipment to note the presence or absence of bats. The emergence survey is necessary to survey for foliage-roosting bat species (western red bat and hoary bat). The three special-status bat species potentially occurring on the site should be identifiable utilizing acoustic equipment. If no bats are acoustically detected and no potential roosting habitat is identified, then no further study is required. If evidence of bat use is detected, the biologist shall determine the approximate number and species of bats using the roost, and roost type (i.e., individual or maternity roost). A 100-foot buffer shall be created around the roost and no project-related activities shall occur within the buffer until after one of the steps below is performed:

(1) A qualified biologist has determined that the roost is no longer in use.
(2) A qualified biologist determines that bat exclusion is feasible and confirms that all bats have been excluded from the daytime roost. No bat exclusion shall occur between April 1 and September 15 (depending on type of roost and location), which coincides with the maternity season in California.
(3) Trees that potentially support active roosts have been removed. However, if bat roosts are detected on the project site no trees shall be removed from April 1 to September 15 to avoid the maternity season. Subject to monitoring by a qualified biologist, trees that potentially support active roosts can be removed outside of the maternity season using procedures that create noise and cause vibration, which are designed to cause bats to leave potential roosts.

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Personal Communications

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APPENIDX A

Common and Scientific Names of Wildlife Species Observed during Field Surveys

Common Name	***Scientific Name***
MAMMALS	
Black rat, roof rat	*Rattus rattus*
California ground squirrel	*Spermophilus beecheyi*
Eastern fox squirrel	*Sciurus niger*
Desert cottontail	*Sylvilagus audubonii*
BIRDS	
Red-tailed hawk	*Buteo jamaicencis*
Rock pigeon, feral pigeon	*Columba livia*
Eurasian collared-dove	*Streptopelia decaocto*
Mourning dove	*Zenaida macroura*
Anna's hummingbird	*Calypte anna*
Red-breasted sapsucker	*Sphyrapicus ruber*
Nuttall's woodpecker	*Picoides nuttallii*
Northern flicker	*Colaptes auratus*
Black phoebe	*Sayornis nigricans*
California scrub-jay	*Aphelocoma californica*
American crow	*Corvus brachyrhynchos*
Tree swallow	*Tachycineta bicolor*
White-breasted nuthatch	*Sitta carolinensis*
American robin	*Turdus migratorius*
Northern mockingbird	*Mimus polyglottos*
European starling	*Sturnus vulgaris*
House finch	*Carpodacus mexicanus*
Orange-crowned warbler	*Vermivora celata*
Black-throated gray warbler	*Dendroica nigrescens*
Townsend's warbler	*Dendroica townsendi*
White-crowned sparrow	*Zonotrichia leucophrys*
Golden-crowned sparrow	*Zonotrichia atricapilla*
Brewer's blackbird	*Euphagus cyanocephalus*
REPTILES	
Western fence lizard	*Sceloporus occidentalis*

Table 1. Special-Status Plant Species Potentially Occurring on the Lincoln40 Property, City of Davis

Scientific Name **(Common Name)**	**Status[1] Federal/State/CNPS**	**Habitat and Bloom Time**	**Potential to Occur on Project Site**
Astragalus tener var. *ferrisiae* Ferris' milk-vetch	-- / -- / 1B.1	Meadows and seeps (vernally mesic); Valley and foothill grassland (subalkaline flats) April – May	Low. No suitable habitat present on project site.
Astragalus tener var. *tener* Alkali milk-vetch	-- / -- / 1B.2	Valley and foothill grassland (adobe clay); vernal pools March – June	Low. No suitable habitat present on project site.
Atriplex cordulata var. *cordulata* Heartscale	-- / -- / 1B.2	Saline or alkaline habitat (chenopod scrub, meadows and seeps, Valley and foothill grassland [sandy]) April – October	Low. No suitable habitat present on project site.
Atriplex depressa Brittlescale	-- / -- / 1B.2	Alkaline or clay habitats (chenopod scrub, meadows and seeps, playas, Valley and foothill grassland, vernal pools) April – October	Low. No suitable habitat present on project site.
Extriplex (*Atriplex*) *joaquiniana* San Joaquin spearscale	-- / -- / 1B.2	Alkaline habitats (chenopod scrub, meadows and seeps, playas, Valley and foothill grassland April – October	Low. No suitable habitat present on project site.
Juglans hindsii Northern California black walnut	-- / -- / 1B.1	Riparian woodlands and forests in northern California	High. Tree Survey indicated 15 trees on-site.
Lepidium latipes var. *heckardii* Heckard's pepper-grass	-- / -- / 1B.2	Alkaline flats in Valley and foothill grassland March – May	Low. No suitable habitat present on project site
Puccinellia simplex California alkali grass	-- / -- / 1B.2	Alkaline, vernally mesic; sinks, flats, and lake margins in chenopod scrub, meadows and seeps, Valley and foothill grassland, vernal pools March – May	Low. No suitable habitat present on project site

([1]) Legal Status Codes:

E = Federally or State listed as endangered
T = Federally or State listed as threatened
R = State listed as Rare
1B.1 = CNPS List 1B.1: Plants rare, threatened, or endangered in California and elsewhere; .1 = seriously endangered in California
1B.2 = CNPS List 1B.2: Plants rare, threatened, or endangered in California and elsewhere; .2 = fairly endangered in California

Table 2. Special-Status Wildlife Species Potentially Occurring on the Lincoln40 Property, City of Davis			
Common Name (*Scientific Name*)	**Status[1] Federal/State/LC**	**Habitat**	**Potential to Occur on Project Site**
INVERTEBRATES			
Conservancy fairy shrimp (*Branchinecta conservatio*)	E / -- / --	Vernal pools and other seasonal wetlands	Unlikely to occur. No suitable habitat present on project site.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	T / -- / --	Vernal pools and other seasonal wetlands	Unlikely to occur. No suitable habitat present on project site.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	E / -- / --	Vernal pools and other seasonal wetlands	Unlikely to occur. No suitable habitat present on project site.
California linderiella * (*Linderiella occidentalis*)	-- / -- / --	Vernal pools and other seasonal wetlands	Unlikely to occur. No suitable habitat present on project site.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	T / -- /	Riparian forests and oak woodlands. Requires blue elderberry shrubs (*Sambucus nigra*) as its host plant	Unlikely to occur. No suitable habitat (elderberries) present on project site.
Sacramento tiger beetle * (*Cincidela hirticolis abrupta*)	-- / --/ --	Sandy, open soils and point bars; unvegetated habitats, such as occurred historically along Sacramento River prior to flood control practices	Unlikely to occur. No suitable habitat on project site. Possibly occurred historically along the banks of Putah Creek in the 1930s. Believed extirpated from known habitats.
Antioch multilid wasp * (*Myrmosula pacifica*)	-- /-- / --	Dunes; occurred historically along upper Putah Creek and lower Sacramento River	Unlikely to occur. No suitable habitat on project site. Occurrence in the old center of Davis in the 1950s and 1960s.
Western bumble bee * (*Bombus occidentalis*)	-- / --/ --	Typically nests underground in abandoned rodent burrows and other cavities; inhabits open grassy area, urban parks and gardens, chaparral scrub and mountain meadows	Unlikely to occur. Marginal habitat on project site. No bumble bees observed during surveys. General vicinity of Davis in the 1950s and 1960s.
Crotch bumble bee * (*Bombus crotchii*)	-- / -- / --	Inhabits open grassland and scrub; nests often located underground in abandoned rodent nests or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees	Unlikely to occur. Marginal habitat on project site. No bumble bees observed during surveys. One historical occurrence at UC Davis Arboretum (Putah Creek).

Table 2. Special-Status Wildlife Species Potentially Occurring on the Lincoln40 Property, City of Davis			
Common Name (*Scientific Name*)	**Status[1] Federal/State/LC**	**Habitat**	**Potential to Occur on Project Site**
REPTILES			
Giant garter snake (*Thamnophis gigas*)	T / T/ --	Sloughs, rice fields, irrigation ditches, slow moving waterways	Unlikely to occur on project site. No suitable aquatic habitat.
Western pond turtle (*Actinemys marmorata*)	-- / CSC /--	Rivers, sloughs, ponds, water conveyance canals and adjacent uplands	Unlikely to occur on project site. No suitable aquatic habitat. UC Davis Arboretum is nearest occurrence.
BIRDS			
Western snowy plover (*Charadrius alexandrinus nivosus*)	T / CSC / --	Occurs in coastal beaches, other sandy substrates, alkali wetlands, river mouth beaches, artificial ponds (e.g., wastewater ponds and levees)	Unlikely to occur. No suitable habitat.
White-tailed kite (*Elanus leucurus*)	-- / FP / --	Nests in trees or willows in riparian forests, woodlands, urban areas, roadside trees, farmyards. Forages in agricultural fields, pastures, marshes	Low potential. Suitable nesting trees are present. Marginal foraging habitat. No old nests observed. No kites observed.
Swainson's hawk (*Buteo swainsoni*)	-- / T /--	Nests in trees or willows in riparian forests, woodlands, urban areas, roadside trees, farmyards. Forages in agricultural fields, pastures, grasslands	Moderate potential. Suitable nesting trees are present; however, project site provides insufficient foraging habitat. No stick nests observed. Nearest known active nest in 2016 was at 4th and I streets. Historic nest site (2007) at Interstate 80 and Richards Blvd.
Burrowing owl (*Athene cunicularia*)	-- / CSC /--	Ruderal habitats, large urban fields, rural road edges with ground squirrels and burrows	Low potential. Ruderal field on project site supports ground squirrels; however, field is probably too small to support owls. Not observed during field surveys.
Tricolored blackbird (*Agelaius tricolor*)	-- / C, CSC / --	Emergent marshes, blackberry thickets for nesting. Agricultural fields, grasslands, and pastures for feeding. Sensitive to human activity near nests	Unlikely to occur. No suitable habitat.
Yellow-billed magpie (*Pica nuttalli*)	-- / -- / LC	Large stature trees for nesting. Agricultural croplands and oak woodlands for feeding	Low potential. No nests found. No magpies observed.

Table 2. Special-Status Wildlife Species Potentially Occurring on the Lincoln40 Property, City of Davis

Common Name (*Scientific Name*)	Status[1] Federal/State/LC	Habitat	Potential to Occur on Project Site
Western bluebird (*Sialia mexicana*)	-- / -- / LC	Oak woodlands and riparian forests for nesting; nests in cavities; forages in grasslands and meadows in woodlands	Low potential. Insufficient foraging habitat. None observed.
MAMMALS			
Pallid bat (*Antrozous pallidus*)	-- / CSC / --	Shrublands, grasslands, agricultural lands, woodlands, caves, mines, hollow trees, old buildings	Moderate potential. Potential foraging and roosting habitat.
Silver-haired bat * (*Lasionycteris noctivagans*)	-- / -- / --	Coastal and montane forests, feeding over streams and open water; roosts in tree hollows, under lose bark, and unoccupied woodpecker cavities	Low potential. Potential roosting habitat. No aquatic habitats present for foraging.
Hoary bat * (*Lasiurus cinereus*)	-- / -- / --	Prefers open habitats or habitat patches, with trees for cover and habitat edges for feeding	Moderate potential. Trees provide potential roosting habitat. Potential foraging habitat over site.
American badger * (*Taxidea taxus*)	-- / -- /--	Grasslands, oak savannahs, open montane habitats; avoids urban/suburban areas	Unlikely to occur. No burrows or badgers observed. Avoids developed areas.
Western gray squirrel (*Sciurus griseus*)	-- / -- / LC	Oak woodlands and riparian forests; uncommon in urban areas	Low potential. Large oaks provide potential habitat; however, species typically avoids highly urbanized areas.

([1]) Legal Status Codes:

E = Federally or State listed as endangered
T = Federally or State listed as threatened
C = Candidate for listing as endangered or threatened
CSC = California Species of Special Concern
LC = Species of Local Concern to the City of Davis (McNerney pers. com.); not federally or state threatened or endangered

* = Species that are included in the California Natural Diversity Data Base even though they have no federal or state legal status.