July 16, 2019

John Swift Consulting Services
500 Chestnut St. Suite 100
Santa Cruz, CA 95060

Subject: Biotic Assessment for the proposed residential development at Peace United Church (900 High Street), Santa Cruz, California.

Dear Mr. Swift,

At the request of John Swift Consulting Services, Ecosystems West conducted a biotic assessment for the proposed development of seven multi-unit apartment buildings on the parcel presently occupied by Peace United Church at 900 High Street, Santa Cruz, California (Figures 1 and 2). The applicant is proposing to split the existing parcel into two new parcels and construct a 28-unit apartment development consisting of 12 three-bedroom units, six two-bedroom units and 10 eight-bedroom units in four two or three-story buildings. Three apartment buildings will be situated on the upper terrace meadow of the property and one building will be located on the slope immediately south of the terrace above the existing unimproved upper parking lot. The proposed project will require the City of Santa Cruz to rezone the property from single family to multi-family residential a density bonus will require at least three units meet affordable housing requirements. The development will also require a minimum of 159 parking spaces and an additional 10 spaces for Westlake Elementary School use in exchange for utilizing school parking. The project will retain the existing Peace United Church, Coastal Community Preschool, and Una Familia Elementary School on the property.

The objectives of this assessment were to:

- Determine whether any sensitive habitats, plants or wildlife species occur on the site. In particular, the assessment evaluated whether heritage trees, coastal terrace prairie, Ohlone tiger beetle, and/or monarch butterfly roosting habitat are present on the site;
- Provide a general characterization of the vegetation and natural plant communities on the site;
- Assess potential impacts of the proposed project to sensitive biological resources; and
- Develop appropriate best management practices, avoidance and/or mitigation measures.

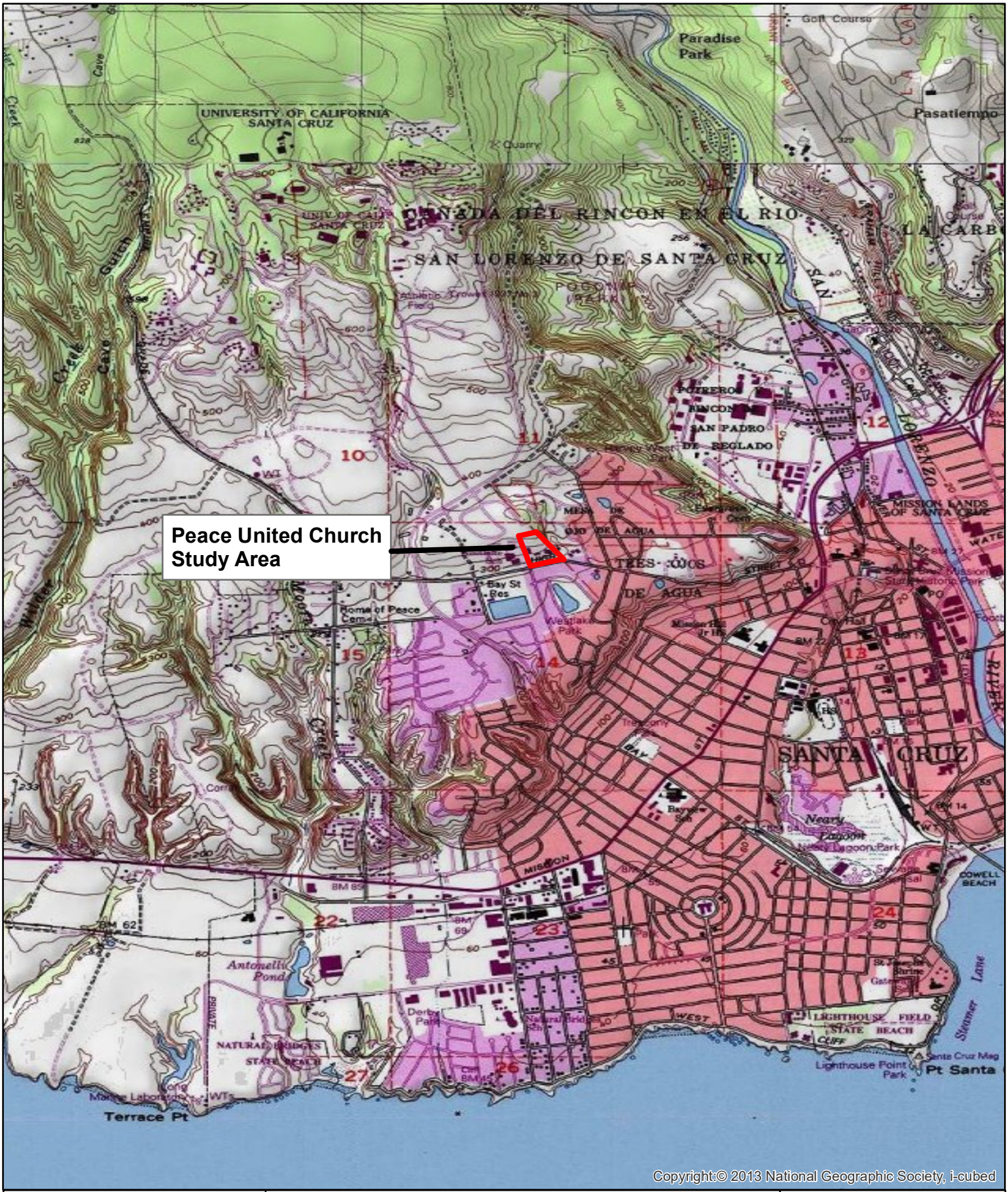

Figure 1.

Peace United Church Residential Development Study Area Location Map

0 1,500 3,000 6,000 Feet

1 inch = 2,500 ft

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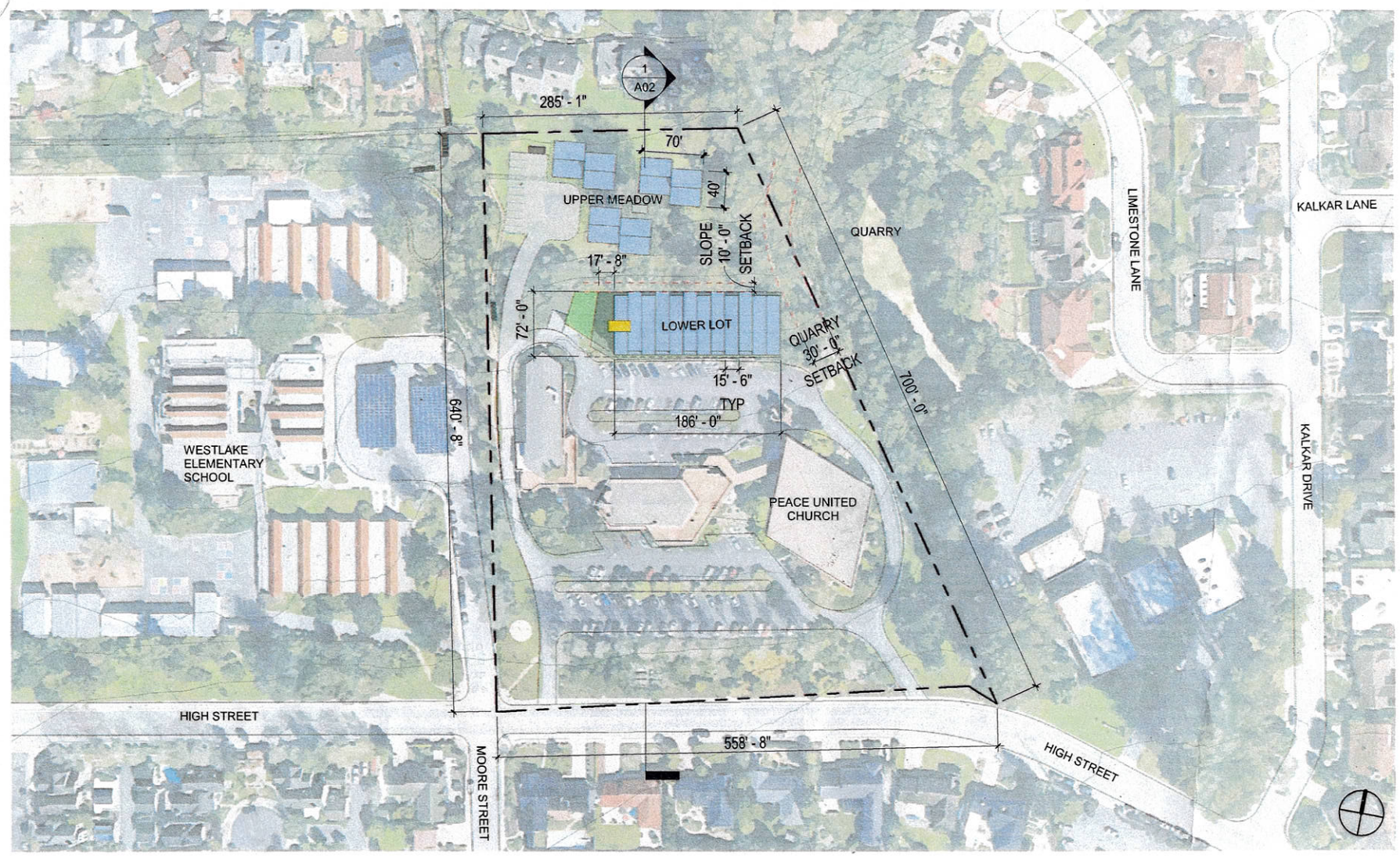

David Baker Architects | ENVISION HOUSING

PEACE UNITED CHURCH

SITE PLAN

21812
scale: 1" = 100'-0"
date: 11-05-2018

A00

METHODS

Review of Literature and Data Sources

EcoSystems West biologists reviewed literature and special-status species databases to identify sensitive habitats, plants and wildlife species with potential to occur in or near the proposed Project Area. Sources consulted include:

- CNDDB occurrence records (2019a) and resource maps from the Biogeographic Information and Observation System (BIOS) (CNDDB 2019b) for the Santa Cruz USGS 7.5 minute quadrangle and (for plants) four surrounding quadrangles and for Santa Cruz County; USGS quadrangle occurrence records in the California Native Plant Society's (CNPS) *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2019) for the Santa Cruz quadrangle and the four surrounding quadrangles;
- Local and regional floras (Thomas 1961; Munz and Keck 1973; Hickman 1993; McMinn 1974; and Baldwin *et al*. 2012);
- Other literature and databases that contained sensitive biological resources information for the Project Area and surroundings, such as ebird (2019) and Xerces (2019).

Sources consulted for current agency status information include U.S. Fish and Wildlife Service (USFWS 2019a,b,c) for species listed under the Endangered Species Act (ESA) (including federal Endangered, Proposed and Candidate species, and species under Review), and California Department of Fish and Wildlife (CDFW) (2019a,b) for species listed under the California Endangered Species Act (CESA) as 'Threatened' or 'Endangered' in addition to those listed by USFWS (2008) as 'Birds of Conservation Concern', and by CDFW as 'Species of Special Concern' and 'Fully Protected' (CDFW CNDDB 2018).

In addition, for special-status plants, we reviewed the CNPS *Inventory* (Tibor 2001; CNPS 2019): List 1A (Plants Presumed Extinct in California), List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere), or List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere). We also reviewed List 3 (Plants About Which We Need More Information -- A Review List) and List 4 (Plants of Limited Distribution -- A Watch List) of the CNPS *Inventory*[1] (Tibor 2001; CNPS 2019). For wildlife species, we reviewed those species state-ranked by NatureServe as critically imperiled, imperiled, and vulnerable (Faber-Langendoen 2012; CDFW CNDDB 2018) and the list of bat species considered 'High Priority' by the Western Bat Working Group (WBWG 2017). These plant and wildlife species fall under the provisions of the California Environmental Quality Act (CEQA) Guidelines.

This assessment followed CNDDB (2019a,b) and other standard survey protocols. We reviewed distribution information for sensitive species to determine which species would have the potential to occur in or near the Project Area and which species could be eliminated from consideration, based on suitable edaphic (soil) and geographic site characteristics, vegetation and habitat types within the Project Area and surroundings, proximity of known extant occurrences, dispersal distances (for wildlife), and professional knowledge of the region and local sensitive species. On these criteria, we developed lists of special-status plants (Attachment A) and wildlife species (Attachment B) known or with potential to occur in the vicinity of the Project Area.

[1] List 3 and List 4 plant species are considered to be of lower sensitivity, and generally do not fall under specific state or federal regulatory authority. Specific mitigation considerations are generally not required for species in these last categories (Tibor 2001; CNPS 2018).

Sensitive Habitats

Sensitive habitats include CDFW Sensitive Natural Communities (rank of G/S1 – G/S3), riparian corridors, wetlands, and habitats for species that are legally protected or other rare species (CDFW CNDDB 2018). Sensitive habitats may also include areas of high biological diversity, areas providing important wildlife habitat, and vegetation types that are rare or unique to the region. CEQA also considers impacts to natural communities identified as sensitive in local and regional plans, regulations, and ordinances. EcoSystems West reviewed the CDFW list of Sensitive Natural Communities and the City of Santa Cruz General Plan (2012) for sensitive habitat designations prior to conducting the site assessment visit.

City of Santa Cruz Preservation of Heritage Trees and Shrubs

The City of Santa Cruz Preservation of Heritage Trees and Shrubs Ordinance prohibits any activity that will significantly impact or remove a heritage tree or shrub without obtaining a permit from the City Parks and Recreation Department. Heritage trees and shrubs include any tree, grove of trees, shrub or group of shrubs, growing on public or private property within the city limits of the city of Santa Cruz which meet(s) the following criteria shall have the "heritage" designation:

A. Any tree which has a trunk with a circumference of forty-four inches (approximately fourteen inches in diameter or more), measured at fifty-four inches above existing grade;
B. Any tree, grove of trees, shrub or group of shrubs which have historical significance, including but not limited to those which were/are:
    1. Planted as a commemorative;
    2. Planted during a particularly significant historical era; or
    3. Marking the spot of an historical event.
C. Any tree, grove of trees, shrub or group of shrubs which have horticultural significance, including but not limited to those which are:
    1. Unusually beautiful or distinctive;
    2. Old (determined by comparing the age of the tree or shrub in question with other trees or shrubs of its species within the city);
    3. Distinctive specimen in size or structure for its species (determined by comparing the tree or shrub to average trees and shrubs of its species within the city);
    4. A rare or unusual species for the Santa Cruz area (to be determined by the number of similar trees of the same species within the city);
    5. Providing a valuable habitat; or
    6. Identified by the city council as having significant arboricultural value to the citizens of the city. (Ord. 94-01 § 2, 1994).

Exemptions are made for emergencies involving dead or diseased trees that pose an immediate danger to life or property. In these instances, pruning or removal of a heritage tree/shrub may be authorized by the director or by a responsible member of the police, fire, or public works department.

Field Site Assessment

Our initial site visits were made on 10 and 11 May 2019. An additional site visit was conducted on 5 July 2019 to evaluate the potential for Santa Cruz tarplant which typically blooms in mid-late summer in the vicinity of the Study Area. The Study Area was defined as the entire 5.9 acre parcel and immediate surroundings. The Project Area is limited to the upper parking lot and upper terrace meadow.

All vascular plant species in identifiable condition when the site visits were conducted, regardless of regulatory status, were identified to species or infraspecific taxon using keys and descriptions in Thomas (1960); Munz and Keck (1973); Baldwin (2012); and Neubauer (2013). The Study Area was concurrently evaluated for the presence of sensitive habitats, wetlands and "other waters" of the US, and waters of the State.

EcoSystems West assessed the Study Area to determine the potential for sensitive wildlife species to occur. We visually evaluated the all habitat types within the Study Area and noted the location of suitable potential habitat or habitat features. Protocol level wildlife surveys were not conducted as part of our evaluation.

RESULTS

Site Characterization

The approximately 5.9-acre parcel, including the existing church, driveways and parking areas, is located at 900 High Street in the City of Santa Cruz, California (Figure 1). The Study Area is bounded by High Street to the south, West Lake Elementary School to the West, multi-unit residential housing to north, and Una Familia School, Coastal Community Preschool and single-family residences to the west. The proposed Project Area is located in the northernmost portion of the Study Area and is comprised of an approximately 0.7-acre meadow with widely scattered mature trees and shrubs. The meadow is gently sloped to the south and dominated primarily by non-native exotic grasses and forbs. Several pedestrian trails cross the meadow including a well-traveled footpath along the eastern perimeter. The eastern border of the meadow is comprised of a hedgerow of mature blue gum eucalyptus extending off the property to the north. A steep slope borders the meadow to the south above the uppermost unimproved church parking lot and supports a closed-canopy, mixed evergreen (ornamental) forest. Additional multi-residential development is planned for the upper unpaved parking lot immediately south of the upper meadow and forested hillslope. The majority of the remainder of the Study Area is either developed or landscaped. Vegetation in the developed portions are limited to ruderal, weedy species, naturalized trees, and ornamental landscaping. The Study Area elevation ranges from approximately 290 to 360 feet above mean sea level. Representative site photographs are presented in Attachment C.

Soils

Soils within the Study Area are comprised of Watsonville loam (177/180) and Cropley silty clay (123). Watsonville loam is a deep, somewhat poorly drained soil type generally formed in sedimentary alluvium. The Watsonville series is found on old coastal terraces and valleys of the central California coast. Common vegetation associated with this map unit includes annual and perennial grasses and forbs, oaks, California sage, coyote brush, and eucalyptus stands. The surface layer is typically a very dark grayish brown loam approximately 12 inches thick. The subsurface layer is often a light gray sandy loam, often with prominent yellowish brown redoximorphic mottles. The underlying material is a brown to grayish brown clay loam or clay extending up to 40 inches below the ground surface. This soil is classified as a hydric soil (NRCS 2018) on terraces of the central California coast.

Cropley silty clay is a very deep, well drained soil on fans and benches formed in fine alluvium. This soil type primarily supports grasslands and is often used for rangeland, irrigated pasture, and cultivated row crops. The surface layer is a very dark gray moderately alkaline silty clay up to 28 inches thick. The subsurface layer extends to a depth of 45 inches consists of mixed very dark gray and light olive gray mildly alkaline silty clay. This soil type is also classified as a hydric soil type by the NRCS.

Botany

A total of 54 species of naturalized vascular plants were recorded in the project area of which 10 are native and the remaining 44 are non-native species. A total of 17 species are classified as "invasive"' by the California Invasive Plant Council with a "moderate" or "high" potential for severe ecological impacts on physical processes, plant and animal communities, and vegetation structure (Cal-IPC 2019). A complete list of vascular plant species encountered during the field visits is presented in Attachment D.

The Watsonville loam soil type is a specific edaphic (soil) indicator for several rare plant species with potential to occur in the vicinity of the Study Area. These include species commonly found in grassland and coastal prairie habitat such as Santa Cruz tarplant (*Holocarpha macradenia*; FE, CNPS List 1B.1), San Francisco popcorn flower (*Plagiobothrys diffusus*; SE, CNPS List 1B.1), and Santa Cruz clover (*Trifolium buckwestiorum*; CNPS List 1B.1) known from nearby marine terraces and mesic meadows.

No special-status plant species were identified within the Study Area. No additional surveys for these species are recommended.

An undetermined number of trees meeting the City of Santa Cruz Heritage Tree definition may be removed as a result of the project.

Vegetation Communities/Habitat Types

The vast majority of the Study Area is developed and landscaped and includes the existing Peace United Church facilities. Naturalized areas include an herbaceous meadow dominated by non-native grassland, with mixed evergreen (ornamental) forest and eucalyptus forest around the periphery of the meadow (Figure 2). These habitat types are discussed in detail below.

Non-Native Grassland

Non-native grassland corresponds to a phase of the natural community type described by Holland (1986) and to the *Avena* (*barbata, fatua*) (44.15.00) and *Bromus* (*diandrus, hordeaceus*)-*Brachypodium distachyon* (42.026.00) Semi-natural Herbaceous Alliances of Sawyer et al (2009). This habitat type is located within the upper terrace meadow and consists primarily of non-native grasses and forbs of Eurasian origin with a significant number of species identified as invasive by the California Invasive Plant Council (Cal-IPC). Within the Study Area, the meadow is dominated by wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), false brome (*Brachypodium distachyon*), rattlesnake grass (*Briza maxima*), tall fescue (*Festuca arundinaceae*), brome fescue (*Festuca bromoides*), English plantain (*Plantago lanceolata*), filarees (*Erodium botrys, E. macrostachya*), scarlet pimpernel (*Lysimachia arvensis*), narrowleaf clover (*Trifolium angustifolium*), rose clover (*Trifolium hirtum*), burclover (*Medicago polymorpha*), common vetch (*Vicia sativa*), and rough cat's ear (*Hypochaeris radicata*). Several mature shrubs were present in scattered, discrete patches including coyote brush (*Baccharis pilularis*) and toyon (*Heteromeles arbuitifolia*), both native species, as well as silverleaf cotoneaster (*Cotoneaster pannosus*), an invasive ornamental.

Figure 3.

Habitat Types within the Peace United Church Residential Development Study Area

0 75 150 300 Feet

1 inch = 125 ft

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The upper terrace meadow was carefully evaluated for the presence of coastal prairie grassland, a unique and threatened herbaceous plant community occurring primarily on level to moderately sloped terraces in close proximity to the coast. It is widely accepted that pristine coastal prairie grasslands were once comprised of a heterogeneous mosaic of perennial bunchgrasses interspersed with a diverse array of broadleaved annual and perennial forbs. Coastal prairie is highly disturbance dependent, relying on grazing and periodic fires to maintain stable-state grasslands and prevent succession to woody plant communities. In the absence of both natural and anthropogenic disturbance regimes, coastal prairies are rapidly colonized by exotic species and may be subject to encroachment by woody species (e.g coyote brush). Plant species composition currently supported by coastal prairies varies depending on microclimate and seasonal rainfall, with more mesic sites often dominated by California oatgrass (*Danthonia californica*) while purple needlegrass (*Stipa pulchra*) is dominant in drier areas and on well-drained slopes. In Santa Cruz County, the majority of coastal terrace prairie occurs on Watsonville and Tierra soil types. The coastal prairie grassland is differentiated from the interior valley grassland type largely based on climate, dominant plant species associations, and affinity to northern and southern bioregions. Nevertheless, this distinction is far from clear in areas where the gradient of maritime influence is gradual and rainfall patterns are highly variable.

Purple needlegrass, an indicator of coastal prairie grasslands was present in low abundance within the upper meadow. However, this species was largely confined to small patches along the perimeter of the meadow and was the only native herbaceous species identified within the grassland. Despite the relictual presence of purple needlegrass, the meadow is unlikely to support a diverse, unexpressed native seedbank as there were no other coastal prairie species identified during the site visits and it is expected that these species would have been observed, even at very low abundance, if they were in fact persisting at this location. Because this area is classified as non-native grassland, it is not a sensitive habitat type.

This habitat type supports a suite of wildlife species. We observed invertebrate burrows, predominantly in the strip of grassland that supported purple needlegrass, likely because of the reduced thatch and bare ground that is present in these areas. We also observed a number of moth and butterfly species within the grassland habitat.

Numerous common bird species were utilizing the grassland for foraging and the coyote bush scrub for roosting, cover, and nesting. Bird species observed during our reconnaissance survey are listed in Attachment E. We observed gopher burrows (*Thomomys* species) and scat from desert cottontail or brush rabbit (*Sylvilagus* sp.) as well as from mule deer (*Ododoileus hemionus*). Common lizard species such as coast range fence lizard (*Sceloporus occidentalis bocourtii*) and alligator lizard (*Elgaria* sp.) are likely to be present, as well as common snakes such as garter snake (*Thamnophis* sp.) and gopher snake (*Pituophis catenifer catenifer*). Higher trophic level species such as raptors, bobcat, and coyote are likely to hunt within the grasslands of the Project Area.

Mixed Evergreen (Ornamental) Forest

This forest type corresponds to a semi-natural phase of the *Quercus agrifolia* Forest Alliance (71.060.00) of Sawyer et al. (2009) and CDFW (2019c) and has an affinity to the mixed evergreen forest and coast live oak forest types of Holland (1986). In the Study Area, only the widely scattered coast live oak trees are considered potentially native to the site. The remainder of the species were likely planted or established opportunistically following past disturbance.

Mixed evergreen (ornamental) forest occupies a small and fragmented extent of the Study Area, and is limited primarily to steep hillslope between the uppermost parking area and the upper terrace meadow. This habitat type is also found in patchy distribution along the northwest perimeter of the

Study Area bordering West Lake Elementary. In the Study Area, this habitat type is comprised of coast live oak, blue gum eucalyptus, silver wattle acacia (*Acacia dealbata*), Monterey pine (*Pinus radiata*), Douglas fir (*Pseudostuga menziesii*), madrone (*Arbutus menziesii*), and cotoneaster (*Cotoneaster pannosus*, *C. lacteus*). The understory contains sparse to locally dense ruderal grasses and forbs as well as herbaceous vines and shrubs including English ivy (*Hedera helix*), poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). Mixed evergreen (ornamental) forest is not considered a sensitive habitat type although it may support heritage trees as defined by the City of Santa Cruz. We observed numerous common bird species utilizing the tree stands within the Study Area for perching, foraging, and nesting (Attachment E).

Eucalyptus Forest

Eucalyptus forest is comprised primarily of planted blue gum eucalyptus (*Eucalyptus golbulus*). This naturalized forest type corresponds to Eucalyptus Semi-Natural Woodland Stands of Sawyer et al (2009) and CDFW (2019c). This habitat type is limited primarily to a hedgerow of blue gum eucalyptus along the northeastern perimeter of the Study Area and extending off the property to the north. Eucalyptus trees are able to rapidly grow from seed or can re-sprout following disturbance (cutting, fire, etc.) to an existing tree. Understory vegetation is often is poorly developed due to the buildup of dense allelopathic eucalyptus leaf litter and root exudates, manual clearing for fire prevention, and persistent shading. Historically planted for lumber/firewood or as windbreaks, eucalyptus are fast growing species with aggressive seedlings that readily invade neighboring areas from original planted locations. Blue gum eucalyptus trees are an exotic species and rated as a "moderately invasive" by the California Invasive Plant Council (Cal-IPC 2018). This habitat type is not considered a sensitive habitat type unless it supports autumnal or overwintering roosting monarch butterflies. Ecosystems West biologists were not present during the fall or winter to assess this site for autumnal or wintering monarch butterfly roosts. As noted above, we observed numerous common bird species utilizing the tree stands within the Study Area for perching, foraging, and nesting (Attachment E).

Ruderal

Ruderal areas are not described by Sawyer et al. (2009) or Holland (1986). Within the Study Area, ruderal communities consist of highly disturbed, weedy areas immediately adjacent to driveways and other developed areas on the site. Vegetation is dominated by aggressive, opportunistic species including Bermuda buttercup (*Oxalis pes-caprae*), jubata grass *(Cortaderia jubata*), English ivy (*Hedera helix*), bur clover, brome grasses, narrowleaf clover, English plantain, and filarees. The majority of these plants are classified as invasive weeds by the Cal-IPC. Due to the proximity to roads and other ongoing disturbances, ruderal areas tend to persist over time and succession to other natural communities is limited. Ruderal habitat typically does not support special status species and is not a sensitive habitat type. Ruderal habitat typically supports opportunistic wildlife species, such as American crow (*Corvus brachyrhynchos*) and native western gray squirrel *(Sciurus griseus)* and non-native eastern gray squirrel *(Sciurus carolinensis*), observed during our surveys.

Developed-Landscaped

Developed areas include the buildings associated with the Peace United Church congregation, driveways originating at two locations along High Street, and several improved and unimproved parking areas. A pedestrian walkway and staircase are located along the western perimeter of the Study Area connecting the uppermost parking area to the upper terrace meadow and ultimately UC Santa Cruz. Landscaping consists of naturalized trees and planted ornamental species as well as a maintained herb and vegetable garden between the lower parking area and High Street. Buildings, trees and vegetation within the developed areas of the Study Area support opportunistic bird species such as non-native Eurasian collared-dove, crows, and native and non-native squirrels.

Sensitive Habitats

No sensitive habitat types were identified within the Study Area. The eucalyptus forest would be considered a sensitive habitat type if it supports roosting monarch butterflies; however, the majority of the grove is not expected to impacted by the proposed project.

Wetlands and Other Waters

No wetlands or other waters subject to federal or state jurisdiction were identified within the Study Area. A concrete lined ditch along the eastern perimeter of the Study Area conveys surface water from the site to a storm drain along High Street in the southeast corner of the property. Stormwater management associated with the proposed residential development may utilize this existing feature or this conveyance system may be realigned and/or improved to accommodate the project. Removal and relocation will require compliance with City of Santa Cruz and Regional Water Quality Control Board (Regional Board) requirements.

City of Santa Cruz Heritage Trees

An undetermined number of heritage trees may be removed by the proposed project including two large, solitary eucalyptus trees in the south-central portion of the upper meadow and several additional trees on the embankment supporting mixed evergreen (ornamental) forest. Presently, the project is designed to avoid removal of heritage trees to the maximum extent feasible.

Sensitive Wildlife Species

Ohlone Tiger Beetle

The Ohlone tiger beetle (OTB) (*Cicindela ohlone*) is listed as endangered under the federal ESA. We assessed the patches of purple needlegrass and the associated invertebrate burrows carefully for the potential presence of Ohone tiger beetle. Surveys were conducted when beetles were still active at nearby occurrence locations. No beetles were observed. In addition, burrows present in the grassland lacked the rounded-over edges that characterize this species. Based on the very limited and disjunct available habitat, this species is not expected to occur.

Monarch Butterfly

The monarch butterfly was petitioned to be listed as a Threatened species under the federal ESA in 2014, and it is currently under review by USFWS after a positive 90-day finding (USFWS 2014). In May 2019, the USFWS announced an extension of the deadline to determine whether the monarch butterfly warrants ESA protection. The USFWS will continue efforts to collect data and analyze the monarch's status and threats until December 15, 2020 (USFWS 2019f).

The winter roost sites of the monarch butterfly are listed by NatureServe as imperiled/vulnerable (S2/S3) within California (CDFW CNDDB 2018). In the City of Santa Cruz 2030 General Plan the monarch butterfly is identified as a special-status species in Natural Resources and Conservation 2.4.1 and in Table 1, which lists avoidance and minimization measures (City of Santa Cruz 2012). The overwintering monarch population has seen an overall decline of 97% in coastal California (Schultz et al. 2017) and of 74% in less than the last 20 years (IELP and Xeres Society 2012, Pelton et al. 2016).

The life history of the monarch butterfly can be divided into two temporally defined periods: a spring/summer reproductive period and a fall/winter non-reproductive (wintering) period. During the spring and summer, monarchs exploit the widely distributed North American milkweed flora (*Asclepias* spp.) as food for their larvae. In the fall, the adult butterflies that are produced during the latter part of summer migrate to wintering habitats in coastal California or central Mexico to spend the winter months. Monarchs spend from 1 to 9 months as adults, depending on when they become reproductive. If they become reproductive immediately, they live 1-2 months as adults. Monarch adults that emerge from August through October typically migrate and overwinter before becoming reproductive the following spring. These monarchs live approximately 8-9 months as adults.

Monarchs arrive at overwintering sites in September and the first half of October to form fall aggregations. By mid-November they form more stable aggregations, which persist through January or February (Pelton et al. 2016). The monarch butterfly utilizes eucalyptus, Monterey pine, or Monterey cypress tree groves for winter roost sites, typically within 1.5 miles (2.4 kilometers) of the Pacific Ocean. Monarchs form aggregations on the underside of peripheral branches. The suitability of the stand is determined by both abiotic and biotic factors including:

- periodic exposure to (dappled) sunlight (often southeast aspect);
- cool shady roost areas for periods of warm weather;
- primary and secondary wind protection;
- proximity to nectaries (fall or winter blooming flowers);
- humidity; and
- water sources.

Monarchs typically emerge from a state of nocturnal torpor and begin to fly at temperatures around 55° F. Below this temperature, monarchs are unable to fly and are often killed or injured if dislodged from their roosts. Winter roost sites are sufficiently heterogeneous to permit shifts of roost location in accord with prevailing weather conditions and seasonal variation in insulation. The roost site consists of the trees upon which the butterflies cluster, as well as the surrounding trees that provide wind protection. In addition, overwintering habitat includes nectar plants and water sources surrounding the roost site, since monarchs may fly some distance to obtain these resources (Pelton et al. 2016, Griffiths and Villablanca 2015).

The grove of eucalyptus trees within the Study Area is located approximately 1.8 miles from the coast, just over the typical distance of winter roost sites. This grove consists of mature trees that lack lower, spreading limbs and most likely lack sufficient wind protection to serve as primary winter roost habitat; however, these trees may serve as buffer trees for the groves located to the northeast. Kalkar Quarry and Westlake Pond provide nearby water sources; the landscaped areas and grassland of the Study Area provide marginal nectaring habitat.

Autumnal and overwintering monarch roosts are known to occur in the eucalyptus grove at Home of Peace Cemetery approximately 0.5 miles southwest of the Study Area. EcoSystems West did not conduct fall or winter roost surveys during 2019; it is unknown if butterflies utilized the grove in the Study Area or adjacent groves. Autumnal and overwintering sites vary both from year to year and within the roosting season and as noted above, monarch populations have been steadily declining. In addition, other factors (timing of winter rains, winter temperatures, canopy density, and adequate food supply for larva) also vary from year to year. Therefore, survey results from one year would not be predictive of monarch autumnal or overwintering occupation in subsequent years.

Birds

We observed a number of native bird species utilizing the Study Area (Attachment E). These species are likely to nest within the scrub habitats and tree stands. California Fish and Game Codes protect the active, nests, eggs, and young of native bird species (CFGC 2016). We did not observe any sensitive bird species during our surveys. Several species: olive-sided flycatcher (*Contopus cooperi*), oak titmouse (*Baeolophus inornatus*), and Allen's hummingbird (*Selasphorus sasin*) are USFWS Birds of Conservation Concern (USFWS 2008), and have been observed nearby at High Street Church, Westlake Pond and Kalkar Quarry (Attachement B) (ebird 2019). These species may nest within or near the Project Area. A number of birds of prey have been observed recently in the surrounding area including: Cooper's hawk (X), sharp-shinned hawk (x), red-shouldered hawk (x), red-tailed hawk (x), barn owl (x), and American kestrel (x) (ebird 2019). These species may utilize the larger trees within the Study Area and immediate surroundings for nesting. All nesting birds of prey (i.e., hawks and owls) and their occupied nests and individual birds of prey are protected by the California Fish and Game Commission Code (CFGC) (§ 3503 and 3503.5) (CFGC 2016).

Mammals

Within the Study Area, the scrub and forest habitats, especially those along the margins of the grassland, provide potential habitat for the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). We did not observe woodrat houses in the Study Area during our reconnaissance field surveys; however, this species may occupy the grassland/scrub/forest ecotones prior to the initiation of project activities. Woodrats construct houses from collected debris including sticks, leaf litter, and other detritus. Woodrat houses are located on the ground and in the branches of trees. A house is typically occupied by a female and her young, although two females sometimes occupy a single house. One woodrat can also occupy more than one house, with one house being the primary house and a second being a satellite house. Colonies of often related woodrats may occur together in the same area. Woodrats are dependent on the surrounding vegetation for micro-habitat conditions, including insulation, cover, and shading as well as upon a range of plants for foraging.

The forests within the Study Area provide potential habitat for common bat species, and may provide habitat for one sensitive species, the western red bat (*Lasiurus blossevillii)*, a CDFW Species of Special Concern. The western red bat utilizes the foliage of trees for roosting.

DISCUSSION

The Study Area consists predominantly of habitat types that support non-native, weedy, and invasive tree and plants species; no sensitive plants species were observed or are expected to occur. However, a number of potential heritage trees are present within the Study Area.

Scrub and forest habitats within the Study Area support the nesting activities of common bird species. The Study Area provides potential habitat for the following wildlife species: monarch butterfly, sensitive 'Birds of Conservation Concern', San Francisco dusky-footed woodrat, and the western red bat. Additional details are provided below.

Heritage Trees

Tree removal, if determined to be necessary will be performed by a certified arborist approved by the City of Santa Cruz. Prior to initiating this project, all heritage trees subject to removal will be identified and mitigated by subsequent planting of additional (native) trees elsewhere on the property at a mitigation ratio determined by the City of Santa Cruz Planning Department. Tree removal activities should be performed by a City of Santa Cruz qualified arborist.

Monarch Butterfly

Although unlikely due to marginal habitat conditions, monarch butterflies may utilize the eucalyptus grove within the Study Area as an autumnal or winter roost site, or these trees may buffer more suitable habitat to the northeast. If monarchs are present, removal of roost or buffer trees would directly impact roosting habitat. In addition, construction activities that generate dust, smoke, fumes and/or low frequency vibrations (grading, vegetation removal, earthmoving, and concrete work) may suffocate butterflies and/or dislodge them from their roosts.

An additional fall/early winter survey by a qualified will be required to determine if monarchs are present in or near the Project Area. If monarchs are present:

- all roost trees including buffer trees will be retained;
- occupied roosts will be buffered by 100 feet; and
- daily construction will begin after temperatures are above 55° F, so that butterflies have emerged from nocturnal torpor and are capable of flying.

Nesting Birds/Roosting Bats

All nesting birds of prey (i.e., hawks and owls), other native nesting birds and their occupied nests and individual birds of prey are protected by the California Fish and Game Commission Code (CFGC) (§ 3503 and 3503.5) (CFGC 2016). Special-status bird species receive additional protections, primarily for nesting activities. Suitable potential nesting habitat for special-status birds and other common avian species is present within or adjacent to the proposed Project Area.

Bats may utilize the forest habitats of the Study Area for roosting. Bat maternity roosting occurs typically between May 1 and September 1, and winter hibernacula (shelter occupied during the winter by a dormant animal) for many bat species are found between November 1 and February 15.

- If feasible, conduct tree and vegetation removal outside of breeding bird and bat maternity roost/winter hybernacula seasons, ideally between September 1 and November 1.

  If vegetation/tree removal cannot take place during this time, a qualified biologist will conduct pre-construction a breeding bird survey no more than seven days prior to the initiation of project activities.

  If nesting activity is observed, postpone tree removal until the qualified biologist has determined that young birds have fledged. If work cannot be postponed, establish a species-specific buffer zone [such as are listed in the Nesting Bird Management Plan (PG&E et al. 2015)] around active nest trees and coordinate with agency representatives if special-status birds are present.

  If no nesting activity is observed, conduct tree/vegetation removal activities as soon as possible after preconstruction surveys.

- During any season, prior to tree removal, a qualified biologist will conduct a preconstruction roosting bat survey to ensure that bats are not using crevices, peeling bark or foliage within trees slated for removal:

  For any trees/snags that could provide roosting space for cavity or foliage-roosting bats, the trees/snags and foliage shall be thoroughly evaluated to determine if bats are present. Visual inspection and/or acoustic surveys shall be utilized as initial techniques. If roosting bats are found, the biologist shall develop and implement acceptable passive exclusion methods in coordination with or based on CDFW recommendations. Exclusion shall take place during the appropriate windows (September 1 and November 1) to avoid harming bat maternity roosts and/or winter hibernacula.

- If winter hybernacula are present authorization from CDFW would be required to evict bats.
- If established maternity colonies are found, a minimum 300-foot buffer shall be established around the colony to protect pre-volant young from construction noise until the young can fly; or implement other measures acceptable to CDFW.
- If a tree is determined not to be an active roost site for roosting bats, it may be immediately limbed or removed as follows:
  If foliage roosting bats are determined to be present, limbs shall be lowered, inspected for bats by a bat biologist, and chipped immediately or moved to a dump site. Alternately, limbs may be lowered and left on the ground until the following day, when they can be chipped or moved to a dump site. No logs or tree sections shall be dropped on downed limbs or limb piles that have not been in place since the previous day.
- If the tree is not limbed or removed within four days of the survey, the survey efforts shall be repeated.
- If no bats are present, remove trees immediately.

San Francisco Dusky-footed Woodrat

- A qualified biologist will conduct a preconstruction survey of potential woodrat habitat within or adjacent to the Project Area. If feasible, avoid woodrat houses during construction. Establish a minimum 10-foot (preferably 25-foot) buffer and exclude work from these areas with construction fencing. If this buffer and avoidance is not feasible, the qualified biologist shall allow encroachment into the buffer, but preserve microhabitat conditions such as shade, cover and adjacent food sources.
- If avoidance is not possible, a qualified biologist shall develop and implement a Woodrat Relocation Plan. The plan shall be developed in consultation with CDFW.

Best Management Practices

In addition, the following general BMPs will be implemented:

- Prior to initiating project activities, install construction fencing around the Project Area. Fencing will serve the dual purposes of confining work to the designated footprint and deterring wildlife from entering the Project Area.
- Minimize removal or disturbance of existing vegetation outside of the designated footprint of the project's construction activities. Minimize footprints for site access, material stockpiles, and equipment storage, and confine all activities to the designated staging area/s.
- Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources or previous project sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the Project Area. All equipment used on the premises should be cleaned prior to leaving the site for other projects.
- Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as possible from any water body to a level staging area. Position parked equipment also over drip pans or absorbent material.
- Check under all equipment for wildlife before use. If any sensitive wildlife species is observed under equipment or in the work area, do not disturb or handle it. Cease construction activities and contact a qualified biologist and/or resource agencies for further guidance.
- Do not work at night or during rain events.
- Properly contain and remove all food trash that may attract wildlife. Remove construction debris and trash from the Project Area on a regular basis.

- Refuel and perform all vehicle/equipment maintenance off-site at an approved facility.
- During project construction, all stockpiles and graded areas should be covered or secured during the rainy season (November 1 to April 30).
- To the greatest extent feasible, stabilize all exposed or disturbed areas in the Project Area. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood, straw wattles, and water check bars, and broadcast weed-free straw wherever silt-laden water has the potential to leave the work site. Prohibit the use of monofilament erosion control matting to prevent wildlife entanglement. Modify, repair, and/or replace erosion control measures as needed.
- It is anticipated that no areas of bare soil large enough to require revegetation will be left following construction. However, if any substantial areas of bare soil remain after construction, they should be revegetated, under the supervision of a qualified botanist or revegetation specialist, with native species indigenous to the site or the immediate vicinity, propagated from local sources. If any non-native species are used in revegetation, they should be species known not to be invasive, or to have any substantial capacity to spread to other areas.
- Obtain City of Santa Cruz Heritage Tree Permit for removal of trees subject to the City of Santa Cruz Heritage Tree Ordinance. Heritage tree removal should be mitigated by planting replacement trees at a ratio and species composition determined by the director of the City of Santa Cruz Parks and Recreation Department.
- Comply with all storm water management requirements:
    - Post-Construction Requirements (PCR) from the Regional Board;
    - City of Santa Cruz Storm Water Best Management Practices (BMPs); and
    - Development of a Stormwater Control Plan (SWCP) and Operations and Management Plan (O&M Plan).

Please don't hesitate to contact Justin Davilla, Erin McGinty or myself if you have any questions or require additional information.

Sincerely,

Bill Davilla, Principal

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Attachment A.

Special-Status Plants with Potential to Occur in the vicinity of the proposed Peace United Church Residential Development Study Area

Attachment A. Status, distribution and habitat of special-status plants with potential to occur in the vicinity of the proposed Peace United Church Residential Development Study Area.

Species Name[1]	USFWS Listing[2]	State Status[3]	CNPS Status[4]	Habitat Type[5]	Distribution by County[6]	Flowering Period[7]	Occurrence Potential-Rationale
Amsinckia lunaris bent-flowered fiddleneck	None	None	List 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. 3-500 m.	ALA, CCA, COL, LAK, MRN, NAP, SBT, SCL, SCR, SMT, SON, SUT, YOL	Mar-Jun	**Unlikely.** Typically occurs in coastal prairie grassland or the margins of coastal scrub. Nearest known extant occurrence in Santa Cruz County is approximately 11 miles northwest of the study area at Swanton Pacific Ranch. Not observed during May 2019 focused rare plant survey.
Holocarpha macradenia Santa Cruz tarplant	FT	SE	List 1B.1	Coastal prairie, valley and foothill grassland, coastal scrub, often in clay or sandy soils. 10-220 m.	ALA*, CCA*, MNT, MRN*, SCR, SON*	May-Oct	**Low.** Known from Watsonville loam soils in disturbed (grazed or mowed) grasslands and coastal scrub. Nearest known occurrences are 2 miles northeast of the study area at Graham Hill showgrounds and 2.5 miles to the southeast in Arana Gulch grasslands. No populations known from west of the San Lorenzo River. Not observed during May 2019 focused rare plant survey.
Plagiobothrys diffusus San Francisco popcornflower	None	SE	List 1B.1	Coastal prairie, valley and foothill grassland. 45-360 m.	ALA, SBT, SCR, SFO*, SMT	Mar-Jun	**Low to Moderate.** Extant occurrences are located in grasslands with similar soils approximately one mile west of the Study Area along Meder Street. However, this species was not identified during properly timed May 2019 focused rare plant survey.
Stebbinoseris decipens Santa Cruz microseris	None	None	List 1B.2	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; open areas, sometimes serpentine. 10-500 m.	MNT, MRN, SCR, SFO, SMT	Apr-May	**Unlikely.** Although found in remnant coastal grasslands, the nearest extant location is approximately 3.5 miles northwest of the Study Area and has not been observed since 1994. This species commonly occurs in rocky or serpentine soils not present in the Study Area. Not observed during the May 2019 focused rare plant survey.
Trifolium buckwestiorum Santa Cruz clover	None	None	List 1B.1	Broadleaved upland forest, cismontane woodland, coastal prairie; gravelly margins. 105-610 m.	MEN, MNT, SCL, SCR, SMT, SON	Apr-Oct	**Low Potential.** This species is commonly found in in-tact coastal prairie grassland along woodland margins. Several extant occurrences are located approximately 1.5-2 miles north of the Study Area in Pogonip and Graham Hill Showgrounds. Santa Cruz clover is typically found in areas more mesic than the Study Area. Moreover, this species was not observed during May 2019 focused rare plant survey.

NOTES:

[1] Nomenclature follows Tibor (2001); Baldwin et al (2012) California Native Plant Society (2014) Kellman (2003)

[2] U.S. Fish and Wildlife Service (2019a, b, c).

[3] Section 1904, California Fish and Game Code (California Department of Fish and Game 2019).

[4] Tibor (2001); California Native Plant Society (2019). CNPS Lists: List 1B: Rare, Threatened, or Endangered in California and elsewhere. List 2: Rare, Threatened, or Endangered in California, more common elsewhere. List 3: Plants about which more information is needed. List 4: Plants of limited distribution: a watch list. Threat Code extensions: .1: Seriously endangered in California. .2: Fairly endangered in California. .3 Not very endangered in California.

[5] Thomas (1960); Munz and Keck (1973); Hickman (1993); Tibor (2001); Morgan et. al. (2005); California Native Plant Society (2012); and unpublished information.

[6] Tibor (2001); California Native Plant Society (2019); and unpublished information; counties abbreviated by a three-letter code (below); occurrence in other states as indicated. * indicates possible local extirpation.

[7] Munz and Keck (1973); Tibor (2001); California Native Plant Society (2019)

Attachment B.

Sensitive Wildlife Species with Potential to Occur in the vicinity of the proposed Peace United Church Residential Development Study Area

Attachment B. Conservation status and habitat requirements of sensitive wildlife species with potential to occur in the vicinity of the proposed Peace United Residential Development Project Site, Santa Cruz, California.

Common Name *Scientific Name*	Status Federal/State/Other			Habitat Requirements	Potential to Occur in Project Site
Invertebrates					
Ohlone tiger beetle (OTB) *Cicindela ohlone*	FE	-	S1	Coastal terrace prairie and open grassland with barren areas for burrow construction.	**Not Expected** Small, narrow patches of purple needlegrass and bare ground are present along the southern edge of the meadow. Invertebrate burrows were present but lacked the rounded edges that characterize this species' burrow.
monarch butterfly *Danaus plexippus* (wintering sites)	FR	-	S2S3	Eucalyptus, Monterey pine, or Monterey cypress tree groves. Abiotic and biotic factors including southeast aspect, wind protection and proximity to nectaries determine habitat suitability (Griffiths and Villablanca 2015, Xerces 2018).	**Possible** A stand of eucalyptus trees is present along the eastern side of the Project Site, continuing into the adjacent property. Individual trees are present in the meadow. The stand/trees provide potential autumnal and winter roost habitat. Closest winter roost site is Home of Peace Cemetery ≈ 0.5 miles southwest of the Project Site.
Birds (Nesting)					
Nesting birds of prey (various species)	-	CFGC 3503.5	-	Variety of forest, woodland and savanna habitats.	**Possible** Tree stands within and adjacent to the Project Site provide nesting habitat for nesting birds of prey including owls and hawks. Open grasslands and evidence of prey species (small birds, common reptiles, and small mammals) provide foraging habitat for birds of prey.
native nesting birds	-	CFGC 3503	-	Various habitats.	**Present** Nesting activities were observed during 2019 surveys. A number of common native bird species are expected to nest within the scrub and forest habitats.
Olive-sided flycatcher *Contopus cooperi*	BCC	SSC	-	Inhabits woodland and forest habitats, generally near the edges and openings to open meadows and grasslands.	**Possible** Suitable nesting habitat is present within the Project Site. Closest observations are from High Street Church (2016), Kalkar Quarry (2014) and the UCSC Arboretum (2019) (ebird 2019).
Oak titmouse *Baeolophus inornatus*	BCC	-	-	Nests in natural cavities, old woodpecker holes, artificial nest boxes from mid-March through April. Inhabits oak woodlands along the Pacific Slope. Require elevated perches to forage from and to consume food from.	**Possible** Tree stands with cavities and hollows provide potential nesting habitat. Recent ebird (2019) records are from Kalkar Quarry (2019) and Westlake Pond (2018).
Allen's hummingbird *Selasphorus sasin*	BCC	-	-	Breeding occurs in the moist narrow coastal belt affected by summer fogs. Breeding has not been documented beyond 20 miles (32 km) from the coast. Males establish breeding territories with a view of open areas of coastal scrub or riparian shrubs. Females prefer nest sites that are more densely vegetated areas with some tree cover.	**Possible** Breeding migrants start arriving in Santa Cruz County in January and are common to abundant during spring and summer (Suddjan 2013). 2019 ebird records are from Kalkar Quarry and the UCSC Arboretum.

Common Name *Scientific Name*	Status Federal/State/Other			Habitat Requirements	Potential to Occur in Project Site
Rufous hummingbird *Selasphorus rufus*	BCC	-	S1S2	Mature forest, parks, and residential areas.	**Not Expected** Migrants arrive in the area in March or April. Breeding (mid-May to mid-June) is unconfirmed in Central California. Ebird (2019) records are from March 2019 from Kalkar Quarry and the UCSC Arboretum, likely migrants.
Mammals					
Roosting bat species	-	-	CFGC	Variety of woodland habitats and savannah habitats, especially adjacent to streams and ponds.	**Possible** Mature trees with hollows, crevices, peeling bark, and foliage provide habitat for common bat species.
Western red bat *Lasiurus blossevillii*	-	SSC	HP/S3	Roosts in foliage primarily in riparian and wooded habitats.	**Possible** Tree canopies within the Project Site provide potential roosting habitat. Occurs on Moore Creek Preserve.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	-	SSC	S2S3	Associated with riparian, oak woodland and redwood forest habitats and edge habitats. Builds stick houses under or in trees, scrub, hollows, or tree canopy.	**Possible** Forest meadow scrub ecotones provide potential habitat.

NOTES:

Federal Status

FE = Endangered: Any species, which is in danger of extinction throughout all, or a significant portion of its range (USFWS 2018a).

FR = Under Review: A petition has been received by USFWS with substantial scientific information indicating that listing under the ESA may be warranted.

BCC = Species of migratory nongame birds that are considered to be of concern in the United States because of (1) documented or apparent population declines, (2) small or restricted populations, (3) dependence on restricted or vulnerable habitats (USFWS 2008).

State Status

SSC = CDFW Species of Special Concern: Designated because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction (CDFW 2018b, CDFW CNDDB 2018).

CFGC = California Fish and Game Code:
3503 - Protects active nests and eggs of birds from take, possession, or needless destruction
3503.5. - Protects birds of prey (Orders Falcinoformes and Strigiformes)
Section 86; 2000; 2014; 3007; 4150, and Title 14 CCR - Protects non-listed bat species and their roosting habitat, including individual roosts and maternity colonies.

Other (CDFW CNDDB 2018)

NatureServe Ranking[2]: S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

[2] Originally developed by The Nature Conservancy and now maintained and recently revised by NatureServe. Includes a **Global rank** (G-rank), over the taxon's entire distribution, and a **State rank** (S-rank), over its state distribution. For subspecies and varieties, there is also a "T" rank describing the global rank for the infraspecific taxon. Criteria are used to assign element ranks, from G1 to G5 for the Global rank and from S1 to S5 for the State rank, taking into account rarity, threats, and trends (CDFW CNDDB 2018).

Attachment C.

Representative Photographs of the proposed Peace United Church Residential Development Study Area

Top. Overview of upper terrace meadow looking northeast dominated by non-native grassland and scattered shrubs and bordered by eucalyptus forest.

Bottom. Unimproved pedestrian trail along northern border of upper terrace meadow with mixed evergreen ornamental forest along the western perimeter.

ECOSYSTEMS WEST CONSULTING GROUP

Top. Mixed evergreen ornamental forest along the steep embankment separating the upper parking area from the upper terrace meadow to the north.

Bottom. Concrete stormwater ditch conveying surface water runoff from the north along the eastern perimeter of the Study Area to a City storm drain along High Street.

ECOSYSTEMS WEST CONSULTING GROUP

Attachment D.

Naturalized Vascular Plant Species Observed in the proposed Peace United Church Residential Development Study Area

Attachment C. List of Naturalized Vascular Plant Species Observed in the Proposed Peace United Church Residential Development Study Area	
Scientific Name	**Common Name**
*Acacia dealbata**	silver wattle
Acacia melanoxylon	blackwood acacia
Arbutus menziesii	**madrone**
*Arctotheca prostrata**	creeping capeweed
*Avena barbata**	slender wild oak
Baccharis pilularis	**coyote brush**
*Brachypodium distachyon**	purple false brome
Briza maxima	rattlesnake grass
Briza minor	little quaking grass
*Bromus diandrus**	ripgut grass
Bromus hordeaceus	soft chess
Centranthus ruber	Jupiter's beard
Convolvulus arvensis	bindweed
*Cortaderia jubata**	jubata grass
*Cotoneaster lacteus**	milkflower cotoneaster
*Cotoneaster pannosus**	silverleaf cotoneaster
Dactylis glomeratum	barnyard grass
*Ehrharta erecta**	veldt grass
Erodium brachycarpum	white stemmed filaree
*Eucalyptus globulus**	blue gum eucalyptus
*Festuca arundinaceae**	tall fescue
Festuca bromoides	brome fescue
*Festuca myuros**	six weeks fescue
*Festuca perennis**	Italian ryegrass
Frangula californica	**coffeeberry**
Geranium dissectum	cutleaf geranium
*Hedera helix**	English ivy
Heteromeles arbutifolia	**toyon**
Hordeum murinum ssp. *leporinum**	foxtail
Hypochaeris glabra	smooth cat's ear
*Hypochaeris radicata**	rough cat's ear
Lavendula stoechas	lavender
Lupinus nanus	**sky lupine**
Lysimachia arvensis	scarlet pimpernel
Medicago polymorpha	bur clover
*Oxalis pes-caprae**	Bermuda buttercup
*Pinus radiata***	Monterey pine
Plantago lanceolata	English plantain
Poa annua	annual bluegrass
Pseudostuga menziesii	**Douglas fir**
Quercus agrifolia	**coast live oak**
Raphanus sativus	wild radish

Attachment C. List of Naturalized Vascular Plant Species Observed in the Proposed Peace United Church Residential Development Study Area	
Scientific Name	**Common Name**
Rubus ursinus	**Pacific blackberry**
Silene gallica	common catchfly
Sonchus asper	spiny sow thistle
Sonchus oleraceus	common sow thistle
Stipa pulchra	**purple needglegrass**
Toxicodendron diversilobum	**poison oak**
Trifolium hirtum	rose clover
Trifolium repens	white clover
Trigolium angustifolium	narrowleaf clover
Veronica persica	bird's eye speedwell
Vica benghalensis	purple vetch
Vicia sativa	common vetch

Native species in bold

* Cal-IPC "moderate" or "high" priority invasive weed

** Monterey pine not-native at this locality

Attachment E.

Avian Species Observed in the proposed Peace United Church Residential Development Study Area

Attachment E. Avian species detected during 11 May, 2019 bird survey at Peace United Church, City of Santa Cruz, Santa Cruz County, California.

Common Name	Scientific Name	Detection
Anna's Hummingbird	*Calypte anna*	P
American Crow	*Corvus brachyrhynchos*	B
Bewick's Wren	*Thryomanes bewickii*	O
Black-headed Grossbeak	*Pheucticus melanocephalus*	V
Bushtit	*Psaltriparus minimus*	B
Chestnut-backed Chickadee	*Poecile rufenscens*	O
California Scrub-Jay	*Aphelocoma californica*	P
California Towhee	*Melozone crissalis*	P
California Quail	*Callipepla californica*	V
Common Raven	*Corvus corax*	O
Dark-eyed Junco	*Junco hyemalis*	O
Eurasian Collared-Dove*	*Streptopelia decaocto*	FO
Hairy Woodpecker	*Dryobates villosus*	V
Lesser Goldfinch	*Spinus psaltria*	V
Northern Flicker	*Colaptes auratus*	V
Orange-crowned Warbler	*Oreothlypis celata*	V
Pacific-slope Flycatcher	*Empidonax difficilis*	O
Purple Finch	*Haemorhous purpureus*	V
Spotted Towhee	*Pipilo maculatus*	V
White-breasted Nuthatch	Sitta carolinensis	FO
Wilson's Warbler	Cardellina pusilla	V

Notes:
* = Non-native
O = Observed
V = Vocalizing
B = Breeding behavior: feeding young, carrying nesting material.
P = Pair
FO= Fly-over