APPENDIX C – BIOLOGICAL RESOURCES

Staub Forestry and Environmental Consultant. Forest Management Plan for Harper Canyon Realty. June 2001.

Staub Forestry and Environmental Consultant. Addendum to Forest Management Plan dated June 2001. April 28, 2008.

Zander Associates. Biological Resources Assessment. July 13, 2001.

Zander Associates. Results of Follow-up Survey. October 3, 2001.

Zander Associates. Biological Resources Assessment. November 11, 2005.

Stephen R. Staub
Forester & Environmental Consultant

STAUB

FOREST MANAGEMENT PLAN

for

Harper Canyon Realty

Prepared For

DANJAQ, Inc.

Prepared by

Stephen R. Staub

Registered Professional Forester

License #1911

June, 2001

FOREST MANAGEMENT PLAN

for

Harper Canyon Realty, L.L.C. Property, Monterey County

APNs 416-611-01 and 416-611-02

Owner: Harper Canyon Realty, L.L.C.
C/o Ms. Elizabeth Farwell
DANJAQ, Inc.
2401 Colorado Avenue, Suite 330
Santa Monica, CA 90404

Introduction

This Forest Management Plan is prepared for Harper Canyon Realty, L.L.C., Jr. by Stephen R. Staub, Registered Professional Forester #1911. It is to be made a part of an application for a 17-lot residential subdivision of this approximately 344 acre property, which is located about ¼ mile east of the junction of Highway 68 and San Benancio Road with most of its eastern boundary adjacent to Toro Regional Park. The Forest Management Plan is subject to the requirements of Zoning Ordinance #21.64.260, which applies restrictions for the preservation of oak and other protected trees as required in the Monterey County General Plan, area plans, and master plans. The scope of this plan covers the trees on the entire property with particular emphasis on trees that will be impacted by construction of road and common driveway infrastructure.

Site Description

Assessor's Parcel Numbers: APNs 416-611-01 and 416-611-02 to be subdivided as delineated on the Vesting Tentative Map dated June 21, 2001 for Harper Canyon Realty Property prepared by Whitson Engineers.

Location: Approximately ¼ mile east of the junction of San Benancio Road and Highway 68. Primary access will be off San Benancio Road over an existing residential access road.

Parcel Size: 344 acres +/-.

Existing Land Use: Principally cattle grazing and undeveloped watershed except where utility line facilities traverse the property.

Slope: Slopes within proposed residential homesite areas are generally less than 25%, although slopes are quite variable and clearly exceed 30% on some sections of residential lots not subject

to development. The Remainder parcel (approximately 180 acres) contains both gentle to moderate grassy benchland and ridgetops and steeper sidehills, where slopes may reach 60%.

Soils: Soils on the property are intergrading sandy loams to loamy sands with variable some clay in the subsoil. The Soil Survey of Monterey County, California (USDA, 1978.) maps nearly the entire property as Arnold series loamy sands with a minor incursion mapped as Badlands. The mapped Arnold series is mixed with inclusions of San Andreas and Santa Ynez series fine sandy loams. Top soil layers are generally gray to grayish brown.

Vegetation: Vegetation on the site has been well described and mapped in the Preliminary Biological Resource Assessment of the project prepared by Zander Associates (April 17, 2001). Annual grassland and coast live oak woodland and savanna are the dominant vegetation communities on gentle to moderate slopes with shrub types preponderantly on moderate and steeper slopes. Most of the shrub cover is coastal scrub but there is also a small amount of maritime chaparral. Maritime chaparral occurs only in the Remainder parcel, not the proposed residential parcels. For more detailed descriptions of these vegetation types and characteristic species, see the Zander report.

Vegetation on most of the property has been significantly influenced by past and current grazing activities. Although vegetative cover has not changed dramatically, inspection of 1970 aerial orthophotography and on-site observations suggest that successional patterns of coastal scrub encroaching on annual grassland and oaks becoming established in both coastal scrub and grassland has led to an increase in the amount of oak cover on the property over the last 30 years.

Forest Condition and Health: Tree cover on the property is almost exclusively coast live oak (*Quercus agrifolia*) with perhaps a few buckeyes (*Aesculus californica*) observed from a distance during reconnaissance on the Remainder parcel. The coast live oak occurs both as a denser woodland type and as an open savanna in which individuals and small groups are scattered in grassland. As calculated from Plate 1, Vegetation Types of Zander Associates' Preliminary Biological Resource Assessment, coast live oak woodland occupies 70.2 acres and oak savanna occupies 23.5 acres. Stocking in both oak savanna and oak woodland is quite variable but small trees (less than 12 inches in diameter) are by far the most numerous. Higher percentages of larger trees are restricted to relatively infrequent patches where stand history and soil depth and moisture are favorable. Oak savanna is transitional to grassland with trees widely spaced and tree cover less than 25%. Canopy cover in oak woodland can range from moderately open to closed or nearly closed. Oak woodland here occurs primarily on north facing slopes. It is densest and most continuous below the east/west trending ridgeline through lots 15, 16 and 17. In a number of areas, including some sections of coastal scrub, there are numbers of smaller trees (less than 6 inches in diameter) and seedlings, suggesting a slow trend of increasing oak forest cover. Some of the small trees are heavily browsed. Across the property, tree sizes, densities and ages are quite variable, reflecting differences both in local site conditions and in past land use history.

Health of oaks on the property can be rated as fair to good. In general, foliage color is good but a number of trees have significant internal decay and cavities and some trees have only fair to poor

foliage retention. While oak decay and cavities offer useful niche habitat, in combination with other native oak pathogens, some tree mortality has been occurring. However, no symptoms of sudden oak death were observed at this time. The recently reported infection of a tree in Prunedale is the nearest reported case of this new disease in coast live oaks in the general area. The absence of tanoak, which is highly susceptible, and rarity of alternate host species madrone and bay laurel nearby probably have helped to limit the disease's effects in the immediate region.

Project Description

The project proposes a 17-lot residential subdivision with approximately 164 acres contained in residential lots ranging in size from roughly 5 acres to 34 acres. The remaining 180 acres of the property form an undeveloped Remainder parcel. Primary access will be off San Benancio Road over an existing residential access road that will be widened and upgraded. The main access road will more or less follow the alignment of the existing ranch access road. Potential homesites within each lot will be located on gentle to moderate terrain, predominantly in grassland areas as generally indicated on the Plate 1 of Zander Associates' report.

Estimated Native Oak Population and Removals

To characterize stand structure and tree numbers, random tree density measurements, strip diameter class samples, and two plot samples were taken across the range of forest cover types. Total tree numbers were extrapolated from the samples in proportion to woodland and savanna cover types and checked against other data collected from similar stands in the region. Only a small percentage of the total number of trees was actually measured, but the sampling is adequate for purposes of general impact evaluation.

To estimate tree removals, the main access road and the two common access roads, one to lots 8, 9 & 10, the other through lot 6 for lots 1, 2, 3, 4 & 5 were reviewed in the field with engineer Ken Whitson to estimate feasible limits of grading required to install a 20 foot wide main access road, and the less wide access required for small numbers of lots. Trees within the limits of grading or unlikely to maintain reasonable health due to impacts of grading were tallied individually by diameter class and were often marked with a spot of blue paint to avoid double counting. To provide a margin of error due to estimation prior to final staking, the tally of individual removal trees has been increased by 10 % in the table below.

ESTIMATED NUMBER OF OAKS

Diameter Class	Total #	Removal #
6"-11"	8194	68
12"-23"	913	10
24"+	80	1
Total	9187	79 (less than 1% of total)

The estimates of tree numbers above, especially in the 12" to 23" class, are likely to be quite conservative, as they are based on per acre tree estimates that are significantly lower than those

reported in extensive sampling of central coast oak stands by Cal Poly researchers. Approximately 20% to 25% of the trees to be removed are suffering from extensive decay, breakage, and/or low vigor. With careful construction methods and permission to construct a few short sections at somewhat less than standard 20 foot width, it is likely that during development of permanent access for the subdivision, no 24"+ dbh oak tree would have to be removed and that a few other trees in the smaller diameter classes could be retained. Final removal tallies are likely to vary slightly from this preliminary estimate, but the evaluation of overall impacts to forest resources will remain valid. Not reflected in the tally above are young oaks in the 1"-5" class, which are sporadically numerous. Utilization of the existing road alignment, appropriate design and construction methods, and of the most open areas for access to currently unroaded areas appears to have minimized tree removals given site conditions.

NOTE: Two existing roads, one that runs south between lots 15 and 16 to the ridge and accesses the remainder parcel, the other that runs east into Toro Regional Park between lots 2 and 11, provide attractive access to these undeveloped areas. However, no improvements are proposed as a part of this development and so no tree removal is anticipated in these areas. Appropriate drainage and surfacing could mitigate some minor erosion that is currently occurring on a couple of these road sections.

Condition of Retained Trees

The health and general condition of the retained trees is good and at least comparable to the trees being removed. As noted above decay and low vigor are apparent in a number of the trees to be removed as well as in the stand as a whole. Such features can be beneficial where improvements and public safety are not at risk. The vast majority of trees on the site and effectively all of the largest trees will be retained. The largest blocks of forest on the property, including extensive oaks stands on the undeveloped remainder parcel, will be effectively retained. Tree mortality will continue to occur as it does in all unmanaged forests. Native diseases and insects are expected to persist at normal background levels unless the new *Phytophthora* disease complex becomes active in the area, in which case native diseases and insects will increase as a part of that complex. Protection measures for trees during construction are included below as in the section Tree Care During Construction.

Tree Replacement: County regulations require replanting on a 1:1 basis for all protected trees removed, except where this would result in an overcrowded or unhealthy environment. Replanting on a 3:1 basis is recommended as a means of promoting 1:1 tree replacement, meaning that 237 oak trees should be planted to replace the 79 oaks being removed. Tree replanting numbers should be 3 times the number of trees actually removed, not the estimated number. Since all trees being removed are coast live oaks, all replacement trees should be as well. Required replacement trees should be planted outside areas subject to development and enjoy protected status after planting. Tree replacement for infrastructure tree removals should be done principally on designated open space parcels or easements. Excess volunteer seedlings already existing on the site may be transplanted to provide suitable replacement planting stock of known local origin. If oak replanting stock is not transplanted from on-site sources, it should be grown from local native seed stock in sizes not greater than 5 gallons, with one gallon or smaller being preferred as the tree is likely to adapt to the site better and grow larger over the long term.

Tree Care During Construction

To protect trees during construction activities, the following general measures shall be adhered to:

1) Around each tree or group of trees to be preserved in a construction area, a boundary of orange snow netting or high visibility plastic fencing supported by wood or metal stakes shall be erected along the approximate driplines of such protected trees to define the construction project boundary. Where guidance of a tree professional is used, encroachment into the dripline of retained trees may occur in order to minimize tree removals. Where construction activities cannot avoid oaks, the following general guidelines should be kept in mind. Oaks will usually survive the loss of up to one-half of their root feeding zone, which is roughly defined as the outer two-thirds of the root radius extending to the dripline. Oaks may even stand the loss of more roots if the tree crown is trimmed to maintain a rough balance between foliage and roots. When cutting roots, especially roots greater than three inches in diameter, it is important to consider the potential loss of security and stability of the tree. Trimming may compensate for imbalance or loss of part of the root system and should be done to maintain tree health if more than 20% of the root zone (roughly the dripline area) is affected.

2) No storage of equipment or construction materials, or parking of vehicles is permitted within the tree rooting zone defined by the fencing of the construction boundary in #1 above.

3) No soil may be removed from within the dripline of any tree and no fill of additional soil should exceed two inches (2") within the driplines of trees, unless it is part of approved construction and is reviewed by a qualified forester, certified arborist, or other tree professional. Oaks are particularly sensitive to increases in soil depth. If part of the feeding zone is buried, it should be considered to be at least partly lost. Under no circumstances should any fill be allowed to rest against the base of any tree. Oaks are especially susceptible because oak root fungus is encouraged. As long as a permanent well is constructed at original grade out from the trunk a minimum distance of one foot, there is not likely to be a problem.

4) Bark injury to any tree from equipment or materials is not acceptable.

5) No native tree may be removed or trimmed unless authorized under this Management Plan or County regulation.

6) Roots exposed by excavation should be pruned promptly to promote callusing, closure and regrowth.

7) All tree work shall be monitored by a qualified forester, certified arborist, or tree professional and work completed by qualified tree service personnel.

8) Project Specific Recommendations: The majority of mitigable tree impacts created by road construction occur on road sections along the boundary of Lot 17. To enhance tree protection, the following measures are recommended.
   a) In specific instances, permit short sections of road to be constructed at less than the standard 20 feet in width. Three examples occur in Lot 17 and one in Lot 12. For example, if the road is routed correctly and narrowed to 12 to 14 feet for a distance of some 130 feet just before the corner of Lot 16, two or three good sized oaks could be retained rather than removed.
   b) Have a qualified tree professional involved in preparation of final road design specifications to enhance tree retention and retained tree health. For example, several attractive trees on the edge of existing cutbanks can be retained by use of keyed fills. In another instance, doing all widening into a shrub-covered cutbank will minimize impacts to a tree on the fill side. In some cases, the road can be aligned to remove unhealthy trees instead of healthy trees, such as at the sharp turn at the NW corner of Lot 17.
   c) Extensive pruning will be necessary to permit road construction in a some places because long limbs extend into the roadway. Before commencement of construction, a qualified arborist or other tree professional should identify trees where significant pruning will be necessary and make recommendations. Coast live oak generally responds well planned pruning even when it is extensive.
   d) The property owner should stay current on developments related to oak mortality from the newly identified *Phytophthora* pathogen. Because this disease complex is so new, current information is likely to be outdated in a short time so the web site of the California Oak Mortality Task Force is recommended as a resource. Proper handling of materials infected with this pathogen is necessary to minimize spread of the disease. Guidelines will be posted on the website.

Project Assessment

Minimum Tree Removal: As noted above in discussion of total oak population and tree removals, use of the existing road alignment, use of appropriate design and construction methods, and use of the most open areas for access to currently unroaded areas has kept tree removals to the minimum (less than 1% of total) given the circumstances of this case and setting.

Potential for adverse environmental impacts due to proposed tree removals in the following subject areas:

Soil Erosion: Potential is low to moderate. Slopes where road construction will occur are usually gentle to moderate, although some steeper slopes are crossed by relatively short road segments in several locations. Most road and building sites are located in relatively treeless areas. Erosion control measures will be required and implemented during active construction on roads and homes. Tree planting and other landscaping mitigations will be implemented upon completion of construction activities.

Water Quality: Tree removals are quite limited (less than 1% of trees on the property) given project size are well removed from significant water resources. The common access road to lots

8, 9 and 10 does parallel a seasonal watercourse at some distance but trees to be removed for its construction are all relatively small, are not located on steep slopes, and their removal is easily mitigatable with proper construction and erosion control methods. Additional discussion of potential impacts to water quality is provided in the Preliminary Biological Resource Assessment prepared by Zander Associates.

Ecological Impacts: Low potential. Less than 1% of the estimated tree population on the property is projected to be removed by the project. The largest blocks of continuous forest cover will be effectively preserved.

Noise Pollution: Not a significant factor after construction activities have been completed. Trees being removed are generally too small and infrequent to provide a significant sound barrier.

Air Movement: The number of trees proposed for removal will have little or no effect on the movement of air in this vicinity.

Wildlife Habitat: Low impact for this property. Continuous upslope and downslope habitat connectivity remains after development as proposed. Large parcel size and high tree retention provide good mitigation.

Forest Management Agreement

The following standard conditions are required by the Monterey County Planning Department in Forest Management Plans:

Definitions

Forest Management Area (FMA). That portion of the subject property which is presently forested and lies beyond the immediate vicinity of the permitted building envelopes within this parcel.
Landmark tree. Any native tree more than 24" in diameter.
Significant tree. Any protected tree more than 6" in diameter.
Retained tree. Any significant tree not shown for removal on an approved final site plan.
Diameter (dbh). Thickness of main trunk of tree as measured 4'6" above the average ground surface at base of tree ("diameter at breast height").
Dripline. The outer edge of the area beneath the crown of a tree.
Greenbelt. An area around the construction zone which, for purposes of fire protection, is kept free of highly flammable vegetation and is stabilized with green, growing plants.

Management Objectives

1) Minimize erosion (in order to prevent soil loss and siltation).

2) Preserve natural habitat (includes native oak forest, understory vegetation, and associated wildlife on site).

3) Prevent forest fire (i.e., uncontrolled fires.)

4) Preserve scenic forest canopy as located within any Critical Viewshed.

5) Preserve landmark trees.

Management Measures

Tree Removal. Tree removal is subject to the requirements of Zoning Ordinance #21.64.260. No protected tree shall be removed without a Tree Removal Use Permit per the ordinance unless diseased or hazardous, as designated by a qualified forester, or exempt from the provisions of the ordinance. Per Section 21.64.260.F.3, "tree removal for construction of structures, roads and other site improvements included in an approved subdivision, Use Permit, or similar discretionary permit" are exempt.

Application Requirements. Where a Tree Removal Permit is required, trees proposed for removal will be conspicuously marked by flagging or paint. A site plan showing the location of each significant tree to be removed will accompany the application. If a substantial number of trees are requested for removal, they will generally be distributed over a wide area so that the overall unbroken appearance of the forest canopy is not altered.

Waiver of Permit Requirements. It is understood that the Director of the Monterey County Planning Department may waive the requirement to obtain a Tree Removal Permit in the following instances:

1) removal of diseased tree(s) which threaten to spread contagion to nearby healthy trees;
2) removal of dangerous tree(s) which present a clear and imminent threat to human life or property;
3) outside the FMA, removal of tree(s) where needed to allow construction of approved structures or roads.

Landmark Trees. All landmark trees will be protected from damage if not required to be removed under the above instances.

Dead Trees. Because of their great value for wildlife habitat (particularly as nesting sites for birds), large dead trees beyond the greenbelt will normally be left in place. Smaller dead trees will normally be removed in order to reduce fire hazard. Dead trees may be removed at the convenience of the owner, provided such removal is otherwise in conformance with this plan and designated by a qualified forester. Large dead trees may be removed from the greenbelt upon a finding of hazard or sufficient presence of this habitat element by a qualified forester. Dead trees, limbs, and other highly flammable material may be removed if required by Agency fire Officials, or as part of an approved Defensible Space Plan.

Thinning. Non-significant trees, where weak, diseased, or overcrowded, may be thinned to promote the growth of neighboring trees. Subject to the above permit requirements, significant trees may be removed for the same purpose. In a number of places, stands of oaks are overcrowded with smaller trees. In such stands, thinning of trees up to 12" in diameter as recommended by a qualified tree professional is encouraged in order to promote growth of larger trees, increase understory diversity, and reduce fire hazard.

Replacement Trees. Where tree replacement is required, the appropriate replacement trees shall be planted in an area where they are free to grow, generally a clearing or gap between trees (preferably 30 feet or more between trunks), except where existing clearings are to be maintained. Exceptions will be made where a suitable seedling already exists, and in unforested garden and lawn areas. Every effort will be made to secure native seedlings rather than nursery stock of unknown origin. Coast live oak replacement trees should generally not be larger than 5 gallon size with one gallon preferred. Occasional use of larger planting stock, however, is acceptable to provide both visual and age diversity.

Protection of Trees. All significant and replacement trees, other than those approved for removal, shall be retained and maintained in good condition. Trimming, when not injurious to the health of the tree(s), may be performed wherever necessary in the judgment of the owner, particularly to reduce personal safety and fire hazards.
Retained trees which are located close to the construction site shall be protected from inadvertent damage by construction equipment through wrapping of trunks with protective materials, bridging or tunneling under major roots where exposed in the foundation or utility trenches, and other measures appropriate and necessary to protect the well-being of the retained trees (See Tree Care During Construction above).

Fire Prevention. In addition to any measures required by local of California Department of forestry fire authorities, owner will:

a. maintain spark arrester screen atop chimney;
b. maintain spark arresters on gasoline-powered equipment;
c. establish "greenbelt" by keeping vegetation around structure to a distance of 50 feet in a green, growing condition, and or controlling fuel accumulation in drought tolerant landscapes.
d. break up and clear away any dense accumulations of dead or dry underbrush or plant litter, especially near landmark trees and within greenbelt.

Use of Fire (for Clearing, Etc.). Open fires will be set or allowed within the FMA only as a forest management tool under the direction of Department of Forestry authorities, pursuant to local fire ordinances and directives.

Clearing Methods. Outside development areas, brush and other undergrowth, if removed, will be cleared through method(s) which will not materially disturb the ground surface. Hand grubbing, crushing, and mowing will normally be the methods of choice. Use of fire and herbicides will be subject to the limitations listed elsewhere in this Plan.

Areas laid bare by clearing, other than firebreaks, will be sown with a suitable erosion mix utilizing native grass and forb seeds as suitable and appropriate (if nothing else is to be planted in the area). Sowing of cleared areas will be completed prior to the onset of the winter rainy season.

Irrigation. In order to avoid further depletion of groundwater resources, prevent root disease, and otherwise maintain favorable conditions for the native oak forest, the FMA will not be irrigated except within the greenbelt area. Caution will be exercised to avoid overwatering around oak trees within the greenbelt.

Exotic Plants. Care will be taken to eradicate, and to avoid introduction of, the following pest species: a) Pampas grass, b) Genista (Scotch broom, French broom), c) Eucalyptus (large types).

Amendments. It is understood that the Director of the Monterey County Planning Department, in consultation with the California Department of Forestry, may approve amendments to this Plan, provided that such amendments are consistent with the provisions of the County Development Permit.

Compliance. It is further understood that failure to comply with this Plan will be considered failure to comply with the conditions of the County Development Permit.

Transfer of Responsibility. This Plan is intended to create a permanent forest management program for the site. It is understood, therefore, that in the event of change in ownership this Plan shall be as binding on the new owner(s) as it is upon the present owner. To this end, this Plan will be conveyed to the future owner upon sale of the property.

Forest Management Plan Prepared by:

Stephen R. Staub — 6/26/01

Stephen R. Staub — Date

Owner's Agreement to Provisions of the Plan:

Harper Canyon Realty
By, Elizabeth Farwell — Date

Forest Management Plan Approved by:

Director of Planning of County of Monterey — Date

Staub Forestry &
Environmental Consulting

STAUB

April 28, 2008

Ms. Laura Lawrence
County of Monterey-Planning Department, Resource Management Agency
168 W. Alisal St., 2nd Floor
Salinas, CA 93901

Addendum to Forest Management Plan dated June 2001

For Monterey County APNs 416-611-01 and 416-611-03 – Encina Hills

This addendum addresses potential tree removal associated with development of proposed building sites. Our review included field assessment of driveways and building sites circled on the VTM at the time of the original FMP recorded as file notes by lot and office evaluation of aerial photography and current maps showing lot lines and building sites. Lot 17 alternatives analyzed show either a residential site on the slope below the ridge in the SE corner of the lot or two on-site inclusionary units at that location with the residential site moved to gentle to moderate terrain near Meyer Road in the NW portion of the lot.

Tree impacts associated with development of proposed building sites shown on the VTM are projected to be minimal as residential sites are proposed in open areas, principally grassland or mixed grass and shrub cover with only occasional oaks. No tree removal per the ordinance would occur on 9 of the 17 lots and little tree removal would occur on the remaining 8 lots. Our evaluation suggests that total tree removal for all direct residential site development will be minimal and less than the limited tree removals estimated for road and infrastructure development in the FMP.

Tree removals would increase markedly under the alternative that would provide two inclusionary units and a residential unit on different parts of Lot 17 because only one feasible site on Lot 17 has both gentle to moderate slope and minimal tree cover. If inclusionary housing occupies that site, the residential site cannot avoid being placed within dense oak cover. Our estimates suggest that tree removals for such a site would exceed tree removals for all other lots combined, more than doubling tree removals associated with residential development.

Please let me know if I can be of further assistance.

Submitted by

Stephen R. Staub, Registered Professional Forester #1911

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ZANDER ASSOCIATES

Environmental Consultants

July 13, 2001

Ms. Elizabeth Farwell
Vice President, Finance and Administration
DANJAQ, Inc.
2401 Colorado Avenue, Suite 330
Santa Monica, California 90404

Biological Resources Assessment
Encina Hills Property
Monterey County, California

Dear Ms Farwell:

Zander Associates has completed an assessment of the existing biological resources on the Encina Hills property in Monterey County. The project site consists of approximately 344 acres situated along the southeast side of Highway 68 adjacent to Toro Regional Park. The purpose of our assessment was to describe and map existing vegetation patterns on the site and identify target species and other resources for further survey, as necessary. We consulted the California Natural Diversity Database, and previous environmental documents prepared for properties in the vicinity to compile a list of special status species that are known to occur in the vicinity. Zander Associates conducted a reconnaissance-level survey on March 6, 2001 to characterize and map dominant vegetation types and to evaluate the potential for the property to support a target list of sensitive plant and animal species. On April 25, 2001 a focused survey for sensitive plant species with spring blooming periods was conducted on the entire property. This letter summarizes the results of our background review, reconnaissance survey, and spring plant surveys.

General Site and Project Description

The Encina Hills property consists primarily of pastureland on hilly terrain that ranges in elevation from about 400 to 1,000 feet above sea level. The property is situated south of Highway 68, east of San Benancio Road, north of Harper Canyon Road and west of Toro Regional Park (Figure 1). There are several seasonal drainage courses that originate in the hills on the site and drain downslope to the south, east and west off the property. A sandstone escarpment or badland with severely eroded slopes and minimal vegetation is located at the northern property boundary, in the northern corner of lot 9 (proposed). Several smaller escarpments are found near ridges in the northeastern portion of the property.

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There are no homes or other building structures currently on the site. The proposed project is to subdivide the property into 17 lots ranging from approximately 5 acres to 23 acres in extent and retain about 180 acres in a Remainder Parcel. Homesites within each lot are generally sited as indicated on Plate 1 and encompass approximately 1 acre.

Vegetation Communities/Habitat Types

Zander Associates identified elements of four vegetation communities typical of the general area on the site: annual grassland, coast live oak woodland/savanna, coastal scrub and central maritime chaparral. In addition, the upper reaches of several intermittent drainages are found on the site. Classification of the vegetation communities is based generally on Holland (1986) and Sawyer and Keeler-Wolf (1995). Each of these vegetation communities, and the wildlife habitat they provide, is described below. A map indicating the distribution and extent of these communities on the site is attached as Plate 1.

Annual Grassland

The annual grassland community on the property is characterized by a mixture of native perennial and introduced annual species and is heavily grazed by cattle. Common introduced grass species observed included slender wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and rattail fescue (*Vulpia myuros*). The primary native perennial species observed scattered throughout the grassland is purple needlegrass (*Nasella pulchra*).

Grasslands often provide habitat for a variety of native wildflowers that typically bloom in the spring. At the time of our site visit, only a few wildflower species were in bloom and identifiable, including: footsteps of spring (*Sanicula arctopoides*), Johnny jump-up (*Viola pedunculata*), and California gilia (*Gilia achilleifolia*). The dominant flowering herb present within the grassland during our survey was the non-native long-beaked filaree (*Erodium botrys*). The dominant presence of this species is indicative of the extensive grazing.

Grasslands provide foraging habitat for small mammals which in turn serve as prey for a variety of other animals, including snakes, raptors ("birds of prey"), and coyotes (*Canis latrans*). Numerous invertebrate species, many of which provide a food source for larger animals such as lizards, birds and some small mammals, can also be found within grassland communities.

Coast Live Oak Woodland and Savanna

Oak woodland communities in Monterey County are dominated by open to nearly closed canopies of coast live oaks (*Quercus agrifolia*) with grass or shrub understories. Savannas are transitional between woodlands and grassland with trees more widely spaced and a grassland-dominated understory. On the Encina Hills property, oak woodlands occupy the more mesic

(moist) north-facing slopes and canyon bottoms and the oak savanna is along a drier, east-facing slope, near the ridgetop.

The understory species composition in oak woodlands varies depending upon local conditions such as moisture availability and soil type. The understory in the oak savanna consists of species common to the annual grassland habitat but may include additional wildflower species not found in the open grasslands. Common oak woodland understory species observed on the Encina Hills property include poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and California coffeeberry (*Rhamnus californica*). The species composition of the understory changes slightly where the oak woodland transitions to coastal scrub higher on the slopes to include some coastal scrub species.

Oak woodland and oak savanna provide habitat for a variety of wildlife. The oak trees provide suitable nesting sites and cover for birds and many mammals. Woody debris and duff in the woodland understory provide foraging areas for small mammals and microclimates suitable for amphibians and reptiles. Acorns are a valuable food source for many animal species, including the California quail (*Lophortyx californicus*), western gray squirrel (*Scirus griseus*), and black-tailed deer (*Odocoileus hemionus*). Other representative animal species of oak dominated woodlands include arboreal salamander (*Aneides lugubris*), western screech owl (*Otus kennicottii*), scrub jay (*Aphelocoma corulescens*), and Virginia opossum (*Didelphis virginianus*).

Coastal Scrub

Coastal scrub communities are characterized by moderate to low-growing evergreen and drought tolerant shrubs adapted to shallow soils. On the Encina Hills property, coastal scrub is typically dominated by soft-leaved shrubs like California sage (*Artemisia californica*), coyote brush (*Baccharis pilularis* var. *consanguinea*), and sticky monkey flower (*Mimulus aurantiacus*). This vegetation community occurs mostly on drier, wind exposed sites near the tops of the ridges or on steep slopes with sandy, mudstone or shale soils.

Coastal scrub provides cover and nesting habitat for a variety of animals. The sandy soils typically associated with this community also provide areas for wildlife denning and nesting. Animal species common to coastal scrub habitat include western fence lizard (*Sceloporus occidentalis*), western rattlesnake (*Crotalus viridis*), California quail (*Callipepla californica*) brush rabbit (*Sylvilagus bachmani*) and gray fox (*Urocyon cinereoargentus*).

Maritime Chaparral

This plant community is similar to coastal scrub in that it is characterized by moderate to low-growing evergreen and drought tolerant shrubs adapted to shallow soils. It varies from coastal scrub in that its dominant species consist of sclerophyllus (hard-leaved) shrubs, such as chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp), and ceanothus (*Ceanothus* spp). Wildlife species using this habitat type are similar to those described for

coastal scrub. Maritime chaparral is limited in extent on the property and is found in the upper end (southern) of the canyon that comprises the eastern portion of the Remainder Parcel.

There are several special status plant species associated with this vegetation type in the project vicinity including Toro (or Monterey) manzanita, Monterey ceanothus and Eastwood's ericameria. These are discussed further in the following sections.

Drainages

There are portions of several drainages and tributaries to drainages that originate on the property and carry flows offsite. These drainages appear to be ephemeral, carrying flow only in response to winter storms. In general, the channels are cobble- or soil-lined and are devoid of in-channel vegetation. Some of the channels are deeply incised. Oak woodland vegetation is primarily associated with the drainages; classic riparian (stream-related) vegetation is generally absent from these areas. Most of the drainages on the property are tributary to El Toro Creek, which drains to the Salinas River.

Wildlife habitat in these drainages does not vary substantially from that previously described for oak woodland or grassland habitat. The channels can provide movement corridors for amphibians when water is present and for other animals throughout the year.

Special Status Species

For this assessment, special status species are defined as: those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS); those considered "Species of Concern" by the USFWS; those listed or proposed for listing as rare, threatened or endangered by the California Department of Fish and Game (CDFG); plants occurring on lists 1B or 2 of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (1994); and animals designated as "Species of Special Concern" by CDFG.

Duirng the site visit on March 6, 2001 Zander Associates developed a target list of special status plant and animal species that we evaluated for their potential to occur on the Encina Hills property (Tables 1 and 2, respectively). The list was developed based on our review of the California Natural Database (CNDDB) records and our work on other properties in the vicinity. On April 25, 2001 Zander Associates conducted focused surveys for special status plant species that bloom during the spring. The results of the spring plant survey are discussed below and summarized on Table 1.

Plants

Many of the special status plants that occur in the vicinity of the Encina Hills property are found in specific habitat types such as maritime chaparral, vernal pools, or on serpentine

substrate. No vernal pool habitat was observed on the site and there were no obvious areas with serpentine substrates - based on vegetative characteristics. A limited amount of maritime chaparral habitat is present in the Remainder Parcel on the property and was surveyed during the April 25, 2001 site visit. The maritime chaparral habitat was surveyed as completely as possible; however, certain areas were not accessible due to dense brush and steep terrain. A few Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*) shrubs were observed at the northern edge of the maritime chaparral habitat. Other special status plants potentially occuring in the maritime chaparral but not found during the spring plant survey include Monterey spineflower (*Chorizanthe pungens* var. *pungens*), Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*), and Hooker's manzanita (*Arctostaphylos hookeri* ssp *hookeri*). These species would likely be found in open areas within maritime chaparral habitat; however, the dense structure of this habitat and lack of openings discourage the establishment of these species.

Along the eastern edge of the development area, a few Monterey manzanita (*Arctostaphylos montereyensis*) shrubs were observed during the spring plant surveys. An individual unidentified rein orchid (*Piperia* sp.), most likely *P. elegans* or *P. michaelii* was observed along the northwestern property boundary in lot 3. Focused searches were conducted for other sensitive spring-blooming plants with the potential to occur on the Encina Hills property including Hickman's onion (*Allium hickmanii*), Hutchinson's larkspur (*Delphinium hutchinsoniae*), Carmel Valley cliff-aster (*Malacothamnus parlmeri* var. *incolucratus*), hooked popcorn flower (*Plagiobothrys uncinatus*), Santa Cruz microseris (*Stebbinsoseris decipiens*), Santa Cruz clover (*Trifolium buchwestorium*), and Pacific Grove clover (*Trifolium polyodon*). None of these senstive plant species were observed.

One additional focused plant survey will occur during July to check for sensitive summer-blooming plants with the potential to occur in the proposed development area. These species include Seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*), Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*), Carmel Valley cliff-aster (*Malacothrix saxatilis* var. *arachnoidea*), and Gairdner's yampah (*Periperidia gairdneri* ssp. *gairdneri*). Focused surveys for these species may be conducted in the development area only since development is not proposed for the Remainder Parcel.

Animals

As a result of our background review and subsequent site survey, we determined that the project site provides limited potential habitat for some special-status animal species. Additionally, raptors and other migratory birds protected under the Migratory Bird Treaty Act could nest on the project site, primarily in the larger coast live oak and Monterey pine trees. Following is a discussion of the special-status species that have the potential to occur on the project site.

California red-legged frog *(Rana aurora draytonii)*

The California red-legged frog (*Rana aurora draytonii*) is a federally listed threatened species and a California Species of Special Concern. The red-legged frog typically inhabits ponds and backwater sections of streams with permanent or near-permanent water, and generally prefers areas with dense emergent or riparian vegetation and deep pools for breeding.

The closest CNDDB occurrences of this species are in the Carmel and Salinas Rivers. The drainages on the site are ephemeral and do not provide suitable breeding habitat for the California red-legged frog because of the lack of permanent water and absence of in-channel vegetation. Nonetheless, there is a limited potential for these drainages to serve as dispersal corridors for red-legged frogs because of their remote linkage to the Salinas River via El Toro Creek. No focused surveys for red-legged frogs are recommended unless the project would affect these drainages.

California tiger salamander *(Ambystoma californiense)*

The California tiger salamander is a federal candidate for listing as threatened or endangered, and is a California Species of Special Concern. This species inhabits annual grassland and open oak woodlands in the vicinity of ephemeral pools or other suitable breeding ponds. CTS use burrows of ground squirrels or other rodents as aestivation sites. With the onset of the rainy season, adults migrate from their burrows to nearby ponds for breeding. Following breeding, the adults disperse to upland areas, and retreat into burrows where they remain for most of the year. CTS have been reported to migrate as far as one mile between their underground retreats and breeding ponds, but aestivation sites are usually located within one quarter mile of breeding ponds.

For the California tiger salamander to complete a breeding cycle, it is generally believed that breeding sites must retain water for a minimum of three consecutive months. Permanent bodies of water, such as freshwater ponds and slow-moving streams, are also used as breeding sites; however, they are often not as desirable for California tiger salamanders because they frequently contain potential predators. Nonetheless, since predators and prey often exist together where equilibrium has been established, the presence of known salamander predators cannot rule out the possibility that salamanders occur at a potential breeding site.

There is no potential breeding habitat for CTS on the project site. The drainages are ephemeral and do not contain pools that remain through the breeding season and there are no other aquatic habitats on or immediately to the project site that provide suitable breeding habitat Therefore, we do not expect this species to be present on the property.

Monterey dusky-footed woodrat *(Neotoma fuscipes luciana)*

The Monterey dusky-footed woodrat is a federal "species of concern" and a California Species of Special Concern. While these designations do not afford the species any legal

protection, they do meet the definition of rare and endangered pursuant to §15380 of the CEQA Guidelines. The Monterey dusky-footed woodrat is restricted to western and central Monterey County and northwestern San Luis Obispo County (U.S. Army Corps of Engineers 1993). This subspecies is typically found within dense chaparral or oak woodland habitats with moderately dense understory growth and abundant dead wood for nest construction. It is known from several locations in the project vicinity (e.g., the Hastings Natural History Reservation in Carmel Valley, Fort Ord).

Although we did not conduct species-specific surveys for Monterey dusky-footed woodrat during our site reconnaissance, there is a potential that this animal could occur on the property, especially in the coast live oak woodlands on the site. Since woodrats can live in close proximity to people, development of the site should not affect the species as long as suitable habitat remains.

Coast horned lizard (*Phrynosoma coronatum*)

The coast horned lizard's distribution in the California coastal ranges extends from Sonoma County south to Mexico. Coast horned lizards inhabit open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats, including shrublands, woodlands, riparian habitats and annual grassland. Warm, sunny, open areas are a main habitat requirement, along with patches of loose soil where the lizard can bury itself. This species is a federal "species of concern" and a California Species of Special Concern.

Coast horned lizards were seen in the Remainder Parcel during our field reconnaissance, and potentially suitable habitat for this animal exists elsewhere on the site, especially in the coastal scrub-dominated slopes. Although three of the proposed homesites are situated within coastal scrub habitat, it appears that adequate areas of coastal scrub habitat could be set aside as open space for this (and other) species in the Remainder Parcel and outside of the developable area on other lots.

Sensitive bat species

Several species of bats considered sensitive in California could occur in the vicinity of project site. Such species include the pallid bat (*Antrozous pallidus*), California mastiff bat (*Eumops perotis*) and Townsend's big-eared bat (*Plecotus townsendii* ssp. *townsendii*). All of these bat species are considered "species of concern" by the USFWS and/or are listed as California Species of Special Concern by the CDFG. Each could potentially use the site, especially the coast live oak woodlands, as roosting habitat. Day roosts can be found in tree cavities, old buildings, caves, or rocky outcrops. Bats generally leave these day roosts at dusk to forage for invertebrates in a variety of habitats, including annual grasslands and various shrublands and woodlands.

Migratory birds

The Migratory Bird Treaty Act (16 USC 703) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, and their eggs and nests. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." Most native bird species on the Encina Hills property are covered by this act. The California Fish and Game Code (Section 3511) also provides protection for certain species as listed in the Section. The golden eagle and white-tailed kite are included on that list and have the potential to nest on the project site. Section 3503.5 of the Fish and Game Code specifically protects the nests and eggs of birds-of-prey and essentially overlaps with the Migratory Bird Treaty Act.

Potential nesting sites for birds-of-prey and other migratory birds exist in the coast live oak woodlands as well as in the large individual oak trees that are scattered throughout the property and in the badland escarpments. In practice, abiding by the Migratory Bird Treaty Act usually means to avoid removal of trees with active nests until such time as the young have fledged and the nest is abandoned.

Assessment

The vegetation communities and habitat types that occur on the Encina Hills property are typical of the general area. The grassland areas support a common array of native and introduced grasses and forbs found in grazing land throughout Monterey County. The denser oak woodlands and coastal scrub communities, especially where they line drainage courses are the most biologically diverse areas on the property. The stream channels through the property provide habitat corridors as well as a natural system for carrying seasonal flows during the winter months. While there is no classic riparian vegetation associated with these drainages, the canopy cover is typically more dense, providing a mesic environment for wildlife.

As we understand the current project proposal, the property would be subdivided into 17 lots ranging from approximately 5 acres to 23 acres in extent and about 180 acres would be retained as open space in the Remainder Parcel. Homesites within each lot are generally sited as indicated on Plate 1 and encompass approximately 1 acre. Access roads will, for the most part, follow existing road alignments. If the area of disturbance is limited to the proposed homesite (about one acre) for each lot, and the remainder of the lot remains natural habitat, then it appears that the effects on biological resources can be minimized. Furthermore, there appears to be ample space available for siting buildings and other facilities so that they would not impact biological resources, if they are found to be present through subsequent site-specific survey work.

The introduction of non-native invasive species as landscape material could threaten to alter the composition of the adjacent native habitats. Also, the increase in human activity in the

area will likely displace some of the indigenous wildlife that are less tolerant of disturbance, but these animals may be able to move into the adjacent open space areas. Many of the potential impacts typically associated with increased human activity could be minimized by incorporating features into the project design and by recommending residents follow certain guidelines to reduce disturbance to native species. Some of those features and recommendations are listed in the following section.

Recommendations

As project planning proceeds, we recommend that you consider the following measures to help avoid or minimize impacts on biological resources.

- Conduct one further focused survey for summer-blooming special status plants in lots 1 through 17 and along proposed road alignments. (This survey is scheduled for July 2001 and results will be submitted as a supplement to this report). Directed surveys in the Remainder Parcel are not necessary unless development is proposed in that parcel. If special status plant species are found in the proposed development areas, consider avoidance alternatives or develop a salvage and relocation plan, as needed.

- Avoid filling or other disturbance of natural drainage courses. Keep homesites, landscaped areas and outbuildings 75 - 100 feet away from the active channel of the drainages. In the event that disturbance of site drainages cannot be avoided (culverts, storm drain outfalls, etc.), authorization from the California Department of Fish and Game through section 1600 (et. seq.) of the Fish and Game Code and/or the U.S. Army Corps of Engineers through Section 404 of the Clean Water Act may be required. Necessary permits and/or authorizations should be obtained from the appropriate regulatory agencies prior to any activity that might encroach on the site's drainages.

- Prior to construction of homesites, roads or other infrastructure, that could result in tree removal during the nesting season (typically the spring and summer months), directed surveys for nesting raptors should be completed. In the event that an occupied nest is observed, the tree should not be removed and adequate buffers should be established around it until the young have fledged.

- Prior to construction of homesites, roads or other infrastructure, identify the areas of proposed disturbance on the ground and have a qualified biologist survey for day-roosting bats. If day roosts are present in the area of disturbance, work with the biologist to avoid direct impacts to these animals.

- Prior to construction of homesites, roads or other infrastructure, identify the areas of proposed disturbance on the ground and have a qualified biologist survey for active Monterey dusky-footed woodrat nests. If active nests are present in the area of disturbance, work with the biologist to avoid direct impacts to these animals.

- Consider landscape requirements that encourage use of native species and prohibit planting of invasives such as Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*) or eucalyptus (*Eucalyptus* spp.).

- Minimize the area of landscaping around each residence to the extent deemed necessary for fire protection.

- Minimize outdoor lighting features including streetlights and decorative lights away from the homesites.

- Prepare a brochure for homeowners that describes the native flora and fauna and provides guidelines for residents to follow to reduce impacts on the habitat.

Zander Associates can remain available to assist you with follow-up activities, as necessary. Please call us if you have any questions regarding this assessment.

Sincerely,

Leslie Zander
Principal

Attachments

Table 1: Special Status Plant Species Evaluated for Potential to Occur on the Encina Hills Project Site
Table 2: Special Status Animal Species Evaluated for Potential to Occur on the Encina Hills Project Site
Figure 1: Site Location
Figure 2: CNDDB Occurrences in the Vicnity of the Encina Hills Property
Plate 1: Vegetation Types

cc: Ken Whitson, Whitson Engineers
Michael Kling
Steve Chidester

Table 1: Special Status Plant Species Evaluated for Potential to Occur on the Encina Hills Project Site

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Allium hickmanii (Hickman's onion)	SC/--/1B	Sandy loam soils and vernal swales in a variety of habitats including, closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, and coastal prairies; blooming period: April – May	Not observed during spring surveys.
Arctostaphylos hookeri ssp. hookeri (Hooker's manzanita)	--/--/1B	Sandy soils, sandstone outcrops in coastal scrub, chaparral, cismontane woodland, and closed-cone coniferous forest habitats in Monterey and Santa Cruz counties; blooms February through May (evergreen)	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Arctostaphylos montereyensis (Monyterey manzanita)	SC/--/1B	Chaparral, cismontane woodland, and coastal scrub habitats in Monterey County, sandy soils often with chaparral associates; blooms February – March (evergreen)	Scattered plants observed within scrub habitat along eastern boundary – found in Toro Park. ✓
Arctostaphylos pajaroensis (Pajaro manzanita)	--/--/1B	Sandy soil chaparral habitats of Monterey County; blooming period: December through March (evergreen)	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Arctostaphylos pumila (Sandmat manzanita)	--/--/1B	Closed-cone coniferous forest, chaparral, coastal dines, and cismontane woodland habitats; sandy soil with other chaparral associates; blooms Feb. – May (evergreen)	Not observed. Not likely to be present – out of range.
Ceanothus cuneatus var. *rigidus* (Monterey ceanothus)	SC/--/4	Chaparral, coastal scrub and closed-cone coniferous forest; evergreen perennial shrub identifiable throughout the year.	Observed at edge of maritime chaparral in Remainder Parcel. ✓
Chorizanthe pungens var. *pungens* (Monterey spineflower)	T/--/1B	Coastal dunes, chaparral, cismontane woodland, and coastal scrub habitats in Monterey and Santa Cruz counties; blooming period: April through June	Not observed during spring surveys. Could occur within maritime chaparral in Remainder Parcel – difficult to access.
Chorizanthe robusta var. *robusta* (Robust spineflower)	E/--/1B	Sandy soils in cismontane woodland openings and coastal dune and scrub habitats; blooms May through September	Not observed in maritime chaparral in Remainder Parcel – difficult to access.
Cordylanthus rigidus ssp. *littoralis* (Seadside bird's-beak)	SC/E/1B	Often found on disturbed closed-cone coniferous, chaparral, cismontane woodland, coastal scrub or dune sites; blooming period: May through September	Summer survey to determine presence/absence.

Table 1 (Continued)

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Delphinium hutchinsoniae (Hutchinson's larkspur)	SC/--/1B	Semi-shaded, slightly moist slopes in broad leaf upland forest, chaparral, coastal prairie or coastal scrub habitats in Monterey County; blooms March through June	Not observed during spring surveys.
Ericameria fasciculata (Eastwood's goldenbush)	SC/--/1B	Sandy openings of closed-cone coniferous forest, maritime chaparral, coastal scrub or coastal dune habitats in Monterey County; blooming period: July through October	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Fritillaria liliacea (Fragrant fritillary)	SC/--/1B	Coastal, scrub, coastal prairie, valley and foothill grasslands, often on serpentine soils; generally blooms from February-April	Not observed during spring surveys. No obvious serpentine habitat observed.
Gilia tenuiflora ssp. *arenaria* (Sand gilia)	E/T/1B	Cismontane woodland, maritime chaparral, coastal scrub and dune habitats in Monterey County, in particular bare, wind-sheltered areas near dune summits or in hind dunes; blooming period: April through May	Not observed during spring surveys. Not expected to occur due to lack of suitable habitat.
Hemizonia parryi ssp. *congdonii* (Congdon's tarplant)	SC/--/1B	Annual herb found on alkaline soils of valley/foothill grasslands, Alameda to San Luis Obispo counties; blooms June – Oct.	Known to occur in the vicinity. Summer survey to determine presence/absence.
Horkelia cuneata ssp. *sericea* (Kellogg's horkelia)	SC/--/1B	Closed-cone coniferous forest, chaparral, and coastal scrub habitats, old dunes and coastal sand hills; blooms April – September	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Malacothamnus palmeri var. *involucratus* (Carmel Valley bush mallow)	SC/--/1B	Burn dependent deciduous shrub found on serpentine soils, talus hilltops, and slopes in cismontane and chaparral habitats in San Luis Obispo and Monterey counties; blooming period: May through August	Not observed during spring surveys.
Malacothrix saxatilis var. *arachnoidea* (Carmel Valley cliff-aster)	SC/--/1B	Rock outcrops and steep rocky road cuts in chaparral communities of Santa Barbara and Monterey counties; blooms June – December.	Summer survey to determine presence/absence. Low potential due to lack of substrate.
Perideridia gairdneri ssp *gairdneri* (Gairdner's yampah)	SC/--/4	Chaparral, broad-leaved upland forests and valley foothills and grasslands under mesic conditions; blooms June – October.	Summer survey to determine presence/absence.

Table 1 (Continued)

Species	Status Fed/CA/CNPS	Habitat and Blooming Period	Findings
Pinus radiata (Monterey pine)	SC/--/1B	Closed-cone coniferous forest, cismontane woodland, dry bluffs and slopes (evergreen)	Not observed.
Piperia yadonii (Yadon's rein orchid)	E/--/1B	Poorly drained sandy soils of closed-cone coniferous forest, chaparral and coastal scrub habitats; blooms May - August	Not observed during surveys. Summer assessment to confirm identify of lone individual *Piperia* sp.
Plagiobothrys uncinatus (Hooked popcorn flower)	SC/--/1B	Various habitats including cismontane woodland, valley and foothill grasslands, canyon sides, and chaparral; blooms in May	Not observed during spring surveys.
Stebbinsoseris decipiens (Santa Cruz microseris)	SC/--/1B	Seaward slopes in broadleaf and closed-cone coniferous forest, chaparral, coastal prairie and scrub communities, loose or disturbed soils derived from sandstone, shale or serpentine; blooms April -- May	Not observed during spring surveys.
Trifolium buckwestorium (Santa Cruz clover)	--/--/1B	Annual herb endemic to Santa Cruz County and found in moist grasslands of coastal prairies, broadleaf upland forests, and cismontane woodlands; biannual blooming period: May and October	Not observed during spring surveys.
Trifolium polyodon (Pacific Grove clover)	SC/R/1B	Annual herb found along small springs and seeps in grassy openings of closed-cone coniferous forests, meadows, and coastal prairies of Monterey County; blooming period: May through June	Not observed during spring surveys.
Trifolium trichocalyx (Monterey clover)	P/E/1B	Closed-cone coniferous forest; generally blooms from April-June	Not observed during surveys. Not expected to occur due to lack of suitable habitat.

1. Status Explanations

Federal (Fed)

E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
SC = "species of concern"
-- = no designation

California State (CA)

R = listed as rare under the California Endangered Species Act
E = listed as endangered under the California Endangered Species Act
T = listed as threatened under the California Endangered Species Act
-- = no designation

California Native Plant Society (CNPS)

1B = plants considered rare, threatened or endangered in California and elsewhere.
4 = plants of limited distribution – a watch list.

2. Findings based on literature review, field assessment of habitat types present, and knowledge of species habitat requirements.

Table 2: Special Status Animal Species Evaluated for Potential to Occur on the Encina Hills Project Site

Species	Status Fed/CA	Habitat	Findings
Euphilotes enoptes smithi (Smith's blue butterfly)	E/--	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties; host plants: *Eriogonum latifolium & E. parvifolium*	No suitable habitat present.
Rana aurora draytonii (California red-legged frog)	T/CSC	Lowlands and foothills in or near permanent sources of deep water within streams, marshes, and occasionally ponds with dense, shrubby, or emergent riparian vegetation.	No aquatic habitat present on site and no documented occurrences in the project vicinity.
Ambystoma californiense (California tiger salamander)	SC/CSC	Grasslands and open oak woodlands with ground squirrel or gopher burrows for underground retreats, and breeding ponds such as seasonal wetlands, vernal pools or slow-moving streams that do not support predatory fish or frog populations	No suitable breeding habitat present on the site
Anniella pulchra nigra (Black legless lizard)	--/CSC	Monterey and Morro Bay areas in moist dunes or sandy soils with mock heather & bush lupine	Not likely to occur; suitable habitat not present.
Phrynosoma coronatum frontale California horned lizard	--/CSC	Found in a wide variety of habitats; however, most common in lowlands along sandy washes with scattered low bushes and areas for sunning	Individual observed in Remainder Parcel. Suitable habitat present.
Clemmys marmorata pallida (Southwestern pond turtle)	--/CSC	Requires aquatic habitats with permanent or persistent water and protected areas for basking such as partially submerged rocks or logs, floating vegetation mats or open mud banks	No suitable habitat present.
Accipiter cooperi (Nesting) (Cooper's hawk)	--/CSC	Nests in riparian forests and dense canopy oak woodlands; forages in open woodlands.	Potential nesting habitat present.
Accipiter striatus (Nesting) (Sharp-shinned hawk)	--/CSC	Nests and forages in dense riparian forests, conifer forests, and dense canopy oak woodlands.	Potential nesting habitat present.

Table 2 (Continued)

Species	Status Fed/CA	Habitat	Findings[2]
Aquila chrysaetos (Nesting) (Golden eagle)	--/CSC	Nests in cliffs and large trees; forages in annual grasslands, chaparral and oak woodlands with abundant medium-sized and large mammals for prey.	Potential nesting habitat present.
Athene cunicularia (Burrowing owl)	--/CSC	Ground nester in open dry annual or perennial grasslands, deserts and scrublands with low-growing vegetation, dependent upon burrowing mammals (i.e. California ground squirrel)	No signs of burrowing owl observed during March surveys. Grasslands could provide habitat for the species.
Falco mexicanus (Nesting) (Prairie falcon)	--/CSC	Level or hilly dry, open terrain with cliffs as breeding sites; foraging ranges may extend to marshlands and ocean shores	Potential nesting habitat present in badland escarpment.
Eumops perotis (California mastiff bat)	SC/CSC	Lowland areas in arid to semi-arid habitats including deciduous woodlands, coastal scrub, and annual grasslands.	Suitable habitat present
Antrozous pallidus (Pallid bat)	SC/CSC	Found in a variety of habitats. Most common in dry, open habitats with rocky areas available for day roosts.	Suitable habitat present.
Plecotus townsendii ssp. townsendii (Townsend's big-eared bat)	SC/CSC	Inhabits oak/bay woodlands and mixed broadleaf conifer woodlands; requires access to caves, building attics or other dark cavities for daytime refuge.	Suitable habitat present.
Neotoma fuscipes luciana (Monterey dusky-footed woodrat)	SC/CSC	Uses habitats with moderate to dense cover and abundant dead wood for nest construction.	Suitable habitat in oak woodlands.

1. Status Explanations

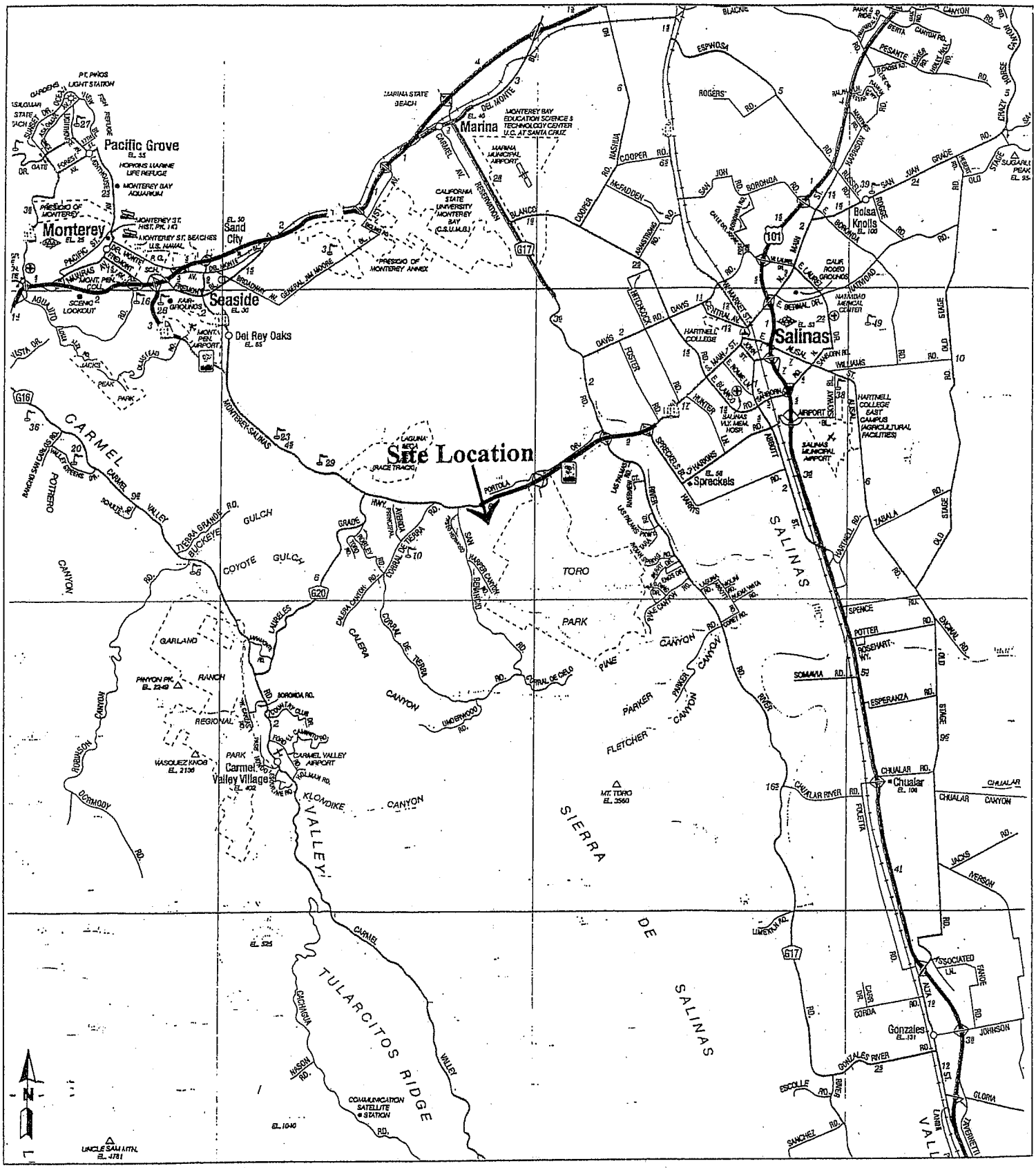
Federal (Fed)

E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
SC = "species of concern"
-- = no designation

California State (CA)

CSC = California Department of Fish and Game Species of Special Concern

2. Findings based on literature review, field assessment of habitat types present, and knowledge of species habitat requirements.



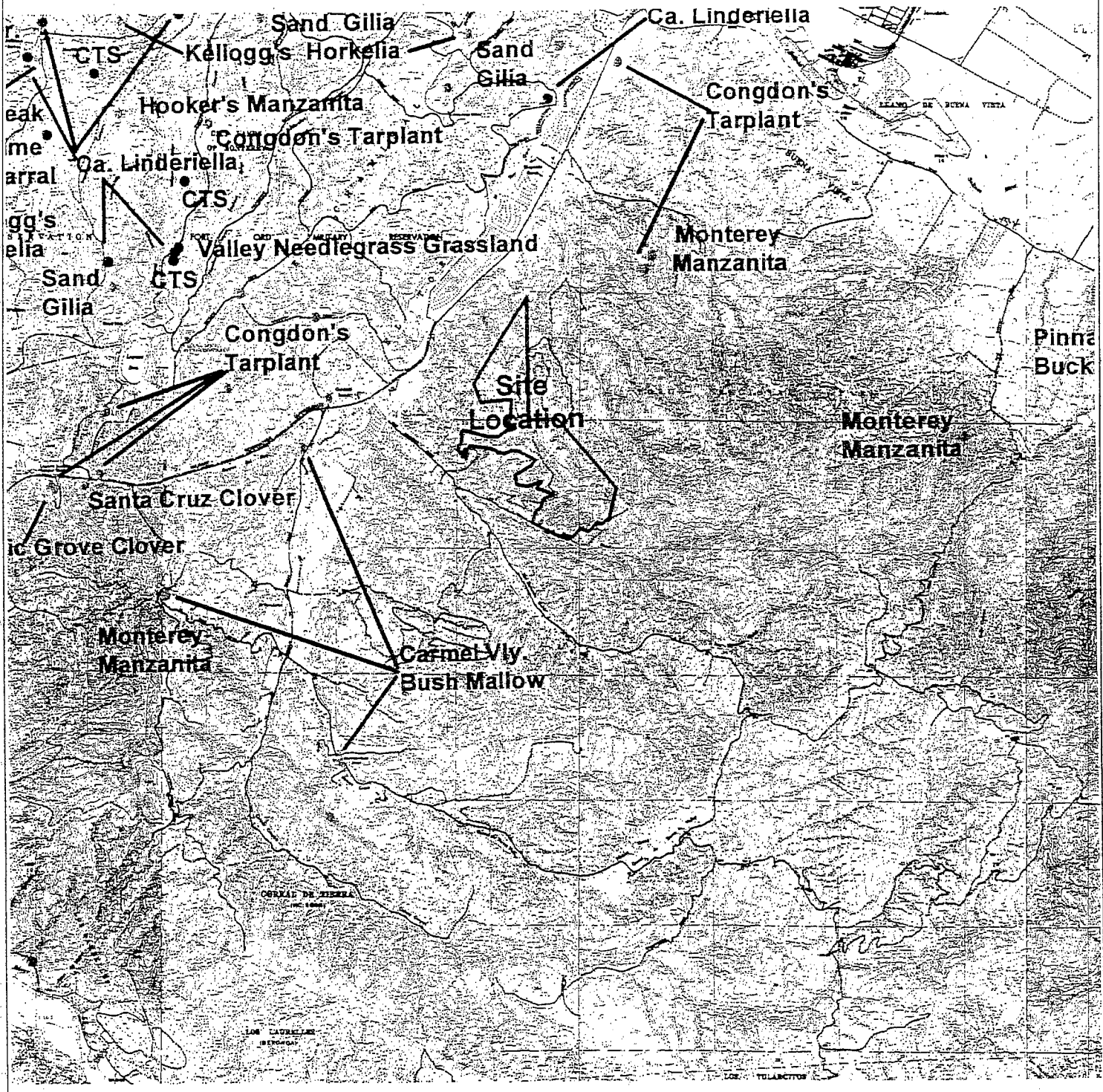
ZANDER ASSOCIATES

Environmental Consultants

Site Location
Encina Hills Project
Monterey County, California

Figure 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
HCR1	**MZ**	**4/01**	**7/01**



ZANDER ASSOCIATES

Environmental Consultants

CNDDB Occurrences in the Vicinity of Encina Hills Project
Monterey County, California

Figure 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
HCR1	MZ	4/01	7/01

ZANDER ASSOCIATES

Environmental Consultants

October 3, 2001

Ms. Elizabeth Farwell
Vice President, Finance and Administration
DANJAQ, Inc.
2401 Colorado Avenue, Suite 330
Santa Monica, California 90404

Results of Follow-up Survey
Encina Hills Property
Monterey County, California

Dear Ms Farwell:

On August 1, 2001, Zander Associates revisited the Encina Hills Property, as recommended in our July 13, 2001 report to specifically survey for sensitive plant species that are identifiable during the summer-blooming season. The species that were the focus of our survey were Seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*), Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*), Carmel Valley cliff-aster (*Malacothrix saxatilis* var. *arachnoidea*), and Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*). Our survey was conducted concurrently with visits to known populations of the target species to confirm that the plants were blooming and identifiable at the time. The survey was conducted by walking the entire property thoroughly, except for the Remainder Parcel, and identifying all plant species observed.

No Seaside bird's beak, Congdon's tarplant, Carmel Valley cliff-aster, or Gairdner's yampah were observed on the site during the survey. There is no appropriate habitat within the development envelopes to support the Carmel Valley cliff-aster (rock outcrops and steep rocky road cuts in chaparral communities) and the Seaside bird's beak (sandy substrate). Though Congdon's tarplant and Gairdner's yampah are typically found in grasslands, much of this habitat on the Encina Hills property is on slopes with porous soils that do not hold adequate moisture for these plants. The few moist flat grassland areas on the property were not found to support Condon's tarplant.

Please call me if you have any questions regarding the results of our follow-up survey.

Sincerely,

Chris Polatin

Chris Polatin
Environmental Scientist

cc: Ken Whitson, Whitson Engineers
Michael Kling
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July 13, 2001

Ms. Elizabeth Farwell
Vice President, Finance and Administration
DANJAQ, Inc.
2401 Colorado Avenue, Suite 330
Santa Monica, California 90404

Biological Resources Assessment
Encina Hills Property
Monterey County, California

Dear Ms Farwell:

Zander Associates has completed an assessment of the existing biological resources on the Encina Hills property in Monterey County. The project site consists of approximately 344 acres situated along the southeast side of Highway 68 adjacent to Toro Regional Park. The purpose of our assessment was to describe and map existing vegetation patterns on the site and identify target species and other resources for further survey, as necessary. We consulted the California Natural Diversity Database, and previous environmental documents prepared for properties in the vicinity to compile a list of special status species that are known to occur in the vicinity. Zander Associates conducted a reconnaissance-level survey on March 6, 2001 to characterize and map dominant vegetation types and to evaluate the potential for the property to support a target list of sensitive plant and animal species. On April 25, 2001 a focused survey for sensitive plant species with spring blooming periods was conducted on the entire property. This letter summarizes the results of our background review, reconnaissance survey, and spring plant surveys.

General Site and Project Description

The Encina Hills property consists primarily of pastureland on hilly terrain that ranges in elevation from about 400 to 1,000 feet above sea level. The property is situated south of Highway 68, east of San Benancio Road, north of Harper Canyon Road and west of Toro Regional Park (Figure 1). There are several seasonal drainage courses that originate in the hills on the site and drain downslope to the south, east and west off the property. A sandstone escarpment or badland with severely eroded slopes and minimal vegetation is located at the northern property boundary, in the northern corner of lot 9 (proposed). Several smaller escarpments are found near ridges in the northeastern portion of the property.

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There are no homes or other building structures currently on the site. The proposed project is to subdivide the property into 17 lots ranging from approximately 5 acres to 23 acres in extent and retain about 180 acres in a Remainder Parcel. Homesites within each lot are generally sited as indicated on Plate 1 and encompass approximately 1 acre.

Vegetation Communities/Habitat Types

Zander Associates identified elements of four vegetation communities typical of the general area on the site: annual grassland, coast live oak woodland/savanna, coastal scrub and central maritime chaparral. In addition, the upper reaches of several intermittent drainages are found on the site. Classification of the vegetation communities is based generally on Holland (1986) and Sawyer and Keeler-Wolf (1995). Each of these vegetation communities, and the wildlife habitat they provide, is described below. A map indicating the distribution and extent of these communities on the site is attached as Plate 1.

Annual Grassland

The annual grassland community on the property is characterized by a mixture of native perennial and introduced annual species and is heavily grazed by cattle. Common introduced grass species observed included slender wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and rattail fescue (*Vulpia myuros*). The primary native perennial species observed scattered throughout the grassland is purple needlegrass (*Nasella pulchra*).

Grasslands often provide habitat for a variety of native wildflowers that typically bloom in the spring. At the time of our site visit, only a few wildflower species were in bloom and identifiable, including: footsteps of spring (*Sanicula arctopoides*), Johnny jump-up (*Viola pedunculata*), and California gilia (*Gilia achilleifolia*). The dominant flowering herb present within the grassland during our survey was the non-native long-beaked filaree (*Erodium botrys*). The dominant presence of this species is indicative of the extensive grazing.

Grasslands provide foraging habitat for small mammals which in turn serve as prey for a variety of other animals, including snakes, raptors ("birds of prey"), and coyotes (*Canis latrans*). Numerous invertebrate species, many of which provide a food source for larger animals such as lizards, birds and some small mammals, can also be found within grassland communities.

Coast Live Oak Woodland and Savanna

Oak woodland communities in Monterey County are dominated by open to nearly closed canopies of coast live oaks (*Quercus agrifolia*) with grass or shrub understories. Savannas are transitional between woodlands and grassland with trees more widely spaced and a grassland-dominated understory. On the Encina Hills property, oak woodlands occupy the more mesic

(moist) north-facing slopes and canyon bottoms and the oak savanna is along a drier, east-facing slope, near the ridgetop.

The understory species composition in oak woodlands varies depending upon local conditions such as moisture availability and soil type. The understory in the oak savanna consists of species common to the annual grassland habitat but may include additional wildflower species not found in the open grasslands. Common oak woodland understory species observed on the Encina Hills property include poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and California coffeeberry (*Rhamnus californica*). The species composition of the understory changes slightly where the oak woodland transitions to coastal scrub higher on the slopes to include some coastal scrub species.

Oak woodland and oak savanna provide habitat for a variety of wildlife. The oak trees provide suitable nesting sites and cover for birds and many mammals. Woody debris and duff in the woodland understory provide foraging areas for small mammals and microclimates suitable for amphibians and reptiles. Acorns are a valuable food source for many animal species, including the California quail (*Lophortyx californicus*), western gray squirrel (*Scirus griseus*), and black-tailed deer (*Odocoileus hemionus*). Other representative animal species of oak dominated woodlands include arboreal salamander (*Aneides lugubris*), western screech owl (*Otus kennicottii*), scrub jay (*Aphelocoma corulescens*), and Virginia opossum (*Didelphis virginianus*).

Coastal Scrub

Coastal scrub communities are characterized by moderate to low-growing evergreen and drought tolerant shrubs adapted to shallow soils. On the Encina Hills property, coastal scrub is typically dominated by soft-leaved shrubs like California sage (*Artemisia californica*), coyote brush (*Baccharis pilularis* var. *consanguinea*), and sticky monkey flower (*Mimulus aurantiacus*). This vegetation community occurs mostly on drier, wind exposed sites near the tops of the ridges or on steep slopes with sandy, mudstone or shale soils.

Coastal scrub provides cover and nesting habitat for a variety of animals. The sandy soils typically associated with this community also provide areas for wildlife denning and nesting. Animal species common to coastal scrub habitat include western fence lizard (*Sceloporus occidentalis*), western rattlesnake (*Crotalus viridis*), California quail (*Callipepla californica*) brush rabbit (*Sylvilagus bachmani*) and gray fox (*Urocyon cinereoargentus*).

Maritime Chaparral

This plant community is similar to coastal scrub in that it is characterized by moderate to low-growing evergreen and drought tolerant shrubs adapted to shallow soils. It varies from coastal scrub in that its dominant species consist of sclerophyllus (hard-leaved) shrubs, such as chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp), and ceanothus (*Ceanothus* spp). Wildlife species using this habitat type are similar to those described for

coastal scrub. Maritime chaparral is limited in extent on the property and is found in the upper end (southern) of the canyon that comprises the eastern portion of the Remainder Parcel.

There are several special status plant species associated with this vegetation type in the project vicinity including Toro (or Monterey) manzanita, Monterey ceanothus and Eastwood's ericameria. These are discussed further in the following sections.

Drainages

There are portions of several drainages and tributaries to drainages that originate on the property and carry flows offsite. These drainages appear to be ephemeral, carrying flow only in response to winter storms. In general, the channels are cobble- or soil-lined and are devoid of in-channel vegetation. Some of the channels are deeply incised. Oak woodland vegetation is primarily associated with the drainages; classic riparian (stream-related) vegetation is generally absent from these areas. Most of the drainages on the property are tributary to El Toro Creek, which drains to the Salinas River.

Wildlife habitat in these drainages does not vary substantially from that previously described for oak woodland or grassland habitat. The channels can provide movement corridors for amphibians when water is present and for other animals throughout the year.

Special Status Species

For this assessment, special status species are defined as: those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS); those considered "Species of Concern" by the USFWS; those listed or proposed for listing as rare, threatened or endangered by the California Department of Fish and Game (CDFG); plants occurring on lists 1B or 2 of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (1994); and animals designated as "Species of Special Concern" by CDFG.

Duirng the site visit on March 6, 2001 Zander Associates developed a target list of special status plant and animal species that we evaluated for their potential to occur on the Encina Hills property (Tables 1 and 2, respectively). The list was developed based on our review of the California Natural Database (CNDDB) records and our work on other properties in the vicinity. On April 25, 2001 Zander Associates conducted focused surveys for special status plant species that bloom during the spring. The results of the spring plant survey are discussed below and summarized on Table 1.

Plants

Many of the special status plants that occur in the vicinity of the Encina Hills property are found in specific habitat types such as maritime chaparral, vernal pools, or on serpentine

substrate. No vernal pool habitat was observed on the site and there were no obvious areas with serpentine substrates - based on vegetative characteristics. A limited amount of maritime chaparral habitat is present in the Remainder Parcel on the property and was surveyed during the April 25, 2001 site visit. The maritime chaparral habitat was surveyed as completely as possible; however, certain areas were not accessible due to dense brush and steep terrain. A few Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*) shrubs were observed at the northern edge of the maritime chaparral habitat. Other special status plants potentially occuring in the maritime chaparral but not found during the spring plant survey include Monterey spineflower (*Chorizanthe pungens* var. *pungens*), Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*), and Hooker's manzanita (*Arctostaphylos hookeri* ssp *hookeri*). These species would likely be found in open areas within maritime chaparral habitat; however, the dense structure of this habitat and lack of openings discourage the establishment of these species.

Along the eastern edge of the development area, a few Monterey manzanita (*Arctostaphylos montereyensis*) shrubs were observed during the spring plant surveys. An individual unidentified rein orchid (*Piperia* sp.), most likely *P. elegans* or *P. michaelii* was observed along the northwestern property boundary in lot 3. Focused searches were conducted for other sensitive spring-blooming plants with the potential to occur on the Encina Hills property including Hickman's onion (*Allium hickmanii*), Hutchinson's larkspur (*Delphinium hutchinsoniae*), Carmel Valley cliff-aster (*Malacothamnus parlmeri* var. *incolucratus*), hooked popcorn flower (*Plagiobothrys uncinatus*), Santa Cruz microseris (*Stebbinsoseris decipiens*), Santa Cruz clover (*Trifolium buchwestorium*), and Pacific Grove clover (*Trifolium polyodon*). None of these senstive plant species were observed.

One additional focused plant survey will occur during July to check for sensitive summer-blooming plants with the potential to occur in the proposed development area. These species include Seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*), Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*), Carmel Valley cliff-aster (*Malacothrix saxatilis* var. *arachnoidea*), and Gairdner's yampah (*Periperidia gairdneri* ssp. *gairdneri*). Focused surveys for these species may be conducted in the development area only since development is not proposed for the Remainder Parcel.

Animals

As a result of our background review and subsequent site survey, we determined that the project site provides limited potential habitat for some special-status animal species. Additionally, raptors and other migratory birds protected under the Migratory Bird Treaty Act could nest on the project site, primarily in the larger coast live oak and Monterey pine trees. Following is a discussion of the special-status species that have the potential to occur on the project site.

California red-legged frog (*Rana aurora draytonii*)

The California red-legged frog (*Rana aurora draytonii*) is a federally listed threatened species and a California Species of Special Concern. The red-legged frog typically inhabits ponds and backwater sections of streams with permanent or near-permanent water, and generally prefers areas with dense emergent or riparian vegetation and deep pools for breeding.

The closest CNDDB occurrences of this species are in the Carmel and Salinas Rivers. The drainages on the site are ephemeral and do not provide suitable breeding habitat for the California red-legged frog because of the lack of permanent water and absence of in-channel vegetation. Nonetheless, there is a limited potential for these drainages to serve as dispersal corridors for red-legged frogs because of their remote linkage to the Salinas River via El Toro Creek. No focused surveys for red-legged frogs are recommended unless the project would affect these drainages.

California tiger salamander (*Ambystoma californiense*)

The California tiger salamander is a federal candidate for listing as threatened or endangered, and is a California Species of Special Concern. This species inhabits annual grassland and open oak woodlands in the vicinity of ephemeral pools or other suitable breeding ponds. CTS use burrows of ground squirrels or other rodents as aestivation sites. With the onset of the rainy season, adults migrate from their burrows to nearby ponds for breeding. Following breeding, the adults disperse to upland areas, and retreat into burrows where they remain for most of the year. CTS have been reported to migrate as far as one mile between their underground retreats and breeding ponds, but aestivation sites are usually located within one quarter mile of breeding ponds.

For the California tiger salamander to complete a breeding cycle, it is generally believed that breeding sites must retain water for a minimum of three consecutive months. Permanent bodies of water, such as freshwater ponds and slow-moving streams, are also used as breeding sites; however, they are often not as desirable for California tiger salamanders because they frequently contain potential predators. Nonetheless, since predators and prey often exist together where equilibrium has been established, the presence of known salamander predators cannot rule out the possibility that salamanders occur at a potential breeding site.

There is no potential breeding habitat for CTS on the project site. The drainages are ephemeral and do not contain pools that remain through the breeding season and there are no other aquatic habitats on or immediately to the project site that provide suitable breeding habitat Therefore, we do not expect this species to be present on the property.

Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*)

The Monterey dusky-footed woodrat is a federal "species of concern" and a California Species of Special Concern. While these designations do not afford the species any legal

protection, they do meet the definition of rare and endangered pursuant to §15380 of the CEQA Guidelines. The Monterey dusky-footed woodrat is restricted to western and central Monterey County and northwestern San Luis Obispo County (U.S. Army Corps of Engineers 1993). This subspecies is typically found within dense chaparral or oak woodland habitats with moderately dense understory growth and abundant dead wood for nest construction. It is known from several locations in the project vicinity (e.g., the Hastings Natural History Reservation in Carmel Valley, Fort Ord).

Although we did not conduct species-specific surveys for Monterey dusky-footed woodrat during our site reconnaissance, there is a potential that this animal could occur on the property, especially in the coast live oak woodlands on the site. Since woodrats can live in close proximity to people, development of the site should not affect the species as long as suitable habitat remains.

Coast horned lizard (*Phrynosoma coronatum*)

The coast horned lizard's distribution in the California coastal ranges extends from Sonoma County south to Mexico. Coast horned lizards inhabit open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats, including shrublands, woodlands, riparian habitats and annual grassland. Warm, sunny, open areas are a main habitat requirement, along with patches of loose soil where the lizard can bury itself. This species is a federal "species of concern" and a California Species of Special Concern.

Coast horned lizards were seen in the Remainder Parcel during our field reconnaissance, and potentially suitable habitat for this animal exists elsewhere on the site, especially in the coastal scrub-dominated slopes. Although three of the proposed homesites are situated within coastal scrub habitat, it appears that adequate areas of coastal scrub habitat could be set aside as open space for this (and other) species in the Remainder Parcel and outside of the developable area on other lots.

Sensitive bat species

Several species of bats considered sensitive in California could occur in the vicinity of project site. Such species include the pallid bat (*Antrozous pallidus*), California mastiff bat (*Eumops perotis*) and Townsend's big-eared bat (*Plecotus townsendii* ssp. *townsendii*). All of these bat species are considered "species of concern" by the USFWS and/or are listed as California Species of Special Concern by the CDFG. Each could potentially use the site, especially the coast live oak woodlands, as roosting habitat. Day roosts can be found in tree cavities, old buildings, caves, or rocky outcrops. Bats generally leave these day roosts at dusk to forage for invertebrates in a variety of habitats, including annual grasslands and various shrublands and woodlands.

Migratory birds

The Migratory Bird Treaty Act (16 USC 703) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, and their eggs and nests. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." Most native bird species on the Encina Hills property are covered by this act. The California Fish and Game Code (Section 3511) also provides protection for certain species as listed in the Section. The golden eagle and white-tailed kite are included on that list and have the potential to nest on the project site. Section 3503.5 of the Fish and Game Code specifically protects the nests and eggs of birds-of-prey and essentially overlaps with the Migratory Bird Treaty Act.

Potential nesting sites for birds-of-prey and other migratory birds exist in the coast live oak woodlands as well as in the large individual oak trees that are scattered throughout the property and in the badland escarpments. In practice, abiding by the Migratory Bird Treaty Act usually means to avoid removal of trees with active nests until such time as the young have fledged and the nest is abandoned.

Assessment

The vegetation communities and habitat types that occur on the Encina Hills property are typical of the general area. The grassland areas support a common array of native and introduced grasses and forbs found in grazing land throughout Monterey County. The denser oak woodlands and coastal scrub communities, especially where they line drainage courses are the most biologically diverse areas on the property. The stream channels through the property provide habitat corridors as well as a natural system for carrying seasonal flows during the winter months. While there is no classic riparian vegetation associated with these drainages, the canopy cover is typically more dense, providing a mesic environment for wildlife.

As we understand the current project proposal, the property would be subdivided into 17 lots ranging from approximately 5 acres to 23 acres in extent and about 180 acres would be retained as open space in the Remainder Parcel. Homesites within each lot are generally sited as indicated on Plate 1 and encompass approximately 1 acre. Access roads will, for the most part, follow existing road alignments. If the area of disturbance is limited to the proposed homesite (about one acre) for each lot, and the remainder of the lot remains natural habitat, then it appears that the effects on biological resources can be minimized. Furthermore, there appears to be ample space available for siting buildings and other facilities so that they would not impact biological resources, if they are found to be present through subsequent site-specific survey work.

The introduction of non-native invasive species as landscape material could threaten to alter the composition of the adjacent native habitats. Also, the increase in human activity in the

area will likely displace some of the indigenous wildlife that are less tolerant of disturbance, but these animals may be able to move into the adjacent open space areas. Many of the potential impacts typically associated with increased human activity could be minimized by incorporating features into the project design and by recommending residents follow certain guidelines to reduce disturbance to native species. Some of those features and recommendations are listed in the following section.

Recommendations

As project planning proceeds, we recommend that you consider the following measures to help avoid or minimize impacts on biological resources.

- Conduct one further focused survey for summer-blooming special status plants in lots 1 through 17 and along proposed road alignments. (This survey is scheduled for July 2001 and results will be submitted as a supplement to this report). Directed surveys in the Remainder Parcel are not necessary unless development is proposed in that parcel. If special status plant species are found in the proposed development areas, consider avoidance alternatives or develop a salvage and relocation plan, as needed.

- Avoid filling or other disturbance of natural drainage courses. Keep homesites, landscaped areas and outbuildings 75 - 100 feet away from the active channel of the drainages. In the event that disturbance of site drainages cannot be avoided (culverts, storm drain outfalls, etc.), authorization from the California Department of Fish and Game through section 1600 (et. seq.) of the Fish and Game Code and/or the U.S. Army Corps of Engineers through Section 404 of the Clean Water Act may be required. Necessary permits and/or authorizations should be obtained from the appropriate regulatory agencies prior to any activity that might encroach on the site's drainages.

- Prior to construction of homesites, roads or other infrastructure, that could result in tree removal during the nesting season (typically the spring and summer months), directed surveys for nesting raptors should be completed. In the event that an occupied nest is observed, the tree should not be removed and adequate buffers should be established around it until the young have fledged.

- Prior to construction of homesites, roads or other infrastructure, identify the areas of proposed disturbance on the ground and have a qualified biologist survey for day-roosting bats. If day roosts are present in the area of disturbance, work with the biologist to avoid direct impacts to these animals.

- Prior to construction of homesites, roads or other infrastructure, identify the areas of proposed disturbance on the ground and have a qualified biologist survey for active Monterey dusky-footed woodrat nests. If active nests are present in the area of disturbance, work with the biologist to avoid direct impacts to these animals.

- Consider landscape requirements that encourage use of native species and prohibit planting of invasives such as Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*) or eucalyptus (*Eucalyptus* spp.).

- Minimize the area of landscaping around each residence to the extent deemed necessary for fire protection.

- Minimize outdoor lighting features including streetlights and decorative lights away from the homesites.

- Prepare a brochure for homeowners that describes the native flora and fauna and provides guidelines for residents to follow to reduce impacts on the habitat.

Zander Associates can remain available to assist you with follow-up activities, as necessary. Please call us if you have any questions regarding this assessment.

Sincerely,

Leslie Zander
Principal

Attachments

Table 1: Special Status Plant Species Evaluated for Potential to Occur on the Encina Hills Project Site
Table 2: Special Status Animal Species Evaluated for Potential to Occur on the Encina Hills Project Site
Figure 1: Site Location
Figure 2: CNDDB Occurrences in the Vicinity of the Encina Hills Property
Plate 1: Vegetation Types

cc: Ken Whitson, Whitson Engineers
Michael Kling
Steve Chidester

Table 1: Special Status Plant Species Evaluated for Potential to Occur on the Encina Hills Project Site

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Allium hickmanii (Hickman's onion)	SC/--/1B	Sandy loam soils and vernal swales in a variety of habitats including, closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, and coastal prairies; blooming period: April – May	Not observed during spring surveys.
Arctostaphylos hookeri ssp. hookeri (Hooker's manzanita)	--/--/1B	Sandy soils, sandstone outcrops in coastal scrub, chaparral, cismontane woodland, and closed-cone coniferous forest habitats in Monterey and Santa Cruz counties; blooms February through May (evergreen)	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Arctostaphylos montereyensis (Monyterey manzanita)	SC/--/1B	Chaparral, cismontane woodland, and coastal scrub habitats in Monterey County, sandy soils often with chaparral associates; blooms February – March (evergreen)	Scattered plants observed within scrub habitat along eastern boundary – found in Toro Park.
Arctostaphylos pajaroensis (Pajaro manzanita)	--/--/1B	Sandy soil chaparral habitats of Monterey County; blooming period: December through March (evergreen)	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Arctostaphylos pumila (Sandmat manzanita)	--/--/1B	Closed-cone coniferous forest, chaparral, coastal dines, and cismontane woodland habitats; sandy soil with other chaparral associates; blooms Feb. – May (evergreen)	Not observed. Not likely to be present – out of range.
Ceanothus cuneatus var. *rigidus* (Monterey ceanothus)	SC/--/4	Chaparral, coastal scrub and closed-cone coniferous forest; evergreen perennial shrub identifiable throughout the year.	Observed at edge of maritime chaparral in Remainder Parcel.
Chorizanthe pungens var. *pungens* (Monterey spineflower)	T/--/1B	Coastal dunes, chaparral, cismontane woodland, and coastal scrub habitats in Monterey and Santa Cruz counties; blooming period: April through June	Not observed during spring surveys. Could occur within maritime chaparral in Remainder Parcel – difficult to access.
Chorizanthe robusta var. *robusta* (Robust spineflower)	E/--/1B	Sandy soils in cismontane woodland openings and coastal dune and scrub habitats; blooms May through September	Not observed in maritime chaparral in Remainder Parcel – difficult to access.
Cordylanthus rigidus ssp. *littoralis* (Seadside bird's-beak)	SC/E/1B	Often found on disturbed closed-cone coniferous, chaparral, cismontane woodland, coastal scrub or dune sites; blooming period: May through September	Summer survey to determine presence/absence.

Table 1 (Continued)

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Delphinium hutchinsoniae (Hutchinson's larkspur)	SC/--/1B	Semi-shaded, slightly moist slopes in broad leaf upland forest, chaparral, coastal prairie or coastal scrub habitats in Monterey County; blooms March through June	Not observed during spring surveys.
Ericameria fasciculata (Eastwood's goldenbush)	SC/--/1B	Sandy openings of closed-cone coniferous forest, maritime chaparral, coastal scrub or coastal dune habitats in Monterey County; blooming period: July through October	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Fritillaria liliacea (Fragrant fritillary)	SC/--/1B	Coastal, scrub, coastal prairie, valley and foothill grasslands, often on serpentine soils; generally blooms from February-April	Not observed during spring surveys. No obvious serpentine habitat observed.
Gilia tenuiflora ssp. *arenaria* (Sand gilia)	E/T/1B	Cismontane woodland, maritime chaparral, coastal scrub and dune habitats in Monterey County, in particular bare, wind-sheltered areas near dune summits or in hind dunes; blooming period: April through May	Not observed during spring surveys. Not expected to occur due to lack of suitable habitat.
Hemizonia parryi ssp. *congdonii* (Congdon's tarplant)	SC/--/1B	Annual herb found on alkaline soils of valley/foothill grasslands, Alameda to San Luis Obispo counties; blooms June – Oct.	Known to occur in the vicinity. Summer survey to determine presence/absence.
Horkelia cuneata ssp. *sericea* (Kellogg's horkelia)	SC/--/1B	Closed-cone coniferous forest, chaparral, and coastal scrub habitats, old dunes and coastal sand hills; blooms April – September	Not observed. Could be within maritime chaparral in Remainder Parcel – difficult to access.
Malacothamnus palmeri var. *involucratus* (Carmel Valley bush mallow)	SC/--/1B	Burn dependent deciduous shrub found on serpentine soils, talus hilltops, and slopes in cismontane and chaparral habitats in San Luis Obispo and Monterey counties; blooming period: May through August	Not observed during spring surveys.
Malacothrix saxatilis var. *arachnoidea* (Carmel Valley cliff-aster)	SC/--/1B	Rock outcrops and steep rocky road cuts in chaparral communities of Santa Barbara and Monterey counties; blooms June – December.	Summer survey to determine presence/absence. Low potential due to lack of substrate.
Perideridia gairdneri ssp *gairdneri* (Gairdner's yampah)	SC/--/4	Chaparral, broad-leaved upland forests and valley foothills and grasslands under mesic conditions; blooms June – October.	Summer survey to determine presence/absence.

Table 1 (Continued)

Species	Status Fed/CA/CNPS	Habitat and Blooming Period	Findings
Pinus radiata (Monterey pine)	SC/--/1B	Closed-cone coniferous forest, cismontane woodland, dry bluffs and slopes (evergreen)	Not observed.
Piperia yadonii (Yadon's rein orchid)	E/--/1B	Poorly drained sandy soils of closed-cone coniferous forest, chaparral and coastal scrub habitats; blooms May - August	Not observed during surveys. Summer assessment to confirm identify of lone individual *Piperia* sp.
Plagiobothrys uncinatus (Hooked popcorn flower)	SC/--/1B	Various habitats including cismontane woodland, valley and foothill grasslands, canyon sides, and chaparral; blooms in May	Not observed during spring surveys.
Stebbinsoseris decipiens (Santa Cruz microseris)	SC/--/1B	Seaward slopes in broadleaf and closed-cone coniferous forest, chaparral, coastal prairie and scrub communities, loose or disturbed soils derived from sandstone, shale or serpentine; blooms April – May	Not observed during spring surveys.
Trifolium buckwestorium (Santa Cruz clover)	--/--/1B	Annual herb endemic to Santa Cruz County and found in moist grasslands of coastal prairies, broadleaf upland forests, and cismontane woodlands; biannual blooming period: May and October	Not observed during spring surveys.
Trifolium polyodon (Pacific Grove clover)	SC/R/1B	Annual herb found along small springs and seeps in grassy openings of closed-cone coniferous forests, meadows, and coastal prairies of Monterey County; blooming period: May through June	Not observed during spring surveys.
Trifolium trichocalyx (Monterey clover)	P/E/1B	Closed-cone coniferous forest; generally blooms from April-June	Not observed during surveys. Not expected to occur due to lack of suitable habitat.

1. Status Explanations

Federal (Fed)
- E = listed as endangered under the federal Endangered Species Act
- T = listed as threatened under the federal Endangered Species Act
- SC = "species of concern"
- -- = no designation

California State (CA)
- R = listed as rare under the California Endangered Species Act
- E = listed as endangered under the California Endangered Species Act
- T = listed as threatened under the California Endangered Species Act
- -- = no designation

California Native Plant Society (CNPS)
- 1B = plants considered rare, threatened or endangered in California and elsewhere.
- 4 = plants of limited distribution – a watch list.

2. Findings based on literature review, field assessment of habitat types present, and knowledge of species habitat requirements.

Table 2: Special Status Animal Species Evaluated for Potential to Occur on the Encina Hills Project Site

Species	Status Fed/CA	Habitat	Findings
Euphilotes enoptes smithi (Smith's blue butterfly)	E/--	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties; host plants: *Eriogonum latifolium & E. parvifolium*	No suitable habitat present.
Rana aurora draytonii (California red-legged frog)	T/CSC	Lowlands and foothills in or near permanent sources of deep water within streams, marshes, and occasionally ponds with dense, shrubby, or emergent riparian vegetation.	No aquatic habitat present on site and no documented occurrences in the project vicinity.
Ambystoma californiense (California tiger salamander)	SC/CSC	Grasslands and open oak woodlands with ground squirrel or gopher burrows for underground retreats, and breeding ponds such as seasonal wetlands, vernal pools or slow-moving streams that do not support predatory fish or frog populations	No suitable breeding habitat present on the site
Anniella pulchra nigra (Black legless lizard)	--/CSC	Monterey and Morro Bay areas in moist dunes or sandy soils with mock heather & bush lupine	Not likely to occur; suitable habitat not present.
Phrynosoma coronatum frontale California horned lizard	--/CSC	Found in a wide variety of habitats; however, most common in lowlands along sandy washes with scattered low bushes and areas for sunning	Individual observed in Remainder Parcel. Suitable habitat present.
Clemmys marmorata pallida (Southwestern pond turtle)	--/CSC	Requires aquatic habitats with permanent or persistent water and protected areas for basking such as partially submerged rocks or logs, floating vegetation mats or open mud banks	No suitable habitat present.
Accipiter cooperi (Nesting) (Cooper's hawk)	--/CSC	Nests in riparian forests and dense canopy oak woodlands; forages in open woodlands.	Potential nesting habitat present.
Accipiter striatus (Nesting) (Sharp-shinned hawk)	--/CSC	Nests and forages in dense riparian forests, conifer forests, and dense canopy oak woodlands.	Potential nesting habitat present.

Table 2 (Continued)

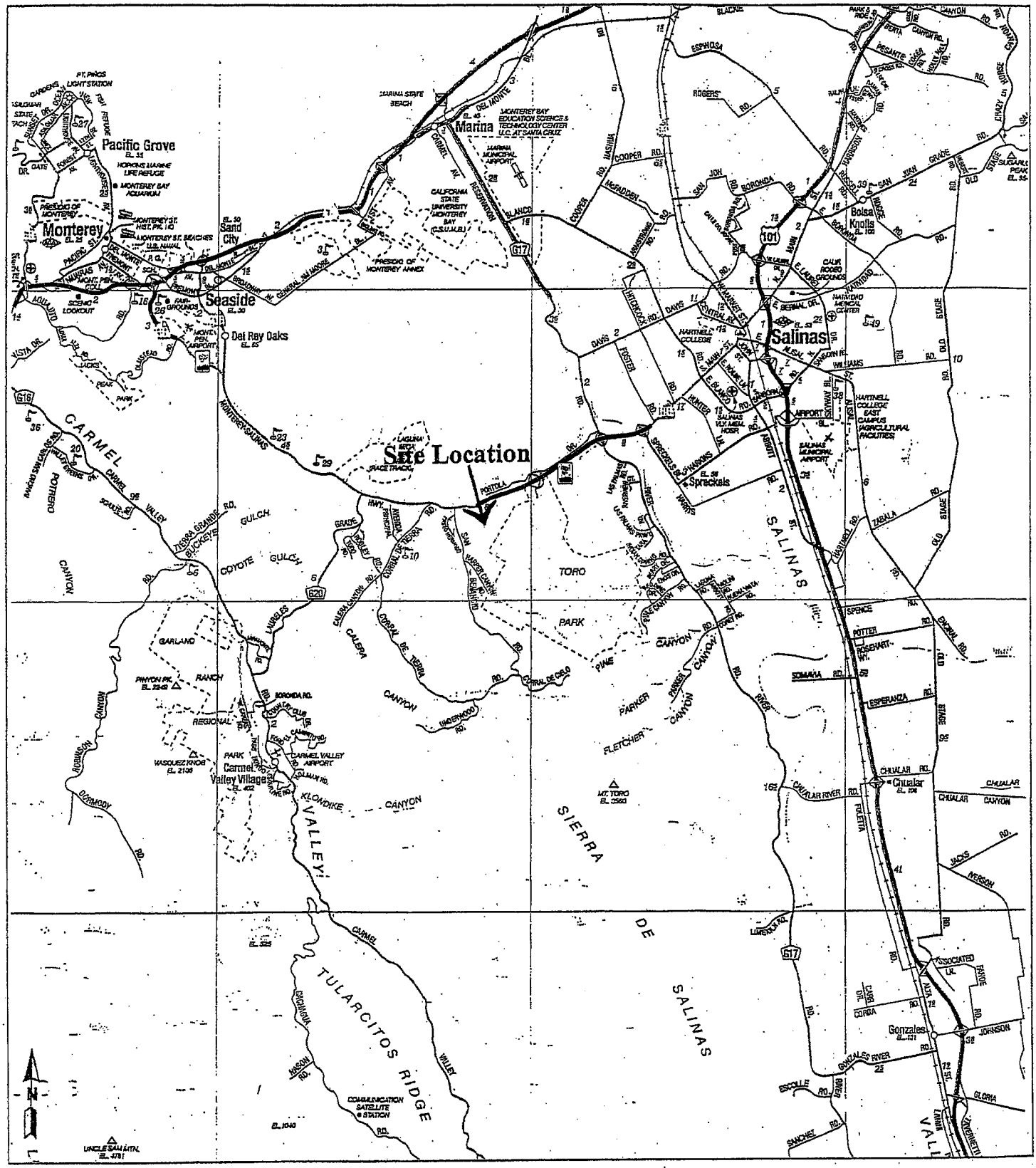
Species	Status[1] Fed/CA	Habitat	Findings[2]
Aquila chrysaetos (Nesting) (Golden eagle)	--/CSC	Nests in cliffs and large trees; forages in annual grasslands, chaparral and oak woodlands with abundant medium-sized and large mammals for prey.	Potential nesting habitat present.
Athene cunicularia (Burrowing owl)	--/CSC	Ground nester in open dry annual or perennial grasslands, deserts and scrublands with low-growing vegetation, dependent upon burrowing mammals (i.e. California ground squirrel)	No signs of burrowing owl observed during March surveys. Grasslands could provide habitat for the species.
Falco mexicanus (Nesting) (Prairie falcon)	--/CSC	Level or hilly dry, open terrain with cliffs as breeding sites; foraging ranges may extend to marshlands and ocean shores	Potential nesting habitat present in badland escarpment.
Eumops perotis (California mastiff bat)	SC/CSC	Lowland areas in arid to semi-arid habitats including deciduous woodlands, coastal scrub, and annual grasslands.	Suitable habitat present
Antrozous pallidus (Pallid bat)	SC/CSC	Found in a variety of habitats. Most common in dry, open habitats with rocky areas available for day roosts.	Suitable habitat present.
Plecotus townsendii ssp. townsendii (Townsend's big-eared bat)	SC/CSC	Inhabits oak/bay woodlands and mixed broadleaf conifer woodlands; requires access to caves, building attics or other dark cavities for daytime refuge.	Suitable habitat present.
Neotoma fuscipes luciana (Monterey dusky-footed woodrat)	SC/CSC	Uses habitats with moderate to dense cover and abundant dead wood for nest construction.	Suitable habitat in oak woodlands.

1. Status Explanations

Federal (Fed)
E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
SC = "species of concern"
-- = no designation

California State (CA)
CSC = California Department of Fish and Game Species of Special Concern

2. Findings based on literature review, field assessment of habitat types present, and knowledge of species habitat requirements.



ZANDER ASSOCIATES

Environmental Consultants

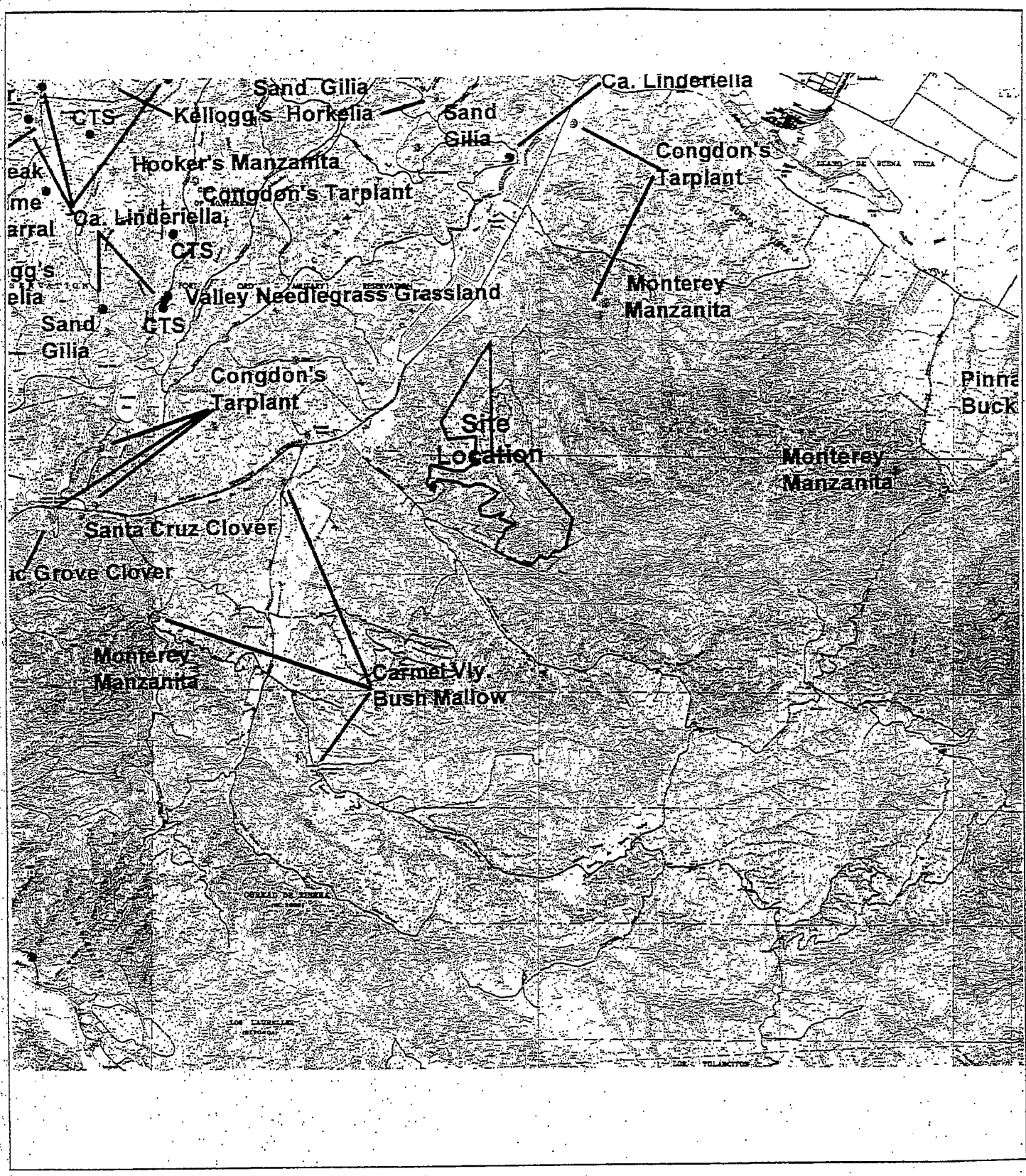
Site Location

Encina Hills Project

Monterey County, California

Figure 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
HCR1	MZ	4/01	7/01



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CNDDB Occurrences in the Vicinity of Encina Hills Project
Monterey County, California

Figure 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
HCR1	MZ	4/01	7/01

ZANDER ASSOCIATES

Environmental Consultants

November 11, 2005

Erika Spencer
Pacific Municipal Consultants
585 Cannery Row, Suite 304
Monterey, CA 93940

Biological Resources Assessment
Harper Canyon/ Encina Hills Subdivision
Monterey County, California

Dear Erika:

In July 2001, with an addendum in October 2001, Zander Associates completed an assessment of the biological resources on the Harper Canyon/Encina Hills property, referred to at that time as the Encina Hills property. The project site consists of approximately 344 acres situated along the southeast side of Highway 68 adjacent to Toro Regional Park. At that time the purpose of the assessment was to describe and map existing vegetation patterns on the site and identify any special status species or other biological resources that occurred on the site. We described the site as containing four habitat types: annual grassland, coast live woodland/savanna, coastal scrub and central maritime chaparral. In addition, the upper reaches of several intermittent drainages were found on the site.

In the 2001 biological assessment several special-status species were evaluated for their potential to use the habitats on the property. After conducting directed plant surveys we determined that special status species occupying the site included Monterey ceanothus (*Ceanothus cuneatus car. rigidus*) and Toro manzanita (*Arctostaphylos montereyensis*). While no directed surveys were conducted for special-status animals, it was determined that there was suitable habitat available for Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*), coast horned lizard (*Phrynosoma coronatum*), sensitive bat species, and limited potential for the occurrence of California red-legged frog (*Rana aurora draytonii*) and California tiger salamander (*Ambystoma californiense*). There was also habitat available for raptors and migratory birds, protected under the Migratory Bird Treaty Act. At that time, we recommended that with directed animal surveys just prior to construction, proper avoidance measures during construction and the setting aside of the Remainder parcel as open space, any impacts to special-status plants, animals, raptors, or migratory birds could be minimized.

On September 28 and 30, 2005 we revisited the site to evaluate current conditions and to report any changes in the conclusions reached during our previous biological assessment. This site assessment included an update of site conditions, habitat types and previously identified sensitive

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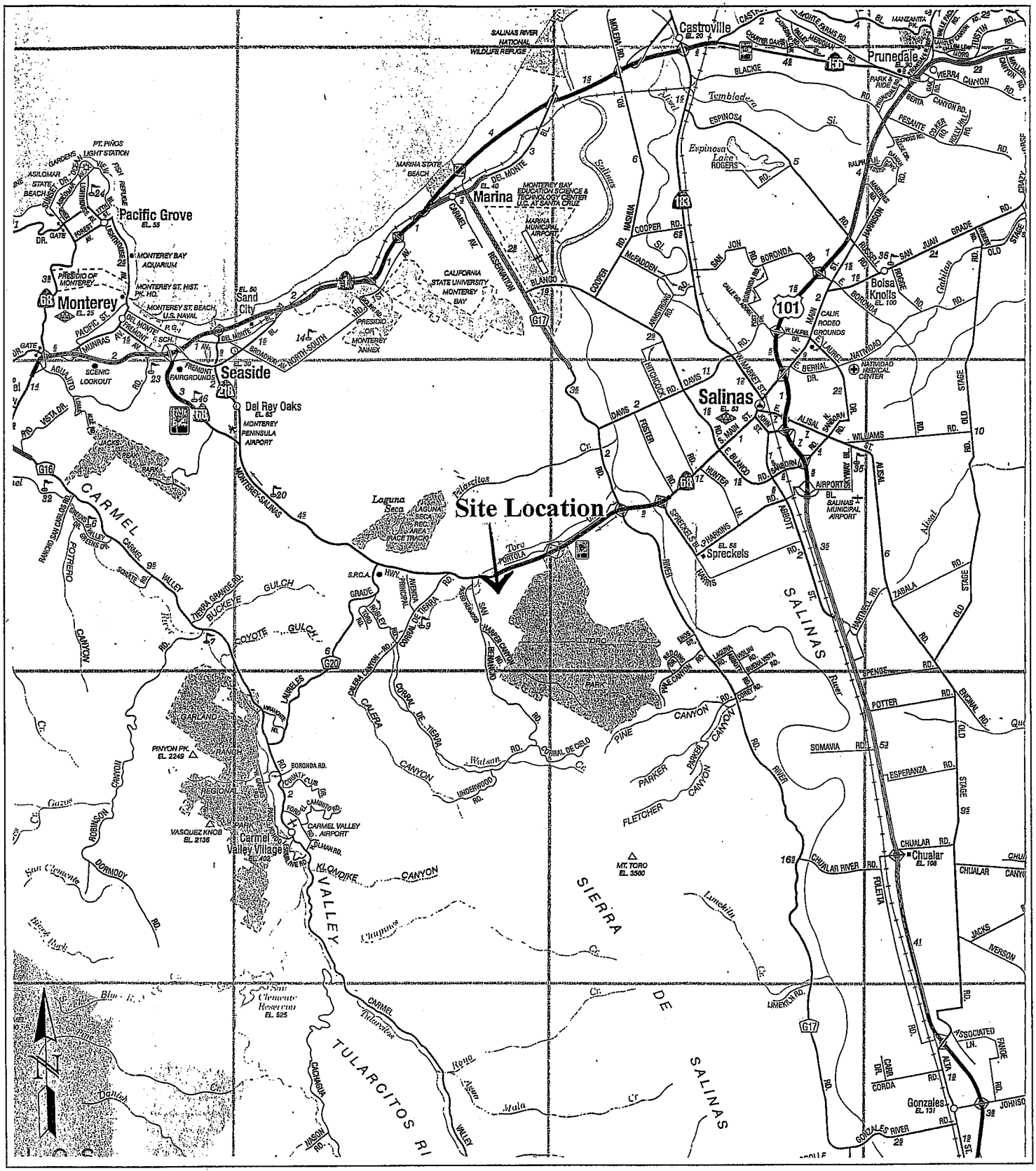

ZANDER ASSOCIATES

Environmental Consultants

Site Location

Encina Hills Project

Monterey County, California

Figure 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
PMC4	MZ	4/01	7/01	11/05

plant locations. In addition, directed surveys were conducted for sensitive plant species that could be identified in the fall. Prior to our site visit we conducted a search of the biological databases, including the California Natural Diversity Database (CNDDB) and the California Native Plant Society's Electronic Inventory. Our current findings, updated from the 2001 biological assessment, are detailed below.

Vegetation Communities/Habitat Types

The vegetation communities on the Harper Canyon/Encina Hills property have remained relatively unchanged since the 2001 biological assessment. However, following the classification of vegetation communities in Sawyer and Keeler-Wolf (CNPS Manual of California Vegetation Online, 2000), we have elected to combine coastal scrub and central maritime chaparral into one community type, chamise chaparral. All of the other community types remain as described in the 2001 biological assessment. The distribution and extent of the community types on the site have not changed and are delineated on an attached map as Plate 1. Each of these vegetation communities, and the wildlife habitat they provide, is described below.

Annual Grassland

The annual grassland community on the property is characterized by a mixture of native perennial and introduced annual species and is heavily grazed by cattle. Common introduced grass species observed included slender wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and rattail fescue (*Vulpia myuros*). The primary native perennial species observed scattered throughout the grassland is purple needlegrass (*Nasella pulchra*).

Grasslands often provide habitat for a variety of native wildflowers that typically bloom in the spring. During the 2001 spring visit, only a few wildflower species were in bloom and identifiable, including: footsteps of spring (*Sanicula arctopoides*), Johnny jump-up (*Viola pedunculata*), and California gilia (*Gilia achilleifolia*). The dominant flowering herb present within the grassland at that time was the non-native long-beaked filaree (*Erodium botrys*). The dominant presence of this species is indicative of the extensive grazing. During our 2005 fall visit the dominant herb present within the grassland was a navarretia species(*Navarretia sp.*). The change in the dominant grassland herb species is likely due to the seasonal timing of the survey, rather than a change in the grassland vegetation community.

Grasslands provide foraging habitat for small mammals which in turn serve as prey for a variety of other animals, including snakes, raptors ("birds of prey"), and coyotes (*Canis latrans*). Numerous invertebrate species, many of which provide a food source for larger animals such as lizards, birds and some small mammals, can also be found within grassland communities.

Coast Live Oak Woodland and Savanna

Oak woodland communities in Monterey County are dominated by open to nearly closed canopies of coast live oaks (*Quercus agrifolia*) with grass or shrub understories. Savannas are

transitional between woodlands and grassland with trees more widely spaced and a grassland-dominated understory. On the Harper Canyon/ Encina Hills property, oak woodlands occupy the more mesic (moist) north-facing slopes and canyon bottoms and the oak savanna is along a drier, east-facing slope, near the ridgetop.

The understory species composition in oak woodlands varies depending upon local conditions such as moisture availability and soil type. The understory in the oak savanna consists of species common to the annual grassland habitat but may include additional wildflower species not found in the open grasslands. Common oak woodland understory species observed on the Harper Canyon/ Encina Hills property include: poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), redberry (*Rhamnus crocea*), California wild rose (*Rosa californica*), and cream bush (*Holodiscus discolor*). The species composition of the understory changes slightly where the oak woodland transitions to chamise chaparral higher on the slopes to include some chaparral species.

Oak woodland and oak savanna provide habitat for a variety of wildlife. The oak trees provide suitable nesting sites and cover for birds and many mammals. Woody debris and duff in the woodland understory provide foraging areas for small mammals and microclimates suitable for amphibians and reptiles. Acorns are a valuable food source for many animal species, including the California quail (*Lophortyx californicus*), western gray squirrel (*Scirus griseus*), and black-tailed deer (*Odocoileus hemionus*). Other representative animal species of oak dominated woodlands include arboreal salamander (*Aneides lugubris*), western screech owl (*Otus kennicottii*), scrub jay (*Aphelocoma corulescens*), and Virginia opossum (*Didelphis virginianus*).

Chamise Chaparral

Chamise chaparral communities are characterized by moderate to low-growing evergreen and drought tolerant shrubs adapted to shallow soils. The dominant species is the sclerophyllus (hard-leaved) shrub, chamise (*Adenostoma fasciculatum*). Associated species include toyon (*Heteromeles arbutifolia*), sticky monkey flower (*Mimulus aurantiacus*), manzanita (*Arctostaphylos* spp), ceanothus (*Ceanothus* spp), redberry (*Rhamnus crocea*), California sage brush (*Atemisia californica*), and a few scattered coyote brush (*Baccharis pilularis*). On the Harper Canyon/ Encina Hills property, manzanita species occur clustered in several locations throughout the chamise chaparral. This vegetation community occurs mostly on drier, wind exposed sites near the tops of the ridges or on steep slopes with sandy, mudstone or shale soils.

Chamise chaparral provides cover and nesting habitat for a variety of animals. The sandy soils typically associated with this community also provide areas for wildlife denning and nesting. Animal species common to chamise chaparral habitat include western fence lizard (*Sceloporus occidentalis*), western rattlesnake (*Crotalus viridis*), California quail (*Callipepla californica*) brush rabbit (*Sylvilagus bachmani*) and gray fox (*Urocyon cinereoargentus*).

There are a two special status plant species associated with this vegetation type in the project area; Toro (or Monterey) manzanita and Monterey ceanothus. These are discussed further in the following sections.

Drainages

There are portions of several drainages and tributaries to drainages that originate on the property and carry flows offsite. These drainages appear to be ephemeral, carrying flow only in response to winter storms. In general, the channels are cobble- or soil-lined and are devoid of in-channel vegetation. Some of the channels are deeply incised. Oak woodland vegetation is primarily associated with the drainages; classic riparian (stream-related) vegetation is generally absent from these areas. Most of the drainages on the property are tributary to El Toro Creek, which drains to the Salinas River.

Wildlife habitat in these drainages does not vary substantially from that previously described for oak woodland or grassland habitat. The channels can provide movement corridors for amphibians when water is present and for other animals throughout the year.

Special Status Species

For this assessment, special status species are defined as: those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS); those listed or proposed for listing as rare, threatened or endangered by the California Department of Fish and Game (CDFG); plants occurring on lists 1B or 2 of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (1994); and animals designated as "Species of Special Concern" by CDFG.

In 2001, Zander Associates developed a target list of special status plant and animal species that we evaluated for their potential to occur on the Harper Canyon/ Encina Hills property. We have updated the target list to include changes in species status and to add species that have been recently classified as having special status (Tables 1 and 2, respectively). The list was developed based on our review of the California Natural Database (CNDDB) records, the California Native Plant Society's Electronic Inventory, and our work on other properties in the vicinity. On September 28 and 30, 2005 Zander Associates conducted focused surveys for special status plant species that bloom in late summer/fall. In addition, we sought to verify the special status plant locations reported during surveys in 2001. General observations were made about potential habitat for target species that were not identifiable at the time of our survey. The results of the fall survey are discussed below and summarized on Tables 1 and 2.

Plants

Many of the special status plants that are known to occur in the vicinity of the Harper Canyon/ Encina Hills property are found in specific habitat types such as chaparral, vernal pools, or on serpentine substrate. No vernal pool habitat was observed on the site and there were no obvious areas with serpentine substrate identified – based on vegetative characteristics. There is a substantial amount of chamise chaparral on the property and it was surveyed during the September site visits. The chaparral habitat was surveyed as completely as possible; however,

certain areas, especially within the Remainder parcel, were not accessible due to dense brush and steep terrain.

We were able to verify the 2001 occurrence of Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*) at the southeast portion of the property, in the Remainder parcel. We were also able to verify the occurrence of Monterey manzanita (*Arctostaphylos montereyensis*) along the eastern edge of the development area. We found an additional occurrence of Monterey manzanita on the north end of the Remainder parcel, next to an existing dirt road. The individual unidentified rein orchid (*Piperia sp.*), thought most likely to be *P. elegans* or *P. michaelii*, observed along the northwestern property boundary in 2001 could not be relocated during our fall survey. However, piperia species are generally visible in the early spring and identifiable to species in the summer, and should be surveyed at those times. A second unidentified rein orchid was observed within chaparral habitat on the Remainder parcel. Due to the long spur length on the wilted flower that remained on the plant, it was determined not to be the federally endangered *P. yadonii*. A patch of Gairdner's yampah (*Perideridea gairdneri* ssp. *gairdneri*), a species not previously reported on the site, was identified within the northernmost canyon within oak woodland habitat.

Focused searches were conducted for other late-blooming special status plants with potential to occur on the Harper Canyon/ Encina Hills property, including robust spineflower (*Chorizanthe robusta* var. *robusta*), Seadside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*), Eastwood's goldenbush (*Ericameria fasciculate*), Pinnacles buckwheat (*Eriogonum nortonii*), Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*), Carmel Valley cliff-aster (*Malacothrix saxatilis* var. *arachnoidea*), Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*), Monterey pine (*Pinus radiate*), Hooker's manzanita (*Arctostaphylos hookeri ssp. hookeri*), and Pajaro manzanita (*Arctostaphylos pajaroensis*). None of these special status plant species were observed.

While no additional special status plant species were observed during the 2001 biological assessment, additional focused plant surveys should be conducted in April and July to confirm the presence/absence of special-status plants that are identifiable in the spring and summer. These species include Hickman's onion (*Allium hickmanii*), Napa false indigo (*Amorpha californica var. napensis*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), Jolon clarkia (*Clarkia jolonensis*), Hutchinson's larkspur (*Delphinium hutchinsoniae*), Pinnacles buckwheat (*Eriogonum nortonii*), Carmel Valley bush mallow (*Malacothamnus palmeri* var. *involucratus*), Santa Lucia bush mallow (*Malacothamnus palmeri* var. *palmeri*), Yadon's piperia (*Piperia yadonii*), hooked popcorn flower (*Plagiobothrys uncinatus*), maple-leaved checkerbloom (*Sidalcea malachroides*), Santa Cruz microseris (*Stebbinsoseris decipiens*), Santa Cruz clover (*Trifolium buckwestorium*), and Pacific Grove clover (*Trifolium polyodon*). Current project plans indicate that no development is proposed in the Remainder Parcel and therefore, additional surveys may not be necessary in this parcel.

To date, all special status plant species located on the Harper Canyon/ Encina Hills property are located outside of areas to be impacted by development and can therefore be avoided.

Animals

Our 2001 assessment of special status animals with potential to occur on the project site remains accurate today, and we therefore refer the reader to that assessment for a discussion of those species; including California red-legged frog, California tiger salamander, Monterey dusky-footed woodrat, coast horned lizard, sensitive bat species, and migratory birds. However, there have been some changes in the listing status of certain species and several additional species have been added to the target list based on the proximity of known occurrences and the potential for the species to occur on the project site. An updated species target list that includes these changes is included as Table 2. Species that have been added to the 2001 target list and have limited potential to occur within the project site are discussed below.

Coast-range newt *(Taricha torosa torosa)*

The coast range newt is a California Species of Special Concern. Coast range newts frequent terrestrial habitats, but breed in ponds, reservoirs, and slow-moving streams from Mendocino County to San Diego County. Lack of data on the movement ecology of this species prevents a complete characterization of the microhabitats used. The coast-range newt is a conspicuous diurnal salamander that, if the behavior of the related red-bellied newt (*T. rivularis*) can be considered an appropriate indicator, probably engages in sometimes long-distance (i.e., > 1 km) migrations to breeding sites. Adult newts eat a wide variety of aquatic and terrestrial invertebrates (earthworms, insects, snails, beetles, butterflies, and stoneflies), as well as egg masses, larvae, and carrion.

The closest CNDDB occurrence of this species is from Hastings Natural Reserve in Monterey County. The drainages on the site are ephemeral and do not provide suitable breeding habitat for the coast-range newt because of the lack of permanent water. Nonetheless, there is limited potential for these drainages to serve as dispersal corridors if there are unknown populations breeding in permanent water bodies within 1 km of the project site. No focused surveys for coast-range newt are recommended unless the project would affect these drainages.

Two-striped garter snake *(Thamnophis hammondii)*

The two-striped garter snake is a California Species of Special Concern. The two-striped garter snake is a highly aquatic snake rarely found far from water, which it freely enters to forage or escape predators. It commonly inhabits perennial and intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. This species also inhabits large sandy riverbeds with riparian vegetation along the stream course, or stock ponds and other artificially-created aquatic habitats if a dense riparian border of emergent vegetation and amphibian and fish prey are present. If flooding, overgrazing, burning, or mechanical alteration removes dense riparian vegetation, two-striped garter snake is infrequently found. Limited data indicate that small mammal burrows are used as overwintering sites.

Adult snakes display use of different areas and habitats in summer versus winter. During summer, snakes utilize streamside sites and have home ranges that vary from approximately 80 m^2 to over 5,000 m^2. During winter, they occupy coastal sage scrub and grassland locations in

uplands adjacent to riparian areas, and have home ranges that vary from approximately 50 m^2 to nearly 9,000 m^2.

The closest CNDDB occurrence of this species is from Pine Canyon, 5.5 miles south of Salinas and about 3.5 miles east of the project site. The drainages on the project site are ephemeral and do not provide permanent water bodies or dense riparian vegetation for two-striped garter snakes to forage or escape predators. However, the property site could be within the home range of two-striped garter snake and the drainages could be used as corridors to get to overwintering sites. No focused surveys for two-striped garter snake are recommended unless the project would affect these drainages.

Assessment

With the exception of combining the coastal scrub and maritime chaparral vegetation communities, locating an additional special status plant species, and including additional species to the target list, our assessment of the Harper Canyon/ Encina Hills project has not changed from the 2001 biological assessment.

The vegetation communities and habitat types that occur on the Harper Canyon/ Encina Hills property are typical of the general area. The grassland areas support a common array of native and introduced grasses and forbs found in grazing land throughout Monterey County. The denser oak woodlands and chamise chaparral communities, especially where they line drainage courses are the most biologically diverse areas on the property. The stream channels through the property provide habitat corridors as well as a natural system for carrying seasonal flows during the winter months. While there is no classic riparian vegetation associated with these drainages, the canopy cover is typically more dense, providing a mesic environment for wildlife.

As we understand the current project proposal, the property would be subdivided into 17 lots ranging from approximately 5 acres to 34 acres in extent and about 180 acres would be retained as open space in the Remainder Parcel. Homesites within each lot are generally sited as indicated on Plate 1 and encompass approximately 1 acre. Access roads will, for the most part, follow existing road alignments. If the area of disturbance is limited to the proposed homesite (about one acre) for each lot, and the remainder of the lot remains natural habitat, then it appears that the effects on biological resources can be minimized and that impacts to the identified special status plant species can be avoided. Furthermore, there appears to be ample space available for siting buildings and other facilities so that they would not impact biological resources, if they are found to be present through subsequent site-specific survey work.

The introduction of non-native invasive species as landscape material could threaten to alter the composition of the adjacent native habitats. Also, the increase in human activity in the area will likely displace some of the indigenous wildlife that are less tolerant of disturbance, but these animals may be able to move into the adjacent open space areas. Many of the potential impacts typically associated with increased human activity could be minimized by incorporating features into the project design and by recommending residents follow certain guidelines to reduce

disturbance to native species. Some of those features and recommendations are listed in the following section.

Recommendations

As project planning proceeds, we recommend that you consider the following measures to help avoid or minimize impacts on biological resources.

- Conduct seasonally timed focused surveys for special status plants in lots 1 through 17 and along proposed road alignments. The surveys should be conducted in April and July. Directed surveys in the Remainder Parcel are not necessary unless development is proposed in that parcel. If special status plant species are found in the proposed development areas, consider avoidance alternatives or develop a salvage and relocation plan, as needed.

- Avoid filling or other disturbance of natural drainage courses. Keep homesites, landscaped areas and outbuildings 75 - 100 feet away from the active channel of the drainages. In the event that disturbance of site drainages cannot be avoided (culverts, storm drain outfalls, etc.), authorization from the California Department of Fish and Game through section 1600 (et. seq.) of the Fish and Game Code and/or the U.S. Army Corps of Engineers through Section 404 of the Clean Water Act may be required. Necessary permits and/or authorizations should be obtained from the appropriate regulatory agencies prior to any activity that might encroach on the site's drainages.

- If construction of homesites, roads or other infrastructure, that could result in tree removal, are initiated between November and July, then preconstruction surveys for active raptor nests are recommended. If active nests are found and the biologist determines that construction activities would remove the nest or have the potential to cause abandonment, then those activities should be avoided until the young have fledged as determined through monitoring of the nest. Once the young have fledged, construction activities can resume in the vicinity. If activities are initiated after August 1 and before November 1 (outside the typical nesting season for the birds-of-prey and migratory birds that may nest in the study area), then pre-construction surveys for active nests should not be necessary.

- Prior to construction of homesites, roads or other infrastructure, identify the areas of proposed disturbance on the ground and have a qualified biologist survey for day-roosting bats. If day roosts are present in the area of disturbance, work with the biologist to avoid direct impacts to these animals.

- Prior to construction of homesites, roads or other infrastructure, identify the areas of proposed disturbance on the ground and have a qualified biologist survey for active Monterey dusky-footed woodrat nests. If active nests are present in the area of disturbance, work with the biologist to avoid direct impacts to these animals.

- Consider landscape requirements that encourage use of native species and prohibit planting of invasives such as Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*) or eucalyptus (*Eucalyptus* spp.).

- Minimize the area of landscaping around each residence to the extent deemed necessary for fire protection.

- Minimize outdoor lighting features including streetlights and decorative lights away from the homesites.

- Prepare a brochure for homeowners that describes the native flora and fauna and provides guidelines for residents to follow to reduce impacts on the habitat.

Zander Associates can remain available to assist you with follow-up activities, as necessary. Please call us if you have any questions regarding this assessment.

Sincerely,

Leslie Zander for

Erin Avery
Senior Biologist

Attachments

Table 1: Special Status Plant Species Evaluated for Potential to Occur on the Harper Canyon Project Site
Table 2: Special Status Animal Species Evaluated for Potential to Occur on the Harper Canyon Project Site
Figure 1: Site Location
Plate 1: Vegetation Types

Table 1: Special Status Plant Species Evaluated for Potential to Occur on the Harper Canyon Project Site

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Allium hickmanii (Hickman's onion)	--/--/1B	Sandy loam soils and vernal swales in a variety of habitats including, closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, and coastal prairies; blooming period April through May	Spring survey to determine presence/absence.
Amorpha californica var. napensis (Napa false indigo)	--/--/1B	Openings in woodland and chaparral habitat in Monterey County; blooms April through July	Spring survey to determine presence/absence.
Arctostaphylos hookeri ssp. hookeri (Hooker's manzanita)	--/--/1B	Sandy soils, sandstone outcrops in coastal scrub, chaparral, cismontane woodland, and closed-cone coniferous forest habitats in Monterey and Santa Cruz counties; blooms February through May (evergreen)	Not observed during September survey. Could be within chamise chaparral in Remainder Parcel – difficult to access.
Arctostaphylos montereyensis (Monterey manzanita)	--/--/1B	Chaparral, cismontane woodland, and coastal scrub habitats in Monterey County, sandy soils often with chaparral associates; blooms February through March (evergreen)	Observed in chamise chaparral on site as a few isolated patches– also found in Toro Park.
Arctostaphylos pajaroensis (Pajaro manzanita)	--/--/1B	Sandy soil chaparral habitats of Monterey County; blooming period December through March (evergreen)	Not observed during September survey. Could be within chamise chaparral in Remainder Parcel – difficult to access.
Arctostaphylos pumila (Sandmat manzanita)	--/--/1B	Closed-cone coniferous forest, chaparral, coastal dines, and cismontane woodland habitats; sandy soil with other chaparral associates; blooms February through May (evergreen)	Not observed during September survey. Not likely to be present – out of range.
Astragalus tener var. tener (alkali milk-vetch)	--/--/1B	Low ground, alkali flats, and flooded lands in annual grassland or in playas or vernal pools; blooms March through June	Spring survey to determine presence/absence. Not likely to occur; habitat not present.
Ceanothus cuneatus var. *rigidus* (Monterey ceanothus)	--/--/4	Chaparral, coastal scrub and closed-cone coniferous forest; evergreen perennial shrub identifiable throughout the year	Observed in chamise chaparral in Remainder Parcel.

Table 1 (Continued)

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Chorizanthe pungens var. *pungens* (Monterey spineflower)	T/--/1B	Coastal dunes, chaparral, cismontane woodland, and coastal scrub habitats in Monterey and Santa Cruz counties; blooming period April through June	Spring survey to determine presence/absence
Chorizanthe robusta var. *robusta* (Robust spineflower)	E/--/1B	Sandy soils in cismontane woodland openings and coastal dune and scrub habitats; blooms May through September	Not observed during September survey. Could occur within chamise chaparral in Remainder Parcel – difficult to access.
Clarkia jolonensis (Jolon clarkia)	--/--/1B	Dry places in chaparral, cismontane woodland, and coastal scrub. Has been found in degraded sandstone on steep banks; blooms April through June	Spring survey to determine presence/absence
Cordylanthus rigidus ssp. *littoralis* (Seadside bird's-beak)	--/E/1B	Often found on disturbed closed-cone coniferous, chaparral, cismontane woodland, coastal scrub or dune sites; blooming period May through September	Not observed during September survey. Could occur within chamise chaparral in Remainder Parcel – difficult to access.
Delphinium hutchinsoniae (Hutchinson's larkspur)	--/--/1B	Semi-shaded, slightly moist slopes in broad leaf upland forest, chaparral, coastal prairie or coastal scrub habitats in Monterey County; blooms March through June	Spring survey to determine presence/absence
Ericameria fasciculata (Eastwood's goldenbush)	--/--/1B	Sandy openings of closed-cone coniferous forest, maritime chaparral, coastal scrub or coastal dune habitats in Monterey County; blooming period July through October	Not observed during September survey. Could be within chamise chaparral in Remainder Parcel – difficult to access.
Eriogonum nortonii (Pinnacles buckwheat)	--/--/1B	Sandy soils, often on recent burns in chaparral, and valley and foothill grassland; blooms May through August	Not observed during September survey. Spring survey to determine presence/absence.
Fritillaria liliacea (Fragrant fritillary)	--/--/1B	Coastal, scrub, coastal prairie, valley and foothill grasslands, often on serpentine soils; generally blooms from February-April	Spring survey to determine presence/absence. No obvious serpentine habitat observed.

Table 1 (Continued)

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Gilia tenuiflora ssp. *arenaria* (Sand gilia)	E/T/1B	Cismontane woodland, maritime chaparral, coastal scrub and dune habitats in Monterey County, in particular bare, wind-sheltered areas near dune summits or in hind dunes; blooming period April through May	Spring survey to determine presence/absence. Not likely to occur; habitat not present.
Hemizonia parryi ssp. *congdonii* (Congdon's tarplant)	--/--/1B	Annual herb found on alkaline soils of valley/foothill grasslands, Alameda to San Luis Obispo counties; blooms June through October	Not observed during September survey.
Horkelia cuneata ssp. *sericea* (Kellogg's horkelia)	--/--/1B	Closed-cone coniferous forest, chaparral, and coastal scrub habitats, old dunes and coastal sand hills; blooms April through September	Not observed during September survey. Could be within chamise chaparral in Remainder Parcel – difficult to access.
Lasthenia conjugens (Contra Costa goldfields)	E/--/1B	Vernal pools, swales, low depressions in open grassy areas in valley and foothill grassland and cismontane woodlands; blooms March through June	Spring survey to determine presence/absence. Not likely to occur; habitat not present.
Malacothamnus palmeri var. *involucratus* (Carmel Valley bush mallow)	--/--/1B	Burn dependent deciduous shrub found on serpentine soils, talus hilltops, and slopes in cismontane and chaparral habitats in San Luis Obispo and Monterey counties; blooming period May through August	Spring survey to determine presence/absence.
Malacothamnus palmeri var. *palmeri* (Santa Lucia bush mallow)	--/--/1B	Dry rocky slopes in chaparral, mostly near summits, but occasionally extending down canyons; blooms May through July	Spring survey to determine presence/absence.
Malacothrix saxatilis var. *arachnoidea* (Carmel Valley cliff-aster)	--/--/1B	Rock outcrops and steep rocky roadcuts in chaparral communities of Santa Barbara and Monterey counties; blooms June through December.	Not observed during September survey. Could be within chamise chaparral in Remainder Parcel – difficult to access.
Microseris paludosa (Marsh microseris)	--/--/1B	Moist grasslands and open woods in cismontane woodland, coastal scrub, and valley and foothill grassland; blooms April through June	Spring survey to determine presence/absence.

Table 1 (Continued)

Species	Status[1] Fed/CA/CNPS	Habitat and Blooming Period	Findings[2]
Perideridia gairdneri ssp *gairdneri* (Gairdner's yampah)	--/--/4	Chaparral, broad-leaved upland forests and valley foothills and grasslands under mesic conditions; blooms June through October.	Observed in oak woodland within northernmost drainage.
Pinus radiata (Monterey pine)	--/--/1B	Closed-cone coniferous forest, cismontane woodland, dry bluffs and slopes (evergreen)	Not observed.
Piperia yadonii (Yadon's rein orchid)	E/--/1B	Poorly drained sandy soils of closed-cone coniferous forest, chaparral and coastal scrub habitats; blooms May through August	Not observed during September survey. Could occur in inaccessible areas in chaparral. Spring surveys to determine presence/absence.
Plagiobothrys uncinatus (Hooked popcorn flower)	--/--/1B	Various habitats including cismontane woodland, valley and foothill grasslands, canyon sides, and chaparral; blooms in May	Spring surveys to determine presence/absence.
Sidalcea malachroides (Maple-leaved checkerbloom)	--/--/1B	Woodlands and clearings near coast in coastal prairie, coastal scrub and broadleafed upland forests; often in disturbed areas; blooms April through August	Spring surveys to determine presence/absence.
Stebbinsoseris decipiens (Santa Cruz microseris)	--/--/1B	Seaward slopes in broadleaf and closed-cone coniferous forest, chaparral, coastal prairie and scrub communities, loose or disturbed soils derived from sandstone, shale or serpentine; blooms April through May	Spring surveys to determine presence/absence.
Trifolium buckwestorium (Santa Cruz clover)	--/--/1B	Annual herb endemic to Santa Cruz County and found in moist grasslands of coastal prairies, broadleaf upland forests, and cismontane woodlands; biannual blooming period May and October	Not observed during September survey. Spring surveys to determine presence/absence.
Trifolium polyodon (Pacific Grove clover)	--/R/1B	Annual herb found along small springs and seeps in grassy openings of closed-cone coniferous forests, meadows, and coastal prairies of Monterey County; blooming period May through June	Spring surveys to determine presence/absence.
Trifolium trichocalyx (Monterey clover)	E/E/1B	Closed-cone coniferous forest; generally blooms April through June	Spring surveys to determine presence/absence. Not likely to occur; suitable habitat not present.

1. Status Explanations

Federal (Fed)

E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
-- = no designation

California State (CA)

R = listed as rare under the California Endangered Species Act
E = listed as endangered under the California Endangered Species Act
T = listed as threatened under the California Endangered Species Act
-- = no designation

California Native Plant Society (CNPS)

1B = plants considered rare, threatened or endangered in California and elsewhere.
4 = plants of limited distribution – a watch list.

2. Findings based on literature review, field assessment of habitat types present, and knowledge of species habitat requirements.

Table 2: Special Status Animal Species Evaluated for Potential to Occur on the Harper Canyon Project Site

Species	Status[1] Fed/CA	Habitat	Findings[2]
Euphilotes enoptes smithi (Smith's blue butterfly)	E/--	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties; host plants: *Eriogonum latifolium & E. parvifolium*	No suitable habitat present.
Rana aurora draytonii (California red-legged frog)	T/CSC	Lowlands and foothills in or near permanent sources of deep water within streams, marshes, and occasionally ponds with dense, shrubby, or emergent riparian vegetation.	Marginal habitat present but no documented occurrences in the project vicinity.
Ambystoma californiense (California tiger salamander)	T/CSC	Grasslands and open oak woodlands with ground squirrel or gopher burrows for underground retreats, and breeding ponds such as seasonal wetlands, vernal pools or slow-moving streams that do not support predatory fish or frog populations	No suitable breeding habitat present on site. Closest known breeding population over 2 miles north of project site within the former Fort Ord.
Taricha torosa torosa (Coast range newt)	--/CSC	Utilize terrestrial habitats, but breed in ponds, reservoirs, and slow-moving streams	No suitable breeding habitat present on the site
Anniella pulchra nigra (Black legless lizard)	--/CSC	Monterey and Morro Bay areas in moist dunes or sandy soils with mock heather & bush lupine	Not likely to occur; suitable habitat not present.
Clemmys marmorata pallida (Southwestern pond turtle)	--/CSC	Requires aquatic habitats with permanent or persistent water and protected areas for basking such as partially submerged rocks or logs, floating vegetation mats or open mud banks	No suitable habitat present.
Phrynosoma coronatum frontale (California horned lizard)	--/CSC	Found in a wide variety of habitats; however, most common in lowlands along sandy washes with scattered low bushes and areas for sunning	Suitable habitat present.

Table 2 (Continued)

Species	Status[1] Fed/CA	Habitat	Findings[2]
Thamnophis hammondii (Two-striped garter snake)	--/CSC	Inhabits perennial and intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. Also inhabit large sandy riverbeds, such as the Santa,Clara River (Ventura County), if a strip of riparian vegetation is present along the stream course. This taxon also utilizes stock ponds and other artificially-created aquatic habitats if a dense riparian border of emergent vegetation and amphibian and fish prey are present.	Marginal habitat present.
Accipiter cooperi (Nesting) (Cooper's hawk)	--/CSC	Nests in riparian forests and dense canopy oak woodlands; forages in open woodlands.	Potential nesting habitat present.
Accipiter striatus (Nesting) (Sharp-shinned hawk)	--/CSC	Nests and forages in dense riparian forests, conifer forests, and dense canopy oak woodlands.	Potential nesting habitat present.
Agelaius tricolor (Tricolored blackbird)	--/CSC	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats	Not likely to occur; suitable habitat not present.
Aquila chrysaetos (Nesting) (Golden eagle)	--/CSC	Nests in cliffs and large trees; forages in annual grasslands, chaparral and oak woodlands with abundant medium-sized and large mammals for prey.	Potential nesting habitat present.
Athene cunicularia (Burrowing owl)	--/CSC	Ground nester in open dry annual or perennial grasslands, deserts and scrublands with low-growing vegetation, dependent upon burrowing mammals (i.e. California ground squirrel)	No signs of burrowing owl observed during September survey. Grasslands could provide habitat for the species. Closest known occurrence is more than 5 miles at Salinas Airport.

Table 2 (Continued)

Species	Status[1] Fed/CA	Habitat	Findings[2]
Buteo regalis (Ferruginous hawk)	--/CSC	Habitat during both summer and winter includes grasslands, deserts, and other open areas with isolated shrubs or trees where less than 50% of the land is under cultivation. Mostly eat lagomorphs, ground squirrels, and mice.	Suitable habitat present. Closest reported occurrence is 4 wintering adults in Marina.
Eremophila alpestris actia (California horned lark)	--/CSC	Short-grass prairie, "bald hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats. Within coastal regions, from Sonoma Co. to San Diego Co. Also main part of San Joaquin Valley and east to foothills.	Potential nesting habitat present.
Falco mexicanus (Nesting) (Prairie falcon)	--/CSC	Level or hilly dry, open terrain with cliffs as breeding sites; foraging ranges may extend to marshlands and ocean shores	Potential nesting habitat present in badland escarpment.
Eumops perotis (California mastiff bat)	--/CSC	Lowland areas in arid to semi-arid habitats including deciduous woodlands, coastal scrub, and annual grasslands.	Suitable habitat present
Plecotus townsendii ssp. townsendii (Townsend's big-eared bat)	--/CSC	Inhabits oak/bay woodlands and mixed broadleaf conifer woodlands; requires access to caves, building attics or other dark cavities for daytime refuge.	Suitable habitat present.
Antrozous pallidus (Pallid bat)	--/CSC	Found in a variety of habitats. Most common in dry, open habitats with rocky areas available for day roosts.	Suitable habitat present.
Neotoma fuscipes luciana (Monterey dusky-footed woodrat)	--/CSC	Uses habitats with moderate to dense cover and abundant dead wood for nest construction.	Suitable habitat in oak woodlands.

Table 2 (Continued)

Species	Status[1] Fed/CA	Habitat	Findings[2]
Taxidea taxus (American Badger)	--/CSC	Principal habitat requirements include sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred. Prey primarily consists of burrowing rodents such as Gophers, Ground Squirrels, Marmots, and Kangaroo Rats.	No signs of badger during September survey. Grasslands could provide habitat for the species. Closest known occurrence is over 2 miles north of project site within the former Fort Ord.

1. Status Explanations

Federal (Fed)

E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
-- = no designation

California State (CA)

CSC = California Department of Fish and Game Species of Special Concern

2. Findings based on literature review, field assessment of habitat types present, and knowledge of species habitat requirements.