

APPENDIX D

BIOLOGICAL RESOURCES

APPENDIX D-1

**REVISED BIOLOGICAL ASSESSMENT REPORT
THOMAS REID ASSOCIATES
APRIL 2005**

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REVISED
Biological Assessment Report
for Fassler Avenue Property
Pacifica, California
APN 022-083-020
APN 022-083-030

For compliance with San Mateo County
Local Coastal Program Policies

Prepared for:
Rick Lee
Pacific Quarry Homes
716 Corona Drive
Pacifica, California 94044

Prepared by:
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Revised
April 27, 2005

1. Project location (include USGS Township, Range and Section)

The property is approximately 11 acres in size, and is located on Fassler Avenue in Pacifica, San Mateo County, California. The site is located at Lat. 37.622349° 37:37:20.456N, Long.-122.485175 122:29:6.630W, approximately 0.13 miles east of the Pacific Ocean (see Figure 1). The site is outside of Township and Range designation numbers.

2. Assessor's Parcel Number and any applicable Planning Permit numbers

The property includes two parcels, with the designations APN 022-083-020 and APN 022-083-030 in San Mateo County.

3. Owner/Applicant: Pacific Quarry Homes, LLC
Address: 716 Corona Dr., California 94044
Phone: (650) 359-3827

4. Principal Investigators (attach a qualification summary to the report)

This report was prepared by Kerri Davis and Taylor Peterson of Thomas Reid Associates. See Appendix A for qualification summaries.

5. Report summary (briefly state the results of the report, habitat type, rare, endangered, or unique species present, anticipated impacts, and proposed mitigation measures)

This report is consistent with the format required by the County of San Mateo for biological reports in the coastal zone (Local Coastal Program, San Mateo County, 1998). The report documents the existing biological resources at APN 022-083-020 and APN 022-083-030 in Pacifica, California. The report also analyzes the impact on the existing biological resources of constructing 18 single family homes and 8 duplexes on the site, and includes recommended mitigation measures to offset potentially adverse impacts.

The 11-acre site was surveyed for biological resources on April 23, 2004 by Thomas Reid Associates biologists Kerri Davis, Tay Peterson and Patrick Kobernus. All potentially sensitive habitats and areas to be impacted were surveyed for the purposes of this report. The property is primarily composed of a former quarry site dating back to 1946. The quarry ceased operation sometime in the 1950's, when vegetation started to grow back over the disturbed pad and quarry paved roads. The vegetation communities present on parts of the site and in the surrounding areas are Coastal Scrub, Willow Scrub and Perennial Grassland (*Coastal Prairie*) (Sawyer, 1995). The majority of the site was disturbed during the previous quarry development and by the old alignment of Fassler Avenue. In more recent years the site has been used for illegal dumping of residential yard clippings and debris, and this has resulted in an invasion of exotic and horticultural plants into the site.

The proposed location of the project is within the disturbed footprint of the previous quarry operations, in areas that are currently vegetated with coastal scrub and coastal prairie. The

project will use the existing paved road at the site (R. Lee, personal communication). The proposed footprint of development will not exceed 85,000 square feet (18 percent) of the 11-acre property (R. Lee, personal communication).

No state or federally-listed threatened or endangered species were found to occur on the site. The site does support a colony of dusky-footed woodrat (suspected to be *Neotoma fuscipes annectens*), which is a California species of special concern. The site lies about 1.0 mile south of a known location of San Francisco garter snake (federal endangered; S. J. Barry 1994), and between two creeks that provide breeding habitat for California red-legged frog (CNDDDB; see response to Question 10., below). The U.S. Fish and Wildlife Service recommends a buffer zone of 300 to 500 feet or greater between development and potential breeding habitat for CRLF and SFGS (J. Browning, personal communication). Although the project lies well outside of this buffer zone and will not adversely impact the breeding habitat of these species, it is possible that migrating individuals could move through the site. Although significant impact is not expected, mitigation is recommended to prevent take of these species.

The following mitigation measures recommended for the project:

- 1) The construction site shall be monitored for CRLF and/or SFGS that could disperse through the project site. During the construction phase of the project, a trained biologist or a trained on-site monitor (such as the construction foreman) shall check the site in the morning and in the evening for the presence of CRLF and SFGS. This includes checking holes, under vehicles and under boards left on the ground. If any CRLF or SFGS are found, construction shall be halted until they disperse naturally, and the monitor shall immediately notify the biologist in charge and the US Fish and Wildlife Service. Subsequent recommendations made by the USFWS shall be followed. The monitor shall not handle or otherwise harass the animal. The biologist in charge and the on-site monitor shall be aware of all terms and conditions set by USFWS and CDFG on the project. The biologist in charge shall train the on-site monitor in how to identify CRLF and SFGS. The biologist in charge shall visit the site at least once a week during construction and confer with the trained on-site monitor.
- 2) Construction workers shall be informed of the potential presence of CRLF and SFGS, that these species are to be avoided, and that the foreman must be notified if they are seen. Harassment of these species is a violation of federal law.
- 3) During construction, all holes shall be covered at night to prevent CRLF or SFGS from becoming trapped in holes on the construction site.
- 4) Best management practices and appropriate erosion control methods shall be used to keep exposed soils from being washed offsite. This may include using silt fencing, hay bales, or other appropriate methods.
- 5) Design and implement appropriate storm water pollution control measures both during construction and for subsequent residential use to avoid increasing the rate or volume of storm water leaving the site. If more than one acre of ground will be disturbed by

grading, the project is required by the Regional Water Quality Control Board to have a Stormwater Pollution Prevention Plan (SWPPP).

6) Native and non-invasive species shall be used in landscaping in order to prevent negative impacts on nearby native habitats. A list of native plant species found on the project site is in Table 1. No species included in the 1999 California Exotic Pest Plant List shall be used for landscaping (CalEPPC 1999).

7) In accordance with LCP Policy 7.49, the project shall protect or transplant any native California Wild strawberry plants (*Fragaria chiloensis*) that would be removed by construction.

8) Project design shall avoid the colony of dusky-footed woodrat nests. If occupied nests cannot be avoided, then an alternative mitigation of trapping and moving the woodrats and their nests shall be developed before demolition and/or grading begins. Trapping shall not occur during the spring/summer breeding season.

6. Project and property description (describe the proposed project and property, including the size, topographic characteristics, water resources, soil types, and land uses on the property and in the vicinity up to a radius of one-quarter mile. Include a map of the area from the USGS 7.5 minute quadrangle series.)

The property is 11 acres in size and has several zoning designations. One parcel is Low Density Residential, and the other is Open Space Residential. Both have a Hillside Preservation District overlay, and a Planned Development (PD) permit is required for development. The property is a gradually sloped terrace with north and west facing slopes. The elevations range from 230 feet above sea level in the northwest corner to 440 feet above sea level near the southeast corner. The property is bounded by Fassler Avenue to the south and undeveloped land to the north. The northern property boundary is about 200 feet upslope of an unnamed drainage that flows through Rockaway Beach and into the Pacific Ocean just south of the mouth of Calera Creek. It is located east of Highway 1, and about 0.3 miles east of the Pacific Ocean (Figure 1).

Other than the unnamed drainage to the north of the project site, water resources include Calera Creek, about 0.8 mile to the north, and San Pedro Creek, about 1.2 miles to the south (Figure 1). Urban development separates the site from both Calera and San Pedro Creeks. The project site is not subject to flooding.

As listed in the San Mateo County Soil Survey (USDA, 1991), soils on the property include Orthents, cut and fill, on 0 to 15 percent slopes, and Orthents, cut and fill-Urban land complex, 5 to 75 percent slopes. These soils formed in residuum derived from sandstone, and are shallow to very deep, well drained soils on uplands. The unit consists of soils that have been cut and filled for urban development, in this case that refers to the quarry. They vary greatly in thickness and in the texture of the surface layer. The soil material in the steeper areas generally has been cut or removed for the construction of building foundations and roadways, and bedrock commonly is exposed. The areas of fill generally have slopes of less than 30 percent.

The proposed project is the construction of 18 single family homes and 8 duplexes. The total square footage of the homes will range between 1000- 1500 square feet. The total project impact of roads and structures should not exceed 85,000 square feet, or 18 percent of the 11- acre site. The existing roadway on the project site will be restored or used (approximately 30,000 sq. ft.). (R. Lee, personal communication).

7. Methodology (briefly describe the survey methods used in preparing the report and show on an appropriately scaled map the location of sample points, transects, and any additional areas surveyed in the vicinity of the project.)

The property was surveyed for biological resources by Thomas Reid Associates biologists Kerri Davis, Tay Peterson and Patrick Kobernus, on April 23, 2004. The site was walked for approximately two hours. Each habitat type on the property was inspected, including any potentially sensitive areas. A search was conducted using the California Natural Diversity Database (CNDDB) to identify sensitive species and communities that could potentially be present in the area of the proposed project site (see the response to Question 10).

8. Results (at length, describe the botanical and zoological resources of the project site. To the extent possible, describe the food chain of the habitat and how the proposed project will impact those resources. Use both common and scientific names and please indicate references used.)

Plant and animal species observed on the site are listed in Table 1 and Table 2. The property includes four different habitat types: disturbed land, coastal scrub, perennial grassland, and willow scrub.

Most of the property has been used for quarry, and the property is dominated by highly disturbed soils and ruderal vegetation ("disturbed land"). Ruderal species include European annual grasses such as Italian wild rye (*Lolium multiflorum*) and rip-gut brome (*Bromus diandrus*). The disturbed footprint also has dense infestations of Bermuda buttercup (*Oxalis pes-caprea*), bristly ox-tongue (*Picris echioides*), and field mustard (*Brassica rapa*). The proposed building sites for the houses, landscaping and parking areas are within the weedy disturbed quarry footprint. Coastal scrub dominates the lower slopes of the site, between the area proposed for development and the drainage to the north. Perennial grassland occurs on the crest of the site, above Fassler Avenue. A small patch of willow scrub vegetation occurs between the disturbed land and the perennial grassland. The colony of woodrat nests is located downslope and southwest of the willow scrub vegetation (Figure 2).

Food chain resources

The coastal shrubs and native grasslands on the site provide foraging resources for wildlife. Species that likely reside in the fields include the California vole (*Microtus californicus*) and deer mouse (*Peromyscus maniculatus*). The open fields may also be used for foraging by birds that are common in disturbed or cultivated areas such as the house sparrow (*Passer domesticus*), California gull (*Larus californicus*) and American crow (*Corvus brachyrhynchos*). Raptors that likely prey on small mammals include the white-tailed kite

(*Elanus caeruleus*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*) and northern harrier (*Circus cyaneus*), (Zeiner et al, vol. II, 1990).

Small mammals and birds take cover in the low vegetation around the property edges and in the coastal scrub area, and use the open fields and grassland for foraging. These include brush rabbit (*Sylvilagus bachmani*) and California quail (*Callipepla californica*) (Zeiner et al, vol. III, 1990). Coyote (*Canis latrans*) probably forages on the property, as well as other large mammals such as Black-tailed deer (*Odocoileus hemionus*), (a deer skeleton was found on the project site), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*) and in rare instances, mountain lion (*Felis concolor*).

The coastal scrub area and native vegetation provide cover for nesting birds and small mammals. Songbirds including song sparrow (*Melospiza melodia*) and white-crowned sparrow (*Zonotrichia leucophrys*) use this habitat.

A variety of amphibians, reptiles, birds and mammals could potentially use the unnamed drainage on the adjacent property to the north of the site as a water source and for feeding. These animals are likely to disperse into and through the property when moving between habitats.

Project Impact upon Food Chain Resources

The proposed project would impact approximately 2 acres of the 11-acre property.

The proposed project would result in the development of approximately 18 percent of the two parcels (2 acres), all of which is formerly disturbed and has been invaded with exotic plant species. Some native coastal grasses and shrubs occur within the development area. One Monterey cypress tree will be impacted by the project, and because of its circumference, this tree qualifies as a heritage tree under local ordinance. Because of their value to the City of Pacifica, heritage trees (any tree, except Eucalyptus, with a circumference of 50 inches or greater), may not be removed, destroyed, or damaged beyond repair without a Heritage Tree Permit. Thus, a permit from the City of Pacifica will be required to remove this tree. The other two trees on the site (Monterey pine) will be avoided.

Wildlife movement will not be adversely restricted by the project because most of the site will remain open, and connections will be maintained through the site with adjoining open land. Considering the size of the project and the availability of open space habitats surrounding the property, the impact to foraging, cover and nesting habitats, and wildlife movement will not be significant. The proposed project could benefit wildlife by removing mainly exotic non-native vegetation, and landscaping with native plants and shrubs.

9. List all direct and indirect impacts of the proposed project on the habitat. Include within the discussion an evaluation of the perceived cumulative biological impacts associated with the project.

Potential Impacts of Project

- 1) The project could impact potential dispersal habitat for the California red-legged frog and San Francisco garter snake if dispersing frogs or snakes are killed or disturbed during the construction phase of the project. These animals are protected under the federal endangered species act. The federal Endangered Species Act prohibits "take," which is defined as: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a federally listed, endangered species of wildlife, or to attempt to engage in such conduct." Appropriate precautions must be taken to prevent take of these animals.
- 2) The project could have an indirect negative impact on the unnamed drainage north of the property, from sediment runoff during construction, unless appropriate erosion control measures are used.
- 3) The project could have an indirect negative impact upon the unnamed drainage north of the property, through increased rate or volume of storm water pollution from construction materials and residential activities, unless appropriate storm water controls are used.
- 4) The project could have a negative impact on adjacent native habitats if invasive non-native plant species are used in the landscaping plan. In contrast, the project could have beneficial impact on the native habitat if native plants suitable to the site and region are used and exotic species are removed from the property.
- 5) The project could result in the destruction of a colony of the San Francisco dusky-footed woodrat, a California Species of Special Concern.
- 6) The project will impact approximately 11 acres of highly disturbed, former quarry land. No cumulative negative impacts are expected from this project.
- 7) The project could result in the removal of California wild strawberry. Strawberry plants were observed on the site, but were not mapped or identified to species. Policy 7.49 of the LCP states,

"Require any development, within one-half mile of the coast, to mitigate against the destruction of any California wild strawberry in one of the following ways:

- a. Prevent any development, trampling, or other destructive activity which would destroy the plant, or
- b. After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding."

10. List and discuss all probable impacts to threatened, rare, endangered or unique species either listed or proposed by the Local Coastal Program, a Federal or State agency, or the California Native Plant Society, both on-site and within an area of one-quarter mile radius from the project location.

A search of the California Natural Diversity Database (CNDDDB) revealed that several special status species have been recorded within 5 miles of the project site:

Special Status Species Listed on the USGS 7.5' Montara Mountain Quadrangle

Plants

<u>Plants</u>	<u>Status</u>
Hickman's cinquefoil (<i>Potentilla hickmanii</i>)	SE, FE
White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>)	SE, FE, CNPS List 1B
Montara manzanita (<i>Arctostaphylos montaraensis</i>)	CNPS List 1B
San Francisco Bay spineflower (<i>Chorizanthe cuspidata cuspidata</i>)	CNPS List 1B
San Francisco gumplant (<i>Grindelia hirsutula maritima</i>)	CNPS List 1B
Coast yellow linanthus (<i>Linanthus croceus</i>)	CNPS List 1B
Rose linanthus (<i>Linanthus rosaceus</i>)	CNPS List 1B
Northern maritime chaparral	

Animals

Mission blue butterfly (<i>Icarioides missionensis</i>)	FE
San Bruno elfin butterfly (<i>Incisalia mossii bayensis</i>)	FE
Steelhead (Central California Coast ESU) (<i>Onchorynchus mykiss</i>)	FT
California red-legged frog (<i>Rana aurora draytonii</i>)	FT, Csc
San Francisco garter snake (<i>Thamnophis sirtalis tetrataenia</i>)	SE, FE
San Francisco dusky-footed Woodrat (<i>Neotoma fuscipes annectens</i>)	Csc
Myrtle's silverspot (<i>Speyeria zerene myrtieae</i>)	FE
California clapper rail (<i>Rallus longirostris obsoletus</i>)	SE, FE
Saltmarsh common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	Csc

Abbreviations:

FE=Federally Endangered
 FT=Federally Threatened
 FC= Federal candidate species
 SE=State Endangered
 ST=State Threatened
 Csc= California species of special concern

CNPS List 2= Plants rare, threatened, or endangered in California, but more common elsewhere
 CNPS List 1B= California Native Plant Society listing of plants rare, threatened, or endangered in California and elsewhere.

A discussion of these species, and the likelihood of occurrence on the project site is provided below.

Plants

Hickman's cinquefoil is found in open pine forests in marshy areas and on coastal bluffs and grassy meadows (Corelli and Chandik 1995). This plant was not found during the April survey

and it is not expected to be present on the property based on habitat requirements.

White-rayed pentachaeta is found in valley and foothill grasslands. It prefers open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. 35-620m. (CNDDDB, 2003). It is only known from one occurrence near Edgewood Road and I-280 in San Mateo County. The project site does not contain serpentine soils, and this species is not expected to occur there.

Montara manzanita occurs on slopes and ridges in maritime chaparral and coastal scrub on decomposed granitic soil. No species of manzanita were found to occur on the site during the April survey.

San Francisco Bay spineflower occurs in sandy places in coastal bluff, terrace, scrub, dunes and prairie. It blooms from April to July. It is known from the Mori Point area, about 1.5 miles north of the project site. Spineflower was not found on the project site during the April survey, and the project site does not contain the sandy soils that would support this species.

San Francisco gumplant occurs on sandy or ultramafic (e.g., serpentine) slopes on coastal bluffs, in coastal scrub and grassland habitat. The project site does not contain suitable soils for this species. No species of gumplant were observed at the site during the April field survey.

Coast yellow linanthus occurs in coastal bluff scrub and coastal prairie, and is known only from one occurrence near Moss Beach, several miles south of the site. No species of linanthus were found on the project site during the site survey in April.

Rose linanthus occurs in coastal scrub, and is known from only one location near Pacifica (CNPS, 2001). No species of linanthus were found on the project site during the site survey in April 2004.

Northern maritime chaparral is a plant community that is dominated by manzanita and ceanothus, and includes buckwheat, coffeeberry, sagebrush, chamise, coyote brush, poison oak and toyon. The project site contains coastal scrub, but does not contain northern maritime chaparral. No species of manzanita were observed on site.

Animals

California red-legged frog

The California red-legged frog (CRLF) uses a variety of habitats depending on the life stage and season, but usually occurs within one mile of the breeding site. The breeding season extends from November through March in sites including coastal lagoons, marshes, permanent and semi-permanent natural ponds, ponded and backwater portions of streams, as well as artificial impoundments (stock ponds, irrigation ponds, siltation ponds). The frogs usually lay eggs in loose masses attached to emergent vegetation such as bulrush (*Scirpus* sp.) or cattail (*Typha* sp.).

Juvenile CRLF are generally closely associated with a water source. However, older frogs may take refuge in small mammal burrows or in moist, dense vegetation in the surrounding area. During dry periods, CRLF typically remain near water sources, but during wet weather they have been known to travel up to one mile via upland habitats throughout the course of the rainy season (USFWS, 2000). When CRLF travel, they do so at night and in a direct fashion, without following corridors through habitats (USFWS, 2000).

The project site does not contain a water source for CRLF to use as either breeding habitat or non-breeding shelter habitat. No evidence of CRLF was observed during the site survey, and CRLF is not expected to be present on the property based on its habitat requirements. However it is possible that CRLF could disperse through the project site.

The closest known breeding location for CRLF is near the mouth of Calera Creek, upstream of the Rockaway Quarry, about one mile north of the project site. The unnamed drainage that is located just north of the project site is shown as a perennial drainage on the USGS topographic map, and this drainage flows from northwest of the project site to the Pacific Ocean. The mouth of the drainage is south of the community of Rockaway Beach. There is urban development between the breeding site and the unnamed drainage. The CRLF is also known to occur in San Pedro Creek, which is a little more than a mile south of the project site. Urban development in Pacifica lies between the project site and San Pedro Creek. There are no other breeding ponds in the vicinity of the project.

Although there is significant urban development between known breeding locations and the project site, it is feasible that CRLF could occasionally be found to migrate across the project site.

San Francisco garter snake

San Francisco garter snakes are secretive residents of wetlands and/or moist grasslands near ponds, marshes, and sloughs and are likely to retreat into water when disturbed (SUNRI 2001). They are usually found around ponds and marshes that support large populations of Pacific chorus frogs and California red-legged frogs, both of which serve as prime food sources. The SFGS is also known to disperse through a variety of habitat types between breeding pond locations and they may spend some time in upland areas, especially during the rainy season.

The SFGS is known to occur near the mouth of Calera Creek (Barry, 1994), about one mile north of the project site. The project site and the unnamed drainage to the north do not provide suitable marsh, pond, wetland or slough habitat for SFGS. There are no reported sightings of SFGS south of the site around Pacifica. The likelihood is low, but it is feasible that SFGS could be found dispersing through the project site.

San Francisco dusky-footed woodrat

The Dusky-footed woodrat occurs in a variety of brushy and wooded areas. This

mammal builds stick houses up to 2 meters long and a meter in height for nesting. The San Francisco dusky-footed woodrat, a California Species of Special Concern, is the subspecies that occurs in the Santa Cruz Mountains and in the east bay (Hooper, 1944). During the field survey several woodrat nests were found on the project site. These nests are shown on Figure 2. The project could impact the main colony of woodrats found on the site.

Monarch butterfly

Monarch butterflies use the San Mateo Coast for roosting during fall and winter migrations through California. They are especially common within 0.5 miles of the coast. Although the project site is within the optimum migration corridor for this species, the property contains marginally suitable trees for roosting habitat. Only three small trees are located on the property, two small Monterey Pines and one Monterey Cypress. Preferred roosts are in groves of trees in protected locations. Monarch butterflies are not expected to roost at the project site.

California central coast steelhead

Only one central coast steelhead stream, San Pedro Creek, is located a little over 1 mile south of the project site. Neither the unnamed drainage nor Calera Creek are steelhead streams. The project will not adversely impact steelhead.

Salt marsh common yellowthroat

The Saltmarsh common yellowthroat is a bird that inhabits emergent wetlands. According to the CNDDDB, this bird occurs in suitable habitat a mile or more north of the project site. The project site does not contain emergent wetland habitat that would support Salt marsh common yellowthroat.

11. Tabulate by significant impact all feasible mitigation measures proposed to reduce the level of impact and explain how such measures will be successful.

Mitigation Measure	Effect
<p>1) During the construction phase of the project, a trained biologist or a trained on-site monitor (such as the construction foreman) shall check the site in the morning and in the evening for the presence of CRLF and SFGS. This includes checking holes, under vehicles and under boards left on the ground. If any CRLF or SFGS are found, construction shall be halted until they disperse naturally, and the monitor shall immediately notify the biologist in charge and the US Fish and Wildlife Service. Subsequent recommendations made by the USFWS shall be followed. The monitor shall not handle or otherwise harass the animal. The biologist in charge and the on-site monitor shall be aware of all terms and conditions</p>	<p>SFGS and CRLF are protected from harm during construction.</p>

Mitigation Measure	Effect
<p>set by USFWS and CDFG on the project. The biologist in charge shall train the on-site monitor in how to identify CRLF and SFGS. The biologist in charge shall visit the site at least once a week during construction and confer with the trained on-site monitor.</p>	
<p>2) Construction workers shall be informed of the potential presence of CRLF and SFGS, that these species are to be avoided, and that the foreman must be notified if they are seen. Harassment of these species is a violation of federal law.</p>	<p>SFGS and CRLF are protected from harm during construction.</p>
<p>3) During construction, all holes shall be covered at night to prevent CRLF or SFGS from becoming trapped in holes on the construction site.</p>	<p>SFGS and CRLF are protected from potential entrapment on the project site.</p>
<p>4) Best management practices and appropriate erosion control methods shall be used to keep exposed soils from being washed offsite. This may include using silt fencing, hay bales, or other appropriate methods.</p>	<p>Surrounding watershed is protected from siltation which could affect water quality and sensitive species habitat.</p>
<p>5) Design and implement appropriate storm water pollution control measures both during construction and for subsequent residential use to avoid increasing the rate or volume of storm water leaving the site. If more than one acre of ground will be disturbed by grading, the project is required by the Regional Water Quality Control Board to have a Stormwater Pollution Prevention Plan (SWPPP).</p>	<p>Surrounding watershed is protected from storm water pollution and increased runoff.</p>
<p>6) Native and non-invasive species shall be used in landscaping in order to prevent negative impacts on nearby native habitats. A list of native plant species found on the project site is in Table 1. No species included in the 1999 California Exotic Pest Plant List shall be used for landscaping (CalEPPC 1999).</p>	<p>The native vegetation on the property and in surrounding areas will not be threatened by invasive exotic plants emanating from this project.</p>
<p>7) In accordance with LCP Policy 7.49, the project shall protect or transplant any native California Wild strawberry plants (<i>Fragaria chiloensis</i>) that would be removed by construction.</p>	<p>Will assure compliance with Policy 7.49, and protection of genetic material important to the local agriculture industry</p>
<p>8) Project design shall avoid the colony of dusky-footed woodrat nests. If occupied nests cannot be avoided, then an alternative mitigation of trapping and moving the woodrats and their nests shall be developed before demolition and/or grading begins. Trapping and moving shall not occur during the spring/summer breeding season.</p>	<p>Destruction of any SF DFWR individuals or nests will be avoided.</p>

12. **Certification.** I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

This biological evaluation was completed to the best of Thomas Reid Associates' ability, using current data and regulatory information. The facts, statements, and information presented are correct to the best of our knowledge at the time of the survey. It should be acknowledged that there are limitations inherent in single-season site visits. Biological resources are dynamic, and site conditions could change at any time in the future. Similarly, regulatory requirements also change. Such changes could affect the statements and conclusions in this report, and would require re-evaluation.

Date: 4/27/05

Signed: Patrick Kobernus
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REFERENCES

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Zeiner, D., W, Laudenslayer, K. Mayer, M. White. 1990. California's wildlife. Volume III: Mammals. California Department of Fish and Game.

Personal Communications:

Jim Browning US Fish and Wildlife Service biologist, March, 2003

Rick Lee, Land owner, May, 2004

Table 1. Plant Species Found on the Project Site (Fassler Avenue Property)

Common Name	Scientific Name
Native Species	
Indian Thistle	<i>Cirsium brevistylum</i>
Monterey Pine (tree)	<i>Pinus radiata</i>
common California Aster	<i>Aster chilensis</i>
California Sagebrush	<i>Artemisia californica</i>
Coyote brush	<i>Baccharis pilularis</i>
Common yarrow	<i>Achillea millefolium L.</i>
Poison oak	<i>Toxicodendron diversilobum</i>
Monterey Cypress (tree) *rare	<i>Cupressus macrocarpa</i>
California coffeeberry	<i>Rhamnus californica</i>
Indian paintbrush	<i>Castilleja affinis</i>
Bedstraw	<i>Galium sp.</i>
California bee plant	<i>Scrophularia californica ssp. floribunda</i>
Twinberry	<i>Lonicera involucrata</i>
Blue-eyed grass	<i>Sisyrinchium bellum</i>
Mexican rush	<i>Juncus mexicanus</i>
Cow parsnip	<i>Heracleum lanatum</i>
Snakeroot	<i>Sanicula bipinnatifida</i>
Thimbleberry	<i>Rubus parviflorus</i>
Coast wild cucumber	<i>Marah fabaceus</i>
Bracken-fern	<i>Pteridium aquilinum var. pubescens</i>
Sticky monkeyflower	<i>Mimulus aurantiacus</i>
Beach strawberry	<i>Fragaria chiloensis</i>
California blackberry	<i>Rubus ursinus</i>
California wax-myrtle	<i>Myrica californica</i>

Common Name	Scientific Name
Toyon	<i>Heteromeles arbutifolia</i>
Clover	<i>Trifolium spp.</i>
Fescue	<i>Vulpia spp.</i>
Coast buckwheat	<i>Eriogonum latifolium</i>
Pacific sanicle	<i>Sanicula crassicaulis</i>
Oceanspray	<i>Holodiscus discolor</i>
Oniongrass	<i>Mellica imperfecta</i>
Sitka willow	<i>Salix sitchensis</i>
Common cinquefoil	<i>Potentilla glandulosa sp.</i>
English plantain	<i>Plantago erecta</i>
Cudweed	<i>Gnaphalium sp.</i>
Lizard tail	<i>Eriophyllum staechadifolium</i>
Purple needle grass	<i>Nassella pulchra</i>
California fuschia	<i>Epilobium canum ssp. canum</i>
Hairy cat's ear (succulent lupine)	<i>Lupinus succulentus</i>
Pearly everlasting	<i>Anaphalis margaritacea</i>
Mugwort	<i>Artemisia douglasiana</i>
Sun cups	<i>Camissonia ovata</i>
Non-native species	
French broom	<i>Genista monspessulana</i>
Wild teasel	<i>Dipsacus fullonum L.</i>
Bristly Ox-tongue	<i>Picris echioides L.</i>
Fennel	<i>Foeniculum vulgare</i>
Ripgut brome	<i>Bromus diandrus</i>
Wild oat	<i>Avena fatua</i>
Yellow sorrel	<i>Oxalis corniculata L.</i>

Sow thistle	<i>Sonchus asper</i>
Aloe	<i>Aloe saponaria X striata</i>
Common mustard	<i>Brassica rapa L.</i>
Bull thistle	<i>Cirsium vulgare</i>
Scarlet pimpernel	<i>Anagallis arvensis L.</i>
Pampas grass	<i>Cortaderia selloana</i>
Dove's-foot geranium	<i>Geranium molle</i>
Poison hemlock	<i>Conium maculatum</i>
Soft chess	<i>Bromus hordeaceus</i>
Cut-leaf plantain	<i>Plantago coronopus</i>
Red valerian	<i>Centranthus ruber</i>
Fumitory	<i>Fumaria officinalis</i>
Small-flowered flax	<i>Linum bienne</i>
Garden burnet	<i>Sanguisorba minor ssp. muricata</i>
Red-stemmed filaree	<i>Erodium cicutarium</i>
Common wild geranium	<i>Geranium dissectum</i>
Cotoneaster	<i>Cotoneaster ssp.</i>
Periwinkle	<i>Vinca major</i>
German Ivy (cape ivy)	<i>Senecio mikanioides</i>
Prickly lettuce	<i>Lactuca serriola</i>

Table 2. Animal Species Observed Directly or by Sign at the Project Site (Fassler Avenue Property).

<u>Common Name</u>	<u>Scientific Name</u>
Western fence lizard	<i>Sceloporus occidentalis</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
California quail	<i>Callipepla californica</i>
Anna's hummingbird	<i>Calypte anna</i>
Bushtit	<i>Psaltriparus minimus</i>
American goldfinch	<i>Carduelis tristis</i>
California gull	<i>Larus californicus</i>

American crow	<i>Corvus brachyrhynchos</i>
California towhee	<i>Pipilo crissalis</i>
Spotted towhee	<i>Pipilo maculatus</i>
Black-tailed deer	<i>Odocoileus hemionus</i>
Bobcat	<i>Lynx rufus</i>

Table 2, continued

<u>Common Name</u>	<u>Scientific Name</u>
California vole	<i>Microtus californicus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
brush rabbit	<i>Sylvilagus bachmani</i>
raccoon	<i>Procyon lotor</i>

Appendix A. Qualifications

Kerri Davis, Associate

Kerri Davis joined TRA in 2003. Prior to TRA, Ms. Davis worked at the U.S. Fish and Wildlife Service, Carlsbad Ecological Services Office in Southern California where she was a Fish and Wildlife Biologist. She worked on various endangered species issues including ESA Section 7 and 10 Consultations, CEQA and NEPA review.

Ms. Davis brings to TRA more than 7 years of field biology and analysis related to endangered species in California and throughout the United States. Ms. Davis's expertise is in Wildlife Conservation, Endangered Species Management, Watershed Science, Geographic Information Systems (GIS) Analysis, Ecosystem Management and Wildlife-Habitat relationships. Ms. Davis has a strong background in research methods and survey protocols with various Federal agencies. She has worked with the National Park Service in Everglades National Park and Cape Cod National Seashore, with the U.S. Fish and Wildlife Service in Maine, Massachusetts and California, and with the U.S. Forest Service in Sequoia and Kings Canyon National Parks.

Most recently, her work as a Fish and Wildlife Biologist in southern California provided skills working on Endangered Species Act (ESA) consultations with multiple agencies and stakeholders. She has written Biological Opinions for multiple Habitat Conservation Plans (HCP), CEQA documents, Natural Communities Conservation Plans (NCCP), Watershed Management Plans, residential and commercial construction projects, landfills, transportation (CalTrans) projects, utilities, and municipalities.

In addition to her work with endangered species, Ms. Davis has worked proficiently with GIS ArcView, ArcGIS as well as extensive computer modeling. While a graduate research assistant at the University of Massachusetts Amherst, Ms. Davis was a GIS Project Manager for various projects with the Office of Geographical Information and Analysis (OGIA) where she co-headed a team to develop analytical models to predict future growth trends for two counties in the states of Washington and South Carolina for the American Farmland Trust organization. Another project was the Connecticut River Economic Development Administration Project where data were collected and analyzed to identify economic development potential and associated environmental concerns in target communities along the Connecticut River. Ms. Davis takes pride in devising solutions for complex ecological conflicts, achieving both conservation and land use goals.

Educational Background

M.S. Wildlife and Fisheries Conservation with a Professional Degree in Watershed Science and Management, University of Massachusetts Amherst, 2002.

B.S. Wildlife and Fisheries Biology, University of Massachusetts Amherst, 1996.

Professional Affiliations

Member of The Wildlife Society since 1990.

Patrick Kobernus - Associate

Mr. Kobernus has a Master's degree in Ecology from California State University, Hayward, and has been an Associate with Thomas Reid Associates (TRA) since 1995. He is familiar with the status and range of many state and federally protected wildlife species, and with biological data sources such as the California Natural Diversity Database (CNDDDB).

Mr. Kobernus has conducted biological assessments and surveys for the Mission blue butterfly, Callippe silverspot butterfly, San Bruno elfin butterfly, Smith's blue butterfly, monarch butterfly, steelhead, California tiger salamander, California red-legged frog, burrowing owl, and serpentine grassland species.

As a staff biologist for TRA, Mr. Kobernus has conducted endangered species surveys and biological impact assessments for several clients in the San Francisco Bay Area. He has conducted biological surveys in San Mateo, Alameda, Contra Costa, Marin, Santa Cruz, Monterey, and Santa Clara Counties. He has particular expertise conducting biological assessments for projects located on the San Mateo County coast within the County's Local Coastal Program area. He has worked on projects for San Mateo County Parks and Recreation, Santa Clara Valley Water District, Kaufman and Broad, Cal-Trans, Canada Woods East project in Carmel, Stone Valley Oaks project in Alamo, as well as several others. Mr. Kobernus often works closely with developers, public utilities, government agencies, and individual homeowners in modifying projects to avoid or minimize biological impacts to sensitive species and the environment.

As a project manager for TRA, Mr. Kobernus manages the implementation of the San Bruno Mountain Habitat Conservation Plan. He supervises field crews on the mountain conducting endangered species monitoring for the endangered Mission blue, Callippe silverspot, and San Bruno elfin butterflies. He also oversees the habitat management and grassland restoration program and has assisted in developing volunteer stewardship with the Friends of San Bruno Mountain.

Mr. Kobernus has a diverse biological background with a focus in stream ecology. As a graduate student at California State University, Hayward, he conducted his Master's degree research on assessing steelhead trout presence and habitat in San Lorenzo Creek. He also assisted with a study on heavy metal accumulation within urban creeks, (Vegetated Channels Study, 1992), and performed a study testing the toxicity of storm water on macroinvertebrates and fish (DUST Marsh toxicity study, 1993) for Alameda County Water Resources Department. As a wildlife biologist for Gualala Redwoods in 1996 (Gualala, CA), he conducted surveys for northern spotted owls and conducted independent research on carnivores which use riparian habitat. Mr. Kobernus developed and directed a program that provided hands-on experience to children and teens in stream ecology from 1996-1997 (San Lorenzo Creek Wildlife Hikes). Mr. Kobernus currently leads hikes for volunteer and school groups on San Bruno Mountain.

Educational Background

M.S. Ecology, California State University, Hayward, CA

B.A. English, Sonoma State University, Rohnert Park, CA

Taylor Peterson

Ms. Peterson is a TRA Senior Associate and Project Manager. Since joining the firm in 1980, Ms. Peterson has applied her technical expertise and management skills in assessing the impacts of a wide range of projects including sanitary landfills, materials recovery and transfer stations,

quarries, housing developments, wastewater treatment, plant expansion, water well development, and high-voltage transmission line alignments.

Ms. Peterson was Case Manager for numerous projects including the initial study for the Arastradero Preserve Trails Management Plan, the Mitigation Plan for Burrowing Owl for the Alza Corporation Charleston Road Project, the Guadalupe Landfill Supplemental EIR, the Lands of Platt subdivision Initial Study, and the Valensin Ranch biological constraints analysis. Ms. Peterson also managed the Pacheco Pass Landfill Initial Study, the Pescadero Water Supply Alternatives Environmental Assessment, Tamarack Estates EIR (San Carlos), Owens-Corning Disposal Site Expansion General Plan Amendment EIR and subsequent Project EIR (San Jose), Sunnyvale Waste-to-Energy Plant Feasibility Study, the EIR for the Sunnyvale Materials Recovery and Transfer Station, and the Guadalupe Disposal Site Expansion EIR (San Jose).

In her capacity as Case Manager, Ms. Peterson directs TRA staff in the technical analysis and preparation of environmental documents, prepares her own technical sections, and maintains contact with the client, project engineers, and the lead agency. As such, she is familiar with every aspect of the preparation of environmental documents that must comply with CEQA. Several of the projects which she has managed have been controversial in nature, and she has extensive experience in responding to public concerns and comment.

Ms. Peterson has a background in biology and has been a long-time observer of California's natural history. She has conducted numerous biological surveys to assess the potential impacts of landfill projects, golf course development, hotel resort development, quarrying, and housing development. She is experienced in identification of plant and animal species, in mapping plant communities, in mark/release/recapture work with butterflies, and in survey methods for the endangered San Joaquin kit fox. She is familiar with special habitats such as vernal pools, serpentine grassland, and riparian zones, and she is a practitioner of the US Army Corps of Engineers Method used to delineate wetlands. She has had much practice in the use of biological data sources such as the California Natural Diversity Database, the California Native Plant Society, agency and local contacts, and numerous field guides and floras.

Ms. Peterson was a contributing author of the Habitat Conservation Plan for San Bruno Mountain, in which she applied the principles of the Plan in order to develop the specific activities required for each administrative parcel on the mountain. She was also a principal author of the Kirby Canyon Landfill Bay Checkerspot Butterfly Conservation Plan, and now oversees the implementation of the revegetation program outlined in the plan. This work will eventually result in a long-term program that the landfill operator can implement to restore serpentine grassland habitat in finished landfill areas.

Educational Background

A.B. Human Biology, Stanford University, Stanford, CA

Figure 1. Project Location

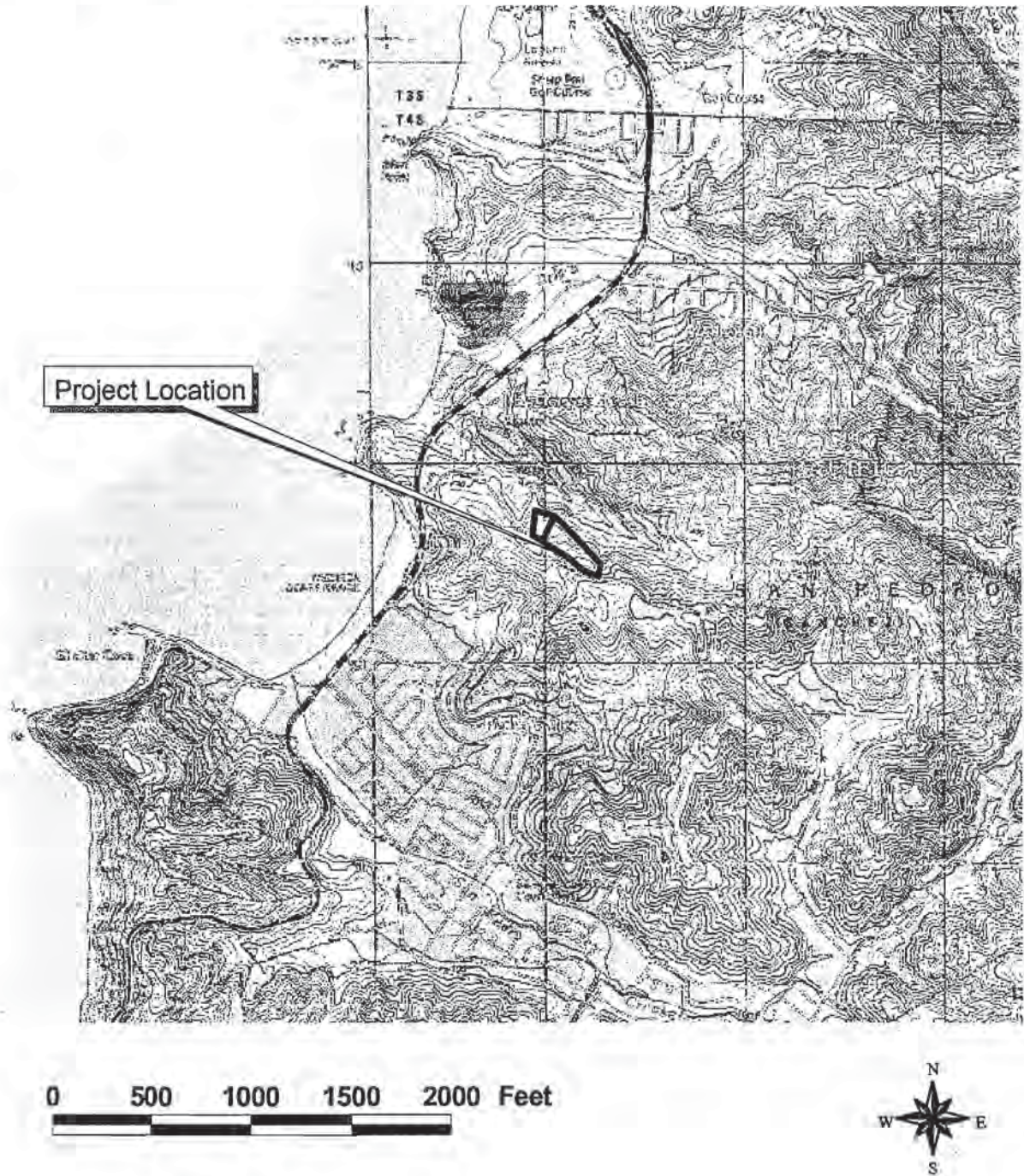


Figure 2. Aerial photo of Fassler Avenue Property, Pacifica, California.



-  Willow Scrub Habitat
-  Individual WoodRat Nest Locations
-  Dusky Footed Woodrat Nest Complex
-  Lee Property Parcels



APPENDIX D-2

**NATURAL HABITAT RESTORATION PROPOSAL
GO NATIVE
OCTOBER 2004**



GO NATIVE

- * Ecological Restoration
- * Wildland Weed Management
- * Native Plant Nursery
- * Erosion Control

LIC# 812740

NATURAL HABITAT RESTORATION PROPOSAL

for the

Fassler Avenue Property

Pacifica, California

APN 022-083-020 & 030

07 29

07 29



Prepared for:

Rick Lee

Pacifica Quarry Homes

1201 Danmann Avenue

Pacifica, CA 94944

Prepared by:

Go Native Nursery

PO Box 370103

Montara CA 94037

650 996 8996

October 6, 2004

PROPERTY DESCRIPTION

The property consists of 2 parcels totaling approximately 11.16 acres along the north side of Fassler Avenue in Pacifica, approximately 0.3 miles east of Highway 1. As described in the development application, the proposed housing and associated development will be clustered on the western 2.4 acre disturbed former quarry area, with the remainder to be maintained as natural open space and trails – refer to June 4, 2004 Development Application and associated materials including June 3, 2004 Biological Assessment Report from Thomas Reid Associates, and maps 1 and 2 of this document. This proposal is for the remaining 8.76 acre restoration area.

The restoration area (map 2) consists of a 1050 ft long ridge rising along the length the property in a easterly direction, parallel to Fassler Avenue. The remnants of the old alignment of the road runs along the top of this ridge.

The north side of the ridge, approximately 4.1 acres, slopes sharply down towards the unnamed drainage described in the Biological Assessment Report, and supports a very healthy, mature coastal scrub plant community, including a significant stand of toyon (*Heteromeles arbutifolia*) and a number of wood-rat nests. Along its length, several drainage channels from the old roadbed drain onto this slope.

The south side of the ridge, approximately 1.78 acres, is an area of cut and fill from the new alignment of Fassler Avenue, and consists of non-native and native grasses, weeds, and native scrub plants.

The top of the ridge, approximately 2.68 acres, is most significantly impacted by the remnant of the old road alignment that runs along its length. The area has large colonies of invasive non-native plants, most noticeably jubata (commonly called Pampas) grass (*Cortaderia jubata*), poison hemlock (*Conium maculatum*), wild teasel (*Dipsacus fullonum*) and fennel (*Foeniculum vulgare*). At the west end of this area, a significant drainage runs down towards the area of proposed development, supporting a large stand of willow riparian vegetation.

The remaining 0.2 acres constitute the old quarry face and bench cuts that lead down to the area of proposed development.

Site inspections were conducted during September and October of 2004. This report addresses 5 key issues:

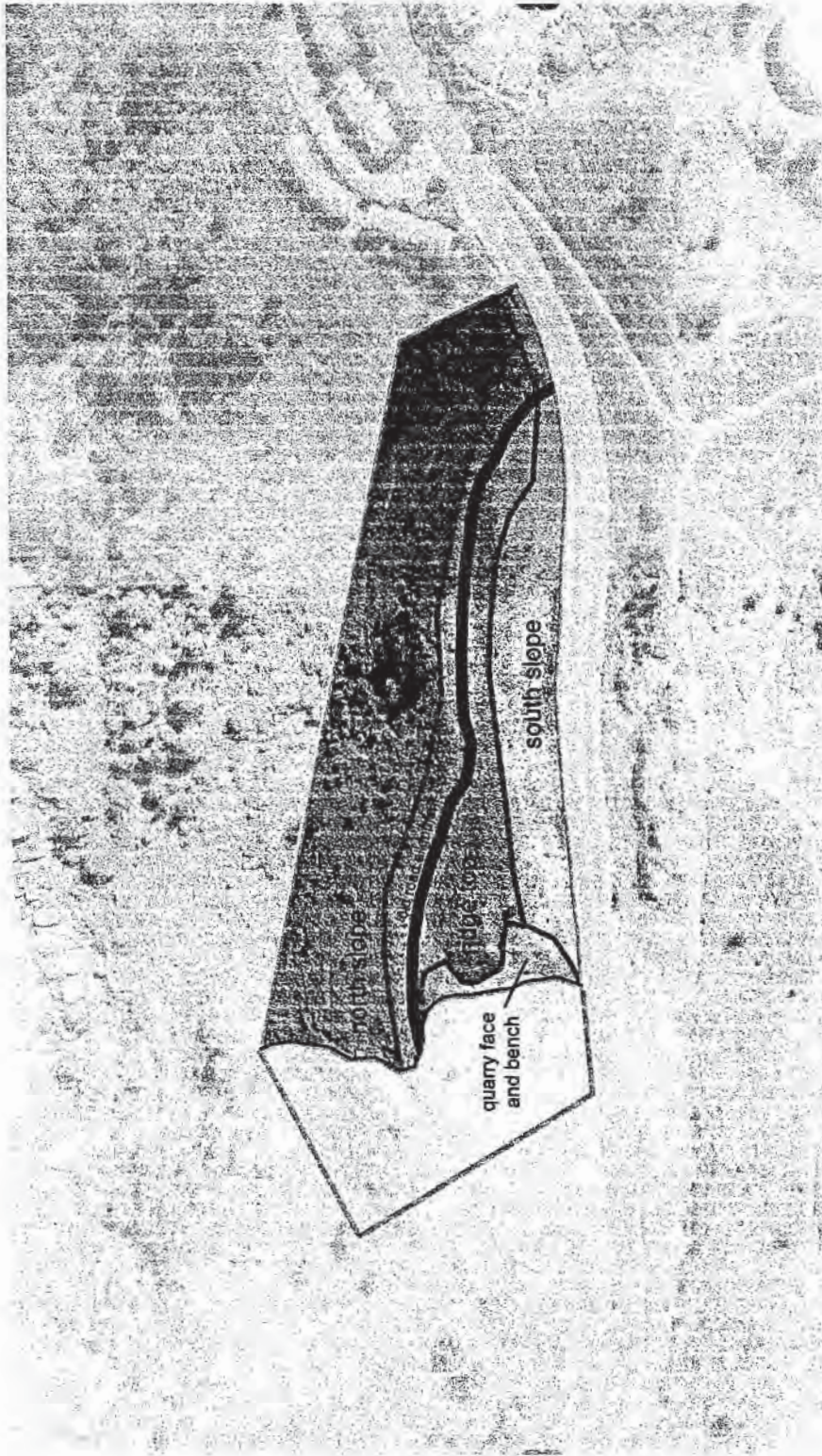
- Removal of Invasive Plant Species
- Reclamation of the Old Roadway Area
- Erosion Control and Soil Stabilization
- Restoration of Appropriate Coastal Native Habitat
- Interface of Preservation Areas with Proposed Development

Although listed as discrete areas of work, these areas are inter-related to the restoration of the area. Successful implementation of this plan requires that all recommended actions be followed and completed as described.



Fassler Avenue Restoration Project
Map 1 - Development and Restoration Areas

All boundaries approximate
not a survey document



All boundaries approximate
not a survey document

Fassler Avenue Restoration Project
Map 2 - Restoration Area Sections

1. REMOVAL OF INVASIVE PLANT SPECIES



pampas grass along old road alignment

Refer to Map 3. Heavy infestations of jubata grass (*Cortaderia jubata*), poison hemlock and fennel (*Foeniculum vulgare*) are concentrated along the old road way in the ridgetop section. Thick stands of wild teasel (*Dipsacus fullonum*) have formed on ridgetop area away from the road, and along the quarry face and bench. Stands of French broom (*Genista monspessulana*), bristly ox-tongue (*Picris echioides*), mustard (*Brassica rapa*), bull thistle (*Cirsium vulgare*), cotoneaster (*Cotoneaster sp.*) and cape ivy (*Senecio mikanioides*) are also prevalent throughout the ridgetop, along with other invasives listed in the Biological Assessment Report.

The north slope area, as noted, maintains a healthy native plant population, with spot infestations of jubata grass and French broom. The south slope area, aside from the non-native grasses, is relatively free of invasives aside from an occasional jubata grass or cotoneaster. Invasive removal in these areas would consist of hand removal of scattered individual plants using the techniques described below.

Jubata grass that is in the midst of or immediately adjacent to existing native vegetation should be removed by hand tools. Plants should be dug out with the root ball, and overturned into the area of exposed earth. Plants in large stands may be treated with a 2% solution of glyphosate with a non-ionic surfactant (RoundUp® or equivalent), which should be applied in late summer just before the plants begin developing their flower stalks. Any removed mature flower stalks of the plant should be bagged and transported to a proper landfill disposal site.



teasel infestation on quarry bench

Teasel stands should be chopped down and any seed heads bagged and transported to a proper disposal landfill. The young plants should be treated when they first sprout with a 1% solution of glyphosate with a non-ionic surfactant (RoundUp® or equivalent) in the early fall and again in the spring.

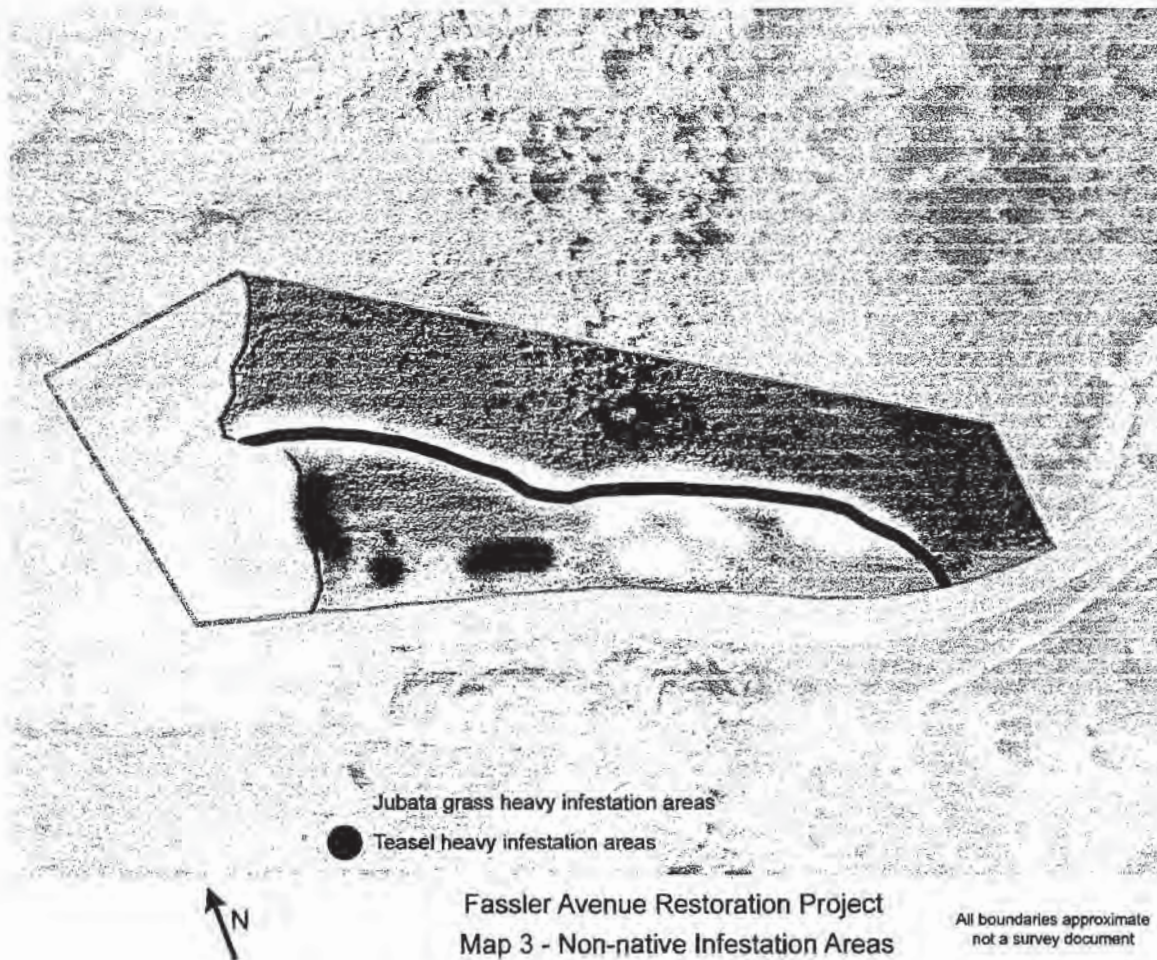
French broom and fennel should be removed by hand tools, being sure to completely remove the tap roots and bulbs. These plants should be removed by late spring before seeds begin to set. Poison hemlock, thistles, bristly ox-tongue, and mustard should be treated with a 2% solution of glyphosate with a non-ionic surfactant (RoundUp® or equivalent) in the spring before the plants begin to flower.

Infestations of Cape Ivy should be treated over a two year period with a mixture of foliar-sprayed 0.5% glyphosate (RoundUp® or equivalent) and 0.5% triclopyr (Garlon 4® or equivalent) + 0.1% silicone surfactant (as Silwit® or equivalent) in water, applied as a foliar spray at 6.4 liters/ha. Applications must be done in late spring when the plant is photosynthesizing actively but is past flowering. Any removed pieces of the plant should be bagged and transported to a proper landfill disposal site.

Cotoneaster plants should be cut down to the ground and exposed stump wood immediately painted with a full strength solution of glyphosate with a non-ionic surfactant (RoundUp® or equivalent) in the early fall after the plant has formed it's seeds. Any removed pieces of the plant with mature seed should be bagged and transported to a proper landfill disposal site.

All areas should be monitored for new plants and re-sprouts, and further removal as needed should be continued for a period of at least three years.

All areas of exposed earth should be re-seeded with an appropriate seed mix (see part 4) and covered with either straw or erosion control material (see part 3)



2. RECLAMATION OF THE OLD ROADWAY AREA

After removal of the invasive plant species (Part 1) is accomplished, the old roadway area should be surveyed to determine its area and condition. From site inspections done for this report, it was estimated that the roadway runs for 1200 linear feet through the restoration area, with a width of 25 feet, resulting in at least 30,000 sq ft of old asphalt to be removed. **Because of the impervious surface of the old asphalt, it is not recommended that any existing section of this roadway pavement be used for planned trails.**



native and non-native vegetation growing on and through the old roadbed

The existing roadbed is cracked and broken throughout, allowing both invasive and native vegetation to grow through the pavement surface. In areas toward the east end, sediment flow has deposited a thin layer of soil on the surface, enough to allow some significant vegetation to grow.

Removal of the invasive species should clear enough of the roadway to assess the health and condition of native vegetation growing through the cracked asphalt. An experienced native plant specialist should make the determination whether specific individual specimens could be saved by careful removal of the old asphalt surrounding them.

Removal of the roadbed should be accomplished by appropriate machinery and transported to the west end of the parcel for staging, to either be recycled for construction fill or removed to an appropriate disposal landfill. Soil beneath the roadbed layer should be scrapped off an additional 6 inches to remove any oil contaminated soils.

Top soil from any excavation of natural, non-infested areas on the site should be stockpiled and used to refill the excavation area of the old roadbed. An experienced expert should make the determination that top soil is free of invasive plants and seeds before use in this application. Commercial topsoil, free of any weed seed, should be used for the balance of the fill for the road excavation. **None of the recycled diggings from the roadbed excavation should be used to refill the excavation, except as base for planned trails that would remain free of vegetation.**

Excavation work should be scheduled for no later than late summer, so that excavated areas can be covered and stabilized for the winter season, as described in Part 3.



old roadbed showing through jubata grass and native vegetation

3. EROSION CONTROL AND SOIL STABILIZATION

Cleared and excavated areas

After removal of the invasive species (Part 1) and excavation of the old roadbed (Part 2), it is expected there will be approximately 45,000 sq ft of exposed earth. If the soil is to be exposed for more than 1 week during the dry season, it should be temporarily covered with rice straw or light-weight straw mat erosion control material to prevent any infestation from non-native seeds.

If the soil is to remain exposed during the winter rain season (Oct 15 – April 15), the areas should be seeded with Regreen© (triticum x agropyron – a fast growing, sterile wheat grass hybrid) and covered with medium-heavy-weight erosion control (EC) material.

Other areas of concern

A number of drainage channels had been established to drain water runoff from the old roadbed onto the north slope. These channels should be cleared to the point of native vegetation, seeded as above, and covered with EC material. Drainage from the excavated and cleared roadway area should be directed towards these channels, and appropriate runoff control and absorption devices (retention basins, drainfields, baffles from straw wattles or bales) installed to prevent any erosion and sedimentation to the existing undisturbed north slope area.

The bank of the quarry face and bench area should be re-graded and filled to cut back to at least a 1.5:1 slope, 2:1 preferred. Base fill soil should be compacted to stabilized hillside standards, and 8" of semi-compacted topsoil should be added. The finished new grade should be then treated as the **cleared and excavated areas** described above: If the soil is to be exposed for more than 1 week during the dry season, it should be temporarily covered with rice straw or light-weight straw mat EC material to prevent any infestation from non-native seeds. If the soil is to remain exposed during the winter rain season (Oct 15 – April 15), the areas should be seeded with Regreen© and covered with medium-heavy-weight EC material.

The central drainage that comes off the slope towards the development area should be protected in a manner similar to the road drainage channels – any newly cleared or excavated area that would flow runoff into this drainage should be seeded as above, and covered with EC material. Appropriate runoff control and absorption devices (retention basins, drainfields, baffles from straw wattles or bales) should be installed to prevent any erosion and sedimentation to the existing undisturbed areas in and adjacent to this drainage.



ridge drainage system

4. RESTORATION OF APPROPRIATE COASTAL NATIVE HABITAT

As noted in the Biological Resources Report, the vegetation community on the property is primarily Coastal Scrub, with components of Perennial Grassland (Coastal Prairie) and Willow Scrub. The bulk of the restoration effort will be along the area of the excavated roadway, which is almost all coastal scrub, but significant work will be needed in the grassland areas. No work is contemplated for the willow scrub area unless the development plan changes and adversely affects it. The following applies to all restoration work on the site:

- A qualified native plant specialist should conduct surveys to delineate the different plant communities and determine the percentages of the different species within the communities. This data and the plant list in the Biological Assessment Report will be used to determine an appropriate mix of rooted nursery stock plants to install and supplementary seed mixes to be prepared. The re-graded slope of the quarry face should be restored as coastal scrub.
- Seed collection should be accomplished the summer before the work starts. Seed should be site-specific: collected on-site or within a 5 mile radius of the project site.
- Plants used at the site should be site-specific: grown from material collected on-site or within a 5 mile radius of the project site.
- All remaining debris and trash should be removed from the site.
- Appropriate irrigation (drip or sprinkler) will be supplied for a period of time encompassing the first two rainy seasons after the restoration or however longer needed to establish the new growth.
- All areas will be monitored and maintained for 5 years after initial planting. Maintenance will include weeding of non-native species, replacement of failed plantings, further seed collection as needed, and continued irrigation as needed.

The following procedures detail the restoration procedure for each of the communities.

Coastal Scrub

- Cleared and prepared areas should be lightly tilled and seeded with the appropriate seed mix.
- Planting should be of 1 gallon specimens or equivalent, at a ratio of species as prescribed by the required surveys. Planting density should be no less than 1 plant every 1 foot for the accumulative planting of shrubs, woody species, grasses, forbs and annuals.



coastal scrub community on north slope of property

- All planted and seeded areas will be mulched with rice straw to a loft thickness of no less than 4 inches.
- Appropriate irrigation (drip or sprinkler) will be supplied for a period of time encompassing the first two rainy seasons after the restoration or however longer needed to establish the new growth.

Perennial Grassland (Coastal Prairie)



grassland area on ridetop

- Cleared and prepared areas should be lightly tilled and seeded with the appropriate seed mix.
- In the fall of the work season, all other areas designated grassland should be lightly raked and supplemented with an appropriate mix of native seeds.
- Planting should be of 1 gallon specimens or equivalent, at a ratio of species as prescribed by the required surveys. Planting density should be no less than 1 plant every 1 foot for the accumulative planting of grasses, shrubs, woody species, forbs and annuals.

- All planted and seeded areas will be mulched with rice straw to a loft thickness of no less than 4 inches.
- Appropriate irrigation (drip or sprinkler) will be supplied for a period of time encompassing the first two rainy seasons after the restoration or however longer needed to establish the new growth.

Assuming from the scope of work described in Parts 1 –3, there will be approximately 50-60,000 sq ft of exposed area to be restored. For purposes of rough estimation, this will require 50-60,00 plants at a species ratio to be determined, and approximately 5 –6 lbs of collected seeds.

5. Interface of Preservation Areas with Proposed Development

Landscaping for the development should be (as described in the Development Permit Application) based on native plant species. Care should be taken that no introduced, non-native garden or landscaping plants be allowed to establish near or in the restoration areas. Garden plants, yard plants, and landscaping material should be restricted to those species and varieties that do not pose any threat to the recovering natural areas. This does not limit the selection to only native plants, but rather restricts any aggressively spreading cultivated species from being introduced onto the site. This restriction should be made a term of occupancy for the development.

APPENDIX D-3

**TREE DESIGN
CHRISTOPHER CAMPBELL
FEBRUARY 2006**

Christopher Campbell

Tree Design

RECEIVED

45 Encline Court
San Francisco, CA 94127

FEB 16 2006



Certified Arborist #WE-6488A
California Contractors License #707545
Member of Bay Area Arborist Cooperative, Inc.

WEST PACIFIC

Phone/Fax: (415) 239-6100

Cell. Phone: (415) 902-8826

E-Mail: tree_design@hotmail.com

Client: The Prospects
P.O. Box 260
Pacifica, Ca 94044

C/O: Rick Lee

RE: Two (2) Cupressus macrocarpa (Monterey Cypress)

Location: 801 Fassler Avenue Pacifica, Ca 94044

Assignment

1. Report intent of client for scope of project regarding trees.
2. Report facts regarding site and trees in question.

Intent of Client:

The intent of my client, and their project as I understand it, is to develop a two acre portion of an eleven acre site. By using green building methods, such as solar heating, hot water and electricity, homes can be created that produce more energy than they use. Low impact development uses site-design principles, latest technology and materials to best manage storm water. This could lower the demand on the cities storm system.

Site and Existing trees:

The location of the two Monterey Cypress trees can be viewed on the aerial site map of this report on page 4. The two trees have grown very close together and essentially form one canopy. The approximate height is 30'- 38' tall with a 30'+ spread. If looking at the trees while facing west, the tree on the right has a trunk circumference of 67" inches at 24" inches off the ground. The tree to the left measured in the same way has a circumference between 53" inches and 56" inches. The trees appear to be healthy other than minor storm damage and lack of structural pruning.

Christopher Campbell

Tree Design



The site was reported to be an old rock quarry that was mined, heavily graded and back-filled. The client engaged a biologist to identify existing plant and animal life on site, both native and non-native. Responsively, they intend to remove the non-native species of plants (Pampas grass, etc.) and re-introduce native vegetation to restore the natural habitat as recommended by biologist. The green shaded area of the site map on page 4 represents the area the client is proposing to plant at least 200 new trees. The new trees would be a combination of Coastal redwoods, Douglas Firs, Incense Cedars and Monterey Cypress trees. The new trees would act as a buffer between the property and Fassler Avenue. The trees would also help with erosion and help retain the slope in this area that has been heavily graded in the past. The new trees would also be an aesthetic improvement to passer bys and an investment in the future landscape.

Keeping the design elements in mind, the two Cypress trees need to be removed because they are located where the development makes the most sense. By locating the homes on the lower portion of the property they can leave the upper ridge portion of the property undeveloped. My clients showed interest in exploring tree transplanting so I recommended contacting Tree Movers to consult if the trees are movable. Tree Movers states these trees would not be good candidates for transplanting.

This project makes me hopeful that more bay area cities will begin seeing the value in green building design. Not just in the construction of the homes we build, but in having the forethought to do major plantings of trees for the generations to come. Because of this type of planning in the late in the 1800's and early 1900's, we can now enjoy places like San Francisco's Golden Gate Park, The Presidio and many other neighborhoods and open spaces around the Bay Area. Let us leave new forests and green areas to be managed for future generations.

Christopher Campbell
Tree Design



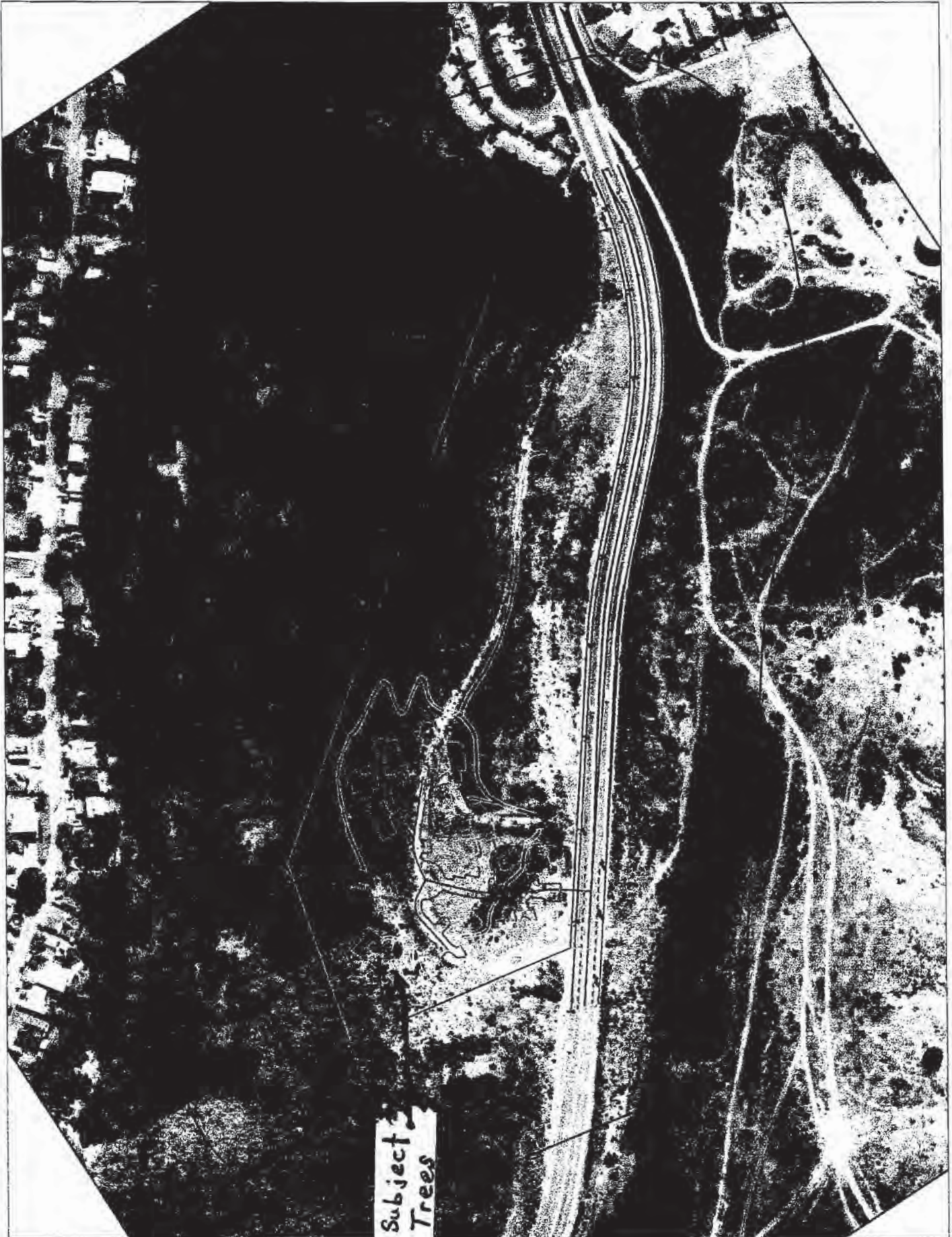
Two (2) Monterey cypress trees forming one canopy at 801 Fassler Avenue in Pacifica.

AERIAL VIEW OF SITE

PACIFICA QUARRY HOMES
By LegacyQuest, Inc.

DATE:
7-22-2004

NO. SCALE



Subject
Trees

APPENDIX D-4

**BIOTIC ASSESSMENT REPORT
TRA ENVIRONMENTAL SCIENCES
JULY 2014**

SEP 03 2014

City of Pacifica

**Biotic Assessment Report
for
Fassler Ave. Property
APN # 022-083-020 and 022-083-030
Pacifica, California**

**For Compliance with
San Mateo County
Local Coastal Program**

Prepared for:

1106 Nevada LLC
c/o Jesse Matta
1433 Floribunda Avenue, Unit #3
Burlingame, CA 94010

Prepared by:

TRA Environmental Sciences
545 Middlefield Road, Suite 200
Menlo Park, CA 94025
(650) 327-0429

July 2014

1. Project location (include USGS Township, Range and Section)

The property is approximately 11 acres in size, and is located on Fassler Avenue in Pacifica, San Mateo County, California (Figure 1). The site is located at Lat. 37.622349° 37:37:20.456N, Long.-122.485175 122:29:6.630W, approximately 0.5 mile east of the Pacific Ocean. The site is outside of Township and Range designation numbers.

2. Assessor's Parcel Number and any applicable Planning Permit numbers

APN: 022-083-020 and 022-083-030

3. Owner/Applicant: 1106 Nevada LCC

Address: 1433 Floribunda Avenue, Unit #3, Burlingame, CA 94010

Phone: (206) 931-4169

4. Principal Investigators (attach a qualification summary to the report).

This report was prepared by Autumn Meisel, Senior Biologist, TRA Environmental Sciences, Inc. (TRA). See Appendix A for qualifications summary.

5. Report summary (briefly state the results of the report, habitat type, rare, endangered, or unique species present, anticipated impacts, and proposed mitigation measures.)

This report is consistent with the format required by the County of San Mateo for biological reports in the coastal zone (Local Coastal Program, San Mateo County, 2013). The report documents the existing biological resources on the Fassler Avenue property (APN 022-083-020 and APN 022-083-030) in Pacifica, California. The report also analyzes the impact on biological resources of constructing 24 townhome units on the site, and includes recommended mitigation measures to offset potentially adverse impacts.

The 11-acre site was surveyed for biological resources on June 17, 2014 by TRA Senior Biologist Autumn Meisel. The property is primarily composed of a former quarry site dating back to 1946. The quarry ceased operation sometime in the 1950's, when vegetation started to grow back over the disturbed pad and quarry paved roads. The vegetation communities present on parts of the site and in the surrounding areas are coastal scrub, willow scrub, non-native grassland and perennial grassland. The majority of the site was disturbed during the previous quarry development and by the old alignment of Fassler Avenue. In more recent years the site has been used for illegal dumping of residential yard clippings and debris, and this has resulted in an invasion of exotic and horticultural plants into the site.

The proposed location of the project is within the disturbed footprint of the previous quarry operations, in areas that are currently vegetated with coastal scrub and grassland. The project will use the existing paved road at the site. The proposed footprint of development will not exceed 55,000 square feet (12 percent) of the 11-acre property.

There are no water resources on site. An unnamed, perennial drainage is located downhill 400 feet to the north. No state or federally-listed threatened or endangered species were found to occur on the site. The site does support a colony of San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), which is a California species of special concern. There is a small potential that California red-legged frog (*Rana draytonii*), a federally threatened species, could move through the site if present in the drainage. Although significant impact is not expected, mitigation is recommended to prevent take of this species.

The following mitigation measures are recommended for the project:

Water Quality Protection. Best Management Practices (BMPs) described in San Mateo County's Watershed Protection and Maintenance Standards will be incorporated into the project design (San Mateo County 2004). These may include BMPs for containment, equipment fueling, and timing of work, among others. Appropriate storm water pollution control measures for subsequent residential use will be designed and implemented to avoid increasing the rate or volume of storm water leaving the site. If more than one acre of ground will be disturbed by grading, the project is required by the Regional Water Quality Control Board to have a Stormwater Pollution Prevention Plan (SWPPP).

Invasive Plant Control. All construction vehicles entering the site that may have entered weed-infested areas (such as at other construction sites) prior to arriving on site shall first wash the tires and undercarriage of the vehicles before entering the project site. If fill is needed, native soil will be used. All rock, aggregate, fiber rolls, or other construction material, if needed, will be certified weed-free. Native and non-invasive species shall be used in landscaping in order to prevent negative impacts on nearby native habitats. No species included in the California Invasive Plant Inventory shall be used for landscaping (CalIPPC 2006).

Heritage Trees. Removal of a Heritage Tree as described in County of San Mateo Planning and Building Division Ordinance 2427 will require a permit.

California Red-legged Frog. Construction activities shall be performed in the dry season, from May 15 to Oct 15, in order to avoid the wet season when CRF movement generally occurs. At the time when vegetation is initially removed (and before grading begins), a qualified biologist shall perform a preconstruction survey for CRF within the project site. The survey shall take place in the morning prior to the start of vegetation removal. If any CRF are found, construction shall be delayed until the species disperses naturally, and the biologist shall immediately notify the US Fish and Wildlife Service. Subsequent recommendations made by the US Fish and Wildlife Service shall be followed. The biologist shall not handle or otherwise harass the animal.

Construction workers shall be informed of the potential presence of CRF, that these species are to be avoided, and that the foreman must be notified if they are seen. During construction, all holes and trenches on the construction site shall be covered at night to prevent any amphibians or reptiles from becoming trapped.

San Francisco Dusky-footed Woodrat. Not more than 30 days before initial ground disturbance on the project site, a qualified biologist shall conduct a survey of the project site for

any existing SFDW houses. If any SFDW houses are found within the project site, they shall be identified with flags or marking tape and protected from disturbance with a minimum buffer zone of five feet buffer. If disturbance cannot be avoided, the following measure shall be implemented by a biologist approved for this project by the CDFW:

If SFDW houses are within the building footprint, live-trapping will be conducted at each house. All traps will be checked the following morning and closed for the day. Trapping will be conducted at each house for two consecutive nights. To reduce stress, captured SFDW will not be handled or marked although a visual assessment of health and age will be recorded. Each captured SFDW will be kept in the shaded trap while its house is dismantled and an artificial house installed according to the methods below. The SFDW will then be released at the new house. Locations of the old and new houses will be recorded using a hand-held GPS receiver.

If no SFDW are captured at a given house after two nights, it was assumed that the house is not currently occupied. SFDW houses can then be slowly dismantled by hand to ground level.

Potential sites for artificial shelters will be identified during pre-activity surveys. Locations will be selected based on proximity to the capture site, the distribution of other SFDW houses in the area and habitat type. The best available microhabitat will be chosen, ideally in a location that is in habitat similar to the original house.

Salvaged nest material from the original house will be placed inside the artificial shelter chamber. Whenever present, cached food from the original house will be placed inside the chamber. Supplemental food (rolled oats, wild bird seed and peanut butter) will also be provided. All or a portion of the woody debris from the original house will be placed over and around the artificial shelter. Existing vegetation or woody debris will be added to further stabilize the structure. A single entrance will be created leading into the chamber and the live-trap will then be placed against the entrance to the artificial shelter. After the individual enters the chamber, the entrance will be loosely but completely plugged with dirt and leaf duff to encourage the individual to stay.

We propose that two occupancy surveys for stick nests that were moved take place, the first within 30-60 days after work has been completed and the second at one year. Two reports will be prepared, one after the first occupancy survey, and one after one year. The first report will document the methods and results of both the SFDW trapping and stick house moving activities and the first occupancy survey. The second will report the results of the final occupancy survey. The reports will be delivered to both the client and CDFW.

Nesting Birds. To avoid impacts to nesting birds, vegetation trimming or removal, including site grading, shall take place outside of the breeding season (February 1 to August 15). However, if these activities will occur during the breeding season, a qualified biologist shall conduct a survey for nesting birds within five days prior to the proposed start of construction.

An active nest is defined as a nest having eggs or chicks present, or a nest that adult birds have staked a territory and are displaying, constructing a nest, or are repairing an old nest. If active nests are not present, construction can take place as scheduled. If more than 5 days elapse

between the initial nest search and the start of vegetation removal, it is possible for new birds to begin building a nest and another nest survey shall be conducted.

If an active nest(s) is detected, work will be delayed and a buffer will be established around the nest. CDFW usually accepts a 250-foot radius buffer around passerine (song bird) and small raptor nests, and up to a 1,000-foot radius for large raptors. A qualified biologist shall monitor the behavior of the birds (adults and young, when present) at the nest site to ensure that they are not disturbed by project-related activities. Nest monitoring shall continue during project-related construction work until the young have fully fledged, are no longer being fed by the parents and have left the nest site. At that time the nest buffer may be removed and work may commence.

6. Project and property description (describe the proposed project and property, including the size, topographic characteristics, water resources, soil types, and land uses on the property and in the vicinity up to a radius of one-quarter mile. Include a map of the area from the USGS 7.5-minute quadrangle series.)

A biotic assessment for the County's LCP program was prepared by TRA for this project in 2004 when the property was under different ownership. The project was never implemented at that time. The property is now again considered for development under a new owner but with a similar development plan as was proposed in 2004. This biotic assessment provides an update of that prepared in 2004.

The property is 11 acres in size and is currently undeveloped and devoid of any structures (Figure 2). The property is a gradually sloped terrace with north and west facing slopes. The elevations range from 230 feet above sea level in the northwest corner to 440 feet above sea level near the southeast corner. The property was quarried previously and has a history of disturbance to vegetation and soils. An LCP biotic assessment report was prepared in 2004, and this report provides an update of that information. A plant inventory for the site was created at that time as the 2004 survey took place in the spring. The 2004 inventory is used for this report as it is still accurate and was prepared during the bloom time of most species.

The project includes construction of 24 townhome units ranging from 1,500 to 2,100 square feet in size. The total project impact of roads and structures will not exceed 55,000 square feet, or 12 percent of the 11- acre site. A project plan overview is provided in Figure 3.

The property is bounded by Fassler Avenue to the south and undeveloped land to the north. The northern property boundary is about 400 feet upslope of an unnamed blue-line drainage that flows through Rockaway Beach and into the Pacific Ocean south of the mouth of Calera Creek. It is located east of Highway 1, with the western boundary of the property 0.5 mile east of the coast. An asphalt road that is significantly deteriorated runs east-west through the property. A newly proposed emergency vehicle access (EVA) road will be located roughly along the alignment of this existing road (approximately 30,000 sq. ft.). Photos of the property are provided in Appendix B.

There are no water resources on the property. In addition to the unnamed drainage to the north of the project site, water resources in the project vicinity include Calera Creek, about 0.8 mile to the

north, and San Pedro Creek, about 1.2 miles to the south. Urban development separates the site from both Calera and San Pedro Creeks. The project site is not subject to flooding.

As listed in the San Mateo County Soil Survey (USDA 2014), soils on the property include Orthents, cut and fill, on 0 to 15 percent slopes, and Orthents, cut and fill-Urban land complex, 5 to 75 percent slopes. These soils formed in residuum derived from sandstone, and are shallow to very deep, well drained soils on uplands. The unit consists of soils that have been cut and filled for urban development; in this case that refers to the quarry. They vary greatly in thickness and in the texture of the surface layer. The soil material in the steeper areas generally has been cut or removed for the construction of building foundations and roadways, and bedrock commonly is exposed. The areas of fill generally have slopes of less than 30 percent.

7. Methodology (briefly describe the survey methods used in preparing the report and show on an appropriately scaled map the location of sample points, transects, and any additional areas surveyed in the vicinity of the project.)

The site was surveyed for biological resources by TRA Senior Biologist Autumn Meisel on June 17, 2014. Prior to the site visit, the California Natural Diversity Database (2014) was consulted for records of special-status species occurrences in the project area. The property was visually inspected, and areas where property modifications are proposed were evaluated and photographed.

8. Results (at length, describe the botanical and zoological resources of the project site. To the extent possible, describe the food chain of the habitat and how the proposed project will impact those resources. Use both common and scientific names and please indicate references used.)

The property is dominated by coastal scrub habitat with occasional Monterey pine (*Pinus radiata*) and cypress (*Cupressus macrocarpa*) trees. Other habitat types that occur on site in small patches include non-native grassland, perennial grassland, and willow scrub. There is no riparian habitat on site. Coastal scrub dominates the lower slopes of the site, between the area proposed for development and the drainage to the north. Perennial grassland occurs on the crest of the site, above Fassler Avenue. Two patches of willow scrub vegetation occur on site (Figure 2). A list of plant species observed on site is provided in Table 1. The scientific names used for plant species for this report are based on The Jepson Manual (Baldwin et al 2012).

Table 1. Plant Species Found on the Fassler Avenue Property

Common Name	Scientific Name
<i>Native Species</i>	
Indian Thistle	<i>Cirsium brevistylum</i>
Monterey Pine	<i>Pinus radiata</i>
California Aster	<i>Aster chilensis</i>
California Sagebrush	<i>Artemisia californica</i>

Common Name	Scientific Name
Coyote brush	<i>Baccharis pilularis</i>
Common yarrow	<i>Achillea millefolium</i>
Poison oak	<i>Toxicodendron diversilobum</i>
Monterey Cypress	<i>Cupressus macrocarpa</i>
California coffeeberry	<i>Rhamnus californica</i>
Indian paintbrush	<i>Castilleja affinis</i>
Bedstraw	<i>Galium spp.</i>
California bee plant	<i>Scrophularia californica ssp.</i>
Twinberry	<i>Lonicera involucrata</i>
Blue-eyed grass	<i>Sisyrinchium bellum</i>
Mexican rush	<i>Juncus mexicanus</i>
Cow parsnip	<i>Heracleum lanatum</i>
Snakeroot	<i>Sanicula bipinnatifida</i>
Thimbleberry	<i>Rubus parviflorus</i>
Coast wild cucumber	<i>Marah fabaceus</i>
Bracken-fern	<i>Pteridium aquilinum var.</i>
Sticky monkeyflower	<i>Mimulus aurantiacus</i>
Beach strawberry	<i>Fragaria chiloensis</i>
California blackberry	<i>Rubus ursinus</i>
California wax-myrtle	<i>Myrica californica</i>
Toyon	<i>Heteromeles arbutifolia</i>
Clover	<i>Trifolium spp.</i>
Fescue	<i>Vulpia spp.</i>
Coast buckwheat	<i>Eriogonum latifolium</i>
Pacific sanicle	<i>Sanicula crassicaulis</i>
Oceanspray	<i>Holodiscus discolor</i>
Oniongrass	<i>Melica iperfecta</i>
Sitka willow	<i>Salix sitchensis</i>
Common cinquefoil	<i>Potentilla glandulosa spp.</i>
English plantain	<i>Plantago erecta</i>
Cudweed	<i>Gnaphalium spp.</i>
Lizard tail	<i>Eriophyllum staechadifolium</i>
Purple needle grass	<i>Nasella pulchra</i>

Common Name	Scientific Name
California fuschia	<i>Epilobium canum ssp. canum</i>
Hairy cat's ear (succulent lupine)	<i>Lupinus succulentus</i>
Pearly everlasting	<i>Anaphalis margaritacea</i>
Mugwort	<i>Artemisia douglasiana</i>
Sun cups	<i>Camissonia ovata</i>
<i>Non-native Species</i>	
French broom	<i>Genista monspessulana</i>
Wild teasel	<i>Dipsacus fullonum</i>
Bristly Ox-tongue	<i>Picris echioides</i>
Fennel	<i>Foeniculum vulgare</i>
Ripgut brome	<i>Bromus diandrus</i>
Wild oat	<i>Avena fatua</i>
Yellow sorrel	<i>Oxalis corniculata</i>
Sow thistle	<i>Sonchus asper</i>
Aloe	<i>Aloe saponaria striata</i>
Common mustard	<i>Brassica rapa</i>
Bull thistle	<i>Cirsium vulgare</i>
Scarlet pimpernel	<i>Anagallis arvensis</i>
Pampas grass	<i>Cortaderia selloana</i>
Dove's-foot geranium	<i>Geranium molle</i>
Poison hemlock	<i>Conium maculatum</i>
Soft chess	<i>Bromus hordeaceus</i>
Cut-leaf plantain	<i>Plantago coronopus</i>
Red valerian	<i>Centranthus ruber</i>
Fumitory	<i>Fumaria officinalis</i>
Small-flowered flax	<i>Linum bienne</i>
Garden burnet	<i>Sanguisorba minor</i>
Red-stemmed filaree	<i>Erodium cicutarium</i>
Common wild geranium	<i>Geranium dissectum</i>
Cotoneaster	<i>Cotoneaster sp.</i>
Periwinkle	<i>Vinca major</i>
German Ivy (cape ivy)	<i>Senecio mikanioides</i>
Prickly lettuce	<i>Lactuca serriola</i>

Various wildlife species are expected to occur in the project area, and habitats on the site provide foraging resources for wildlife. Common bird species that may forage and nest on site include California towhee (*Pipilo crissalis*), bushtit (*Psaltriparus minimus*), Anna's hummingbird (*Calypte anna*), American goldfinch (*Carduelis tristis*), California quail (*Callipepla californica*), song sparrow (*Melospiza melodia*) and white-crowned sparrow (*Zonotrichia leucophrys*), among others. The site may also be used for foraging by birds that are common in disturbed or cultivated areas such as the house sparrow (*Passer domesticus*), California gull (*Larus californicus*) and American crow (*Corvus brachyrhynchos*). Raptors that likely prey on small mammals on site include the white-tailed kite (*Elanus caeruleus*), kestrel (*Falco tinnunculus*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and northern harrier (*Circus cyaneus*).

Common reptiles and mammals that may be found on site include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), brush rabbit (*Sylvilagus bachmani*), and raccoon (*Procyon lotor*), among others. Small mammals take cover in the low vegetation around the property edges and in the coastal scrub area, and use the open fields and grassland for foraging. Coyote (*Canis latrans*) probably forages on the property, as well as other large mammals such as Black-tailed deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*) and in rare instances, mountain lion (*Felis concolor*). A colony of San Francisco dusky-footed woodrat houses is located on the property downslope and southwest of the larger willow scrub patch (Figure 2). The scientific names used for animal species are based on Sibley (2003), Reid (2006), McGinnis (2006), and Stebbins (2003).

A variety of amphibians, reptiles, birds and mammals could potentially use the unnamed drainage on the adjacent property to the north of the site as a water source and for forage. These animals may disperse into and through the Fassler Avenue property when moving between habitats.

The proposed project would impact approximately 1.3 acres of the 11-acre property, resulting in the development of approximately 12 percent of the two parcels. Wildlife movement will not be adversely restricted by the project because most of the site will remain open, and connections will be maintained through the site with adjoining open land. Considering the size of the project and the availability of open space habitats surrounding the property, the impact to foraging, cover and nesting habitat, and to wildlife movement will not be significant.

9. List all direct and indirect impacts of the proposed project on the habitat. Include within the discussion an evaluation of the perceived cumulative biological impacts associated with the project.

Potential Impacts of the Project on Habitat

- 1) Sediment in storm water runoff during construction could directly affect the unnamed drainage north of the property unless appropriate erosion control measures are used.

- 2) The project could result in an increased rate or volume of storm water runoff, resulting in storm water pollution entering and adversely affecting the unnamed drainage north of the property unless appropriate storm water controls are used.
- 3) The project could have a negative impact on adjacent native habitats if invasive non-native plant species are used in the landscaping plan. In contrast, the project could have a beneficial impact on the native habitat if native plants suitable to the site and region are used and exotic species are removed from the property.
- 4) No other development projects in the immediate vicinity of the project were identified during preparation of this report. There are no other proposals for the subject property or adjacent properties that would result in cumulative impacts to biological resources.
- 5) One Monterey cypress tree will be impacted by the project, and because of its circumference, this tree qualifies as a heritage tree under local ordinance. Because of their value to the City of Pacifica, heritage trees (any tree, except Eucalyptus, with a circumference of 50 inches or greater), may not be removed, destroyed, or damaged beyond repair without a Heritage Tree Permit. Thus, a permit from the City of Pacifica will be required to remove this tree. If additional heritage trees will be impacted by the project, the permit would need to cover these as well.

10. List and discuss all probable impacts to threatened, rare, endangered or unique species either listed or proposed by the Local Coastal Program, a Federal or State agency, or the California Native Plant Society, both on-site and within an area of one-quarter mile radius from the project location.

A list of special-status species with potential to occur in the project area was developed using the CNDDDB database (2014), California Native Plant Society plant inventory (2014) and the preparer's knowledge of special-status species and their habitat requirements (Table 2). Species whose habitat requirements are clearly not met on site (such as fish) were eliminated from consideration and not included in Table 2. Based on the habitat observed on the property and the results of both the 2014 survey and the 2004 survey, it was determined that no rare plants occur on site. Two special-status animal species were determined to have potential to occur on site, including California red-legged frog and San Francisco dusky-footed woodrat.

Table 2. Special Status Animal Species that Were Considered for Their Potential to Occur Onsite

Species Name	Status	Habitat Present or Absent	Potential to Occur Onsite	Rationale
Animals				
Myrtle's silverspot (<i>Speyeria zerene myrtleae</i>)	FE	A	No	No suitable habitat (sand dune and coastal prairie) present.
Mission blue butterfly (<i>Icarioides missionensis</i>)	FE	A	No	No suitable habitat/host plants present.

Species Name	Status	Habitat Present or Absent	Potential to Occur Onsite	Rationale
Bruno elfin butterfly (<i>Incisalia mossii bayensis</i>)	FE	A	No	No suitable habitat/host plants present.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT, SSC	A	No	No suitable habitat (beach or sand dune) present.
Saltmarsh common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	SSC	A	No	No suitable habitat (saltmarsh) present.
Alameda song sparrow (<i>Melospiza melodia pusillula</i>)	SSC	A	No	No suitable habitat (saltmarsh) present.
California clapper rail (<i>Rallus longirostris obsoletus</i>)	FE, ST	A	No	No suitable habitat (tidal mudflat) present.
California red-legged frog (<i>Ranadraytonii</i>)	FT, SSC	P	Low	No suitable breeding or foraging habitat on site. Very small likelihood that species could move through the site.
Western pond turtle (<i>Actinemys marmorata</i>)	SSC	A	No	No ponds or other suitable habitat present.
San Francisco garter snake (<i>Thamnophis sirtalis tetrataenia</i>)	FE, SE, SFP	A	No	No suitable habitat (freshwater marshes, ponds or slow streams and adjacent upland habitat) present on site. Upland habitat steep, dry, and at too great a distance from suitable aquatic features to provide preferred upland habitat for this species.
Pallid bat (<i>Antrozous pallidus</i>)	SSC	A	No	No suitable roosting habitat present.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	SSC	P	Yes	Woodrats houses present on site.
Plants				
Franciscan onion (<i>Allium peninsulare</i> var. <i>franciscanum</i>)	CNPS 1B.2	A	No	No suitable habitat (serpentine) present.
Montara manzanita (<i>Arctostaphylos montaraensis</i>)	CNPS 1B.2	P	No	No manzanitas observed on site.
Kings Mountain manzanita (<i>Arctostaphylos regismontana</i>)	CNPS 1B.2	P	No	No manzanitas observed on site.
coastal marsh milk-vetch (<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>)	CNPS 1B.2	A	No	Requires mesic sites.
pappose tarplant (<i>Centromadia parryi</i> ssp. <i>parryi</i>)	CNPS 1B.2	A	No	Requires mesic sites.

Species Name	Status	Habitat Present or Absent	Potential to Occur Onsite	Rationale
San Francisco Bay spineflower (<i>Chorizanthe cuspidata cuspidata</i>)	CNPS 1B.2	A	No	No suitable habitat (sandy soils) present.
Franciscan thistle (<i>Cirsium andrewsii</i>)	CNPS 1B.2	A	No	No suitable habitat (serpentine) present.
San Francisco collinsia (<i>Collinsia multicolor</i>)	CNPS 1B.2	A	No	No suitable soils (shale) present.
western leatherwood (<i>Dirca occidentalis</i>)	CNPS 1B.2	P	No	Not observed during plant survey.
San Mateo woolly sunflower (<i>Eriophyllum latilobum</i>)	FE, SE, CNPS 1B.1	A	No	No suitable habitat (serpentine) present.
Wild strawberry (<i>Fragaria</i> sp.)	none	P	Present	Strawberry observed on site.
Hillsborough chocolate lily (<i>Fritillaria biflora</i> var. <i>ineziana</i>)	CNPS 1B.1	A	No	No suitable habitat (serpentine) present.
fragrant fritillary (<i>Fritillaria liliacea</i>)	CNPS 1B.2	A	No	No suitable habitat (serpentine) present.
San Francisco gumplant (<i>Grindelia hirsutula maritima</i>)	CNPS 3.2	A	No	No suitable habitat present.
Point Reyes horkelia (<i>Horkelia marinensis</i>)	CNPS 1B.2	A	No	No suitable habitat (sandy soils) present.
Coast yellow leptosiphon (<i>Leptosiphon croceus</i>)	CNPS 1B.1	P	No	Not observed during plant survey.
Rose leptosiphon (<i>Leptosiphon rosaceus</i>)	CNPS 1B.1	P	No	Not observed during plant survey.
Crystal Springs lessingia (<i>Lessingia arachnoidea</i>)	CNPS 1B.2	A	No	No suitable habitat (serpentine) present.
Indian Valley bush-mallow (<i>Malacothamnus aboriginum</i>)	CNPS 1B.2	A	No	No suitable habitat (granite outcrops, sandy soils) present.
arcuate bush-mallow (<i>Malacothamnus arcuatus</i>)	CNPS 1B.2	A	No	No suitable habitat (chaparral) present.
Davidson's bush-mallow (<i>Malacothamnus davidsonii</i>)	CNPS 1B.2	A	No	No suitable habitat (sandy soils) present.
Hall's bush-mallow (<i>Malacothamnus hallii</i>)	CNPS 1B.2	A	No	No suitable habitat (chaparral) present.
woodland woollythreads (<i>Monolopia gracilens</i>)	CNPS 1B.2	A	No	No suitable habitat (chaparral, serpentine) present.
White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>)	FE, SE, CNPS 1B.1	A	No	No suitable habitat (serpentine) present.

Species Name	Status	Habitat Present or Absent	Potential to Occur Onsite	Rationale
Choris' popcornflower (<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>)	CNPS 1B.2	A	No	Requires mesic sites.
Oregon polemonium (<i>Polemonium carneum</i>)	CNPS 2B.2	P	No	Not observed during plant survey.
Hickman's cinquefoil (<i>Potentilla hickmanii</i>)	FE, SE, CNPS 1B.2	A	No	No suitable habitat (serpentine) present.
San Francisco campion (<i>Silene verecunda</i> ssp. <i>verecunda</i>)	CNPS 1B.2	A	No	No suitable soils (shale) present.
San Francisco owl's-clover (<i>Triphysaria floribunda</i>)	CNPS 1B.2	A	No	No suitable habitat (coastal prairie) present.
coastal triquetrella (<i>Triquetrella californica</i>)	CNPS 1B.2	A	No	Found within 30 meters of coast.

Notes: FE – Federal endangered; FT – Federal threatened; SE – State endangered; ST – State threatened; SSC – California species of special concern; SFP – State Fully Protected.

California Red-legged Frog

The California red-legged frog (CRF) uses a variety of habitat types, including various aquatic, riparian, and upland habitats. California red-legged frogs can use many aquatic systems, provided a permanent water source, ideally free of nonnative predators, is nearby. However, individual frogs may complete their entire life cycle in a pond or other aquatic site that is suitable for all life stages. California red-legged frogs breed in aquatic habitats such as marshes, ponds, deep pools and backwaters in streams and creeks, lagoons, and estuaries. Breeding adults are often associated with dense, shrubby riparian or emergent vegetation and areas with deep (greater than 27 inches) still or slow-moving water. However, the frog often successfully breeds in artificial ponds with little or no emergent vegetation and has been observed in stream reaches that are not covered in riparian vegetation. California red-legged frogs spend a substantial amount of time resting and feeding in riparian and emergent vegetation. The moisture and camouflage provided by the riparian plant community may provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding.

The Fassler Avenue site does not contain a water source for CRF to use as either breeding habitat or non-breeding shelter habitat. No evidence of CRF was observed during the site survey, and CRF is not expected to be present on the property based on the species habitat requirements. However it is possible that CRF could disperse through the project site.

The closest known breeding location for CRF is near the mouth of Calera Creek, upstream of the Rockaway Quarry, about one mile north of the project site. The unnamed drainage that is located just north of the project site is shown as a perennial drainage on the USGS topographic map, and this drainage flows from northwest of the project site to the Pacific Ocean. The mouth of the drainage is south of the community of Rockaway Beach. There is urban development

between the breeding site and the unnamed drainage. There are no records of CRF occurring in this drainage in the CNDDDB (2014). The frog is known to occur in San Pedro Creek, which is a little more than a mile south of the Fassler Avenue site. Urban development in Pacifica lies between the project site and San Pedro Creek. There are no other breeding ponds in the vicinity of the project.

Although there is significant urban development between known breeding locations and the project site, there is a very small likelihood that CRF could occasionally be found to migrate across the project site. Avoidance measures are recommended below to protect CRF during project construction.

San Francisco Dusky-footed Woodrat

The San Francisco dusky-footed woodrat occurs from the Golden Gate Bridge to just inside the Santa Cruz County line and also in the East Bay. It is associated with riparian, oak woodland and redwood forest. The San Francisco dusky-footed woodrat is a medium-sized rodent with a body around 7 inches long, nose to rump, and a furred tail. Dusky-footed is relatively common and widespread in California, but their complex social structure makes them particularly vulnerable to disturbance. San Francisco dusky-footed woodrat builds mounded stick houses that may range in size from 3 to 8 feet across at the base and as much as 6 feet tall, and they tend to live in colonies of 3 to 15 or more houses. The houses can be quite complex inside, with multiple chambers for general living, nesting, latrine use, food storage, and other activities. The availability of suitably-sized sticks may limit the number of woodrat houses. Each house is occupied by a single adult; adult females share the house with their litters for a few months until the young disperse to nearby nests. Adult females live in the same house until they die, when the house is taken over by one of the female offspring. In this manner houses may be occupied and maintained by the same family for decades. Individual houses may persist for 20 to 30 years.

During the field survey in 2004, several woodrat houses were found on the project site. The location of the colony is shown on Figure 2. This area could not be accessed during the 2014 survey due to thick poison oak, but it is assumed the houses persist since they are maintained by successive generations. The project could impact the main colony of woodrats found on the site.

Nesting Birds

Nesting birds, including raptors, are protected by State Fish and Game code Section 3503, which reads, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Passerines and non-passerine land birds are further protected under the federal Migratory Bird Treaty Act (MBTA). The avian nesting season is from February 1 to August 15.

Trees and shrubs found on the property offer attractive nesting habitat for a variety of birds. Some species of birds, such as quail, nest on the ground. Vegetation removal and trimming, including as part of site grading work, could impact nesting birds if conducted during the nesting season.

11. Tabulate by significant impact all feasible mitigation measures proposed to reduce the level of impact and explain how such measures will be successful.

Impact	Mitigation Measure	Impact after Mitigation	Implementation
Water Quality Projection			
Earthwork and subsequent residential development could negatively impact the unnamed drainage north of the site.	Best Management Practices (BMPs) described in San Mateo County's Watershed Protection and Maintenance Standards will be incorporated into project design (San Mateo County 2004). These may include BMPs for containment, equipment fueling, and timing of work, among others. Appropriate storm water pollution control measures for subsequent residential use will be designed and implemented to avoid increasing the rate or volume of storm water leaving the site. If more than one acre of ground will be disturbed by grading, the project is required by the Regional Water Quality Control Board to have a Stormwater Pollution Prevention Plan (SWPPP).	Water quality in the drainage will not be negatively impacted by project activities or site development.	Project construction contractor, with oversight from 1106 Nevada LLC.
Invasive Species			
Invasive species may be introduced to the site during project construction or by landscaping.	All construction vehicles entering the site that may have entered weed-infested areas (such as at other construction sites) prior to arriving on site shall first wash the tires and undercarriage of the vehicles before entering the project site. If fill is needed, native soil will be used. All rock, aggregate, fiber rolls, or other construction material, if needed, will be certified weed-free. Native and non-invasive species shall be used in landscaping in order to prevent negative impacts on nearby native habitats. A list of native plant species found on the project site is in Table 1. No species included in the California Invasive Plant Inventory shall be used for landscaping (CalEPPC 2006).	The potential for non-native plant introduction will be significantly reduced.	Project construction contractor, with oversight from 1106 Nevada LLC.
Heritage Trees			
Removal of Heritage Trees will require a permit from San Mateo County.	Removal of a Heritage Tree as described in County of San Mateo Planning and Building Division Ordinance 2427 will require a permit.	Permit may require planting of trees for mitigation.	1106 Nevada LLC to acquire permit.
Protected Species			
There is a small likelihood that California red-legged frog could move	1. Construction activities shall be performed in the dry season, from May 15 to Oct 15, in order to avoid the wet season when CRF movement generally occurs. 2. At the time when vegetation is initially removed	CRF will be protected from harm during construction.	1106 Nevada LLC coordinating with the construction

Impact	Mitigation Measure	Impact after Mitigation	Implementation
through the property.	<p>(and before grading begins), a qualified biologist shall perform a preconstruction survey for CRF within the project site. The survey shall take place in the morning prior to the start of vegetation removal. If any CRF are found, construction shall be delayed until the species disperses naturally, and the biologist shall immediately notify the US Fish and Wildlife Service. Subsequent recommendations made by the USFWS shall be followed. The biologist shall not handle or otherwise harass the animal.</p> <p>3. Construction workers shall be informed of the potential presence of CRF, that these species are to be avoided, and that the foreman must be notified if they are seen.</p> <p>4. During construction, all holes and trenches shall be covered at night to prevent any amphibians or reptiles from becoming trapped in holes or trenches on the construction site.</p>		contractor and qualified biologist.
The project could impact dusky-footed woodrat.	<p>Not more than 30 days before initial ground disturbance on the project site, a qualified biologist shall conduct a survey of the project site for any existing SFDW houses. If any SFDW houses are found within the project site, they shall be identified with flags or marking tape and protected from disturbance with a minimum buffer zone of five feet buffer. If disturbance cannot be avoided, the following measure shall be implemented by a biologist approved for this project by the CDFW:</p> <p>If SFDW houses are within the building footprint, live-trapping will be conducted at each house. All traps will be checked the following morning and closed for the day. Trapping will be conducted at each house for two consecutive nights. To reduce stress, captured SFDW will not handled or marked although a visual assessment of health and age will be recorded. Each captured SFDW will be kept in the shaded trap while its house is dismantled and an artificial house installed according to the methods below. The SFDW will then be released at the new house. Locations of the old and new houses will be recorded using a hand-held GPS receiver.</p> <p>If no SFDW are captured at a given house after two nights, it was assumed that the house is not currently occupied. SFDW houses can then be slowly dismantled by hand to ground level. Potential sites for artificial shelters will be</p>	Adverse impact to woodrat individuals will be avoided.	1106 Nevada LLC coordinating with a qualified biologist.

Impact	Mitigation Measure	Impact after Mitigation	Implementation
	<p>identified during pre-activity surveys. Locations will be selected based on proximity to the capture site, the distribution of other SFDW houses in the area and habitat type. The best available microhabitat will be chosen, ideally in a location that is in habitat similar to the original house.</p> <p>Salvaged nest material from the original house will be placed inside the artificial shelter chamber. Whenever present, cached food from the original house will be placed inside the chamber.</p> <p>Supplemental food (rolled oats, wild bird seed and peanut butter) will also be provided. All or a portion of the woody debris from the original house will be placed over and around the artificial shelter. Existing vegetation or woody debris will be added to further stabilize the structure. A single entrance will be created leading into the chamber and the live-trap will then be placed against the entrance to the artificial shelter. After the individual enters the chamber, the entrance will be loosely but completely plugged with dirt and leaf duff to encourage the individual to stay.</p> <p>We propose that two occupancy surveys for stick nests that were moved take place, the first within 30-60 days after work has been completed and the second at one year. Two reports will be prepared, one after the first occupancy survey, and one after one year. The first report will document the methods and results of both the SFDW trapping and stick house moving activities and the first occupancy survey. The second will report the results of the final occupancy survey. The reports will be delivered to both the client and CDFW.</p>		
<p>If conducted during the avian nesting season, removal or trimming of vegetation may negatively impact nesting birds.</p>	<p>To avoid impacts to nesting birds, vegetation trimming or removal (including site grading), shall be scheduled to take place outside of the breeding season (February 1 to August 15). However, if these activities will occur during the breeding season, a qualified biologist shall conduct a survey for nesting birds within five days prior to the proposed start of construction.</p> <p>An active nest is defined as a nest having eggs or chicks present, or a nest that adult birds have staked a territory and are displaying, constructing a nest, or are repairing an old nest. If active nests are not present, construction can take place as scheduled. If more than 5 days elapses between the initial nest</p>	<p>Nesting birds protected by the Migratory Bird Treaty Act and Fish and Game Code will be protected from adverse impact.</p>	<p>1106 Nevada LLC coordinating with the construction contractor and qualified biologist.</p>

Impact	Mitigation Measure	Impact after Mitigation	Implementation
	<p>search and the start of vegetation removal, it is possible for new birds to into vegetation and begin building a nest. If there is such a delay, another nest survey shall be conducted.</p> <p>If an active nest(s) is detected, work will be delayed and a buffer will be established around the nest. California Department of Fish and Wildlife usually accepts a 250-foot radius buffer around passerine and small raptor nests, and up to a 1,000-foot radius for large raptors. A qualified biologist shall monitor the behavior of the birds (adults and young, when present) at the nest site to ensure that they are not disturbed by project-related activities. Nest monitoring shall continue during project-related construction work until the young have fully fledged, are no longer being fed by the parents and have left the nest site. The nest buffer may be removed and work may commence.</p>		

12. Certification. I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



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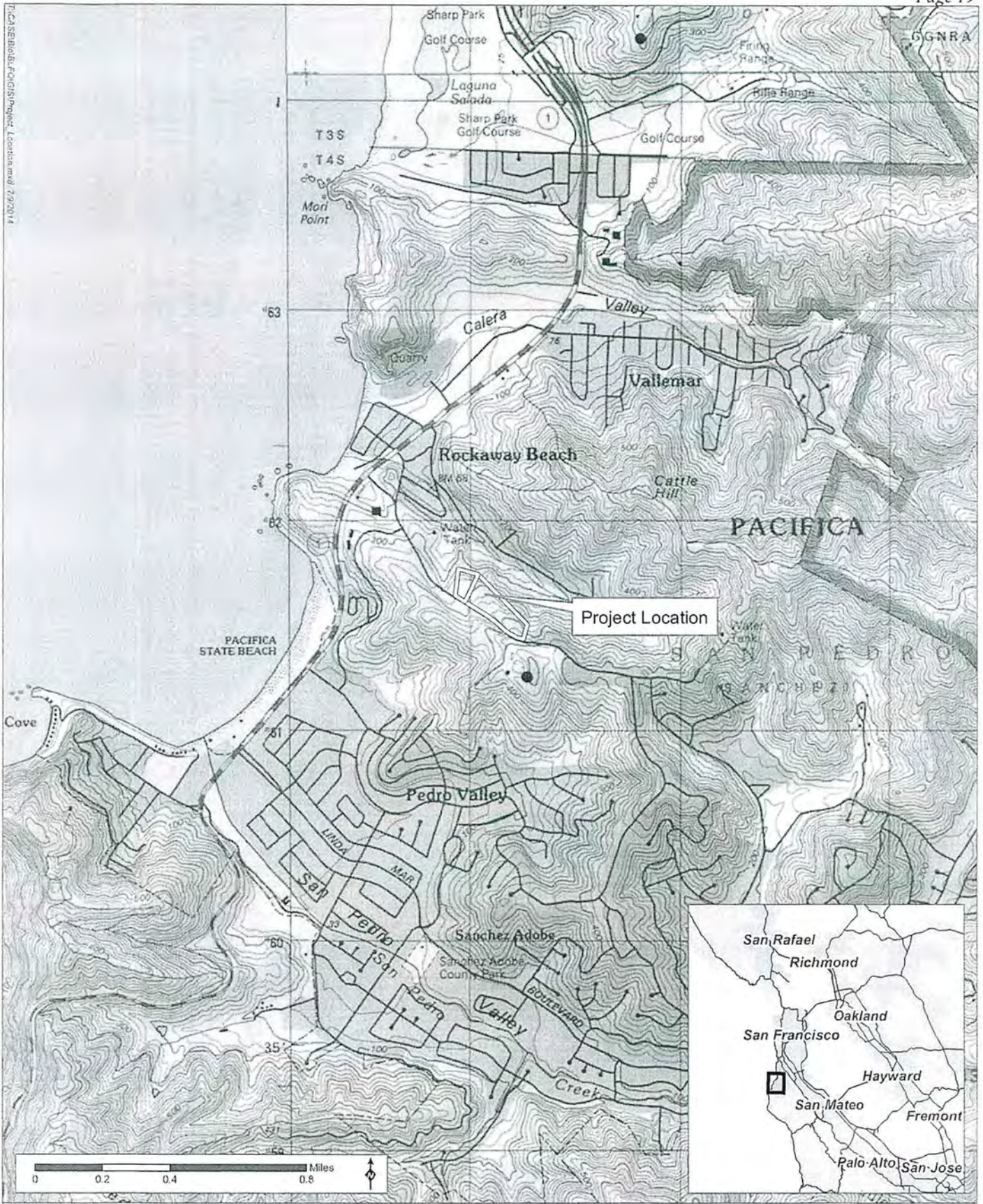
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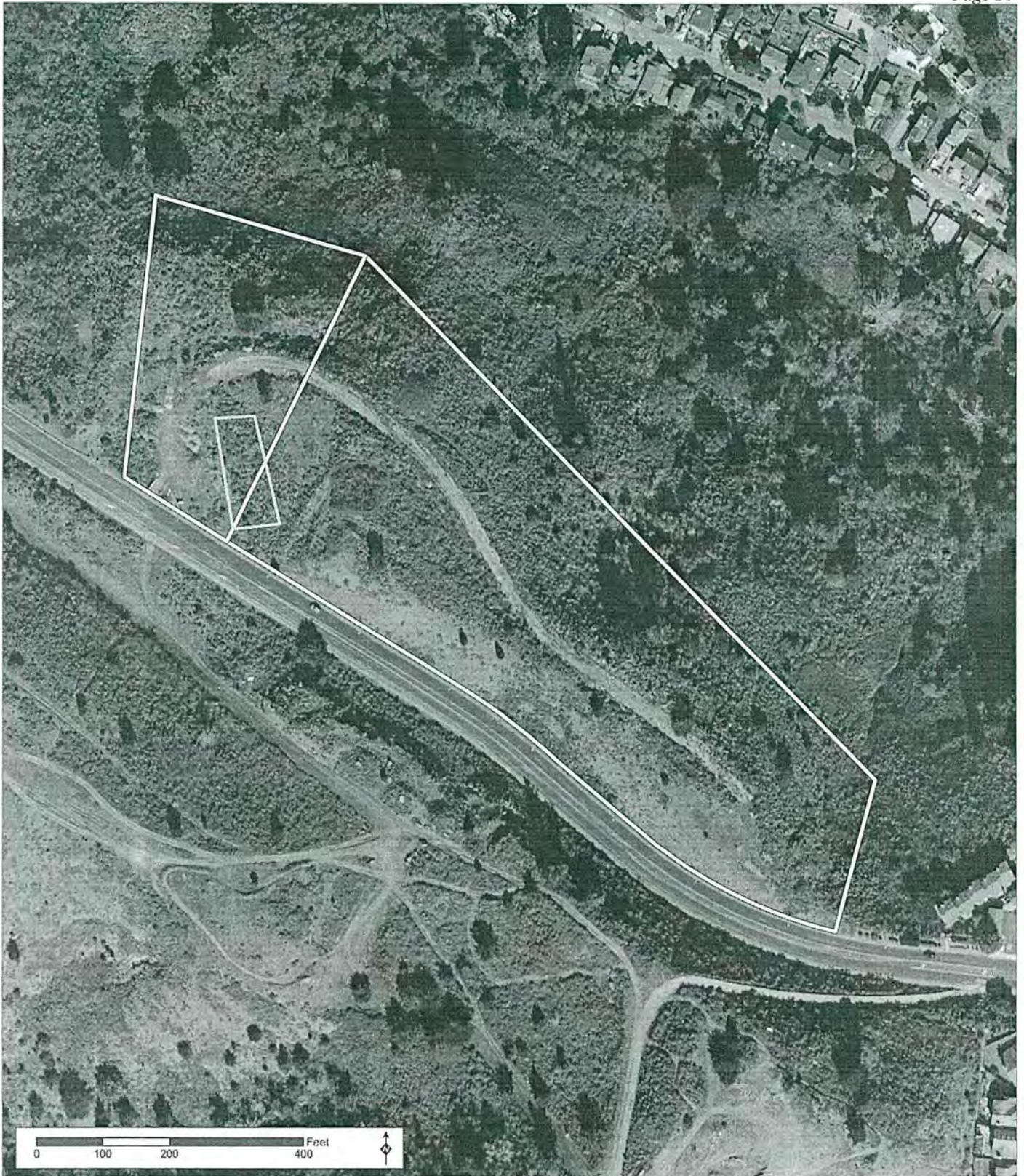


Source: San Mateo County, USGS Aerials streaming via ESRI (2014)

Project Parcels

Figure 1 Project Location

Biotic Assessment for Fassler Ave, Pacifica



Source: TRA; San Mateo County; Aerial from ESRI streaming (2014)




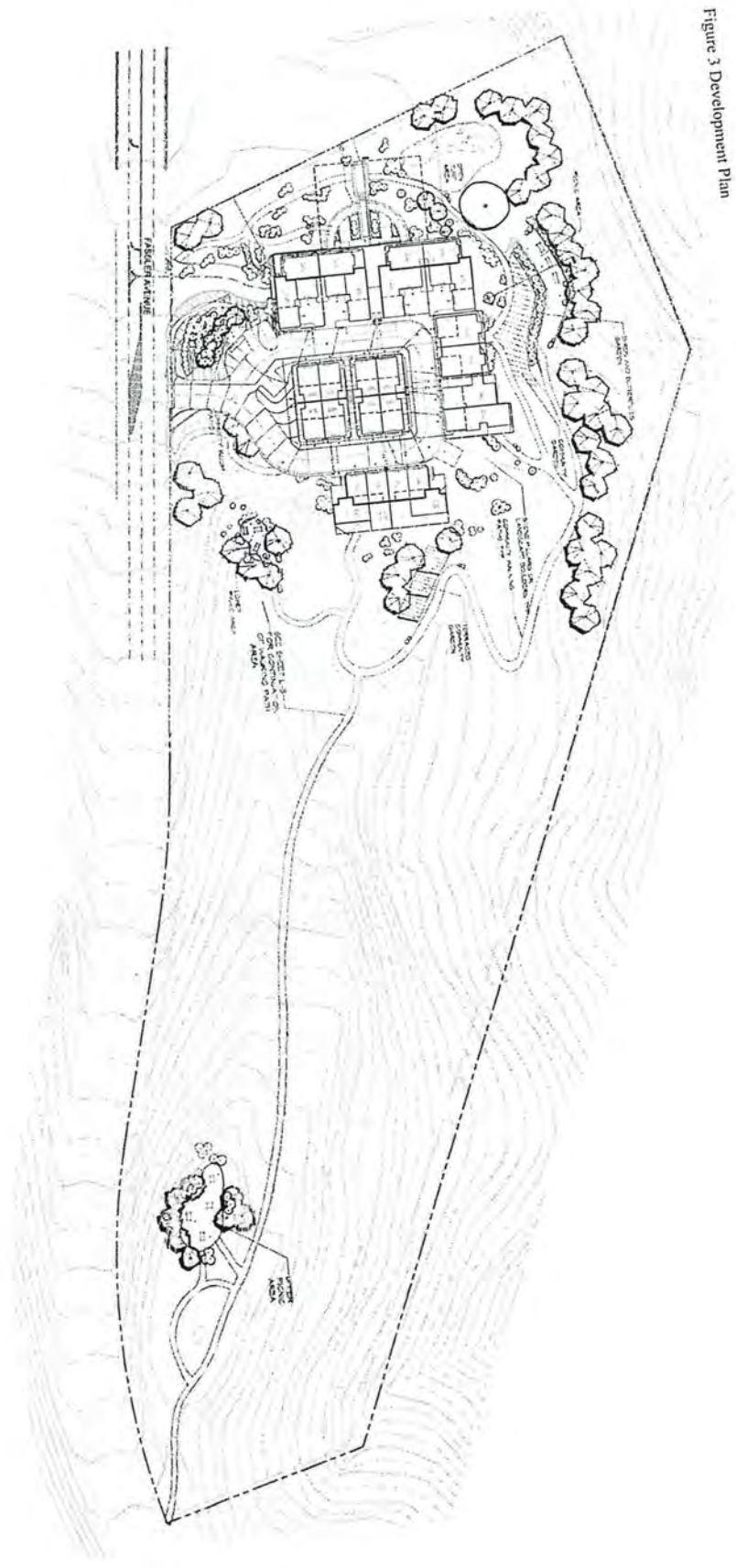
-  Dusky-footed Woodrat Nest Complex
-  Willow Scrub Habitat
-  Project Parcels

Figure 2 Site Aerial and Features

Biotic Assessment for Fassler Ave, Pacifica

Figure 3 Development Plan



Appendix A. Principle Investigator Qualifications

AUTUMN MEISEL, SENIOR BIOLOGIST

Autumn Meisel is an ecologist specialized in habitat assessment and management, with a focus on sensitive species conservation. She joined TRA as a staff biologist in 2005 and is competent in overall site and habitat assessment, biological monitoring, Endangered Species Act consultation, and landscape level planning and management. She has worked with numerous local, public municipalities, providing biological consultation services for improvement projects such as roads, pipelines, and bridges, park management plans, habitat restoration plans, and development projects.

Ms. Meisel has worked as project manager for a variety of clients on projects ranging from small, single-family home developments to capital improvement projects and the implementation of Habitat Conservation Plans. Ms. Meisel has a working relationship with the regulatory agencies and provides clients with guidance in regulatory compliance. She is skilled in her understanding of the regulations with respect to the Clean Water Act, Endangered Species Act, Migratory Bird Treaty Act, Fish and Game Code, Local Coastal Policy Programs, and CEQA significance. She excels in her ability to creatively find solutions to complex issues while ensuring that regulations are met and sensitive resources are protected.

In the field, Ms. Meisel has experience in plant and wildlife identification, reconnaissance-level site surveys, wetland delineations, construction monitoring, mitigation monitoring, and vegetation and wildlife monitoring. Ms. Meisel has experience surveying for and providing management recommendations for rare plants, nesting birds, bats, and a variety of special-status species including California red-legged frog, California tiger salamander, listed butterflies, burrowing owl, western pond turtle, and San Francisco dusky-footed wood rat, among others. Ms. Meisel has a background in fire ecology and has worked with CalFire on vegetation management planning.

Ms. Meisel also has expertise in habitat restoration at degraded sites and has overseen invasive weed control efforts, native out-planting, and plant establishment maintenance. She has lead volunteer groups in restoration work and provided education to others about ecology and resource management. Ms. Meisel has aided in prioritizing restoration needs when resources were limited and has designed experimental vegetation management methods to better understand how to best meet desired goals so that resources may be put to the greatest use.

Educational Background

San Francisco State University, San Francisco
Master of Conservation Ecology

U.C. San Diego, La Jolla
Bachelor of Science, Ecology, Behavior, and Evolution

Appendix B. Representative Photos of the Site Taken June 17, 2014



Photo 1. Project site, facing the area to be developed.



Photo 2. Willow scrub vegetation.



Photo 3. Existing asphalt road that will be restored.



Photo 4. Perennial grassland and coastal scrub habitat.



Photo 5. View from southeast end of the property.



Photo 6. View from Fessler Avenue looking east toward the property.