Item W 15b

CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 585-1800

RECORD PACKET COPY

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Staff:	Carey
Staff Report:	3/3/05
Hearing Date:	3/16/05

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-04-061

APPLICANT: David Bleavins **AGENT:** None

PROJECT LOCATION: 802 Old Topanga Canyon Road, Santa Monica Mountains, Los Angeles County (Assessor Parcel Numbers 4438-019-007, 4438-019-008, 4438-028-008)

PROJECT DESCRIPTION: Demolition of unpermitted structure (approximately 400 sq. ft. footprint) and construction of 3,590 sq. ft., 29.5 foot high from existing grade single family residence with 2-car garage, septic system, 791 cu. yds. of grading for improvements to access driveway, encroachment into the protected zone of 16 oak trees, merging two lots into one parcel, and a lot line adjustment. In addition, the project includes the request for after-the-fact approval of an existing trailer, 50 cu. yds. of grading and the construction of a 6-7 foot high block retaining wall to create a pad for the trailer. The proposed project would include removal of the trailer after the completion of the residence.

Lot area:	2.29 acres
Building coverage:	1,827 sq. ft.
Pavement coverage:	546 sq. ft.
Landscape coverage:	2,600 sq. ft.

LOCAL APPROVALS RECEIVED: Los Angeles County Approval-in-Concept, Preliminary Septic System Approval, Fire Department Approval

SUBSTANTIVE FILE DOCUMENTS: Preliminary Geologic and Soils Engineering Investigation, dated January 8, 2004, prepared by SubSurface Designs, Inc.; Preliminary Oak Tree Report, dated July 7, 2000, prepared by Jan C. Scow, Registered Consulting Arborist; Preliminary Oak Tree Report (2nd Addendum), dated January 24, 2005, prepared by Jan C. Scow, Registered Consulting Arborist

STAFF NOTE

This application was filed on October 5, 2004. Under the provisions of the Permit Streamlining Act, the latest possible date for Commission action is April 3, 2005. As such, the Commission must act on Application 4-04-061 at the March 2005 Hearing.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **approval** of the proposed project with 13 special conditions of approval including geologic review, landscaping and erosion control plans, wildfire waiver of liability, drainage and polluted runoff control plan, lighting restriction, revised plans, lot merger, future

development, deed restriction, habitat impact mitigation, oak tree mitigation and monitoring. The proposed project site contains oak woodland and chaparral environmentally sensitive habitat area. There is no alternative building site location that can further minimize impacts to ESHA. Only as conditioned will the project minimize impacts to oak woodland and chaparral ESHA, individual oak trees, water quality, coastal resources, and to development from hazards.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions

I. STAFF RECOMMENDATION

MOTION: ***I move that the Commission approve Coastal Development Permit No 4-04-061 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMITS:

The Commission hereby approves the Coastal Development Permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall

be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions

1. Plans Conforming to Geotechnical Engineer's Recommendations

All recommendations contained in the Preliminary Geologic and Soils Engineering Investigation, dated January 8, 2004, prepared by SubSurface Designs, Inc. shall be incorporated into all final design and construction, including recommendations concerning foundations, grading, and drainage, and must be reviewed and approved by the consultant prior to commencement of development. Prior to issuance of the coastal development permit, the applicant shall submit evidence to the Executive Director of the consultant's review and approval of all final design and construction plans.

The final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission relative to construction, grading, and drainage. Any substantial changes in the proposed development approved by the Commission that may be required by the consultant shall require amendment(s) to the permit(s) or new Coastal Development Permit(s).

2. Landscaping and Erosion Control Plans

Prior to the issuance of the coastal development permit, the applicant shall submit landscaping and erosion control plans, prepared by a licensed landscape architect or qualified resource specialist, for review and approval by the Executive Director. The landscaping and erosion control plans shall be reviewed and approved by the consulting geotechnical engineer to ensure that the plans are in conformance with the consultant's recommendations. The plans shall incorporate the following criteria:

A) Landscaping Plan

1) All graded and disturbed areas on the subject site shall be planted and maintained for erosion control purposes within thirty (30) days of completion of the proposed development. To minimize the need for irrigation and to screen and soften the

visual impact of development, landscaping shall consist of primarily native/drought resistant plants as listed by the California Native Plant Society, Santa Monica Mountains Chapter, in their document entitled *Recommended List of Plants for Landscaping in the Santa Monica Mountains*, dated February 5, 1996, and shall be compatible with the character of the surrounding native environment. Invasive, non-indigenous plant species that tend to supplant native species shall not be used. The plan shall specify the erosion control measures to be implemented and the materials necessary to accomplish short-term stabilization, as needed on the site.

All cut and fill slopes shall be stabilized with planting at the completion of final grading. Planting should be of native plant species indigenous to the Santa Monica Mountains, compatible with the surrounding environment, using accepted planting procedures, and consistent with fire safety requirements. Such planting shall be adequate to provide ninety (90) percent coverage within two (2) years, and this requirement shall apply to all disturbed and graded soils:

2) Plantings shall be maintained in good growing condition throughout the life of the project and, whenever necessary, shall be replaced with new plant materials to ensure continued compliance with applicable landscape requirements;

3) The Permittee shall undertake development in accordance with the final approved plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Coastal Commission - approved amendment(s) to the Coastal Development Permit(s), unless the Executive Director determines that no amendment is required.

4) Vegetation may be removed or thinned only in accordance with the Preliminary Fuel Modification Plan, dated February 3, 2004 in order to reduce fire hazard. The final approved fuel modification/landscaping plan shall not include non-native trees or plants, or native trees or plants that require supplemental permanent irrigation (such as riparian tree species) within any required non-irrigated fuel modification areas (Zone "C"). The final approved long-term fuel modification plan shall be submitted pursuant to this special condition. The fuel modification plan shall include details regarding the types, sizes and location of plant materials to be removed, and how often thinning is to occur. In addition, the applicant shall submit evidence that the fuel modification plan has received final review and approval by the Forestry Department of Los Angeles County. Irrigated lawn, turf and ground cover planted within the fifty foot radius of the proposed house shall be selected from the most drought tolerant species or subspecies, or varieties suited to the Mediterranean climate of the Santa Monica Mountains. The planting of lawn, turf, or any plants that require irrigation after they become established should be restricted to those areas that are not within the protected zone of any oak tree.

5) Fencing on the property shall extend no further than the development area, turnaround, and driveway. The fencing type and location shall be illustrated on the landscape plan.

B) Interim Erosion Control Plan

1) The plan shall delineate the areas to be disturbed by grading or construction activities and shall include any temporary access roads, staging areas, and stockpile areas. The natural areas on the sites shall be clearly delineated on the project site with fencing or survey flags.

2) The plan shall specify that grading shall take place only during the dry season (April 1 – October 31). This period may be extended for a limited period of time if the situation warrants such a limited extension, if approved by the Executive Director. The applicant shall install or construct temporary sediment basins (including debris basins, desilting basins, or silt traps), temporary drains and swales, sand bag barriers, silt fencing, and shall stabilize any stockpiled fill with geofabric covers or other appropriate cover, install geotextiles or mats on all cut or fill slopes, and close and stabilize open trenches as soon as possible. These erosion control measures shall be required on the project site prior to or concurrent with the initial grading operations and maintained throughout the development process to minimize erosion and sediment from runoff waters during construction. All sediment should be retained on-site, unless removed to an appropriate, approved dumping location either outside of the coastal zone or within the coastal zone to a site permitted to receive fill.

3) The plan shall also include temporary erosion control measures should grading or site preparation cease for a period of more than thirty (30) days, including but not limited to: stabilization of all stockpiled fill, access roads, disturbed soils, and cut and fill slopes with geotextiles and/or mats, sand bag barriers, silt fencing; temporary drains and swales and sediment basins. The plans shall also specify that all disturbed areas shall be seeded with native grass species and include the technical specifications for seeding the disturbed areas. These temporary erosion control measures shall be monitored and maintained until grading or construction operations resume.

C. Monitoring

Five (5) years from the date of completion of the proposed development, the applicant shall submit for the review and approval of the Executive Director a landscape monitoring report, prepared by a licensed Landscape Architect or qualified Resource Specialist, that certifies the on-site landscaping is in conformance with the landscape plan approved pursuant to this special condition. The monitoring report shall include photographic documentation of plant species and plant coverage.

If the landscape monitoring report indicates the landscaping is not in conformance with or has failed to meet the performance standards specified in the landscaping plan approved pursuant to these permits, the applicant, or successors in interest, shall submit a revised or supplemental landscape plan for the review and approval of the Executive Director. The revised landscaping plan must be prepared by a licensed landscape architect or qualified resource specialist and shall specify measures to remediate those portions of the original plan that have failed or are not in conformance with the original approved plan.

3. **Wildfire Waiver of Liability**

Prior to the issuance of the coastal development permit, the applicant shall submit a signed document which shall indemnify and hold harmless the California Coastal Commission, its officers, agents, and employees against any and all claims, demands, damages, costs, and expenses of liability arising out of the acquisition, design, construction, operation, maintenance, existence, or failure of the permitted project in an area where an extraordinary potential for damage or destruction from wildfire exists as an inherent risk to life and property.

4. **Drainage and Polluted Runoff Control Plan**

Prior to the issuance of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director, final drainage and runoff control plans, including supporting calculations. The plan shall be prepared by a licensed engineer and shall incorporate structural and non-structural Best Management Practices (BMPs) designed to control the volume, velocity, and pollutant load of stormwater leaving the developed site. The plan shall be reviewed and approved by the consulting engineering geologist to ensure the plan is in conformance with geologist's recommendations. In addition to the specifications above, the plan shall be in substantial conformance with the following requirements:

(a) Selected BMPs (or suites of BMPs) shall be designed to treat, infiltrate or filter stormwater from each runoff event, up to and including the 85th percentile, 24-hour runoff event for volume-based BMPs, and/or the 85th percentile, 1-hour runoff event, with an appropriate safety factor, for flow-based BMPs.

(b) Runoff shall be conveyed off site in a non-erosive manner.

(c) Energy dissipating measures shall be installed at the terminus of outflow drains.

(d) The plan shall include provisions for maintaining the drainage system, including structural BMPs, in a functional condition throughout the life of the approved development. Such maintenance shall include the following: (1) BMPs shall be inspected, cleaned and repaired when necessary prior to the onset of the storm season, no later than September 30th each year and (2) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail

or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system or BMPs and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if amendment(s) or new Coastal Development Permit(s) are required to authorize such work.

5. Lighting Restriction

A. The only outdoor night lighting allowed on the subject parcel is limited to the following:

(1) The minimum necessary to light walkways used for entry and exit to the structures, including parking areas on the site. This lighting shall be limited to fixtures that do not exceed two feet in height above finished grade, are directed downward and generate the same or less lumens equivalent to those generated by a 60 watt incandescent bulb, unless a greater number of lumens is authorized by the Executive Director.

(2) Security lighting attached to the residence and garage shall be controlled by motion detectors and is limited to same or less lumens equivalent to those generated by a 60-watt incandescent bulb.

(3) The minimum necessary to light the entry area to the driveway with the same or less lumens equivalent to those generated by a 60-watt incandescent bulb.

B. No lighting around the perimeter of the site and no lighting for aesthetic purposes is allowed.

6. Revised Plans

Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, revised plans that incorporate the following requirements:

A. Oak Tree Protected Zone

No portion of the approved residence, (including terraces, cantilevered decks, etc.) shall encroach within the protected zone (radius five feet outside the dripline or fifteen feet from the trunk, whichever is greater) of any oak tree identified in the Preliminary Oak Tree Report, dated July 7, 2000, and the Preliminary Oak Tree Report (2nd Addendum), dated January 24, 2005, both prepared by Jan C. Scow, Registered Consulting Arborist.

B. Pad, Retaining Wall, and Trailer

The graded pad for the trailer, retaining wall, and trailer as shown on Exhibit 2 shall be deleted from the site plan.

All development on the site shall conform to the revised plans.

7. Lot Merger

In order to implement the applicant's proposal to merge the project site into one parcel, the applicant agrees that prior to issuance of the coastal development permit, the applicant shall provide evidence, for the review and approval of the Executive Director, that the property identified as assessor's parcels number 4438-019-007 and 4438-019-008 have been legally merged into one parcel pursuant to applicable State and Local statutes. The merged lot shall be held as one parcel of land for all purposes including, but not limited to, sale, conveyance, development, taxation, or encumbrance.

8. Future Development Restriction

This permit is only for the development described in Coastal Development Permit 4-04-061. Pursuant to Title 14 California Code of Regulations section 13250(b)(6), the exemptions otherwise provided in Public Resources Code Section 30610(a) shall not apply to the development governed by Coastal Development Permit 4-04-061. Accordingly, any future structures, future improvements, or change of use to the permitted structures authorized by these permits, including but not limited to, any grading, clearing or other disturbance of vegetation and fencing, other than as provided for in the approved fuel modification/landscape plan prepared pursuant to Special Condition 2 shall require an amendment to Coastal Development Permit 4-04-061 from the Commission or shall require additional coastal development permits from the Commission or from the applicable certified local government.

9. Deed Restriction

Prior to issuance of the coastal development permit the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to these permits, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property (hereinafter referred to as the "Standard and Special Conditions"); and (2) imposing all Standard and Special Conditions of these permits as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the applicant's entire parcel or parcels. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or

the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

10. Habitat Impact Mitigation

Prior to the issuance of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director, a map delineating all areas of chaparral habitat (ESHA) that will be disturbed by the proposed development, including by fuel modification requirements on the project site (based on the final fuel modification plan approved by the Los Angeles County Fire Department) and required brush clearance on adjacent parcels. The chaparral areas on the site shall be delineated on a detailed map, to scale, illustrating the subject parcel boundaries. The delineation map shall indicate the total acreage for all chaparral onsite that will be impacted by the proposed development, including the fuel modification areas. The delineation shall be prepared by a qualified resource specialist or biologist familiar with the ecology of the Santa Monica Mountains.

Mitigation shall be provided for impacts to the chaparral ESHA from the proposed development and fuel modification requirements by one of the three following habitat mitigation methods:

A. Habitat Restoration

1) Habitat Restoration Plan

Prior to the issuance of the coastal development permit, the applicant shall submit a habitat restoration plan, for the review and approval of the Executive Director, for an area of degraded chaparral habitat equivalent to the area of chaparral ESHA impacted by the proposed development and fuel modification area. The habitat restoration area may either be onsite or offsite within the coastal zone in the City of Malibu or in the Santa Monica Mountains. The habitat restoration area shall be delineated on a detailed site plan, to scale, that illustrates the parcel boundaries and topographic contours of the site. The habitat restoration plan shall be prepared by a qualified resource specialist or biologist familiar with the ecology of the Santa Monica Mountains, and shall be designed to restore the area in question for habitat function, species diversity and vegetation cover. The restoration plan shall include a statement of goals and performance standards, revegetation and restoration methodology, and maintenance and monitoring provisions. If the restoration site is offsite the applicant shall submit written evidence to the Executive Director that the property owner agrees to the restoration work, maintenance and monitoring required by this condition and agrees not to disturb any native vegetation in the restoration area.

The applicant shall submit, on an annual basis for five years, a written report, for the review and approval of the Executive Director, prepared by a qualified resource specialist, evaluating compliance with the performance standards

outlined in the restoration plan and describing the revegetation, maintenance and monitoring that was conducted during the prior year. The annual report shall include recommendations for mid-course corrective measures. At the end of the five-year period, a final detailed report shall be submitted for the review and approval of the Executive Director. If this report indicates that the restoration project has been in part, or in whole, unsuccessful, based on the approved goals and performance standards, the applicant shall submit a revised or supplemental restoration plan with maintenance and monitoring provisions, for the review and approval of the Executive Director, to compensate for those portions of the original restoration plan that were not successful. A report shall be submitted evaluating whether the supplemental restoration plan has achieved compliance with the goals and performance standards for the restoration area. If the goals and performance standards are not met within 10 years, the applicant shall submit an amendment to the coastal development permit for an alternative mitigation program.

The habitat restoration plan shall be implemented prior to occupancy of the residence.

2) Open Space Deed Restriction

No development, as defined in section 30106 of the Coastal Act shall occur in the habitat restoration area, as shown on the habitat restoration site plan, required pursuant to (A)(1) above.

Prior to the issuance of the coastal development permit, the owner of the habitat restoration area shall execute and record a deed restriction in a form and content acceptable to the Executive Director, reflecting the above restriction on development and designating the habitat restoration area as open space. The deed restriction shall include a graphic depiction and narrative legal descriptions of both the parcel and the open space area/habitat restoration area. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

3) Performance Bond

Prior to the issuance of the permit, the applicant shall post performance bonds to guarantee implementation of the restoration plan as follows: a) one equal to the value of the labor and materials; and b) one equal to the value of the maintenance and monitoring for a period of 5 years. Each performance bond shall be released upon satisfactory completion of items (a) and (b) above. If the applicant fails to either restore or maintain and monitor according to the approved plans, the Coastal Commission may collect the security and complete the work on the property.

B. Habitat Conservation

Prior to issuance of the coastal development permit, the applicant shall execute and record an open space deed restriction in a form and content acceptable to the Executive Director, over a parcel or parcels containing chaparral ESHA. The chaparral ESHA located on the mitigation parcel or parcels must be of equal or greater area than the ESHA area impacted by the proposed development, including the fuel modification/brush clearance areas. No development, as defined in section 30106 of the Coastal Act, shall occur on the mitigation parcel(s) and the parcel(s) shall be preserved as permanent open space. The deed restriction shall include a graphic depiction and narrative legal descriptions of the parcel or parcels. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction.

Prior to occupancy of the residence the applicant shall submit evidence, for the review and approval of the Executive Director, that the recorded documents have been reflected in the Los Angeles County Tax Assessor Records.

If the mitigation parcel is larger in size than the impacted habitat area, the excess acreage may be used to provide habitat impact mitigation for other development projects that impact like ESHA.

C. Habitat Impact Mitigation Fund

Prior to the issuance of the coastal development permit, the applicant shall submit evidence, for the review and approval of the Executive Director, that compensatory mitigation, in the form of an in-lieu fee, has been paid to the Mountains Recreation and Conservation Authority to mitigate adverse impacts to chaparral habitat ESHA. The fee shall be calculated as follows:

1. **Development Area, Irrigated Fuel Modification Zones**

   The in-lieu fee for these areas shall be $12,000 per acre within the development area and any required irrigated fuel modification zones. The total acreage shall be based on the map delineating these areas required by this condition.

2. **Non-irrigated Fuel Modification Zones**

   The in-lieu fee for non-irrigated fuel modification areas shall be $3,000 per acre. The total acreage shall be based on the map delineating these areas required by this condition.

Prior to the payment of any in-lieu fee to the Mountains Recreation and Conservation Authority, the applicant shall submit, for the review and approval of the Executive Director, the calculation of the in-lieu fee required to mitigate adverse impacts to chaparral habitat ESHA, in accordance with this condition. After review and approval of the fee calculation, the fee shall be paid to the Santa Monica Mountains Conservancy. The fee shall be used for the acquisition or permanent preservation of chaparral habitat in the Santa Monica Mountains coastal zone.

11. Oak Tree Mitigation.

Prior to issuance of the permit amendment, the applicant shall submit, for the review and approval of the Executive Director, an oak tree replacement planting program, prepared by a qualified biologist, arborist, or other resource specialist, which specifies replacement tree locations, tree or seedling size planting specifications, and a ten-year monitoring program to ensure that the replacement planting program is successful. At least twenty replacement seedlings, less than one year old, grown from acorns collected in the area, shall be planted on the project site, as mitigation for development impacts to Trees Number OP3 and OP4, as identified by the Preliminary Oak Tree Report, dated July 7, 2000, and the Preliminary Oak Tree Report (2nd Addendum), dated January 24, 2005, both prepared by Jan C. Scow, Registered Consulting Arborist. An annual monitoring report on the oak tree replacement area shall be submitted for the review and approval of the Executive Director for each of the 10 years.

12. Oak Tree Monitoring

The applicants shall retain the services of a biological consultant or arborist with appropriate qualifications acceptable to the Executive Director. The biological consultant or arborist shall be present on site during construction of the access road. The consultant shall immediately notify the Executive Director if unpermitted activities occur or if habitat is removed or impacted beyond the scope of the work allowed by Coastal Development Permit 4-04-061. This monitor shall have the authority to require the applicants to cease work should any breach in permit compliance occur, or if any unforeseen sensitive habitat issues arise.

The applicants shall also implement all oak tree preservation measures enumerated in the Preliminary Oak Tree Report, dated July 7, 2000, and the Preliminary Oak Tree Report (2nd Addendum), dated January 24, 2005, both prepared by Jan C. Scow, Registered Consulting Arborist. The applicants shall retain a qualified oak tree consultant to monitor the following oak trees, as identified by the Preliminary Oak Tree Report, dated July 7, 2000, and the Preliminary Oak Tree Report (2nd Addendum), dated January 24, 2005, both prepared by Jan C. Scow, Registered Consulting Arborist a period of ten (10) years minimum: Trees Number 28, 29, 30, 31, OP3, OP4, OP6, OP7, OP8, OP9, OP10, and OP11.

An annual monitoring report shall be submitted for the review and approval of the Executive Director for each of the ten years. Should any of these trees be lost or suffer worsened health or vigor as a result of this project, the applicants shall plant replacement trees on the site at a rate of 10:1. If replacement plantings are required, the applicants shall submit, for the review and approval of the Executive Director, an oak tree replacement planting program, prepared by a qualified biologist, arborist, or other qualified resource specialist, which specifies replacement tree locations, planting specifications, and a monitoring program to ensure that the replacement planting program is successful.

13. Removal of Natural Vegetation

Removal of natural vegetation for the purpose of fuel modification for the development approved pursuant to these permits shall not commence until the local government has issued a building or grading permit(s) for the development approved pursuant to this Coastal Development Permit.

14. Condition Compliance

Within 180 days of Commission action on this coastal development permit application, or within such additional time as the Executive Director may grant for good cause, the applicant shall satisfy all the requirements specified in the conditions hereto that the applicant is required to satisfy prior to the issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description and Background

The applicant proposes the demolition of unpermitted structure and construction of 3,590 sq. ft., 29.5 foot high from existing grade single family residence with 2-car garage, septic system, 791 cu. yds. of grading for improvements to access driveway, encroachment into the protected zone of 16 oak trees, merging two lots into one parcel, and a lot line adjustment. In addition, the project includes the request for after-the-fact approval of an existing trailer, 50 cu. yds. of grading and the construction of a 6-7 foot high block retaining wall to create a pad for the trailer. The proposed project would include removal of the trailer after the completion of the residence.

The proposed project site is located in Old Topanga Canyon, east of Old Topanga Canyon Road (Exhibit 1). In this area of the canyon, Old Topanga Creek is located west of the road, so the proposed project site is not in proximity to the stream. The lower areas of this canyon are heavily wooded with oak trees. The oak woodland transitions to chaparral habitat higher up on the canyon slopes. The proposed project site is

moderately to steeply sloping, with several drainages that extend west to east. Further upslope of the project site is Henry Ridge. The site is well vegetated with oak woodland and chaparral. Exhibit 1 shows the location of the site.

There is existing, unpermitted development on the site, including a graded pad (50 cu. yds.), a block retaining wall, and a mobile home type trailer on the pad. A review of historic aerial photographs and permit records by staff indicates that the unpermitted trailer, retaining wall, and pad were constructed/installed between 1986 and 2001 without the required coastal development permit. The trailer is not attached to a septic system or other utilities. The pad and trailer are located within the protected zones of 5 oak trees. These improvements were not approved as part of any coastal development permit. The applicant is requesting, as part of the subject application, after-the-fact approval for the grading, retaining wall, placement of the trailer, and the retention of the trailer on the site during construction of the residence. The applicant originally proposed to convert the trailer to a guesthouse and retain it permanently on the site. The applicant has modified that proposal to temporary use of the trailer during construction and removal of the trailer from the site after the residence is completed. The applicant has not proposed to remove the retaining wall or to restore the graded slope. The Commission's enforcement division will evaluate further actions to address this matter. The trailer and pad location is shown on Exhibit 2.

There is also a small, existing residential structure on a graded pad located on the lower area of the site adjacent to the access road. It has come to staff's attention that the Los Angeles County Assessor's office considers the project site to be vacant. Staff requested information from the County Regional Planning Department regarding the permit history of the project site. County staff indicated that there is no record of any building permit or other approval for this structure or pad. This structure is not visible in a 1977 airphoto (NASA) of the area. A 1986 airphoto of the area does show this structure. Staff knows of no other evidence that this structure is permitted. As such, staff must conclude that the existing residential structure on the project site is unpermitted. The applicant's proposed project will resolve this issue, as part of the project description is the demolition of this structure.

Additionally, the configuration of three parcels, including two owned by the applicant as well as one parcel adjacent to his properties, was altered without the approval of a coastal development permit (as required for land divisions). The applicant received approval from the County of Los Angeles and carried out a lot line adjustment between three parcels in 1992 (The resultant Assessor Parcel Numbers assigned to these lots are 4438-019-007, 4438-019-008, 4438-028-008). The applicant did not apply for or receive approval of any coastal development permit for this land division. Nonetheless, the lot line adjustment was recorded in 1992. Staff would note that although a lot line adjustment was the approval granted by Los Angeles County, the Commission would consider this to be a "redivision" as the boundaries of the three lots were completely reconfigured. Staff only became aware of the redivision when the applicant submitted the subject coastal development permit application. The County's approval-in-concept

for the proposed residence referenced the 1992 lot line adjustment approval. At staff's request, the applicant provided information regarding the lot line adjustment approval.

The existing lot configuration prior to the redivision (Exhibit 9a) consisted of three contiguous lots, including two small triangular parcels that are part of the Old Topanga Small Lot Subdivision. According to the survey map prepared by the applicant's surveyor for the redivision, these two parcels were 7,137 sq. ft. (Parcel 1) and 5,004 sq. ft. (Parcel 2) in size. The third parcel was 2.19-acres (Parcel 3) in size and while contiguous to the small triangular lots, was located just outside of the small lot subdivision.

The 1992 redivision resulted in the reconfiguration of the properties into three different parcels. Exhibit 9b shows the redivided lot configuration. Approximately 1,478 sq. ft. of Parcel 2 was added to Parcel 1, thereby increasing the size of Parcel 1 to 8,615 sq. ft. Parcel 2 and Parcel 3 were further reconfigured, creating two parcels that were 1.06-acre (Parcel 2) and 1.23-acre (Parcel 3) in size.

Since this redivision was not approved as part of a coastal development permit, the Commission cannot consider these lots to be legally created parcels. While the applicant has not specifically included the redivision as part of the subject application, it is integrally related to the development that is proposed. The proposed residence would be located on one of the reconfigured parcels. As described below, the redivision of the parcels in the manner approved by Los Angeles County in Lot Line Adjustment No.101,160 would result in an increase in the potential buildout of the property within ESHA. As such, staff advised the applicant that the redivision could not be recommended for approval, as it would not be consistent with the Coastal Act. To resolve this issue, the applicant has proposed, as part of this application, to carry out a lot merger between two of the lots and lot line adjustment between the resultant merged lot and the third lot. The applicant's proposal would result in an adjustment between Parcel 1 and Parcel 2 whereby a portion of Parcel 2 would be added to Parcel 1, increasing the size of Parcel 1 to 8,615 sq. ft. The applicant's proposal would also result in the merger of the remainder of Parcel 2 with all of Parcel 3, creating a parcel of 2.29-acres. In this way, two lots would be created from the 3 existing parcels.

The applicant previously submitted an application for unpermitted development on the project site. Permit Application 4-97-245 (Bleavins) was for the grading and earthstone retaining wall to create the trailer pad, and to install the trailer on the site. The application also proposed the removal of an existing concrete driveway, grading and repaving the driveway with concrete. The necessary application materials were not provided, the application was never filed and the Commission never acted on this requested development.

B. Hazards and Geologic Stability

The proposed development is located in the Malibu/Santa Monica Mountains area, an area that is generally considered to be subject to an unusually high amount of natural

hazards. Geologic hazards common to the Santa Monica Mountains area include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wildfires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property.

Section 30253 of the Coastal Act states, in pertinent part, that new development shall:

> ***(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.***
>
> ***(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.***

Geology

The applicant has submitted the Preliminary Geologic and Soils Engineering Investigation, dated January 8, 2004, prepared by SubSurface Designs, Inc. which addresses the geologic conditions on the site and recommendations for the proposed development of a single family residence on the site. This report includes percolation testing and recommendations regarding septic disposal on the project site. The applicant has not provided evidence of the County's review or approval of the geologic reports (geologic review sheet). In addition, the applicant provided a Report of Professional Engineering Geologic Investigation, Proposed Retaining Wall and Addition Construction, dated August 7, 1990, prepared by Harley Tucker, Inc. as well as a Soil Engineering Investigation, dated August 12, 1990, prepared by SWN Soiltech Consultants, Inc. These two reports address the retaining wall and graded pad that the applicant carried out on the site in 1990 without a coastal development permit, as described above.

The geologic consultants have found the geology of the proposed project site to be suitable for the construction of the proposed residence. The report identifies the bedrock on the site as upper Topanga Formation (Ttu) and states that: "A thick sequence of colluvium (Qcol) ranging from three to twelve feet (3'-12') thick is present within the proposed area of construction. The colluvial soils have accumulated within this portion of the ravine as it coincides with change in slope gradient from 1:1 (45 degrees) to 2:1 (24 degrees)". They have identified no landslides or other geologic hazards on the site. The geologic and geotechnical engineering consultants conclude that:

> It is the finding of this firm, based upon the subsurface data, that the proposed addition, guesthouse, and retaining walls will not be affected by settlement, landsliding, or slippage. Further, the proposed development and grading will not have an adverse effect on off-site property.

The engineering geologic and geotechnical consultant conclude that the proposed developments are feasible and will be free from geologic hazard provided their recommendations are incorporated into the proposed development. The Geologic/Geotechnical Report contains several recommendations to be incorporated into project construction, design, drainage, foundations and sewage disposal to ensure the stability and geologic safety of the proposed project site and adjacent property.

To ensure that the recommendations of the consultant have been incorporated into all proposed development the Commission, as specified in **Special Condition 1,** requires the applicant to submit project plans certified by the consulting geologist and geotechnical engineer as conforming to all structural and site stability recommendations for the proposed projects. Final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission. Any substantial changes to the proposed developments, as approved by the Commission, which may be recommended by the consultant shall require an amendment to the permit or a new coastal development permit.

The Commission finds that controlling and diverting run-off in a non-erosive manner from the proposed structures, impervious surfaces, and building pad will minimize erosion and add to the geologic stability of the project sites. To ensure that adequate drainage and erosion control are included in the proposed developments the Commission requires the applicant to submit drainage and interim erosion control plans certified by the consultants, as specified in **Special Conditions 2 and 4**. Special Condition 5 requires the applicants to maintain a functional drainage system at the subject sites to insure that run-off from the project sites is diverted in a non-erosive manner to minimize erosion at the sites for the life of the proposed developments. Should the drainage system of the project sites fail at any time, the applicant will be responsible for any repairs or restoration of eroded areas as consistent with the terms of Special Condition 5.

The Commission also finds that landscaping of graded and disturbed areas on the subject site will serve to stabilize disturbed soils, reduce erosion and thus enhance and maintain the geologic stability of the site. Therefore, **Special Condition 2** requires the applicant to submit landscaping plans certified by the consulting geotechnical engineer as in conformance with their recommendations for landscaping of the project site. Special Condition 2 also requires the applicant to utilize and maintain native and noninvasive plant species compatible with the surrounding area for landscaping the project sites.

Invasive and non-native plant species are generally characterized as having a shallow root structure in comparison with their high surface/foliage weight. The Commission notes that non-native and invasive plant species with high surface/foliage weight and shallow root structures do not serve to stabilize slopes and that such vegetation results in potential adverse effects to the stability of the project site. Native species, alternatively, tend to have a deeper root structure than non-native and invasive species, and once established aid in preventing erosion.

Furthermore, in order to ensure that vegetation clearance for fire protection purposes does not occur prior to commencement of grading or construction of the proposed structures, the Commission finds that it is necessary to impose a restriction on the removal of natural vegetation as specified in **Special Condition 13**. This restriction specifies that natural vegetation shall not be removed until grading or building permits have been secured and construction of the permitted structures has commenced. The limitation imposed by Special Condition 3 avoids loss of natural vegetative coverage resulting in unnecessary erosion in the absence of adequately constructed drainage and run-off control devices and implementation of the landscape and interim erosion control plans.

The Commission finds that the proposed project, as conditioned, will minimize potential geologic hazards of the project site and adjacent properties.

Wild Fire

The proposed project is located in the Santa Monica Mountains, an area subject to an extraordinary potential for damage or destruction from wild fire. Typical vegetation in the Santa Monica Mountains consists mostly of coastal sage scrub and chaparral. Many plant species common to these communities produce and store terpenes, which are highly flammable substances (Mooney in Barbour, Terrestrial Vegetation of California, 1988). Chaparral and sage scrub communities have evolved in concert with, and continue to produce the potential for, frequent wild fires. The typical warm, dry summer conditions of the Mediterranean climate combine with the natural characteristics of the native vegetation to pose a risk of wild fire damage to development that cannot be completely avoided or mitigated.

Due to the fact that the proposed projects are located in an area subject to an extraordinary potential for damage or destruction from wild fire, the Commission can only approve the project if the applicant assumes the liability from these associated risks. Through **Special Condition 3**, the wildfire waiver of liability, the applicant acknowledges the nature of the fire hazard which exists on the site and which may affect the safety of the proposed development. Moreover, through acceptance of Special Condition 4, the applicant also agrees to indemnify the Commission, its officers, agents and employees against any and all expenses or liability arising out of the acquisition, design, construction, operation, maintenance, existence, or failure of the permitted projects.

For the reasons set forth above, the Commission finds that, as conditioned, the proposed project is consistent with Section 30253 of the Coastal Act.

D. Environmentally Sensitive Habitat

Section **30230** of the Coastal Act states that:

> ***Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.***

Section **30231** states:

> ***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.***

Section **30240** states:

> ***(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.***
>
> ***(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.***

Section **30107.5** of the Coastal Act, defines an environmentally sensitive area as:

> ***"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.***

Section 30231 of the Coastal Act requires that the biological productivity and the quality of coastal waters and streams be maintained and, where feasible, restored through, among other means, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flows, maintaining natural buffer areas that protect riparian habitats, and minimizing alteration of natural streams. In addition, 30240 of the Coastal Act state that environmentally sensitive habitat areas must be

protected against disruption of habitat values. In Section 30107.5, the Coastal Act defines environmentally sensitive habitat areas (ESHAs) as any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development. Therefore, when considering any area, such as the Santa Monica Mountains, with regard to an ESHA determination one must focus on three main questions:

1) Is a habitat or species rare?
2) Is the habitat or species especially valuable because of its special nature or role in the ecosystem?
3) Is the habitat or species easily disturbed or degraded by human activities and developments?

The Coastal Commission has found that the Mediterranean Ecosystem in the Santa Mountains is itself rare, and valuable because of its relatively pristine character, physical complexity, and resultant biological diversity. Therefore, habitat areas that provide important roles in that ecosystem are especially valuable and meet the second criterion for the ESHA designation. In the Santa Monica Mountains, coastal sage scrub and chaparral have many important roles in the ecosystem, including the provision of critical linkages between riparian corridors, the provision of essential habitat for species that require several habitat types during the course of their life histories, the provision of essential habitat for local endemics, the support of rare species, and the reduction of erosion, thereby protecting the water quality of coastal streams. For these and other reasons discussed in Exhibit 7c, which is incorporated herein, the Commission finds that large contiguous, relatively pristine stands of coastal sage scrub and chaparral in the Santa Monica Mountains meet the definition of ESHA. This is consistent with the Commission's past findings on the Malibu LCP[1].

Further, woodlands that are native to the Santa Monica Mountains, such as oak woodlands, are important coastal resources. Native trees prevent the erosion of hillsides and stream banks, moderate water temperatures in streams through shading, provide food and habitat, including nesting, roosting, and burrowing to a wide variety of wildlife species, contribute nutrients to watersheds, and are important scenic elements in the landscape. In the Santa Monica Mountains, coast live oak woodland occurs mostly on north slopes, shaded ravines and canyon bottoms. Besides the coast live oak, this plant community includes hollyleaf cherry, California bay laurel, coffeeberry, and poison oak. Coast live oak woodland is more tolerant of salt-laden fog than other oaks and is generally found nearer the coast[2]. Coast live oak also occurs as a riparian corridor species within the Santa Monica Mountains. Valley oaks are endemic to California and reach their southern most extent in the Santa Monica Mountains. Valley oaks were once widely distributed throughout California's perennial grasslands in central and coastal valleys. Individuals of this species may survive 400-600 years.

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[1] Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.
[2] NPS 2000. op. cit.

Over the past 150 years, valley oak savanna habitat has been drastically reduced and altered due to agricultural and residential development. The understory is now dominated by annual grasses and recruitment of seedlings is generally poor. This is a very threatened habitat. The important ecosystem functions of oak woodlands and savanna are widely recognized[3]. These habitats support a high diversity of birds[4], and provide refuge for many species of sensitive bats[5]. Typical wildlife in this habitat includes acorn woodpeckers, scrub jays, plain titmice, northern flickers, cooper's hawks, western screech owls, mule deer, gray foxes, ground squirrels, jackrabbits and several species of sensitive bats. Therefore, because of their important ecosystem functions and vulnerability to development, the Commission finds that oak woodlands and savanna within the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

With the exception of the disturbed area immediately around the existing structure and existing access driveway, the project site is undisturbed. Staff would note that, as previously discussed, there is other existing, unpermitted development (pad, retaining wall, and trailer) on the site. Since this development was not authorized through a coastal development permit, the Commission must consider the proposed project as though this development does not exist. While there is scattered residential development in the area, there are contiguous areas of oak woodland ranging from undisturbed to moderately disturbed existing west of the site along and on both sides of Old Topanga Canyon Creek. Additionally, there is contiguous, undisturbed oak woodland to the north and northeast of the site that transitions into large contiguous, undisturbed areas of chaparral habitat as the area slopes up to Henry Ridge. Exhibit 10 is a 2001 aerial photograph of the immediate area around the project site.

Therefore, due to the important ecosystem roles of oak woodland and chaparral in the Santa Monica Mountains (detailed in Exhibit 7c), and the fact that the subject site is undisturbed and part of a large, unfragmented block of habitat, the Commission finds that the chaparral, and coast live oak woodland on and surrounding the project site (excluding the disturbed area immediately surrounding the existing structure) meets the definition of ESHA under the Coastal Act.

As explained above, the project site and the surrounding area (excluding the disturbed area immediately adjacent to the road) constitutes an environmentally sensitive habitat area (ESHA) pursuant to Section 30107.5. Section 30240 requires that "environmentally sensitive habitat areas shall be protected against any significant

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[3] Block, W.M., M.L. Morrison, and J. Verner. 1990. Wildlife and oak-woodland interdependency. *Fremontia* 18(3):72–76. Pavlik, B.M., P.C. Muick, S. Johnson, and M. Popper. 1991. *Oaks of California*. Cachuma Press and California Oak Foundation, Los Olivos, California. 184 pp.

[4] Cody, M.L. 1977. Birds. Pp. 223–231 *in* Thrower, N.J.W., and D.E. Bradbury (eds.). *Chile-California Mediterranean scrub atlas*. US/IBP Synthesis Series 2. Dowden, Hutchinson & Ross, Stroudsburg, Pennsylvania. National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701

[5] Miner, K.L., and D.C. Stokes. 2000. Status, conservation issues, and research needs for bats in the south coast bioregion. Paper presented at *Planning for biodiversity: bringing research and management together*, February 29, California State University, Pomona, California.

disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." Section 30240 restricts development on the parcel to only those uses that are dependent on the resource. The applicant proposes to construct a single-family residence on the parcel. The development is proposed to be partially located on the existing building pad and partially within the footprint of the existing unpermitted small residence. The proposed residence would extend upslope from the existing disturbed area into the protected zone of a large oak tree. Additionally, the proposed guesthouse would be located within the oak woodland ESHA. Further, construction of the residence and guesthouse in the proposed locations will also require the removal and/or thinning of chaparral ESHA as a result of fuel modification for fire protection purposes. As single-family residences do not have to be located within ESHAs to function, the Commission does not consider single-family residences to be a use dependent on ESHA resources. Application of Section 30240, by itself, would require denial of the project, because the project would result in significant disruption of habitat values and is not a use dependent on those sensitive habitat resources.

However, the Commission must also consider Section 30010, and the Supreme Court decision in *Lucas v. South Carolina Coastal Council* (1992) 505 U.S. 1003, 112 S.Ct. 2886. Section 30010 of the Coastal Act provides that the Coastal Act shall not be construed as authorizing the Commission to exercise its power to grant or deny a permit in a manner which will take private property for public use. Application of Section 30010 may overcome the presumption of denial in some instances. The subject of what government action results in a "taking" was addressed by the U.S. Supreme Court in *Lucas v. South Carolina Coastal Council*. In *Lucas*, the Court identified several factors that should be considered in determining whether a proposed government action would result in a taking. For instance, the Court held that where a permit applicant has demonstrated that he or she has a sufficient real property interest in the property to allow the proposed project, and that project denial would deprive his or her property of all economically viable use, then denial of the project by a regulatory agency might result in a taking of the property for public use unless the proposed project would constitute a nuisance under State law. Another factor that should be considered is the extent to which a project denial would interfere with reasonable investment-backed expectations.

The Commission interprets Section 30010, together with the *Lucas* decision, to mean that if Commission denial of the project would deprive an applicant's property of all reasonable economic use, the Commission may be required to allow some development even where a Coastal Act policy would otherwise prohibit it, unless the proposed project would constitute a nuisance under state law. In other words, Section 30240 of the Coastal Act cannot be read to deny all economically beneficial or productive use of land because Section 30240 cannot be interpreted to require the Commission to act in an unconstitutional manner.

In the subject case, the applicant purchased the two parcels that previously made up the property in 1986. According to public information, the applicant's two parcels (as reconfigured by the unpermitted lot line adjustment described above) are currently

valued at $30,092. and $ 24,828. The parcel was designated in the Los Angeles County Land Use Plan for residential use. Three land use designations apply to the property which are: Mountain Land II, that allows residential development at a maximum density of 1 dwelling unit per 20 acres of land (covering most of the project site); Rural Land II, that allows 1 dwelling unit per 5 acres (a very small area of the project site) and Residential I, that allows 1 dwelling unit per 1 acre (small area of the site). Residential development has previously been approved by the Commission on sites in the immediate area. Based on these facts, along with the presence of existing and approved residential development in the area, the applicant had reason to believe that he had purchased a parcel on which it would be possible to build a residence.

The Commission finds that in this particular case, other allowable uses for the subject site, such as a recreational park or a nature preserve, are not feasible and would not provide the owner an economic return on the investment. The parcel is approximately 2-acres in size, and there are other scattered, residential developments in the same area. Public parkland has been acquired in this general vicinity, the Santa Monica Mountains National Recreation Area, but there is no parkland or public open space directly adjacent to the project site (although there are significant areas of parkland quite nearby). There is currently no offer to purchase the property from any public park agency. The Commission thus concludes that in this particular case there is no viable alternative use for the site other than residential development. The Commission finds, therefore, that outright denial of all residential use on the project site would interfere with reasonable investment-backed expectations and deprive the property of all reasonable economic use.

Next the Commission turns to the question of nuisance. There is no evidence that construction of a residence on the project site would create a nuisance under California law. Other houses have been constructed in similar situations in oak woodland and chaparral habitat in Los Angeles County, apparently without the creation of nuisances. The County's Health Department has not reported evidence of septic system failures. In addition, the County has reviewed and approved the applicant's proposed septic system, ensuring that the system will not create public health problems. Furthermore, the use that is proposed is residential, rather than, for example, industrial, which might create noise or odors or otherwise create a public nuisance. In conclusion, the Commission finds that a residential project on the subject property can be allowed to permit the applicant a reasonable economic use of their property consistent with Section 30010 of the Coastal Act.

While the applicant is entitled under Section 30010 to an assurance that the Commission will not act in such a way as to take their property, this section does not authorize the Commission to avoid application of the policies of the Coastal Act, including Section 30240, altogether. Instead, the Commission is only directed to avoid construing these policies in a way that would take property. Aside from this instruction, the Commission is still otherwise directed to enforce the requirements of the Act. Therefore, in this situation, the Commission must still comply with Sections 30230, 30231, and 30240 of the Coastal Act by avoiding impacts that would disrupt and/or

degrade environmentally sensitive habitat, to the extent this can be done without taking the property.

1. Oak Woodland ESHA

According to Oaks of California, "Coast live oak is unique among the California oaks in its ability to thrive along the coast...Proximity to the ocean provides a milder climate for coast live oak, with warmer winters (seldom encountering frost or snow) and less sweltering summers than found inland. Fog is common, providing additional relief from heat and drought...Inland, it can be found at elevations up to 5,000 feet with groves that spread across valleys, on steep hillsides, in rocky canyons, and along streams and intermittent watercourses" (Pavlik, Muick, Johnson, and Popper, 1991).

The coast live oak is a large, evergreen tree with a dense, round crown and large limbs. Its trunk divides into either erect limbs or, more commonly, into crooked, wide-spreading limbs that sometimes touch or trail the ground. They can grow to 30 to 70 feet high and 35 to 80 feet wide.

Oaks are easily damaged and are very sensitive to disturbances that occur to the tree or the surrounding environment. Their root system is extensive, but surprisingly shallow, radiating out as much as 50 feet beyond the spread of the tree leaves, or canopy. The ground area at the outside edge of the canopy, referred to as the dripline, is especially important: the tree obtains most of its surface water and nutrients here, as well as conducts an important exchange of air and other gases (Los Angeles County Regional Planning Oak Tree Ordinance).

In past permit actions, the Commission has recognized the importance of the habitat area provided by oak woodlands or savannas. Oak woodlands, and often associated riparian areas have been identified as extremely important to the fish and wildlife resources of California. They are recognized for supporting a wide variety of wildlife species by providing food, nesting, and roosting cover, and in many instances, important understory vegetation. In addition, hardwoods benefit fishery resources by preventing the erosion of hillsides and stream banks, moderating water temperatures by shading, and contributing nutrients and food-chain organisms to waterways (California Department of Fish and Game, Hardwood Policies, 1985).

There are potential significant adverse impacts to individual oak trees, oak woodland ESHA, and other ESHA on the site from various aspects of the proposed project. Encroachments into the protected zone of an oak tree, particularly of the nature proposed for several of the trees on the project site, can result in significant adverse impacts. An article entitled "Oak Trees: Care and Maintenance" prepared by the Forestry Department of the County of Los Angeles states:

> Any change in the level of soil around an oak tree can have a negative impact. The most critical area lies within 6' to 10' of the trunk: no soil should be added or scraped away. ... Construction activities outside the protected zone can have damaging impacts on existing trees. ... Digging of trenches in the root zone should be avoided. Roots may be cut or

> severely damaged, and the tree can be killed. ... Any roots exposed during this work should be covered with wet burlap and kept moist until the soil can be replaced. The roots depend on an important exchange of both water and air through the soil within the protected zone. Any kind of activity which compacts the soil in this area blocks this exchange and can have serious long term negative effects on the trees.

This publication also notes specific considerations for watering supplements underneath and near oak trees, and states that:

> Improper watering is often overlooked as the cause of tree death because it can take years for the damage to show. Once the tree shows obvious signs of decline, it is often too late to correct the problem...Overwatering, especially during the summer months, causes a number of problems which can lead to decline and eventual death of the tree. It creates ideal conditions for attacks of Oak Root Fungus by allowing the fungus to breed all year. In addition, both evergreen and deciduous oaks grow vigorously in the spring and naturally go dormant in the summer. Extra water only encourages new tip growth which is subject to mildew. Oaks need this period of rest.

Following is a discussion of each project component that has the potential to impact oak woodland ESHA or individual oak trees.

a. <u>Access Driveway</u>

The proposed project site does not have direct street access to Old Topanga Canyon Road. Rather, there is an existing access driveway that extends up the steep slope through an access easement to the project site. This driveway extends through an oak woodland that has been disturbed by past development of houses, driveways, and other residential accessories. The applicant is proposing improvements to this road in order to comply with the access requirements of the Los Angeles County Fire Department for new development. These improvements include widening the road to 20 feet (with the exception of one area where a width of 15 feet was allowed in order to retain an oak tree), reducing the slope of road, providing a "hammerhead" turnaround area, and paving. The applicant proposes 791 cu. yds. of grading, and encroachment into the protected zone of eight oak trees that are located along the existing driveway. These trees were numbered by the applicant's consulting arborist as follows:

OP (off property)3, OP4, OP6, OP7, OP8, OP9, OP10, OP11

The oak tree canopies and protected zones for the trees along the driveway are shown in Exhibit 7b. In addition to encroaching into the protected zones, a vertical clearance of 13 feet must be provided over the roadway, which requires some pruning of the tree canopies. The proposed access driveway will encroach significantly into the protected zone near to the trunk of two of the trees (OP3 and OP4). The arborist estimates that 25-45 percent of the roots from tree OP3 and 20-45 percent of the roots from tree OP4 will be lost. Additionally, the arborist has stated a major trunk that extends into the driveway area will be removed from tree OP3 to provide the required vertical clearance. While the applicant does not propose the removal of these two trees, it is likely that

these two trees will be severely impacted (particularly OP3), and may even die as a result of the proposed grading and paving within the roots, nearly to the trunk of each tree. The other six trees near the driveway will have encroachments to varying degrees within their protected zones. The arborist estimates that these trees will potentially have minor impacts to the roots, losing less than 10-20 percent of their roots as a result of the driveway construction.

There will be impacts to the individual oak trees ranging from minor to severe, including death. Further, the introduction of a roadway through the woodland and the impacts to the trees will interrupt the oak canopy coverage and will lessen the habitat value of the woodland as a whole.

Given the location of the individual oak trees within the woodland and the route of the road, there are no design alternatives that can be employed to avoid or reduce impacts to the trees. Where the removal of trees or encroachment of development within the tree protected zones cannot be avoided by any feasible project alternative, mitigation must be provided. In this case, no trees are proposed to be removed at this time. However, given the impacts that will occur to trees OP3 and OP4 as a result of root removal, pruning, soil compaction, and addition of impervious surfaces, it is likely that these trees will experience lessened health and possible death as a result. Mitigation is also required for impacts that occur to trees as a result of development encroachments into the root zone that cannot be avoided through the implementation of siting or design alternatives. The mitigation must include, at a minimum the planting of replacement trees. If there is suitable area on the project site, replacement trees should be provided on-site, at a ratio of ten replacement trees for every one tree removed. In order to mitigate the significant impacts and probable loss of these two trees, the Commission finds it necessary to require the applicant to plant replacement oak trees on the project site. There are areas on the project site that could provide suitable habitat. **Special Condition No. 11** requires the applicant to plant 20 replacement trees on the site and to monitor these trees for ten years.

Several of the other six trees that will be encroached upon by the driveway may also die or suffer worsened health and vigor as a result of these impacts. Such effects may take several years to reveal themselves. In order to minimize such impacts and to provide mitigation for the loss or diminished health of any of the impacted trees, **Special Condition No. 12** requires the applicant to provide monitoring of oak trees on the site where development will encroach within their protected zones, including Trees Number OP6, OP7, OP8, OP9, OP10, and OP11 for a period of no less than 10 years. If the monitoring reveals that any of these six trees die or suffer reduced health or vigor, replacement trees must be provided as mitigation.

b. Residence

The applicant proposes the demolition of a small (approximately 400 sq. ft. footprint) residence on the project site and the construction of a significantly larger 3,950 sq. ft., 2-story single family residence with a 2-car garage. The proposed residence will

encroach into the protected zone of one large oak tree that the arborist has described as Tree Number 28 (Exhibit 7a). This tree has five trunks (the trunks have diameters at breast height of 21, 20.1, 14.2, 20.3, and 18.4 inches) and a canopy spread from the trunk that ranges from 25 feet to 35 feet. The proposed residence would extend approximately 14 to 17 feet into the southwestern (downslope) canopy of the oak tree. The proposed structure will be supported on a caisson and grade-beam foundation and the applicant states that no grading will be carried out within the protected zone of Tree Number 28. Nonetheless, there will be impacts to this tree from the construction of a structure within the protected zone. Impacts will potentially result from soil compaction, and increases in the amount of impervious surfaces which will both affect the exchange of air, water, and nutrients to the roots. Additionally, given the proposed proximity of the structure to the oak tree, it is likely that Tree Number 28 will be subjected to pruning and removal of foliage in order to ensure safety from potentially falling branches to the residence and the adjacent outdoor living area.

As previously discussed, the Commission can approve a single-family residence on the project site in order to provide the applicant with an economic use of the property. Staff has considered siting and design alternatives for the proposed residence that would avoid impacts to Tree Number 28. Given the location of oak woodland and chaparral ESHA, steep slopes, and lot configuration of the proposed project site, the proposed residence would be generally sited in the location that would minimize impacts to ESHA. Staff has considered other areas of the proposed project site for alternative building sites. However, there are no alternative building site locations that would avoid impacts to ESHA. A portion of the proposed residence would be located on the flattest area of the site, within the footprint and surrounding disturbed area of the existing structure. However, the remainder of the new structure would extend upslope and into the protected zone of Tree Number 28.

Staff then looked to alternative designs that could reduce impacts to oak woodland ESHA, and in particular, Tree Number 28. One alternative was to redesign the proposed driveway hammerhead turnaround area that is required by the Los Angeles County Fire Department. As proposed, an area perpendicular to the driveway would be constructed west of the proposed house to create a "T" intersection that allows for fire trucks and other emergency vehicles to turnaround and leave the site. Staff considered the relocation of the "T" intersection such that it could be located opposite the proposed driveway into the garage (at the end of the access road). It seems that relocating the turnaround would allow for the residence to be shifted further west, reducing the encroachment into the protected zone of Tree Number 28. However, the applicant states that this alternative driveway design would not be feasible. According to the applicant, the turnaround area may not have a grade of more than 8 percent and must provide 35 feet of turnaround area. He states that the area further east at the end of the road is much steeper and it would not be feasible to provide the turnaround in that location without a much greater amount of grading and large retaining walls.

The only other alternative staff can identify is a reduction in the size of the proposed residence to allow the structure to be located in the proposed area of the site and to

avoid encroaching into the protected zone of Tree Number 28. A residence could be designed that would be located outside the protected zone of Tree Number 28. There is an area of approximately 1,200 sq. ft. that is located outside of the protected zone of this tree, not including the proposed driveway and turnaround. This would allow for a residence of approximately 2,400 sq. ft. (assuming a two-story structure). While this would represent a reduction in the overall square footage from the applicant's proposal and a redesign of the structure, it will avoid the protected zone of a large oak tree, thereby minimizing impacts the tree and to the oak woodland on the site.

As such, the Commission finds that in order to minimize impacts to oak woodland ESHA and to Tree Number 28, it is necessary to require the applicant to redesign the proposed residence such that no portion of any structure, including decks, and patios is located within the protected zone of Tree Number 28. **Special Condition No.6** requires the applicant to provide revised plans that include this redesign.

c. Septic System

The applicant proposes the installation of a septic system including seepage pits to provide sewage disposal for the proposed residence. The proposed seepage pits would be located on the hill upslope of the proposed residence. The lines extending from the proposed septic tank next to the residence to the seepage pits will pass through the protected zones of four oak trees (Trees Number 28, 29, 30 and 31). The location of these oak trees are shown on Exhibit 7a.

The applicant has stated that test pits were drilled in approximately six different locations on the project site in order to locate an area that had sufficient percolation rates to allow for sewage disposal. The applicant asserts that all of the areas tested, with the exception of the proposed seepage pit location, exhibited groundwater levels that were too high to allow for adequate percolation. As such, the applicant concluded that the proposed location for the seepage pits is the only location that would be feasible to allow for the installation of a septic system for the proposed residence.

Extending the septic lines from the residence to the proposed seepage pits will require the excavation of a trench through the protected zones of four oak trees. Oak tree roots typically extend outward from the tree to at least the edge of the tree canopy and often significantly (up to 50 feet) beyond that point. Oaks have a lot of shallow roots that obtain most of the surface water and nutrients as well as conducting an important exchange of air and other gases. Such trenching will remove and/or damage oak tree roots and has the potential to adversely impact the health of each of the four oak trees (Trees Number 28, 29, 30 and 31).

As previously discussed, the Commission can approve a single-family residence on the project site in order to provide the applicant with an economic use of the property. Sewage disposal must be provided on the site for the residence for the home to be habitable. The applicant has stated that no other feasible location for the seepage pits has been identified. Staff knows of no other alternative location for the seepage pits

that would avoid the installation of the septic lines within the protected zones of the oak trees on the site. Where the encroachment of development within the tree protected zones cannot be avoided by any feasible project alternative, mitigation must be provided.

One measure that could lessen the potential impacts of trenching within the protected zones of these four trees is for all such work to be carried out using only hand tools. Ensuring that large equipment is not used to work in proximity to the oaks will allow roots to be preserved where possible, minimizing impacts to the extent feasible. The applicant's consulting arborist recommends that all work within any oak tree protected zone be accomplished with hand tools only. While this measure will serve to minimize impacts, given that root removal or damage and soil compaction may occur to Trees Number 28, 29, 30 and 31, it is likely that one or more of these trees will experience lessened health and possible death as a result. Such effects may take several years to reveal themselves. In order to minimize such impacts and to provide mitigation for the loss or diminished health of any of the impacted trees, **Special Condition No. 12** requires the applicant to provide monitoring of oak trees on the site where development will encroach within their protected zones, including Trees Number 28, 29, 30 and 31 for a period of no less than 10 years. If the monitoring reveals that any of these eight trees die or suffer reduced health or vigor, replacement trees must be provided as mitigation.

d. Trailer

In or before 1990, the applicant graded a pad (including approximately 50 cu. yds. of cut according to the applicant), constructed a block retaining wall, and placed a mobile home type trailer on the pad. The trailer is not attached to a septic system or other utilities. These improvements were not approved as part of any coastal development permit. The applicant is requesting, as part of the subject application, after-the-fact approval for the grading, retaining wall, placement of the trailer on the pad and the retention of the trailer on the site during construction of the residence. The applicant originally proposed to convert the trailer to a guesthouse and retain it permanently on the site. The applicant has modified that proposal to request temporary use of the trailer during construction and removal of the trailer from the site after the residence is completed. The applicant has not proposed to remove the retaining wall or to restore the graded slope.

The pad and trailer are located upslope of the existing structure within the protected zones of 5 oak trees (Trees Number 31, 32, 33, 34, and 35). The location of these trees is shown on Exhibit 7a. These oak trees are within the oak woodland ESHA on the site that is located upslope of the existing residence and is undisturbed. (Staff would note that, as previously discussed, the pad, retaining wall, and trailer do exist as unpermitted development on the site. Since this development was not authorized through a coastal development permit, the Commission must consider the proposed project as though this development does not exist.)

There will be impacts to these trees from the grading of a pad, construction of a retaining wall and placement of a trailer within the protected zone. The proposed grading within the oak tree protected zones will have direct impacts on the affected oak trees, including exposure and cutting of roots and dramatic changes in the level and compaction of soil surrounding the roots. Additionally, the encroachment of this structure will increase the amount of impervious surface and therefore decrease the infiltrative function of the soil adjacent to the oak trees. An increase in impervious surface decreases the exchange of air, water, and nutrients to the roots. Additionally, given the proposed proximity of the structure to the oak trees, it is likely that Trees Number 31, 32, 33, 34, and 35 will be subjected to pruning and removal of foliage in order to ensure safety from potentially falling branches to the guesthouse and the adjacent outdoor living area. Finally, trenching would be necessary both to link the trailer to utilities as well as to extend sewer lines from the trailer/guesthouse to the proposed septic tank located adjacent to the proposed residence. This trench would extend through the protected zone of Tree Number 35. Such trenching will remove and/or damage oak tree roots and has the potential to adversely impact the health of the oak tree.

There will be impacts to the individual oak trees from the pad grading, retaining wall, and trailer/guesthouse, ranging from minor to severe, including possible death. Further, the introduction of this development within the woodland and the impacts to the trees will interrupt the oak canopy coverage and will lessen the habitat value of the woodland as a whole.

As previously discussed, the Commission can approve a single-family residence on the project site in order to provide the applicant with an economic use of the property. The proposed residence will be located on the periphery of the oak woodland habitat on the site and as conditioned to revise the plans, will minimize impacts to the woodland and to individual oak trees. However, given the location of the proposed pad, wall, and trailer/guesthouse within the woodland and the proximity of the individual oak trees, there are no design alternatives that can be employed to avoid or reduce impacts to the oak woodland ESHA. Further, the location of the proposed guesthouse approximately 60 feet upslope of the proposed residence will not cluster development on the site. As discussed below, this location of the guesthouse will extend the required fuel modification a significant distance upslope into chaparral ESHA. Staff can identify no alternative location on the site where a guesthouse could be constructed that would not adversely impact oak woodland or chaparral ESHA.

As such, the Commission finds that in order to minimize impacts to ESHA, it is necessary to require the deletion of the trailer from the project, including the grading of the pad, construction of the retaining wall, and the placement of the trailer. **Special Condition No. 6** requires the applicant to provide revised plans that include the deletion of the pad, retaining wall and trailer from the plan. As previously discussed, this development already exists on the site but is unpermitted. The applicant has not proposed to include the removal of the trailer, the removal of the wall, or the restoration of the slope and vegetation as part of the subject coastal development permit

application. The Commission's enforcement division will evaluate further actions to address these matters.

e. Redivision

The configuration of three parcels, including two owned by the applicant as well as one parcel adjacent to his properties, was altered without the approval of a coastal development permit (as required for land divisions). The applicant received approval from the County of Los Angeles and carried out a lot line adjustment between three parcels in 1992. The applicant did not apply for or receive approval of any coastal development permit for this land division. Nonetheless, the lot line adjustment was recorded in 1992. Staff would note that although a lot line adjustment was the approval granted by Los Angeles County, the Commission would consider this to be a "redivision" as the boundaries of the three lots were completely reconfigured. Staff only became aware of the redivision when the applicant submitted the subject coastal development permit application. The County's approval-in-concept for the proposed residence referenced the 1992 lot line adjustment approval. At staff's request, the applicant provided information regarding the lot line adjustment approval.

The existing lot configuration prior to the redivision (Exhibit 9a) consisted of three contiguous lots, including two small triangular parcels that are part of the Old Topanga Small Lot Subdivision. According to the survey map prepared by the applicant's surveyor for the redivision, these two triangular parcels were 7,137 sq. ft. (Parcel 1) and 5,004 sq. ft. (Parcel 2) in size. The third parcel was 2.19-acres (Parcel 3) in size and while contiguous to the small triangular lots, was located just outside of the small lot subdivision.

The 1992 redivision resulted in the reconfiguration of the properties into three different parcels. Exhibit 9b shows the redivided lot configuration. Approximately 1,478 sq. ft. of Parcel 2 was added to Parcel 1, thereby increasing the size of Parcel 1 to 8,615 sq. ft. Parcel 2 and Parcel 3 were further reconfigured, creating two parcels that were 1.06-acre (Parcel 2) and 1.23-acre (Parcel 3) in size.

Since this redivision was not approved as part of a coastal development permit, the Commission cannot consider these lots to be legally created parcels. While the applicant has not specifically included the redivision as part of the subject application, it is integrally related to the development that is proposed. The proposed residence would be located on one of the reconfigured parcels.

Based on staff's review of the unpermitted redivision, it is clear that the reconfiguration of the parcels (particularly of Parcels 2 and 3) in the manner approved by Los Angeles County in Lot Line Adjustment No.101,160 would result in an increase in the potential buildout of the property within oak woodland and chaparral ESHA. Staff would note that the reconfiguration of the lot lines between the previously existing Parcel 1 and Parcel 2 involved a minor addition of square footage from one parcel to the other. This aspect of the redivision does not raise issues with regard to ESHA. The original lot configuration

of Parcel 2 and Parcel 3 consisted of a small (5,004 sq. ft.), moderately sloping lot with access to an existing access driveway and a larger (2.19-acres) parcel which contains more steeply sloping terrain. The larger parcel contains many oak trees in an oak woodland that transitions into chaparral vegetation higher on the slope. There are several drainages that cross this parcel from west to east, including a pristine stream with riparian vegetation located on the northern half of the parcel. It appears that the preferred location for a building site on the 2.19-acre parcel was just east of the small lot, near the access road.

As reconfigured in the unpermitted parcel redivision, two wholly reconfigured lots would be created such that the 2.19-acre parcel would be split into a north and south half (approximately in half) and the small lot area would be combined with the south half, thereby creating two lots that would be 1.06-acre and 1.23-acre. This would result in one potential building site adjacent to the existing access road on the more moderately sloping area of the property and one building site would need to be provided on the northern half of the property. This area is more remote from the existing road and other existing development in the area and contains more steeply sloping terrain. As a result, the habitat on the site is undisturbed. This lot configuration would not cluster development. A larger amount of grading would be required to provide an access road, turnaround, and development area on the north parcel. Staff cannot identify a building site location on the north area that could minimize impacts to ESHA. Rather, the construction of a residence in that area would have significant adverse impacts on ESHA, particularly oak woodland as well as the stream area. Additionally, since the building sites would not be clustered, the area of fuel modification that would be required would increase greatly.

As such, staff advised the applicant that the redivision could not be recommended for approval as it would not minimize impacts to ESHA, as required by the Chapter 3 policies of the Coastal Act. To resolve this issue, the applicant has proposed, as part of this application, to carry out a lot merger and lot line adjustment. The applicant's proposal would result in an adjustment between Parcel 1 and Parcel 2 whereby a portion of Parcel 2 would be added to Parcel 1, increasing the size of Parcel 1 to 8,615 sq. ft. The applicant's proposal would also result in the merger of the remainder of Parcel 2 with all of Parcel 3, creating a parcel of 2.29-acres. In this way, two lots would be created from the 3 existing parcels. The applicant's proposal to merge the parcels would create one parcel for the proposed project site that, as discussed in this report, can be developed with a single family residence that will minimize impacts to ESHA and still give the applicant a reasonable use of the property.

In order to implement the applicant's proposal, **Special Condition No. 7** requires that the applicant provide evidence that these lots have been legally merged through the County of Los Angeles so that the project site is considered to be one parcel.

2. Chaparral ESHA and Fuel Modification

As discussed above, the proposed development will be approved within ESHA in order to provide an economically viable use. Siting and design alternatives have been considered in order to identify the alternative that can avoid and minimize impacts to ESHA to the greatest extent feasible. However, given the location of chaparral ESHA on the site, there will still be significant impacts to chaparral ESHA resulting from the required fuel modification area around the proposed structure. The following discussion of ESHA impacts from new development and fuel modification is based on the findings of the Malibu LCP[6].

Fuel modification is the removal or modification of combustible native or ornamental vegetation. It may include replacement with drought tolerant, fire resistant plants. The amount and location of required fuel modification would vary according to the fire history of the area, the amount and type of plant species on the site, topography, weather patterns, construction design, and siting of structures. There are typically three fuel modification zones applied by the Fire Department:

> Zone A (Setback Zone) is required to be a minimum of 20 feet beyond the edge of protected structures. In this area native vegetation is cleared and only ground cover, green lawn, and a limited number of ornamental plant species are allowed. This zone must be irrigated to maintain a high moisture content.
>
> Zone B (Irrigated Zone) is required to extend from the outermost edge of Zone A to a maximum of 80 feet. In this area ground covers may not extend over 18 inches in height. Some native vegetation may remain in this zone if they are adequately spaced, maintained free of dead wood and individual plants are thinned. This zone must be irrigated to maintain a high moisture content.
>
> Zone C (Thinning Zone) is required to extend from the outermost edge of Zone B up to 100 feet. This zone would primarily retain existing native vegetation, with the exception of high fuel species such as chamise, red shank, California sagebrush, common buckwheat and sage. Dead or dying vegetation must be removed and the fuel in existing vegetation reduced by thinning individual plants.

Thus, the combined required fuel modification area around structures can extend up to a maximum of 200 feet. If there is not adequate area on the project site to provide the required fuel modification for structures, then brush clearance may also be required on adjacent parcels.

Notwithstanding the need to protect structures from the risk of wildfire, fuel modification results in significant adverse impacts that are in excess of those directly related to the

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[6] Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.

development itself. Within the area next to approved structures (Zone A), all native vegetation must be removed and ornamental, low-fuel plants substituted. In Zone B, most native vegetation will be removed or widely spaced. Finally, in Zone C, native vegetation may be retained if thinned, although particular high-fuel plant species must be removed (Several of the high fuel species are important components of the chaparral community). In this way, for a large area around any permitted structures, native vegetation will be cleared, selectively removed to provide wider spacing, and thinned.

Obviously, native vegetation that is cleared and replaced with ornamental species, or substantially removed and widely spaced will be lost as habitat and watershed cover. Additionally, thinned areas will be greatly reduced in habitat value. Even where complete clearance of vegetation is not required, the natural habitat can be significantly impacted, and ultimately lost, particularly if such areas are subjected to supplemental water through irrigation. In coastal sage scrub habitat, the natural soil coverage of the canopies of individual plants provides shading and reduced soil temperatures. When these plants are thinned, the microclimate of the area will be affected, increasing soil temperatures, which can lead to loss of individual plants and the eventual conversion of the area to a dominance of different non-native plant species. The areas created by thinning between shrubs can be invaded by non-native grasses that can over time out-compete native species.

For example, undisturbed coastal sage scrub and chaparral vegetation typical of coastal canyon slopes, and the downslope riparian corridors of the canyon bottoms, ordinarily contains a variety of tree and shrub species with established root systems. Depending on the canopy coverage, these species may be accompanied by understory species of lower profile. The established vegetative cover, including the leaf detritus and other mulch contributed by the native plants, slows rainfall runoff from canyon slopes and staunches silt flows that result from ordinary erosional processes. The native vegetation thereby limits the intrusion of sediments into downslope creeks. Accordingly, disturbed slopes where vegetation is either cleared or thinned are more directly exposed to rainfall runoff that can therefore wash canyon soils into down-gradient creeks. The resultant erosion reduces topsoil and steepens slopes, making revegetation increasingly difficult or creating ideal conditions for colonization by invasive, non-native species that supplant the native populations.

The cumulative loss of habitat cover also reduces the value of the sensitive resource areas as a refuge for birds and animals, for example by making them—or their nests and burrows—more readily apparent to predators. The impacts of fuel clearance on bird communities was studied by Stralberg who identified three ecological categories of birds in the Santa Monica Mountains: 1) local and long distance migrators (ash-throated flycatcher, Pacific-slope flycatcher, phainopepla, black-headed grosbeak), 2) chaparral-associated species (Bewick's wren, wrentit, blue-gray gnatcatcher, California thrasher, orange-crowned warbler, rufous-crowned sparrow, spotted towhee, California towhee) and 3) urban-associated species (mourning dove, American crow, Western scrub-jay,

Northern mockingbird)[7]. It was found in this study that the number of migrators and chaparral-associated species decreased due to habitat fragmentation while the abundance of urban-associated species increased. The impact of fuel clearance is to greatly increase this edge-effect of fragmentation by expanding the amount of cleared area and "edge" many-fold. Similar results of decreases in fragmentation-sensitive bird species are reported from the work of Bolger et al. in southern California chaparral[8].

Fuel clearance and habitat modification may also disrupt native arthropod communities, and this can have surprising effects far beyond the cleared area on species seemingly unrelated to the direct impacts. A particularly interesting and well-documented example with ants and lizards illustrates this point. When non-native landscaping with intensive irrigation is introduced, the area becomes favorable for the invasive and non-native Argentine ant. This ant forms "super colonies" that can forage more than 650 feet out into the surrounding native chaparral or coastal sage scrub around the landscaped area[9]. The Argentine ant competes with native harvester ants and carpenter ants displacing them from the habitat[10]. These native ants are the primary food resource for the native coast horned lizard, a California "Species of Special Concern." As a result of Argentine ant invasion, the coast horned lizard and its native ant food resources are diminished in areas near landscaped and irrigated developments[11]. In addition to specific effects on the coast horned lizard, there are other Mediterranean habitat ecosystem processes that are impacted by Argentine ant invasion through impacts on long-evolved native ant-plant mutualisms[12]. The composition of the whole arthropod community changes and biodiversity decreases when habitats are subjected to fuel modification. In coastal sage scrub disturbed by fuel modification, fewer arthropod predator species are seen and more exotic arthropod species are present than in undisturbed habitats[13].

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[7] Stralberg, D. 2000. Landscape-level urbanization effects on chaparral birds: a Santa Monica Mountains case study. Pp. 125–136 *in* Keeley, J.E., M. Baer-Keeley, and C.J. Fotheringham (eds.). *2nd interface between ecology and land development in California*. U.S. Geological Survey, Sacramento, California.

[8] Bolger, D. T., T. A. Scott and J. T. Rotenberry. 1997. Breeding bird abundance in an urbanizing landscape in coastal Southern California. Conserv. Biol. 11:406-421.

[9] Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. Ecology 79(6):2041-2056.

[10] Holway, D.A. 1995. The distribution of the Argentine ant (*Linepithema humile*) in central California: a twenty-year record of invasion. Conservation Biology 9:1634-1637. Human, K.G. and D.M. Gordon. 1996. Exploitation and interference competition between the invasive Argentine ant, (*Linepithema humile*), and native ant species. Oecologia 105:405-412.

[11] Fisher, R.N., A.V. Suarez and T.J. Case. 2002. Spatial patterns in the abundance of the coastal horned lizard. Conservation Biology 16(1):205-215. Suarez, A.V. J.Q. Richmond and T.J. Case. 2000. Prey selection in horned lizards following the invasion of Argentine ants in southern California. Ecological Applications 10(3):711-725.

[12] Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. Ecology 79(6):2041-2056. Bond, W. and P. Slingsby. Collapse of an Ant-Plant Mutualism: The Argentine Ant (*Iridomyrmex humilis*) and Myrmecochorous Proteaceae. Ecology 65(4):1031-1037.

[13] Longcore, T.R. 1999. Terrestrial arthropods as indicators of restoration success in coastal sage scrub. Ph.D. Dissertation, University of California, Los Angeles.

Studies in the Mediterranean vegetation of South Africa (equivalent to California shrubland with similar plant species) have shown how the invasive Argentine ant can disrupt the whole ecosystem.[14] In South Africa the Argentine ant displaces native ants as they do in California. Because the native ants are no longer present to collect and bury seeds, the seeds of the native plants are exposed to predation, and consumed by seed eating insects, birds and mammals. When this habitat burns after Argentine ant invasion the large-seeded plants that were protected by the native ants all but disappear. So the invasion of a non-native ant species drives out native ants, and this can cause a dramatic change in the species composition of the plant community by disrupting long-established seed dispersal mutualisms. In California, some insect eggs are adapted to being buried by native ants in a manner similar to plant seeds[15].

While these impacts resulting from fuel modification can be reduced through siting and designing alternatives for new development, they cannot be completely avoided, given the high fire risk and the location of ESHA on and around the project site. The Commission finds that the loss of oak woodland and chaparral ESHA resulting from the removal, conversion, or modification of natural habitat for new development including the building site area, and fuel modification must be mitigated. The acreage of habitat that is impacted must be determined based on the size of the required fuel modification area on the project area.

In this case, the applicant's approved fuel modification plan (approved by the Los Angeles County Fire Department) shows the use of the standard three zones of vegetation modification. Zones "A" (setback zone) and "B" (irrigation zone) are shown extending in a radius of approximately 100 feet from the proposed structures. A "C" Zone (thinning zone) is provided for a distance of 100 feet beyond the "A" and "B" zones.

As conditioned to redesign the residence such that it does not encroach into the protected zone of any oak tree, the new structure will not remove oak woodland ESHA on the site. The fire department does not typically require the removal of oak trees or irrigation within their protected zones for fuel modification. However, the understory vegetation may be required to be thinned to decrease fuel load. As such, the oak woodland ESHA areas that are subject to fuel modification as well as the required fuel modification areas on the slopes above the residence where the oak woodland transitions into chaparral will be impacted by the proposed project.

Therefore, the Commission finds that it is necessary to require the applicant to delineate the ESHA on the site that will be impacted by the proposed development including the areas affected by fuel modification and brushing activities (based on the final fuel modification plan approved by the Los Angeles County Fire Department) and to provide mitigation for the impacts to ESHA, as required by **Special Condition No.**

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[14] Christian, C. 2001. Consequences of a biological invasion reveal the importance of mutualism for plant communities. Nature 413:635-639.

[15] Hughes, L. and M. Westoby. 1992. Capitula on stick insect eggs and elaiosomes on seeds: convergent adaptations for burial by ants. Functional Ecology 6:642-648.

10. Typically, the Commission has excluded existing developed areas from the requirement to provide mitigation for ESHA impacts resulting from vegetation removal for fuel modification and the development area. In this case, as discussed above, the existing development is unpermitted and therefore, the Commission must consider the proposed project as though this development does not exist.

The Commission has identified three methods for providing mitigation for the unavoidable loss of ESHA resulting from development, including habitat restoration, habitat conservation, and an in-lieu fee for habitat conservation. The Commission finds that these measures are appropriate in this case to mitigate the loss of chaparral habitat on the project site. These three mitigation methods are provided as three available options for compliance with **Special Condition No. 10.** The first method is to provide mitigation through the restoration of an area of degraded habitat (either on the project site, or at an off-site location) that is equivalent in size to the area of habitat impacted by the development. A restoration plan must be prepared by a biologist or qualified resource specialist and must provide performance standards, and provisions for maintenance and monitoring. The restored habitat must be permanently preserved through the recordation of an open space easement. This mitigation method is provided for in Special Condition No. 10, subpart A.

The second habitat impact mitigation method is habitat conservation. This includes the conservation of an area of intact habitat equivalent to the area of the impacted habitat. The parcel containing the habitat conservation area must be restricted from future development and permanently preserved. If the mitigation parcel is larger in size than the impacted habitat area, the excess acreage could be used to provide habitat impact mitigation for other development projects that impact chaparral ESHA. This mitigation method is provided for in Special Condition No. 10, subpart B.

The third habitat impact mitigation option is an in-lieu fee for habitat conservation. The fee is based on the habitat types in question, the cost per acre to restore or create the comparable habitat types, and the acreage of habitat affected by the project. In order to determine an appropriate fee for the restoration or creation of chaparral and coastal sage scrub habitat, the Commission's biologist contacted several consulting companies that have considerable experience carrying out restoration projects. Overall estimates varied widely among the companies, because of differences in the strategies employed in planning the restoration (for instance, determining the appropriate number of plants or amount of seeds used per acre) as well as whether all of the restoration planting, monitoring and maintenance was carried out by the consultant or portions are subcontracted. Additionally, the range of cost estimates reflect differences in restoration site characteristics including topography (steeper is harder), proximity to the coast (minimal or no irrigation required at coastal sites), types of plants (some plants are rare or difficult to cultivate), density of planting, severity of weed problem, condition of soil, etc. Larger projects may realize some economy of scale.

Staff determined the appropriate mitigation for loss of coastal sage scrub or chaparral ESHA should be based on the actual installation of replacement plantings on a

disturbed site, including the cost of acquiring the plants (seed mix and container stock) and installing them on the site (hydroseeding and planting). Three cost estimates were obtained for the installation of plants and seeds for one-acre of restoration. These estimates were $9,541, $12,820, and $13,907 per acre of plant installation. The Commission finds it appropriate to average the three estimates of plant installation to arrive at the reasonable in-lieu fee to mitigate for the loss of ESHA associated with the approval of development within an ESHA. Based on this averaging, the required in-lieu fee for habitat mitigation is $12, 000 (rounded down from the average figure of $12,089 to simplify administration) per acre of habitat.

The Commission finds that the in-lieu fee of $12,000 per acre is appropriate to provide mitigation for the habitat impacts to ESHA areas where all native vegetation will be removed (building site and the "A" zone required for fuel modification), and where vegetation will be significantly removed and any remaining vegetation will be subjected to supplemental irrigation (the "B" zone or any other irrigated zone required for fuel modification). In these areas, complete removal or significant removal of ESHA, along with irrigation completely alters the habitat and eliminates its value to the native plant and animal community.

ESHA modified for the "C" zone that is thinned but non-irrigated (required for fuel modification) is certainly diminished in habitat value, but unlike the building site, "A" zone, "B" zone, and any other irrigated zone, habitat values are not completely destroyed. Native vegetation in the "C" zone is typically required to be thinned, and shrubs must be maintained at a certain size to minimize the spread of fire between the individual plants. This area is not typically required to be irrigated. As such, the Commission finds that it is not appropriate to require the same level of in-lieu fee mitigation for impacts to ESHA within a non-irrigated "C" zone required for fuel modification. Although the habitat value in the "C" zone (or any other non-irrigated zone) is greatly reduced, it is not possible to precisely quantify the reduction. The Commission's biologist believes that the habitat value of non-irrigated fuel modification zones is reduced by at least 25 percent (and possibly more) due to the direct loss of vegetation, the increased risk of weed invasion, and the proximity of disturbance. The Commission finds that it is also less costly difficult to restore chaparral habitat when some of the native vegetation remains, rather than when all of the native habitat is removed. Because of the uncertainty and the inability to precisely quantify the reduction in habitat value, the Commission concludes that it is warranted to impose a mitigation fee of $3,000 per acre (one quarter of the cost of full restoration) for the "C" zone or other non-irrigated fuel modification zone.

In this case, the applicant's approved fuel modification plan (approved by the Los Angeles County Fire Department) shows the use of the standard three zones of vegetation modification. Zones "A" (setback zone) and "B" (irrigation zone) are shown extending in a radius of approximately 100 feet from the proposed structures. A "C" Zone (thinning zone) is provided for a distance of 100 feet beyond the "A" and "B" zones. Should the applicant choose the in-lieu fee mitigation method to satisfy Special Condition No. 10, then the applicant will need to calculate the area of oak woodland

and chaparral ESHA vegetation that will be removed for the development area and irrigated fuel modification, as well as the area of ESHA that will be removed for non-irrigated fuel modification and brush clearance. The appropriate in-lieu fee calculation would then be based on $12,000 per acre for any irrigated fuel modification area (the "A" and "B" Zones) and $3,000 per acre of un-irrigated fuel modification area (zone "C" and brush clearance).

Should the applicant choose the in-lieu fee mitigation method, the applicant will need to calculate the area of vegetation that will be removed for the fee shall be provided to the Mountains Recreation and Conservation Authority for the acquisition or permanent preservation of natural habitat areas within the coastal zone. This mitigation method is provided for in Special Condition No.10, subpart C.

3. Additional Actions

The Commission has determined that in conjunction with siting new development to minimize impacts to ESHA, additional actions can be taken to minimize adverse impacts to ESHA.

The Commission finds that the use of non-native and/or invasive plant species for residential landscaping results in both direct and indirect adverse effects to native plants species indigenous to the Malibu/Santa Monica Mountains area. Adverse effects from such landscaping result from the direct occupation or displacement of native plant communities by new development and associated non-native landscaping. Indirect adverse effects include offsite migration and colonization of native plant habitat by non-native/invasive plant species (which tend to outcompete native species) adjacent to new development. The Commission notes that the use of exotic plant species for residential landscaping has already resulted in significant adverse effects to native plant communities in the Malibu/Santa Monica Mountains area. Therefore, in order to minimize adverse effects to the indigenous plant communities of the Malibu/Santa Monica Mountains area, **Special Condition 2** requires that all landscaping consist primarily of native plant species and that invasive plant species shall not be used. Additionally, the planting of turf or any plants that require irrigation after they become established should be restricted to those areas that are not within the protected zone of any oak tree.

The Commission notes that streams and drainages, such as the unnamed drainages on the project site and Old Topanga Creek nearby, provide important habitat for wetland and riparian plant and animal species. Section 30231 of the Coastal Act provides that the quality of coastal waters and streams shall be maintained and restored whenever feasible through means such as: controlling runoff, preventing interference with surface water flows and alteration of natural streams, and by maintaining natural vegetation buffer areas. In past permit actions the Commission has found that new development adjacent to coastal streams and natural drainages results in potential adverse impacts to riparian habitat and marine resources from increased erosion, contaminated storm runoff, introduction of non-native and invasive plant species, disturbance of wildlife, and

loss of riparian plant and animal habitat. The Commission finds that potential adverse effects of the proposed development on riparian habitat of these streams may be further minimized through the implementation of a drainage and polluted runoff control plan, which will ensure that erosion is minimized and polluted run-off from the site is controlled and filtered before it reaches natural drainage courses within the watershed. Therefore, the Commission requires **Special Condition 4**, the Drainage and Polluted Run-off Control Plan, which requires the applicant to incorporate appropriate drainage devices and Best Management Practices (BMPs) to ensure that run-off from the proposed structures, impervious surfaces, and building pad area is conveyed off-site in a non-erosive manner and is treated/filtered to reduce pollutant load before it reaches coastal waterways.

In addition, the Commission has found that night lighting of areas in the Malibu/Santa Monica Mountains may alter or disrupt feeding, nesting, and roosting activities of native wildlife species. The subject site contains environmentally sensitive habitat. Therefore, **Special Condition 5**, Lighting Restriction, limits night lighting of the site in general; limits lighting to the developed area of the site; and specifies that lighting be shielded downward. The restriction on night lighting is necessary to minimize the disruption of wildlife traversing this area at night that are commonly found in this rural and relatively undisturbed area. Thus, the natural topography in concert with the lighting restrictions will attenuate the impacts of unnatural light sources and will not impact sensitive wildlife species.

Furthermore, fencing of the property would adversely impact the movement of wildlife through the chaparral ESHA on this parcel. Therefore, the Commission finds it is necessary to limit fencing to the perimeter of the development area (building pad), turnaround, and driveway. This is required to be shown on the landscaping plan, required in **Special Condition 2**.

Finally, the Commission finds that the amount and location of any new development that may be proposed in the future on the subject site is significantly limited by the unique nature of the site and the environmental constraints discussed above. Therefore, to ensure that any future structures, additions, change in landscaping or intensity of use at the project site, that may otherwise be exempt from coastal permit requirements, are reviewed by the Commission for consistency with the resource protection policies of the Coastal Act, **Special Condition 8**, the future development restriction, has been required. Finally, **Special Condition 9** requires the applicant to record a deed restriction that imposes the terms and conditions of this permit as restrictions on use and enjoyment of the property and provides any prospective purchaser of the site with recorded notice that the restrictions are imposed on the subject property.

4. Conclusion

Sections 30230, 30231, and 30240 of the Coastal Act require the protection of coastal resources, including coastal waters, streams, marine resources, and environmentally

sensitive habitat areas. For the reasons detailed in this report, the Commission finds that the proposed project site contains oak woodland and chaparral habitat that constitutes ESHA. Section 30240 restricts development on the parcel to only those uses that are dependent on the resource. The applicant proposes to construct a single-family residence on the parcel. The development is proposed to be partially located on the existing building pad and partially within the footprint of the existing unpermitted small residence. The proposed residence would extend upslope from the existing disturbed area into the protected zone of a large oak tree. Additionally, the proposed trailer would be located within the oak woodland ESHA. Further, construction of the residence and guesthouse in the proposed locations will also require the removal and/or thinning of chaparral ESHA as a result of fuel modification for fire protection purposes. In order to permit the applicant a reasonable economic use of the property, the Commission finds that a residential use can be approved on the project site, if sited and designed to minimize impacts that would disrupt or degrade ESHA.

The proposed project includes improvements to the existing access road that will encroach into the protected zone of eight oak trees, including extending to the trunks of two of the oaks. The proposed residence would encroach into the protected zone of one large multi-trunk oak. The proposed septic system includes trenching for the septic lines through oak woodland ESHA within the protected zone of four oak trees. The proposed trailer/guesthouse (including grading a pad, construction of a retaining wall, and placement of the trailer) would be located within oak woodland ESHA and would encroach into the protected zones of five oak trees. The applicant proposes, as part of the project, a lot merger and a lot line adjustment in order to resolve an unpermitted redivision of the property. The Commission finds it necessary to require the applicant to revise the project plans to redesign the residence such that it does not encroach into the protected zone of any oak tree, and to delete the trailer/guesthouse, pad, and retaining wall. Additionally, the Commission requires the applicant to plant replacement oaks on the project site to mitigate for significant impacts to oak trees, and to monitor all oaks that will have encroachments within their protected zones. Further, the Commission finds it necessary to require the preparation and implementation of a landscaping plan and a drainage/polluted runoff plan for the site, to restrict nightlighting on the site, to merge lots (to implement the applicant's proposal), to restrict future development on the site, and to provide habitat mitigation. Only as conditioned will the project minimize impacts to oak woodland and chaparral ESHA, individual oak trees, and water quality. For the reasons set forth above, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30230, 30231, and 30240 of the Coastal Act.

E. Cumulative Impacts

Section 30250(a) of the Coastal Act states:

> ***New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of the surrounding parcels.***

Section 30105.5 of the Coastal Act defines the term "cumulatively," as it is used in Section 30250(a), to mean that:

> ***the incremental effects of an individual project shall be reviewed in conjunction with the effects of past projects, the effects of other current projects, and the effects of probable future projects.***

Throughout the Malibu/Santa Monica Mountains coastal zone there are a number of areas, which were subdivided in the 1920's and 1930's into very small "urban" scale lots. These subdivisions, known as "small lot subdivisions" are comprised of parcels of less than one acre but more typically range in size from 4,000 to 5,000 square feet. The total buildout of these dense subdivisions would result in a number of adverse cumulative impacts to coastal resources. Cumulative development constraints common to small lot subdivisions were documented by the Coastal Commission and the Santa Monica Mountains Comprehensive Planning Commission in the January 1979 study entitled: "Cumulative Impacts of Small Lot Subdivision Development In the Santa Monica Mountains Coastal Zone". Analysis of the potential cumulative impacts led the Commission, through many permit decisions, to restrict development within small lot subdivisions through the use of a maximum gross structural area, and to ensure that the number of lots would not be increased by requiring that the creation of new lots mitigate for impacts by retiring lots through the TDC program.

The "Cumulative Impacts of Small Lot Subdivision Development In the Santa Monica Mountains Coastal Zone" study acknowledged that the existing small lot subdivisions can only accommodate a limited amount of additional new development due to major constraints to buildout of these areas that include: geologic hazards, road access, water quality, disruption of rural community character, creation of unreasonable fire hazards and others. Following an intensive one year planning effort regarding impacts on coastal resources by Coastal Commission staff, including five months of public review and input, new development standards relating to residential development on small lots in hillsides, including the Slope-Intensity/Gross Structural Area Formula (GSA) were incorporated into the Malibu District Interpretive Guidelines in June 1979. A nearly identical Slope Intensity Formula was incorporated into the 1986 certified Malibu/Santa

Monica Mountains Land Use Plan under policy 271(b)(2) to reduce the potential effects of buildout as discussed below.

The Commission has found that minimizing the cumulative impacts of new development is especially critical in the Malibu/Santa Monica Mountains area because of the large number of lots which already exist, many in remote, rugged mountain and canyon areas. From a comprehensive planning perspective, the potential development of thousands of existing undeveloped and poorly sited parcels in these mountains creates cumulative impacts on coastal resources and public access over time. Because of this, the demands on road capacity, public services, recreational facilities, and beaches could be expected to grow tremendously.

Policy 271(b)(2) of the Malibu/Santa Monica Mountains LUP, which has been used as guidance by the Coastal Commission, requires that new development in small lot subdivisions comply with the Slope Intensity Formula for calculating the allowable Gross Structural Area (GSA) of a residential unit. Past Commission action certifying the LUP indicates that the Commission considers the use of the Slope Intensity Formula appropriate for determining the maximum level of development which may be permitted in small lot subdivision areas consistent with the policies of the Coastal Act. The basic concept of the formula assumes the suitability of development of small hillside lots should be determined by the physical characteristics of the building site, recognizing that development on steep slopes has a high potential for adverse impacts on resources. Following is the formula and description of each factor used in its calculation:

Slope Intensity Formula:

GSA = (A/5) × ((50-S)/35) + 500

GSA = the allowable gross structural area of the permitted development in square feet. The GSA includes all substantially enclosed residential and storage areas, but does not include garages or carports designed for storage of autos.

A = the area of the building site in square feet. The building site is defined by the applicant and may consist of all or a designated portion of the one or more lots comprising the project location. All permitted structures must be located within the designated building site.

S = the average slope of the building site in percent as calculated by the formula:

S = I × L/A × 100

I = contour interval in feet, at not greater than 25-foot intervals, resulting in at least 5 contour lines
L = total accumulated length of all contours of interval "I" in feet
A = the area being considered in square feet

The Commission has repeatedly emphasized, in past permit decisions, the need to address the cumulative impacts of new development in the Malibu/Santa Monica Mountains coastal zone. The Commission has reviewed land division applications to ensure that newly created or reconfigured parcels are of sufficient size, have access to roads and other utilities, are geologically stable and contain an appropriate potential building pad area where future structures can be developed consistent with the resource protection policies of the Coastal Act. In particular, the Commission has ensured that future development on new or reconfigured lots can minimize landform alteration and other visual impacts, and impacts to environmentally sensitive habitat areas. Finally, the Commission has required that all new or reconfigured lots have adequate public services.

The Commission has considered several projects which the applicants and the County treated as "lot line adjustments" which would have actually resulted in major reconfiguration of lot lines amongst several lots [4-96-28 (Harberger, et. al.) 4-96-150 (Rein, et. al.), 4-96-189 (Flinkman), 4-96-187 (Sohal), 4-00-110 (Gurvitz)]. In these cases as in the subject proposed project, the Commission has considered the proposed projects to actually be "redivisions" whereby existing property boundary lines are significantly modified to redivide the project site into the same number or fewer wholly reconfigured lots. The Commission has analyzed these proposals just as it analyzes a new subdivision of lots. The Commission has only permitted such redivisions where adequate fire access and other public services are available and where the resultant lots could be developed minimizing impacts to coastal resources.

The configuration of three parcels, including two owned by the applicant as well as one parcel adjacent to his properties, was altered without a the approval of a coastal development permit (as required for land divisions). The applicant received approval from the County of Los Angeles and carried out a lot line adjustment between three parcels in 1992. The applicant did not apply for or receive approval of any coastal development permit for this land division. Nonetheless, the lot line adjustment was recorded in 1992. Staff would note that although a lot line adjustment was the approval granted by Los Angeles County, the Commission would consider this to be a "redivision" as the boundaries of the three lots were completely reconfigured. Staff only became aware of the redivision when the applicant submitted the subject coastal development permit application. The County's approval-in-concept for the proposed residence referenced the 1992 lot line adjustment approval. At staff's request, the applicant provided information regarding the lot line adjustment approval.

The existing lot configuration prior to the redivision (Exhibit 9a) consisted of three contiguous lots, including two small triangular parcels that are part of the Old Topanga Small Lot Subdivision. According to the survey map prepared by the applicant's surveyor for the redivision, these two triangular parcels were 7,137 sq. ft. (Parcel 1) and 5,004 sq. ft. (Parcel 2) in size. The third parcel was 2.19-acres (Parcel 3) in size and while contiguous to the small triangular lots, was located just outside of the small lot subdivision.

Staff would note that the applicant is not proposing development solely on the small lot parcel, so the applicant did not provide a calculation of the slope intensity formula for Parcel 2. Staff did a rough calculation of the slope intensity formula for Parcel 2 (as configured prior to the redivision) based on the topographic map provided in the application. Based on a lot area of 5,004 sq. ft. and an average slope of 20 percent, a maximum gross structural area of approximately 1,350 sq. ft. could have been provided on Parcel 2.

The 1992 redivision resulted in the reconfiguration of the properties into three different parcels. Exhibit 9b shows the redivided lot configuration. Approximately 1,478 sq. ft. of Parcel 2 was added to Parcel 1, thereby increasing the size of Parcel 1 to 8,615 sq. ft. Parcel 2 and Parcel 3 were further reconfigured, creating two parcels that were 1.06-acre (Parcel 2) and 1.23-acre (Parcel 3) in size.

Since this redivision was not approved as part of a coastal development permit, the Commission cannot consider these lots to be legally created parcels. While the applicant has not specifically included the redivision as part of the subject application, it is integrally related to the development that is proposed. The proposed residence would be located on one of the reconfigured parcels.

As described above, the redivision of the parcels in the manner approved by Los Angeles County in Lot Line Adjustment No.101,160 would result in an increase in the potential buildout of the property within ESHA. The unpermitted lot configuration would result in one potential building site adjacent to the existing access road on the more moderately sloping area of the property and one building site would need to be provided on the northern half of the property. This area is more remote from the existing road and other existing development in the area and contains more steeply sloping terrain. As a result, the habitat on the site is undisturbed. This lot configuration would not cluster development. A larger amount of grading would be required to provide an access road, turnaround, and development area on the north parcel. Staff cannot identify a building site location on the north area that could minimize impacts to ESHA. Rather, the construction of a residence in that area would have significant adverse impacts on ESHA, particularly oak woodland as well as the stream area. Additionally, since the building sites would not be clustered, the area of fuel modification that would be required would increase greatly.

As such, staff advised the applicant that the redivision could not be recommended for approval as it would not be consistent with the Coastal Act. To resolve this issue, the applicant has proposed, as part of this application, to carry out a lot merger and lot line adjustment. The applicant's proposal would result in an adjustment between Parcel 1 and Parcel 2 whereby a portion of Parcel 2 would be added to Parcel 1, increasing the size of Parcel 1 to 8,615 sq. ft. The applicant's proposal would also result in the merger of the remainder of Parcel 2 with all of Parcel 3, creating a parcel of 2.29-acres. In this way, two lots would be created from the 3 existing parcels. The applicant's proposal to merge the parcels would create one parcel for the proposed project site that, as

discussed in this report, can be developed with a single family residence that will minimize impacts to ESHA and still give the applicant a reasonable use of the property.

In order to implement the applicant's proposal, **Special Condition No. 7** requires that the applicant provide evidence that these lots have been legally merged through the County of Los Angeles so that the project site is considered to be one parcel. As conditioned to merge these two lots into one project site (as well as to prepare and implement a landscaping plan and drainage plan, to restrict lighting, to revise the project plans, to provide mitigation for the loss of habitat, to mitigate for the loss of oak trees, and to monitor oak trees, as discussed in greater detail above), the proposed project will cluster development, and minimize impacts to coastal resources, consistent with Section 30250 of the Coastal Act.

F. Water Quality

The Commission recognizes that new development in the Santa Monica Mountains has the potential to adversely impact coastal water quality through the removal of native vegetation, increase of impervious surfaces, increase of runoff, erosion, and sedimentation, and introduction of pollutants such as petroleum, cleaning products, pesticides, and other pollutant sources, as well as effluent from septic systems.

Section **30231** of the Coastal Act states:

> ***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, minimizing alteration of natural streams.***

As described in detail in the previous sections, the applicant is proposing the construction of a single-family residence on a west-facing slope that drains to Old Topanga Creek. The site is considered a "hillside" development, as it involves sloping hillside terrain with soils that are susceptible to erosion.

The proposed development will result in an increase in impervious surface at the subject site, which in turn decreases the infiltrative function and capacity of existing permeable land on site. Reduction in permeable space therefore leads to an increase in the volume and velocity of stormwater runoff that can be expected to leave the site. Further, pollutants commonly found in runoff associated with residential use include petroleum hydrocarbons including oil and grease from vehicles; heavy metals; synthetic organic chemicals including paint and household cleaners; soap and dirt from washing vehicles; dirt and vegetation from yard maintenance; litter; fertilizers, herbicides, and pesticides; and bacteria and pathogens from animal waste. The discharge of these

pollutants to coastal waters can cause cumulative impacts such as: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation which provide food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; and acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes and reduce optimum populations of marine organisms and have adverse impacts on human health.

Therefore, in order to find the proposed project consistent with the water and marine resource policies of the Coastal Act, the Commission finds it necessary to require the incorporation of Best Management Practices designed to control the volume, velocity and pollutant load of stormwater leaving the developed sites. Critical to the successful function of post-construction structural BMPs in removing pollutants in stormwater to the Maximum Extent Practicable (MEP), is the application of appropriate design standards for sizing BMPs. The majority of runoff is generated from small storms because most storms are small. Additionally, storm water runoff typically conveys a disproportionate amount of pollutants in the initial period that runoff is generated during a storm event. Designing BMPs for the small, more frequent storms, rather than for the large infrequent storms, results in improved BMP performance at lower cost.

For design purposes, with case-by-case considerations, post-construction structural BMPs (or suites of BMPs) should be designed to treat, infiltrate or filter the amount of stormwater runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor (i.e., 2 or greater), for flow-based BMPs. The Commission finds that sizing post-construction structural BMPs to accommodate (infiltrate, filter or treat) the runoff from the 85^{th} percentile storm runoff event, in this case, is equivalent to sizing BMPs based on the point of diminishing returns (i.e. the BMP capacity beyond which, insignificant increases in pollutants removal (and hence water quality protection) will occur, relative to the additional costs. Therefore, the Commission requires the selected post-construction structural BMPs be sized based on design criteria specified in **Special Condition 5**, and finds this will ensure the proposed developments will be designed to minimize adverse impacts to coastal resources, in a manner consistent with the water and marine policies of the Coastal Act.

Furthermore, interim erosion control measures implemented during construction and post construction landscaping will serve to minimize the potential for adverse impacts to water quality resulting from drainage runoff during construction and in the post-development stage. Therefore, the Commission finds that **Special Condition 2** is necessary to ensure the proposed developments will not adversely impact water quality or coastal resources.

Finally, the proposed developments include the installation of on-site private sewage disposal system to serve the residence. The applicant's geologic consultants conducted percolation tests on the site. On the basis of these tests, the septic system was designed to utilize seepage pits located east and upslope of the residence. The County of Los Angeles, Department of Health Services, has given in-concept approval of the proposed septic system, determining that the system meets the requirements of the plumbing code. The Commission has found that conformance with the provisions of the plumbing code is protective of coastal resources.

For the reasons set forth above, the Commission finds that the proposed projects, as conditioned to incorporate and maintain a drainage and polluted runoff control plan, are consistent with Section 30231 of the Coastal Act.

G. Unpermitted Development

Development has occurred on the subject site without the required coastal development permit including a redivision of three parcels, construction of a small residential structure, 50 cu. yds. of grading to a create pad, construction of a block retaining wall, and the placement of a trailer on the pad.

The small, existing unpermitted residential structure is located on the lower area of the site adjacent to the access road. It has come to staff's attention that the Los Angeles County Assessor's office considers the project site to be vacant. Staff requested information from the County Regional Planning Department regarding the permit history of the project site. County staff indicated that there is no record of any building permit or other approval for this structure. Staff knows of no other evidence that this structure is permitted. As such, staff must conclude that the existing residential structure on the project site is unpermitted. The applicant's proposed project will resolve this issue, as part of the project description is the demolition of this structure.

Further, an unpermitted redivision of three parcels, including two owned by the applicant as well as one parcel adjacent to his properties, was carried out without the approval of a coastal development permit (as required for land divisions). The applicant received approval from the County of Los Angeles and carried out a lot line adjustment between three parcels in 1992. The applicant did not apply for or receive approval of any coastal development permit for this land division. While the applicant has not specifically included the redivision in this application, it is integrally related to the development that is proposed. The proposed residence would be located on one of the reconfigured parcels. As described above, the redivision of the parcels in the manner approved by Los Angeles County in Lot Line Adjustment No.101,160 would result in an increase in potential buildout of the property within ESHA. As such, the redivision could not be found consistent with the Coastal Act. To resolve this issue, the applicant has proposed, as part of this application, to carry out a lot merger and lot line adjustment whereby two lots will be created. As discussed in greater detail above, this proposal is consistent with the Coastal Act and the proposed lot merger, when carried out, will resolve this aspect of the project.

The applicant is requesting after-the-fact approval for the grading, retaining wall, and placement of the trailer and the retention of the trailer on the site during construction of the residence. The applicant originally proposed to convert the trailer to a guesthouse and retain it permanently on the site. The applicant has modified that proposal to temporary use of the trailer during construction and removal of the trailer from the site after the residence is completed. However, the proposed 50 cu. yds. of grading to create pad, construction of block retaining wall, placement of trailer, and conversion of the trailer to a guesthouse will have significant adverse impacts to oak woodland ESHA. As such, this development has not been approved as part of this application. Rather, Special Condition No. 6 requires the applicant to provide revised plans that include the deletion of the grading, retaining wall, and trailer. The applicant has not proposed to include the removal of the trailer, the removal of the wall, or the restoration of the slope and vegetation as part of the subject coastal development permit application. The Commission's enforcement division will evaluate further actions to address these matters.

In order to ensure that the unpermitted development component of this application is resolved in a timely manner, the Commission finds it necessary to require the applicant to fulfill all of the Special Conditions as a prerequisite to the issuance of this permit, as required by **Special Condition 14,** within 180 days of Commission action. Only as conditioned is the proposed development consistent with the Coastal Act

Although development has taken place prior to submission of this permit application, consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Commission review and action on this permit application does not constitute a waiver of any legal action with regard to the alleged violations nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit.

H. Local Coastal Program

Section 30604 of the Coastal Act states:

> ***a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).***

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Development Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the projects and are accepted by the applicant. As

conditioned, the proposed developments will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed developments, as conditioned, will not prejudice the County of Los Angeles' ability to prepare a Local Coastal Program for this area which is also consistent with the policies of Chapter 3 of the Coastal Act, as required by Section 30604(a).

I. CEQA

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment.

The Commission finds that the proposed projects, as conditioned, will not have significant adverse effects on the environment within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed projects, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.

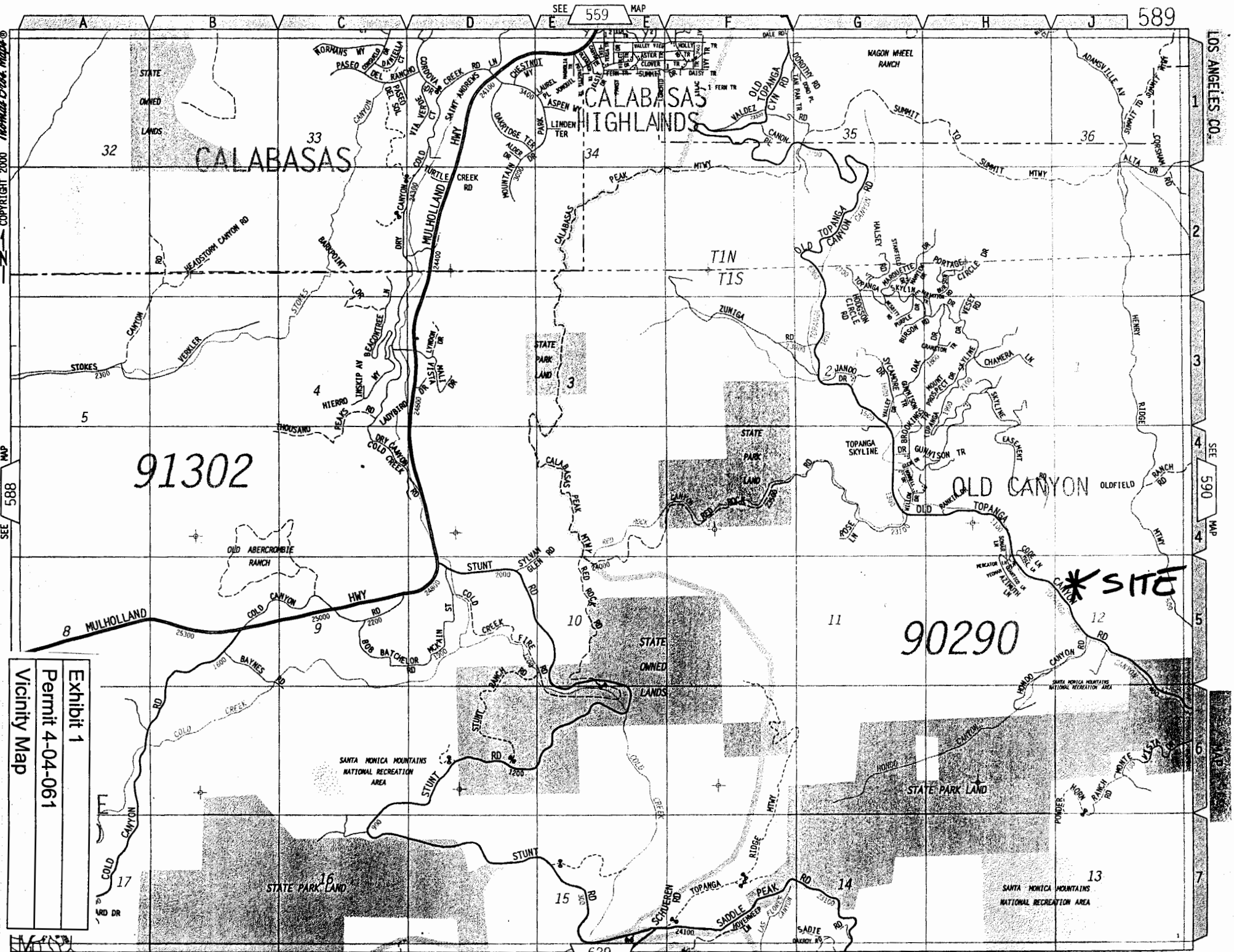
Exhibit 1
Permit 4-04-061
Vicinity Map
* SITE
CALABASAS
CALABASAS HIGHLANDS
91302
90290
OLD CANYON
TOPANGA SKYLINE
STATE PARK LAND
STATE OWNED LANDS
SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA
MULHOLLAND HWY
OLD TOPANGA CYN RD
TOPANGA CANYON RD
CALABASAS PEAK MTWY
SEE 559 MAP
SEE 588 MAP
SEE 590 MAP
SEE 629 MAP
589
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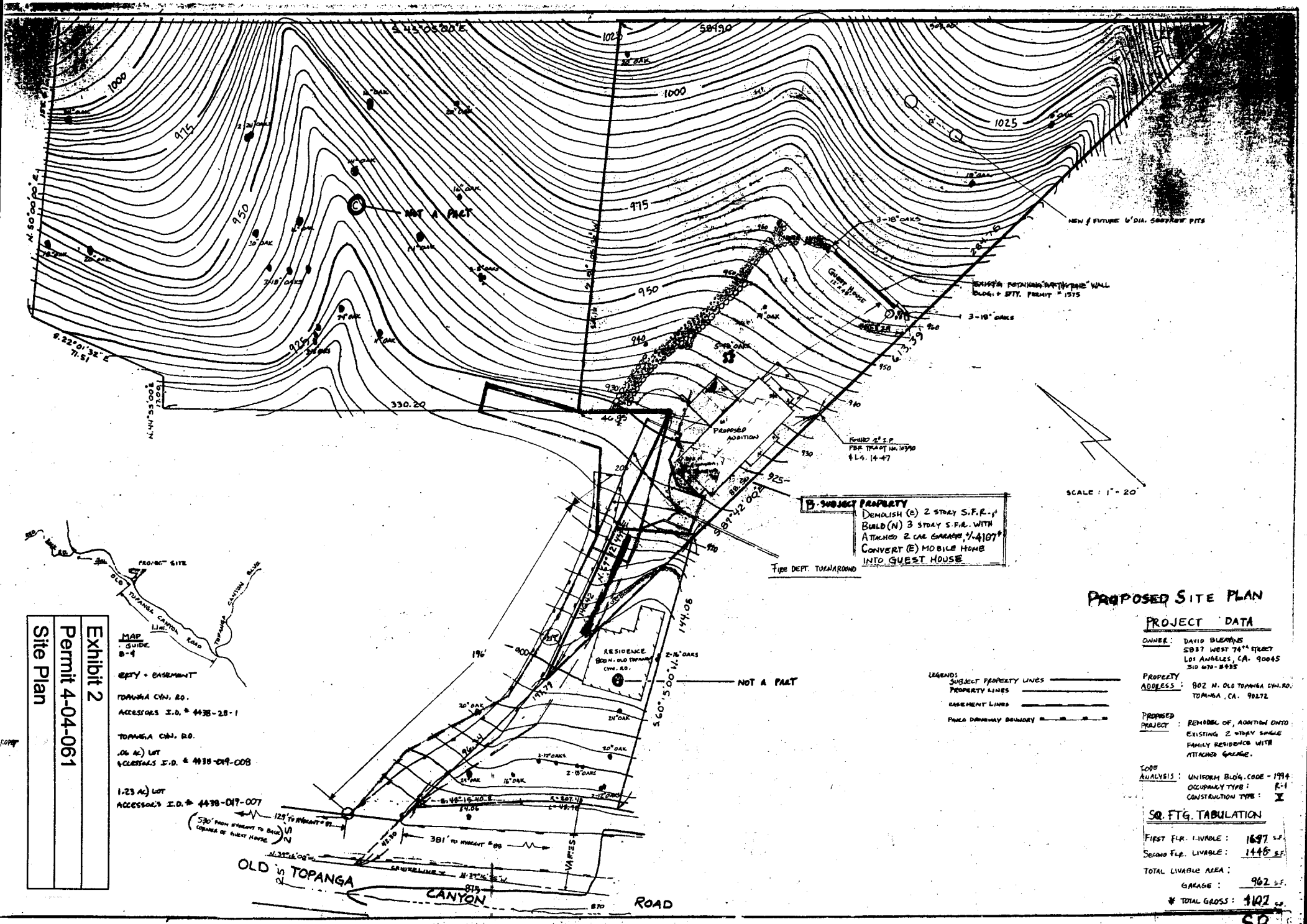


MAP : GUIDE B-9

PROPERTY + EASEMENT

TOPANGA CYN. RD.

ACCESSORS I.D. # 4438-28-1

TOPANGA CYN. RD.

.06 AC) LOT

ACCESSOR'S I.D. # 4438-019-008

1.23 AC) LOT

ACCESSOR'S I.D. # 4438-019-007

LEGEND:
SUBJECT PROPERTY LINES
PROPERTY LINES
EASEMENT LINES
PAVED DRIVEWAY BOUNDARY

PROPOSED SITE PLAN

PROJECT DATA

OWNER: DAVID BLEAKNS
5837 WEST 74TH STREET
LOS ANGELES, CA. 90045
310 670-8435

PROPERTY ADDRESS: 902 N. OLD TOPANGA CYN. RD.
TOPANGA, CA. 90272

PROPOSED PROJECT: REMODEL OF, ADDITION ONTO EXISTING 2 STORY SINGLE FAMILY RESIDENCE WITH ATTACHED GARAGE.

CODE ANALYSIS: UNIFORM BLDG. CODE - 1994
OCCUPANCY TYPE: R-1
CONSTRUCTION TYPE: V

SQ. FTG. TABULATION

FIRST FLR. LIVABLE:	1697 S.F.
SECOND FLR. LIVABLE:	1446 S.F.
TOTAL LIVABLE AREA:	
GARAGE:	962 S.F.
* TOTAL GROSS:	4107 S.F.

SP

Exhibit 2
Permit 4-04-061
Site Plan

HOUSE FOR DAVID BLEAVINS – 8502 OLD TOPANGA ROAD, TOPANGA, CALIFORNIA

PLAN & ELEVATIONS – Scale: 1/8" = 1'-0"

Date: 1/8" = 1'-0"

Drawn

Job

Sheet A-1

REVISIONS BY

EAST ELEVATION

NORTH ELEVATION

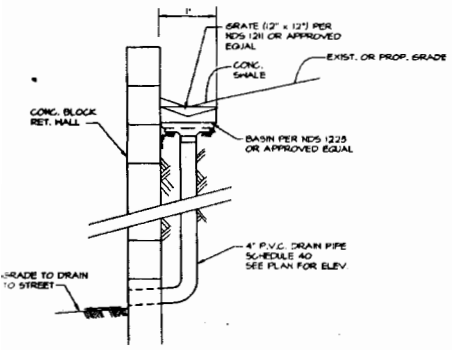
SOUTH ELEVATION

WEST ELEVATION

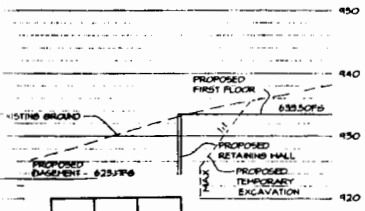
SECTION

Exhibit 3
Permit 4-04-061
Floor Plan/Elevations

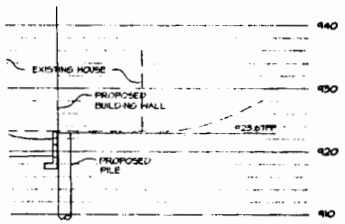
Exhibit 4
Permit 4-04-061
Floor Plan



ETAINING WALL CATCH BASIN DETAIL
NOT TO SCALE

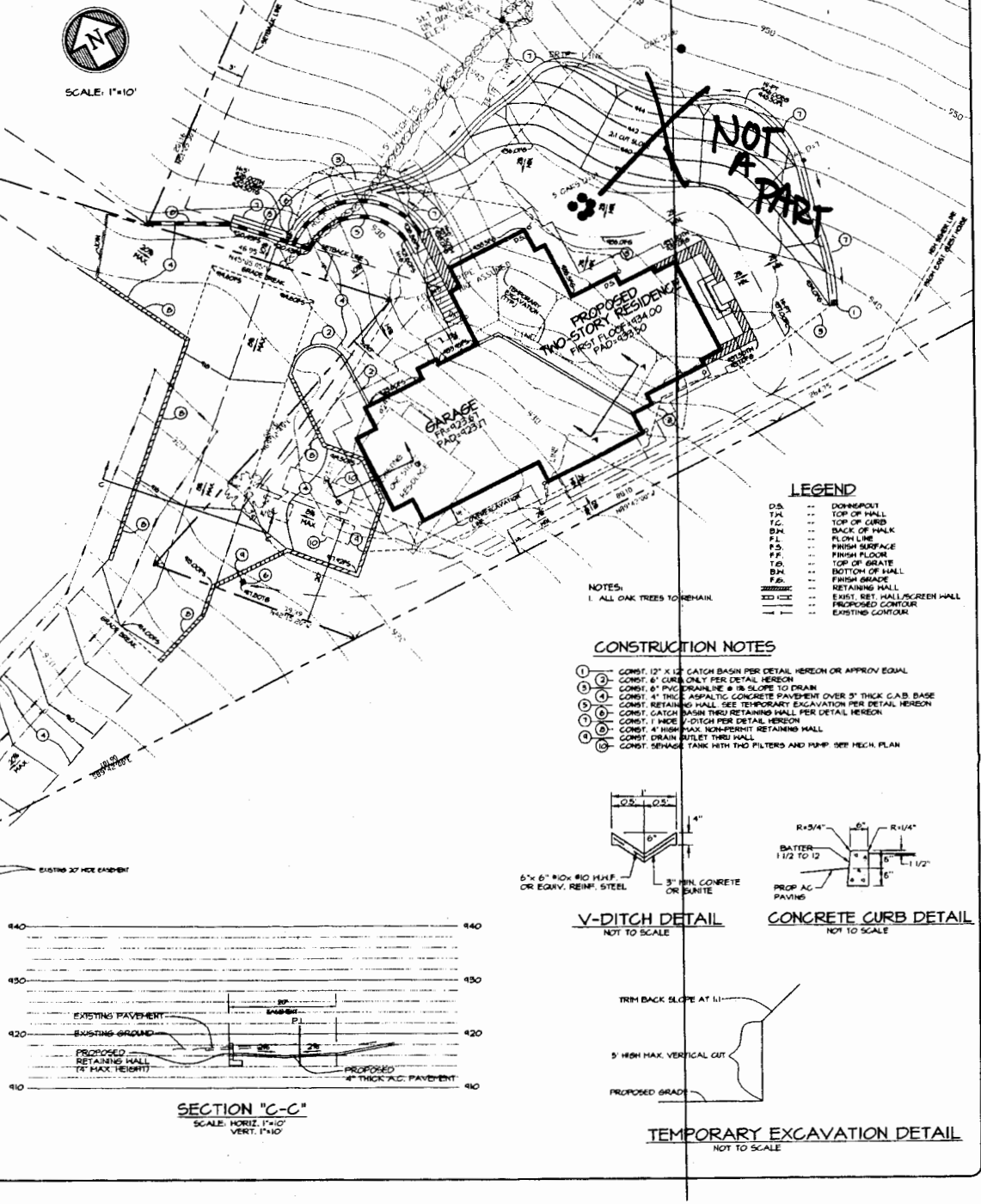


-A"
0'



CTION "B-B"
ALE: HORIZ. 1"=10'
VERT. 1"=10'

Exhibit 5
Permit 4-04-061
Grading/Driveway Plan



NOTES:
1. ALL OAK TREES TO REMAIN.

LEGEND

D.S.	=	DOWNSPOUT
T.W.	=	TOP OF WALL
T.C.	=	TOP OF CURB
B.W.	=	BACK OF WALK
F.L.	=	FLOW LINE
F.S.	=	FINISH SURFACE
F.F.	=	FINISH FLOOR
T.G.	=	TOP OF GRATE
B.W.	=	BOTTOM OF WALL
F.G.	=	FINISH GRADE
	=	RETAINING WALL
	=	EXIST. RET. WALL/SCREEN WALL
	=	PROPOSED CONTOUR
	=	EXISTING CONTOUR

CONSTRUCTION NOTES

1. CONST. 12" X 12" CATCH BASIN PER DETAIL HEREON OR APPROV EQUAL
2. CONST. 6" CURB ONLY PER DETAIL HEREON
3. CONST. 6" P.V.C. DRAINLINE @ 1% SLOPE TO DRAIN
4. CONST. 4" THICK ASPHALTIC CONCRETE PAVEMENT OVER 3" THICK C.A.B. BASE
5. CONST. RETAINING WALL SEE TEMPORARY EXCAVATION PER DETAIL HEREON
6. CONST. CATCH BASIN THRU RETAINING WALL PER DETAIL HEREON
7. CONST. 1' WIDE V-DITCH PER DETAIL HEREON
8. CONST. 4' HIGH MAX. NON-PERMIT RETAINING WALL
9. CONST. DRAIN OUTLET THRU WALL
10. CONST. SEWAGE TANK WITH TWO FILTERS AND PUMP. SEE MECH. PLAN

V-DITCH DETAIL
NOT TO SCALE

CONCRETE CURB DETAIL
NOT TO SCALE

SECTION "C-C"
SCALE: HORIZ. 1"=10'
VERT. 1"=10'

TEMPORARY EXCAVATION DETAIL
NOT TO SCALE

REVISIONS	BY
5/26/04	R.J.W

PREPARED FOR:
DAVID BLEAVINS
5687 WEST 74TH STREET
LOS ANGELES CALIFORNIA

DRAINAGE AND GRADING PLAN
FOR
802 OLD TOPANGA ROAD
TOPANGA, CALIFORNIA

PREPARED BY:
NETWORK ENGINEERING
3201 WASHINGTON BLVD. STE. 251
MARINA DEL REY, CA 90292
(310) 309-1088
FAX (310) 821-8504
CONTACT: ROBERT HEIMEIER

DRAWN	R.J.W
CHECKED	HAG
DATE	SEE ABOVE
SCALE	1" = 10'
JOB NO.	14-04-62
SHEET	G - 2
OF	3 SHEETS

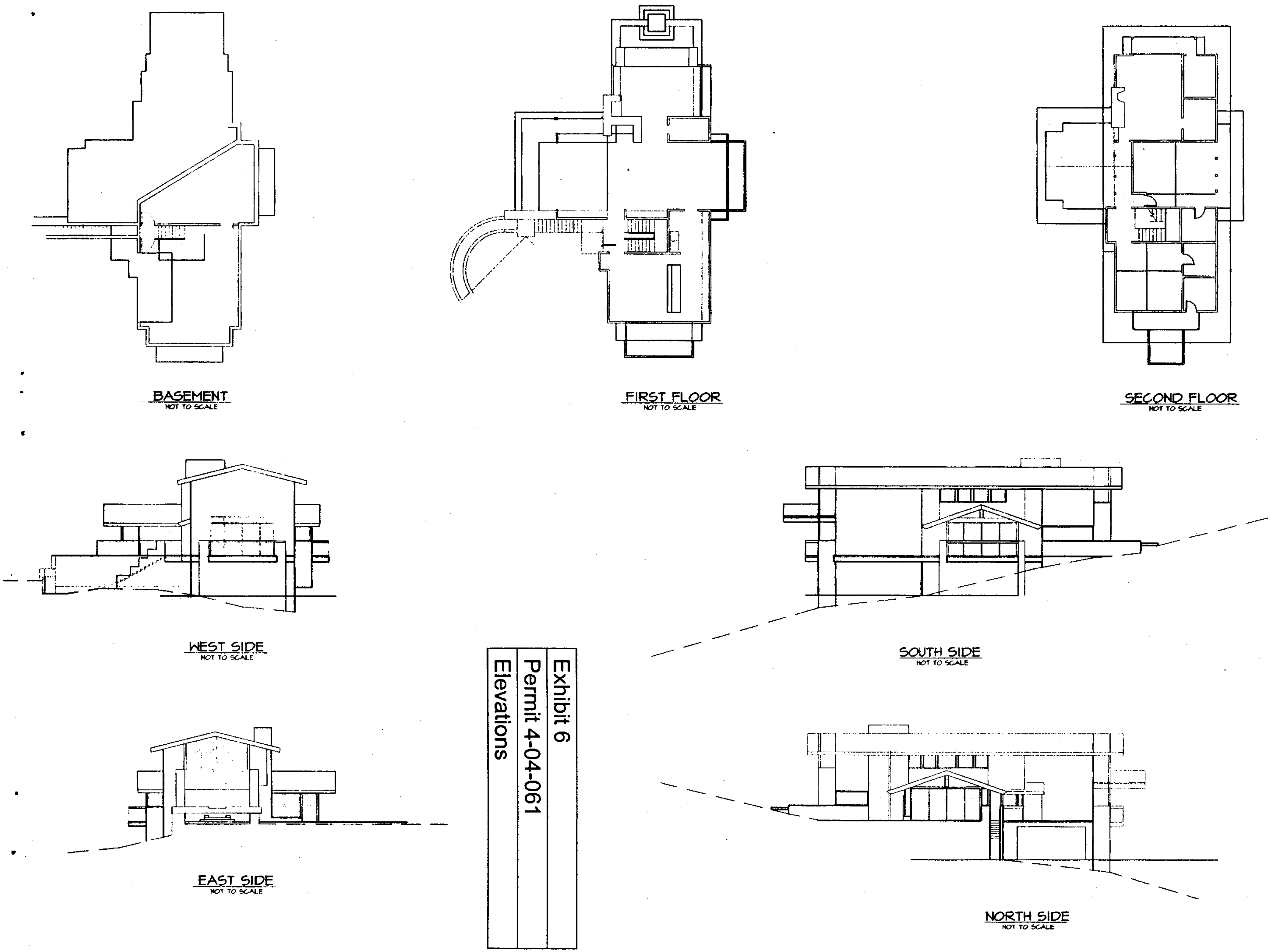


Exhibit 6
Permit 4-04-061
Elevations

REVISIONS	BY
5/26/04	R.J.W.

DAVID BLEAVINS
5837 WEST 14TH STREET
LOS ANGELES CALIFORNIA

ELEVATIONS
FOR
802 OLD TOPANGA ROAD
TOPANGA, CALIFORNIA

PREPARED BY:
NETWORK ENGINEERING
520 WASHINGTON BLVD. STE. 281
MARINA DEL REY CA 90292
(310) 302-1088
FAX (310) 821-8804
CONTACT: ROBERT NEHMEYER

DRAWN RJW
CHECKED HAG
DATE SEE ABOVE
SCALE 1" = 10'
JOB NO. 14-04-G2
SHEET G-3
OF 3 SHEETS

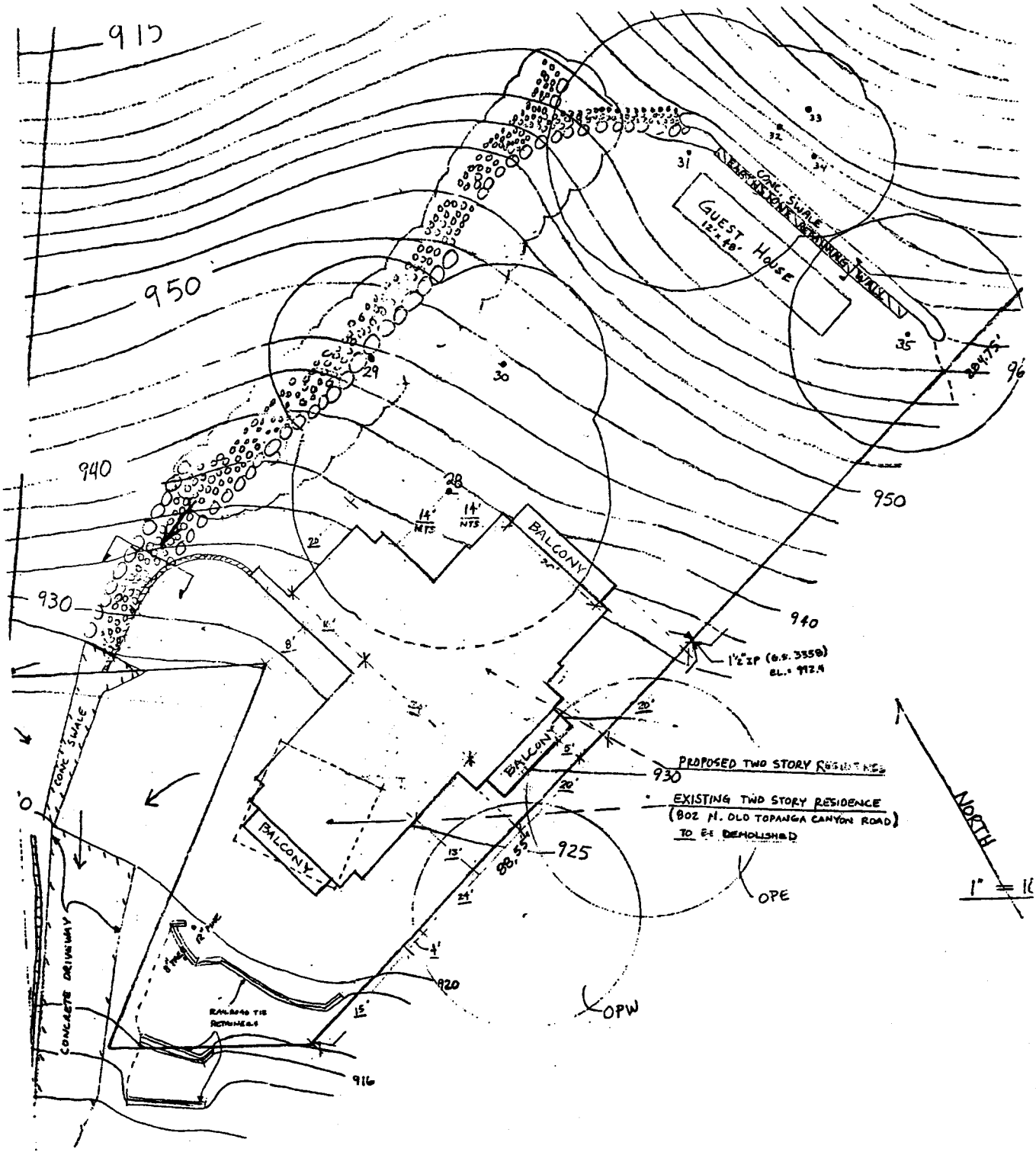


Exhibit 7a
Permit 4-04-061
Oak Tree Plan--House

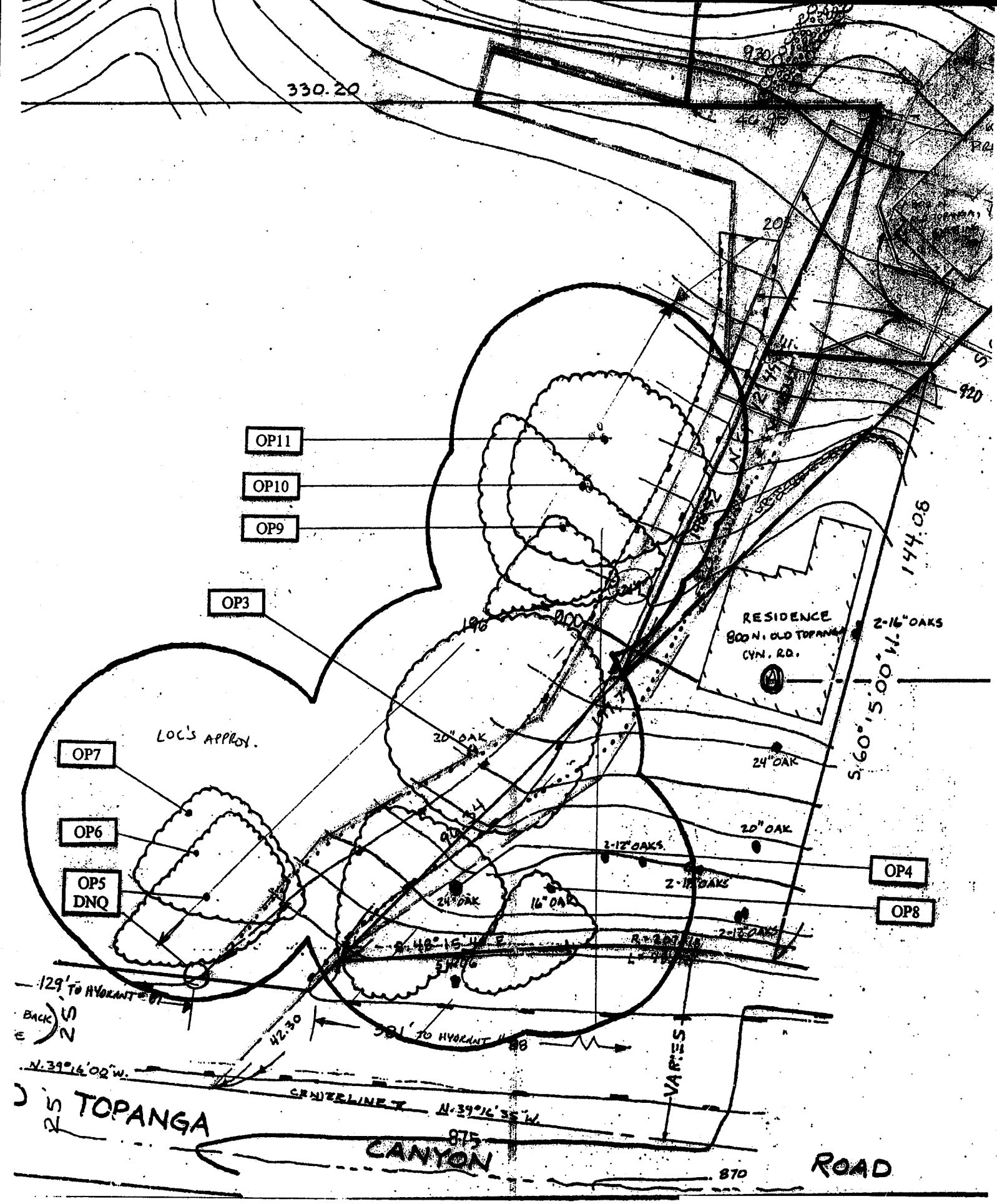


Exhibit 7b
Permit 4-04-061
Oak Tree Plan--Driveway

STATE OF CALIFORNIA – THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

MEMORANDUM

FROM: John Dixon, Ph.D.
Ecologist / Wetland Coordinator

TO: Ventura Staff

SUBJECT: Designation of ESHA in the Santa Monica Mountains

DATE: March 25, 2003

In the context of the Malibu LCP, the Commission found that the Mediterranean Ecosystem in the Santa Mountains is rare, and especially valuable because of its relatively pristine character, physical complexity, and resultant biological diversity. Therefore, areas of undeveloped native habitat in the Santa Monica Mountains that are large and relatively unfragmented may meet the definition of ESHA by virtue of their valuable roles in that ecosystem, regardless of their relative rarity throughout the state. This is the only place in the coastal zone where the Commission has recognized chaparral as meeting the definition of ESHA. The scientific background presented herein for ESHA analysis in the Santa Monica Mountains is adapted from the Revised Findings for the Malibu LCP that the Commission adopted on February 6, 2003.

For habitats in the Santa Monica Mountains, particularly coastal sage scrub and chaparral, there are three site-specific tests to determine whether an area is ESHA because of its especially valuable role in the ecosystem. First, is the habitat properly identified, for example as coastal sage scrub or chaparral? The requisite information for this test generally should be provided by a site-specific biological assessment. Second, is the habitat largely undeveloped and otherwise relatively pristine? Third, is the habitat part of a large, contiguous block of relatively pristine native vegetation? This should be documented with an aerial photograph from our mapping unit (with the site delineated) and should be attached as an exhibit to the staff report. For those habitats that are absolutely rare or that support individual rare species, it is not necessary to find that they are relatively pristine, and are neither isolated nor fragmented.

Designation of Environmentally Sensitive Habitat in the Santa Monica Mountains

The Coastal Act provides a definition of "environmentally sensitive area" as: "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5).

Exhibit 7c
Permit 4-04-061

There are three important elements to the definition of ESHA. First, a geographic area can be designated ESHA either because of the presence of individual species of plants or animals or because of the presence of a particular habitat. Second, in order for an area to be designated as ESHA, the species or habitat must be either rare or it must be especially valuable. Finally, the area must be easily disturbed or degraded by human activities.

The first test of ESHA is whether a habitat or species is rare. Rarity can take several forms, each of which is important. Within the Santa Monica Mountains, rare species and habitats often fall within one of two common categories. Many rare species or habitats are globally rare, but locally abundant. They have suffered severe historical declines in overall abundance and currently are reduced to a small fraction of their original range, but where present may occur in relatively large numbers or cover large local areas. This is probably the most common form of rarity for both species and habitats in California and is characteristic of coastal sage scrub, for example. Some other habitats are geographically widespread, but occur everywhere in low abundance. California's native perennial grasslands fall within this category.

A second test for ESHA is whether a habitat or species is especially valuable. Areas may be valuable because of their "special nature," such as being an unusually pristine example of a habitat type, containing an unusual mix of species, supporting species at the edge of their range, or containing species with extreme variation. For example, reproducing populations of valley oaks are not only increasingly rare, but their southernmost occurrence is in the Santa Monica Mountains. Generally, however, habitats or species are considered valuable because of their special "role in the ecosystem." For example, many areas within the Santa Monica Mountains may meet this test because they provide habitat for endangered species, protect water quality, provide essential corridors linking one sensitive habitat to another, or provide critical ecological linkages such as the provision of pollinators or crucial trophic connections. Of course, all species play a role in their ecosystem that is arguably "special." However, the Coastal Act requires that this role be "especially valuable." This test is met for relatively pristine areas that are integral parts of the Santa Monica Mountains Mediterranean ecosystem because of the demonstrably rare and extraordinarily special nature of that ecosystem as detailed below.

Finally, ESHAs are those areas that could be easily disturbed or degraded by human activities and developments. Within the Santa Monica Mountains, as in most areas of southern California affected by urbanization, all natural habitats are in grave danger of direct loss or significant degradation as a result of many factors related to anthropogenic changes.

Ecosystem Context of the Habitats of the Santa Monica Mountains

The Santa Monica Mountains comprise the largest, most pristine, and ecologically complex example of a Mediterranean ecosystem in coastal southern California.

California's coastal sage scrub, chaparral, oak woodlands, and associated riparian areas have analogues in just a few areas of the world with similar climate. Mediterranean ecosystems with their wet winters and warm dry summers are only found in five localities (the Mediterranean coast, California, Chile, South Africa, and south and southwest Australia). Throughout the world, this ecosystem with its specially adapted vegetation and wildlife has suffered severe loss and degradation from human development. Worldwide, only 18 percent of the Mediterranean community type remains undisturbed[1]. However, within the Santa Monica Mountains, this ecosystem is remarkably intact despite the fact that it is closely surrounded by some 17 million people. For example, the 150,000 acres of the Santa Monica Mountains National Recreation Area, which encompasses most of the Santa Monica Mountains, was estimated to be 90 percent free of development in 2000[2]. Therefore, this relatively pristine area is both large and mostly unfragmented, which fulfills a fundamental tenet of conservation biology[3]. The need for large contiguous areas of natural habitat in order to maintain critical ecological processes has been emphasized by many conservation biologists[4].

In addition to being a large single expanse of land, the Santa Monica Mountains ecosystem is still connected, albeit somewhat tenuously, to adjacent, more inland ecosystems[5]. Connectivity among habitats within an ecosystem and connectivity among ecosystems is very important for the preservation of species and ecosystem integrity. In a recent statewide report, the California Resources Agency[6] identified wildlife corridors and habitat connectivity as the top conservation priority. In a letter to governor Gray Davis, sixty leading environmental scientists have endorsed the

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[1] National Park Service. 2000. Draft general management plan & environmental impact statement. Santa Monica Mountains National Recreation Area – California.

[2] Ibid.

[3] Harris, L. D. 1988. Edge effects and conservation of biotic diversity. Conserv. Biol. 330-332. Soule, M. E, D. T. Bolger, A. C. Alberts, J. Wright, M. Sorice and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. Conserv. Biol. 2: 75-92. Yahner, R. H. 1988. Changes in wildlife communities near edges. Conserv. Biol. 2:333-339. Murphy, D. D. 1989. Conservation and confusion: Wrong species, wrong scale, wrong conclusions. Conservation Biol. 3:82-84.

[4] Crooks, K. 2000. Mammalian carnivores as target species for conservation in Southern California. p. 105-112 *in*: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62. Sauvajot, R. M., E. C. York, T. K. Fuller, H. Sharon Kim, D. A. Kamradt and R. K. Wayne. 2000. Distribution and status of carnivores in the Santa Monica Mountains, California: Preliminary results from radio telemetry and remote camera surveys. p 113-123 *in*: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62. Beier, P. and R. F. Noss. 1998. Do habitat corridors provide connectivity? Conserv. Biol. 12:1241-1252. Beier, P. 1996. Metapopulation models, tenacious tracking and cougar conservation. *In*: Metapopulations and Wildlife Conservation, ed. D. R. McCullough. Island Press, Covelo, California, 429p.

[5] The SMM area is linked to larger natural inland areas to the north through two narrow corridors: 1) the Conejo Grade connection at the west end of the Mountains and 2) the Simi Hills connection in the central region of the SMM (from Malibu Creek State Park to the Santa Susanna Mountains).

[6] California Resources Agency. 2001. Missing Linkages: Restoring Connectivity to the California Landscape. California Wilderness Coalition, Calif. Dept of Parks & Recreation, USGS, San Diego Zoo and The Nature Conservancy. Available at: http://www.calwild.org/pubs/reports/linkages/index.htm

conclusions of that report[7]. The chief of natural resources at the California Department of Parks and Recreation has identified the Santa Monica Mountains as an area where maintaining connectivity is particularly important[8].

The species most directly affected by large scale connectivity are those that require large areas or a variety of habitats, e.g., gray fox, cougar, bobcat, badger, steelhead trout, and mule deer[9]. Large terrestrial predators are particularly good indicators of habitat connectivity and of the general health of the ecosystem[10]. Recent studies show that the mountain lion, or cougar, is the most sensitive indicator species of habitat fragmentation, followed by the spotted skunk and the bobcat[11]. Sightings of cougars in both inland and coastal areas of the Santa Monica Mountains[12] demonstrate their continued presence. Like the "canary in the mineshaft," an indicator species like this is good evidence that habitat connectivity and large scale ecological function remains in the Santa Monica Mountains ecosystem.

The habitat integrity and connectivity that is still evident within the Santa Monica Mountains is extremely important to maintain, because both theory and experiments over 75 years in ecology confirm that large spatially connected habitats tend to be more stable and have less frequent extinctions than habitats without extended spatial structure[13]. Beyond simply destabilizing the ecosystem, fragmentation and disturbance

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[7] Letters received and included in the September 2002 staff report for the Malibu LCP.

[8] Schoch, D. 2001. Survey lists 300 pathways as vital to state wildlife. Los Angeles Times. August 7, 2001.

[9] Martin, G. 2001. Linking habitat areas called vital for survival of state's wildlife Scientists map main migration corridors. San Francisco Chronicle, August 7, 2001.

[10] Noss, R. F., H. B. Quigley, M. G. Hornocker, T. Merrill and P. C. Paquet. 1996. Conservation biology and carnivore conservation in the Rocky Mountains. Conerv. Biol. 10: 949-963. Noss, R. F. 1995. Maintaining ecological integrity in representative reserve networks. World Wildlife Fund Canada.

[11] Sauvajot, R. M., E. C. York, T. K. Fuller, H. Sharon Kim, D. A. Kamradt and R. K. Wayne. 2000. Distribution and status of carnivores in the Santa Monica Mountains, California: Preliminary results from radio telemetry and remote camera surveys. p 113-123 in: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62. Beier, P. 1996. Metapopulation models, tenacious tracking and cougar conservation. In: Metapopulations and Wildlife Conservation, ed. D. R. McCullough. Island Press, Covelo, California, 429p.

[12] Recent sightings of mountain lions include: Temescal Canyon (pers. com., Peter Brown, Facilities Manager, Calvary Church), Topanga Canyon (pers. com., Marti Witter, NPS), Encinal and Trancas Canyons (pers. com., Pat Healy), Stump Ranch Research Center (pers. com., Dr. Robert Wayne, Dept. of Biology, UCLA). In May of 2002, the NPS *photographed* a mountain lion at a trip camera on the Back Bone Trail near Castro Crest – Seth Riley, Eric York and Dr. Ray Sauvajot, National Park Service, SMMNRA.

[13] Gause, G. F. 1934. The struggle for existence. Balitmore, William and Wilkins 163 p. (also reprinted by Hafner, N.Y. 1964). Gause, G. F., N. P. Smaragdova and A. A. Witt. 1936. Further studies of interaction between predators and their prey. J. Anim. Ecol. 5:1-18. Huffaker, C. B. 1958. Experimental studies on predation: dispersion factors and predator-prey oscillations. Hilgardia 27:343-383. Luckinbill, L. S. 1973. Coexistence in laboratory populations of *Paramecium aurelia* and its predator *Didinium nasutum*. Ecology 54:1320-1327. Allen, J. C., C. C. Brewster and D. H. Slone. 2001. Spatially explicit ecological models: A spatial convolution approach. Chaos, Solitons and Fractals. 12:333-347.

can even cause unexpected and irreversible changes to new and completely different kinds of ecosystems (habitat conversion)[14].

As a result of the pristine nature of large areas of the Santa Monica Mountains and the existence of large, unfragmented and interconnected blocks of habitat, this ecosystem continues to support an extremely diverse flora and fauna. The observed diversity is probably a function of the diversity of physical habitats. The Santa Monica Mountains have the greatest geological diversity of all major mountain ranges within the transverse range province. According to the National Park Service, the Santa Monica Mountains contain 40 separate watersheds and over 170 major streams with 49 coastal outlets[15]. These streams are somewhat unique along the California coast because of their topographic setting. As a "transverse" range, the Santa Monica Mountains are oriented in an east-west direction. As a result, the south-facing riparian habitats have more variable sun exposure than the east-west riparian corridors of other sections of the coast. This creates a more diverse moisture environment and contributes to the higher biodiversity of the region. The many different physical habitats of the Santa Monica Mountains support at least 17 native vegetation types[16] including the following habitats considered sensitive by the California Department of Fish and Game: native perennial grassland, coastal sage scrub, red-shank chaparral, valley oak woodland, walnut woodland, southern willow scrub, southern cottonwood-willow riparian forest, sycamore-alder woodland, oak riparian forest, coastal salt marsh, and freshwater marsh. Over 400 species of birds, 35 species of reptiles and amphibians, and more than 40 species of mammals have been documented in this diverse ecosystem. More than 80 sensitive species of plants and animals (listed, proposed for listing, or species of concern) are known to occur or have the potential to occur within the Santa Monica Mountains Mediterranean ecosystem.

The Santa Monica Mountains are also important in a larger regional context. Several recent studies have concluded that the area of southern California that includes the Santa Monica Mountains is among the most sensitive in the world in terms of the number of rare endemic species, endangered species and habitat loss. These studies have designated the area to be a local hot-spot of endangerment in need of special protection[17].

Therefore, the Commission finds that the Santa Monica Mountains ecosystem is itself rare and especially valuable because of its special nature as the largest, most pristine,

---

[14] Scheffer, M., S. Carpenter, J. A. Foley, C. Folke and B. Walker. 2001. Catastrophic shifts in ecosystems. Nature 413:591-596.

[15] NPS. 2000. op.cit.

[16] From the NPS report (2000 op. cit.) that is based on the older Holland system of subjective classification. The data-driven system of Sawyer and Keeler-Wolf results in a much larger number of distinct "alliances" or vegetation types.

[17] Myers, N. 1990. The biodiversity challenge: Expanded hot-spots analysis. Environmentalist 10:243-256. Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B. da Fonseca and J. A. Kent. 2000. Biodiversity hot-spots for conservation priorities. Nature 403:853-858. Dobson, A. P., J. P. Rodriguez, W. M. Roberts and D. S. Wilcove. 1997. Geographic distribution of endangered species in the United States. Science 275:550-553.

physically complex, and biologically diverse example of a Mediterranean ecosystem in coastal southern California. The Commission further finds that because of the rare and special nature of the Santa Monica Mountains ecosystem, the ecosystem roles of substantially intact areas of the constituent plant communities discussed below are "especially valuable" under the Coastal Act.

Major Habitats within the Santa Monica Mountains

The most recent vegetation map that is available for the Santa Monica Mountains is the map that was produced for the National Park Service in the mid-1990s using 1993 satellite imagery supplemented with color and color infrared aerial imagery from 1984, 1988, and 1994 and field review[18]. The minimum mapping unit was 5 acres. For that map, the vegetation was mapped in very broad categories, generally following a vegetation classification scheme developed by Holland[19]. Because of the mapping methods used the degree of plant community complexity in the landscape is not represented. For example, the various types of "ceanothus chaparral" that have been documented were lumped under one vegetation type referred to as "northern mixed chaparral." Dr. Todd Keeler-Wolf of the California Department of Fish and Game is currently conducting a more detailed, quantitative vegetation survey of the Santa Monica Mountains.

The National Park Service map can be used to characterize broadly the types of plant communities present. The main generic plant communities present in the Santa Monica Mountains[20] are: coastal sage scrub, chaparral, riparian woodland, coast live oak woodland, and grasslands.

Riparian Woodland

Some 49 streams connect inland areas with the coast, and there are many smaller drainages as well, many of which are "blue line." Riparian woodlands occur along both perennial and intermittent streams in nutrient-rich soils. Partly because of its multi-layered vegetation, the riparian community contains the greatest overall biodiversity of all the plant communities in the area[21]. At least four types of riparian communities are discernable in the Santa Monica Mountains: walnut riparian areas, mulefat-dominated riparian areas, willow riparian areas and sycamore riparian woodlands. Of these, the

[18] Franklin, J. 1997. Forest Service Southern California Mapping Project, Santa Monica Mountains National Recreation Area, Task 11 Description and Results, Final Report. June 13, 1997, Dept. of Geography, San Diego State University, USFS Contract No. 53-91S8-3-TM45.
[19] Holland R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, Dept. of Fish and Game, Natural Heritage Division, Sacramento, CA. 95814.
[20] National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000. (Fig. 11 in this document.)
[21] Ibid.

sycamore riparian woodland is the most diverse riparian community in the area. In these habitats, the dominant plant species include arroyo willow, California black walnut, sycamore, coast live oak, Mexican elderberry, California bay laurel, and mule fat. Wildlife species that have been observed in this community include least Bell's vireo (a State and federally listed species), American goldfinches, black phoebes, warbling vireos, bank swallows (State listed threatened species), song sparrows, belted kingfishers, raccoons, and California and Pacific tree frogs.

Riparian communities are the most species-rich to be found in the Santa Monica Mountains. Because of their multi-layered vegetation, available water supply, vegetative cover and adjacency to shrubland habitats, they are attractive to many native wildlife species, and provide essential functions in their lifecycles[22]. During the long dry summers in this Mediterranean climate, these communities are an essential refuge and oasis for much of the areas' wildlife.

Riparian habitats and their associated streams form important connecting links in the Santa Monica Mountains. These habitats connect all of the biological communities from the highest elevation chaparral to the sea with a unidirectional flowing water system, one function of which is to carry nutrients through the ecosystem to the benefit of many different species along the way.

The streams themselves provide refuge for sensitive species including: the coast range newt, the Pacific pond turtle, and the steelhead trout. The coast range newt and the Pacific pond turtle are California Species of Special Concern and are proposed for federal listing[23], and the steelhead trout is federally endangered. The health of the streams is dependent on the ecological functions provided by the associated riparian woodlands. These functions include the provision of large woody debris for habitat, shading that controls water temperature, and input of leaves that provide the foundation of the stream-based trophic structure.

The importance of the connectivity between riparian areas and adjacent habitats is illustrated by the Pacific pond turtle and the coast range newt, both of which are sensitive and both of which require this connectivity for their survival. The life history of the Pacific pond turtle demonstrates the importance of riparian areas and their associated watersheds for this species. These turtles require the stream habitat during the wet season. However, recent radio tracking work[24] has found that although the Pacific pond turtle spends the wet season in streams, it also requires upland habitat for refuge during the dry season. Thus, in coastal southern California, the Pacific pond turtle requires both streams and intact adjacent upland habitats such as coastal sage

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[22] Walter, Hartmut. Bird use of Mediterranean habitats in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.

[23] USFWS. 1989. Endangered and threatened wildlife and plants; animal notice of review. Fed. Reg. 54:554-579. USFWS. 1993. Endangered and threatened wildlife and plants; notice of 1-year petition finding on the western pond turtle. Fed. Reg. 58:42717-42718.

[24] Rathbun, G.B., N.J. Scott and T.G. Murphy. 2002. Terrestrial habitat use by Pacific pond turtle in a Mediterranean climate. Southwestern Naturalist. (*in Press*).

scrub, woodlands or chaparral as part of their normal life cycle. The turtles spend about four months of the year in upland refuge sites located an average distance of 50 m (but up to 280 m) from the edge of the creek bed. Similarly, nesting sites where the females lay eggs are also located in upland habitats an average of 30 m (but up to 170 m) from the creek. Occasionally, these turtles move up to 2 miles across upland habitat[25]. Like many species, the pond turtle requires both stream habitats and the upland habitats of the watershed to complete its normal annual cycle of behavior. Similarly, the coast range newt has been observed to travel hundreds of meters into upland habitat and spend about ten months of the year far from the riparian streambed[26]. They return to the stream to breed in the wet season, and they are therefore another species that requires both riparian habitat and adjacent uplands for their survival.

Riparian habitats in California have suffered serious losses and such habitats in southern California are currently very rare and seriously threatened. In 1989, Faber estimated that 95-97% of riparian habitat in southern California was already lost[27]. Writing at the same time as Faber, Bowler asserted that, *"[t]here is no question that riparian habitat in southern California is endangered."*[28] In the intervening 13 years, there have been continuing losses of the small amount of riparian woodlands that remain. Today these habitats are, along with native grasslands and wetlands, among the most threatened in California.

In addition to direct habitat loss, streams and riparian areas have been degraded by the effects of development. For example, the coast range newt, a California Species of Special Concern has suffered a variety of impacts from human-related disturbances[29]. Human-caused increased fire frequency has resulted in increased sedimentation rates, which exacerbates the cannibalistic predation of adult newts on the larval stages.[30] In addition impacts from non-native species of crayfish and mosquito fish have also been documented. When these non-native predators are introduced, native prey organisms are exposed to new mortality pressures for which they are not adapted. Coast range newts that breed in the Santa Monica Mountain streams do not appear to have adaptations that permit co-occurrence with introduced mosquito fish and crayfish[31]. These introduced predators have eliminated the newts from streams where they previously occurred by both direct predation and suppression of breeding.

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[25] Testimony by R. Dagit, Resource Conservation District of the Santa Monica Mountains at the CCC Habitat Workshop on June 13, 2002.

[26] Dr, Lee Kats, Pepperdine University, personal communication to Dr J. Allen, CCC.

[27] Faber, P.A., E, Keller, A. Sands and B.M. Massey. 1989. The ecology of riparian habitats of the southern California coastal region: a community profile. U.S. Fish and Wildlife Service Biological Report 85(7.27) 152pp.

[28] Bowler, P.A. 1989. Riparian woodland: An endangered habitat in southern California. Pp 80-97 *in* Schoenherr, A.A. (ed.) Endangered plant communities of southern California. Botanists Special Publication No. 3.

[29] Gamradt, S.C., L.B. Kats and C.B. Anzalone. 1997. Aggression by non-native crayfish deters breeding in California newts. Conservation Biology 11(3):793-796.

[30] Kerby, L.J., and L.B. Kats. 1998. Modified interactions between salamander life stages caused by wildfire-induced sedimentation. Ecology 79(2):740-745.

[31] Gamradt, S.C. and L.B. Kats. 1996. Effect of introduced crayfish and mosquitofish on California newts. Conservation Biology 10(4):1155-1162.

Therefore, because of the essential role that riparian plant communities play in maintaining the biodiversity of the Santa Monica Mountains, because of the historical losses and current rarity of these habitats in southern California, and because of their extreme sensitivity to disturbance, the native riparian habitats in the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

Coastal Sage Scrub and Chaparral

Coastal sage scrub and chaparral are often lumped together as "shrublands" because of their roughly similar appearance and occurrence in similar and often adjacent physical habitats. In earlier literature, these vegetation associations were often called soft chaparral and hard chaparral, respectively. "Soft" and "hard" refers to differences in their foliage associated with different adaptations to summer drought. Coastal sage scrub is dominated by soft-leaved, generally low-growing aromatic shrubs that die back and drop their leaves in response to drought. Chaparral is dominated by taller, deeper-rooted evergreen shrubs with hard, waxy leaves that minimize water loss during drought.

The two vegetation types are often found interspersed with each other. Under some circumstances, coastal sage scrub may even be successional to chaparral, meaning that after disturbance, a site may first be covered by coastal sage scrub, which is then replaced with chaparral over long periods of time.[32] The existing mosaic of coastal sage scrub and chaparral is the result of a dynamic process that is a function of fire history, recent climatic conditions, soil differences, slope, aspect and moisture regime, and the two habitats should not be thought of as completely separate and unrelated entities but as different phases of the same process[33]. The spatial pattern of these vegetation stands at any given time thus depends on both local site conditions and on history (e.g., fire), and is influenced by both natural and human factors.

In lower elevation areas with high fire frequency, chaparral and coastal sage scrub may be in a state of flux, leading one researcher to describe the mix as a "coastal sage-chaparral subclimax."[34] Several other researchers have noted the replacement of chaparral by coastal sage scrub, or coastal sage scrub by chaparral depending on fire history.[35] In transitional and other settings, the mosaic of chaparral and coastal sage

[32] Cooper, W.S. 1922. The broad-sclerophyll vegetation of California. Carnegie Institution of Washington Publication 319. 124 pp.
[33] Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024. (See attached comment document in Appendix).
[34] Hanes, T.L. 1965. Ecological studies on two closely related chaparral shrubs in southern California. Ecological Monographs 41:27-52.
[35] Gray, K.L. 1983. Competition for light and dynamic boundary between chaparral and coastal sage scrub. Madrono 30(1):43-49. Zedler, P.H., C.R. Gautier and G.S. McMaster. 1983. Vegetation change in response to extreme events: The effect of a short interval between fires in California chaparral and coastal sage scrub. Ecology 64(4): 809-818.

scrub enriches the seasonal plant resource base and provides additional habitat variability and seasonality for the many species that inhabit the area.

Relationships Among Coastal Sage Scrub, Chaparral and Riparian Communities

Although the constituent communities of the Santa Monica Mountains Mediterranean ecosystem can be defined and distinguished based on species composition, growth habits, and the physical habitats they characteristically occupy, they are not independent entities ecologically. Many species of plants, such as black sage, and laurel sumac, occur in more than one plant community and many animals rely on the predictable mix of communities found in undisturbed Mediterranean ecosystems to sustain them through the seasons and during different portions of their life histories.

Strong evidence for the interconnectedness between chaparral, coastal scrub and other habitats is provided by "opportunistic foragers" (animals that follow the growth and flowering cycles across these habitats). Coastal scrub and chaparral flowering and growth cycles differ in a complimentary and sequential way that many animals have evolved to exploit. Whereas coastal sage scrub is shallow-rooted and responds quickly to seasonal rains, chaparral plants are typically deep-rooted having most of their flowering and growth later in the rainy season after the deeper soil layers have been saturated[36]. New growth of chaparral evergreen shrubs takes place about four months later than coastal sage scrub plants and it continues later into the summer[37]. For example, in coastal sage scrub, California sagebrush flowers and grows from August to February and coyote bush flowers from August to November[38]. In contrast, chamise chaparral and bigpod ceanothus flower from April to June, buck brush ceanothus flowers from February to April, and hoaryleaf ceanothus flowers from March to April.

Many groups of animals exploit these seasonal differences in growth and blooming period. The opportunistic foraging insect community (e.g., honeybees, butterflies and moths) tends to follow these cycles of flowering and new growth, moving from coastal sage scrub in the early rainy season to chaparral in the spring[39]. The insects in turn are followed by insectivorous birds such as the blue-gray gnatcatcher[40], bushtit, cactus wren, Bewick's wren and California towhee. At night bats take over the role of daytime insectivores. At least 12 species of bats (all of which are considered sensitive) occur in

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[36] DeSimone, S. 2000. California's coastal sage scrub. Fremontia 23(4):3-8. Mooney, H.A. 1988. Southern coastal scrub. Chap. 13 *in* Barbour, M.G. and J. Majors; Eds. 1988. Terrestrial vegetation of California, 2nd Edition. Calif. Native Plant Soc. Spec. Publ. #9.

[37] Schoenherr, A. A. 1992. A natural history of California. University of California Press, Berkeley. 772p.

[38] Dale, N. 2000. Flowering plants of the Santa Monica Mountains. California Native Plant Society, 1722 J Street, Suite 17, Sacramento, CA 95814.

[39] Ballmer, G. R. 1995. What's bugging coastal sage scrub. Fremontia 23(4):17-26.

[40] Root, R. B. 1967. The niche exploitation pattern of the blue-gray gnatcatcher. Ecol. Monog.37:317-350.

the Santa Monica Mountains[41]. Five species of hummingbirds also follow the flowering cycle[42].

Many species of 'opportunistic foragers', which utilize several different community types, perform important ecological roles during their seasonal movements. The scrub jay is a good example of such a species. The scrub jay is an omnivore and forages in coastal sage scrub, chaparral, and oak woodlands for insects, berries and notably acorns. Its foraging behavior includes the habit of burying acorns, usually at sites away from the parent tree canopy. Buried acorns have a much better chance of successful germination (about two-fold) than exposed acorns because they are protected from desiccation and predators. One scrub jay will bury approximately 5000 acorns in a year. The scrub jay therefore performs the function of greatly increasing recruitment and regeneration of oak woodland, a valuable and sensitive habitat type[43].

Like the scrub jay, most of the species of birds that inhabit the Mediterranean ecosystem in the Santa Monica Mountains require more than one community type in order to flourish. Many species include several community types in their daily activities. Other species tend to move from one community to another seasonally. The importance of maintaining the integrity of the multi-community ecosystem is clear in the following observations of Dr. Hartmut Walter of the University of California at Los Angeles:

> "Bird diversity is directly related to the habitat mosaic and topographic diversity of the Santa Monicas. Most bird species in this bio-landscape require more than one habitat for survival and reproduction." "A significant proportion of the avifauna breeds in the wooded canyons of the Santa Monicas. Most of the canyon breeders forage every day in the brush- and grass-covered slopes, ridges and mesas. They would not breed in the canyons in the absence of the surrounding shrublands. Hawks, owls, falcons, orioles, flycatchers, woodpeckers, warblers, hummingbirds, etc. belong to this group. Conversely, some of the characteristic chaparral birds such as thrashers, quails, and wrentits need the canyons for access to shelter, protection from fire, and water. The regular and massive movement of birds between riparian corridors and adjacent shrublands has been demonstrated by qualitative and quantitative observations by several UCLA students[44]."

Thus, the Mediterranean ecosystem of the Santa Monica Mountains is a mosaic of vegetation types linked together ecologically. The high biodiversity of the area results

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[41] Letter from Dr. Marti Witter, NPS, dated Sept. 13, 2001, in letters received and included in the September 2002 staff report for the Malibu LCP.

[42] National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701

[43] Borchert, M. I., F. W. Davis, J. Michaelsen and L. D. Oyler. 1989. Interactions of factors affecting seedling recruitment of blue oak (*Quercus douglasii*) in California. Ecology 70:389-404. Bossema, I. 1979. Jays and oaks: An eco-ethological study of a symbiosis. Behavior 70:1-118. Schoenherr, A. A. 1992. A natural history of California. University of California Press, Berkeley. 772p.

[44] Walter, Hartmut. Bird use of Mediterranean habitats in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.

from both the diversity and the interconnected nature of this mosaic. Most raptor species, for example, require large areas and will often require different habitats for perching, nesting and foraging. Fourteen species of raptors (13 of which are considered sensitive) are reported from the Santa Monica Mountains. These species utilize a variety of habitats including rock outcrops, oak woodlands, riparian areas, grasslands, chaparral, coastal sage scrub, estuaries and freshwater lakes[45].

When the community mosaic is disrupted and fragmented by development, many chaparral-associated native bird species are impacted. In a study of landscape-level fragmentation in the Santa Monica Mountains, Stralberg[46] found that the ash-throated flycatcher, Bewick's wren, wrentit, blue-gray gnatcatcher, California thrasher, orange-crowned warbler, rufous-crowned sparrow, spotted towhee, and California towhee all decreased in numbers as a result of urbanization. Soule[47] observed similar effects of fragmentation on chaparral and coastal sage scrub birds in the San Diego area.

In summary, all of the vegetation types in this ecosystem are strongly linked by animal movement and foraging. Whereas classification and mapping of vegetation types may suggest a snapshot view of the system, the seasonal movements and foraging of animals across these habitats illustrates the dynamic nature and vital connections that are crucial to the survival of this ecosystem.

Coastal Sage Scrub

"Coastal sage scrub" is a generic vegetation type that is inclusive of several subtypes[48]. In the Santa Monica Mountains, coastal sage scrub is mostly of the type termed "Venturan Coastal Sage Scrub." In general, coastal sage scrub is comprised of dominant species that are semi-woody and low-growing, with shallow, dense roots that enable them to respond quickly to rainfall. Under the moist conditions of winter and spring, they grow quickly, flower, and produce light, wind-dispersed seeds, making them good colonizers following disturbance. These species cope with summer drought by dying back, dropping their leaves or producing a smaller summer leaf in order to reduce water loss. Stands of coastal sage scrub are much more open than chaparral and contain a greater admixture of herbaceous species. Coastal sage scrub is generally restricted to drier sites, such as low foothills, south-facing slopes, and shallow soils at higher elevations.

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[45] National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701. *and* Letter from Dr. Marti Witter, NPS, Dated Sept. 13, 2001, in letters received and included in the September 2002 staff report for the Malibu LCP.

[46] Stralberg, D. 2000. Landscape-level urbanization effects on chaparral birds: A Santa Monica Mountains case study. p 125-136 *in*: Keeley, J. E., M. Baer-Keeley and C. J. Fotheringham (eds), 2nd Interface Between Ecology and Land Development in California, U.S. Geological Survey Open-File Report 00-62.

[47] Soule, M. E, D. T. Bolger, A. C. Alberts, J. Wright, M. Sorice and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. Conserv. Biol. 2: 75-92.

[48] Kirkpatrick, J.B. and C.F. Hutchinson. 1977. The community composition of Californian coastal sage scrub. Vegetatio 35:21-33; Holland, 1986. op.cit.; Sawyer and Keeler-Wolf, 1995, op.cit.

The species composition and structure of individual stands of coastal sage scrub depend on moisture conditions that derive from slope, aspect, elevation and soil type. Drier sites are dominated by more drought-resistant species (e.g., California sagebrush, coast buckwheat, and *Opuntia* cactus). Where more moisture is available (e.g., north-facing slopes), larger evergreen species such as toyon, laurel sumac, lemonade berry, and sugar bush are common. As a result, there is more cover for wildlife, and movement of large animals from chaparral into coastal sage scrub is facilitated in these areas. Characteristic wildlife in this community includes Anna's hummingbirds, rufous-sided towhees, California quail, greater roadrunners, Bewick's wrens, coyotes, and coast horned lizards[49], but most of these species move between coastal sage scrub and chaparral during their daily activities or on a seasonal basis.

Of the many important ecosystem roles performed by the coastal sage scrub community, five are particularly important in the Santa Monica Mountains. Coastal sage scrub provides critical linkages between riparian corridors, provides essential habitat for species that require several habitat types during the course of their life histories, provides essential habitat for local endemics, supports rare species that are in danger of extinction, and reduces erosion, thereby protecting the water quality of coastal streams.

Riparian woodlands are primary contributors to the high biodiversity of the Santa Monica Mountains. The ecological integrity of those riparian habitats not only requires wildlife dispersal along the streams, but also depends on the ability of animals to move from one riparian area to another. Such movement requires that the riparian corridors be connected by suitable habitat. In the Santa Monica Mountains, coastal sage scrub and chaparral provide that function. Significant development in coastal sage scrub would reduce the riparian corridors to linear islands of habitat with severe edge effects[50], reduced diversity, and lower productivity.

Most wildlife species and many species of plants utilize several types of habitat. Many species of animals endemic to Mediterranean habitats move among several plant communities during their daily activities and many are reliant on different communities either seasonally or during different stages of the their life cycle. Without an intact mosaic of coastal sage scrub, chaparral, and riparian community types, many species will not thrive. Specific examples of the importance of interconnected communities, or habitats, were provided in the discussion above. This is an essential ecosystem role of coastal sage scrub.

A characteristic of the coastal sage scrub vegetation type is a high degree of endemism. This is consonant with Westman's observation that 44 percent of the species he sampled in coastal sage scrub occurred at only one of his 67 sites, which were

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[49] National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000.

[50] Environmental impacts are particularly severe at the interface between development and natural habitats. The greater the amount of this "edge" relative to the area of natural habitat, the worse the impact.

distributed from the San Francisco Bay area to Mexico[51]. Species with restricted distributions are by nature more susceptible to loss or degradation of their habitat. Westman said of this unique and local aspect of coastal sage scrub species in California:

> "While there are about 50 widespread sage scrub species, more than half of the 375 species encountered in the present study of the sage scrub flora are rare in occurrence within the habitat range. In view of the reduction of the area of coastal sage scrub in California to 10-15% of its former extent and the limited extent of preserves, measures to conserve the diversity of the flora are needed."[52]

Coastal sage scrub in southern California provides habitat for about 100 rare species[53], many of which are also endemic to limited geographic regions[54]. In the Santa Monica Mountains, rare animals that inhabit coastal sage scrub[55] include the Santa Monica shieldback katydid, silvery legless lizard, coastal cactus wren, Bell's sparrow, San Diego desert woodrat, southern California rufous-crowned sparrow, coastal western whiptail, and San Diego horned lizard. Some of these species are also found in chaparral[56]. Rare plants found in coastal sage scrub in the Santa Monica Mountains include Santa Susana tarplant, Coulter's saltbush, Blockman's dudleya, Braunton's milkvetch, Parry's spineflower, and Plummer's mariposa lily[57]. A total of 32 sensitive species of reptiles, birds and mammals have been identified in this community by the National Park Service.[58]

One of the most important ecological functions of coastal sage scrub in the Santa Monica Mountains is to protect water quality in coastal streams by reducing erosion in the watershed. Although shallow rooted, the shrubs that define coastal sage scrub have dense root masses that hold the surface soils much more effectively than the exotic annual grasses and forbs that tend to dominate in disturbed areas. The native shrubs of this community are resistant not only to drought, as discussed above, but well adapted to fire. Most of the semi-woody shrubs have some ability to crown sprout after

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[51] Westman, W.E. 1981. Diversity relations and succession in Californian coastal sage scrub. Ecology 62:170-184.
[52] Ibid.
[53] Atwood, J. L. 1993. California gnatcatchers and coastal sage scrub: The biological basis for endangered species listing. pp.149-166 *In*: Interface Between Ecology and Land Development in California. Ed. J. E. Keeley, So. Calif. Acad. of Sci., Los Angeles. California Department of Fish and Game (CDFG). 1993. The Southern California Coastal Sage Scrub (CSS) Natural Communities Conservation Plan (NCCP). CDFG and Calif. Resources Agency, 1416 9th St., Sacramento, CA 95814.
[54] Westman, W.E. 1981. op. cit.
[55] Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.
[56] O'Leary J.F., S.A. DeSimone, D.D. Murphy, P.F. Brussard, M.S. Gilpin, and R.F. Noss. 1994. Bibliographies on coastal sage scrub and related malacophyllous shrublands of other Mediterranean-type climates. *California Wildlife Conservation Bulletin* 10:1–51.
[57] Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.
[58] NPS, 2000, op cit.

fire. Several CSS species (e.g., *Eriogonum cinereum*) in the Santa Monica Mountains and adjacent areas resprout vigorously and other species growing near the coast demonstrate this characteristic more strongly than do individuals of the same species growing at inland sites in Riverside County.[59] These shrub species also tend to recolonize rapidly from seed following fire. As a result they provide persistent cover that reduces erosion.

In addition to performing extremely important roles in the Mediterranean ecosystem, the coastal sage scrub community type has been drastically reduced in area by habitat loss to development. In the early 1980's it was estimated that 85 to 90 percent of the original extent of coastal sage scrub in California had already been destroyed.[60] Losses since that time have been significant and particularly severe in the coastal zone.

Therefore, because of its increasing rarity, its important role in the functioning of the Santa Monica Mountains Mediterranean ecosystem, and its extreme vulnerability to development, coastal sage scrub within the Santa Monica Mountains meets the definition of ESHA under the Coastal Act.

Chaparral

Another shrub community in the Santa Monica Mountain Mediterranean ecosystem is chaparral. Like "coastal sage scrub," this is a generic category of vegetation. Chaparral species have deep roots (10s of ft) and hard waxy leaves, adaptations to drought that increase water supply and decrease water loss at the leaf surface. Some chaparral species cope more effectively with drought conditions than do desert plants[61]. Chaparral plants vary from about one to four meters tall and form dense, intertwining stands with nearly 100 percent ground cover. As a result, there are few herbaceous species present in mature stands. Chaparral is well adapted to fire. Many species regenerate mainly by crown sprouting; others rely on seeds which are stimulated to germinate by the heat and ash from fires. Over 100 evergreen shrubs may be found in chaparral[62]. On average, chaparral is found in wetter habitats than coastal sage scrub, being more common at higher elevations and on north facing slopes.

The broad category "northern mixed chaparral" is the major type of chaparral shown in the National Park Service map of the Santa Monica Mountains. However, northern mixed chaparral can be variously dominated by chamise, scrub oak or one of several species of manzanita or by ceanothus. In addition, it commonly contains woody vines and large shrubs such as mountain mahogany, toyon, hollyleaf redberry, and sugarbush[63]. The rare red shank chaparral plant community also occurs in the Santa Monica Mountains. Although included within the category "northern mixed chaparral" in

[59] Dr. John O'Leary, SDSU, personal communication to Dr. John Dixon, CCC, July 2, 2002
[60] Westman, W.E. 1981. op. cit.
[61] Dr. Stephen Davis, Pepperdine University. Presentation at the CCC workshop on the significance of native habitats in the Santa Monica Mountains. June 13, 2002.
[62] Keely, J.E. and S.C. Keeley. Chaparral. Pages 166-207 in M.G. Barbour and W.D. Billings, eds. North American Terrestrial Vegetation. New York, Cambridge University Press.
[63] Ibid.

the vegetation map, several types of ceanothus chaparral are reported in the Santa Monica Mountains. Ceanothus chaparral occurs on stable slopes and ridges, and may be dominated by bigpod ceanothus, buck brush ceanothus, hoaryleaf ceanothus, or greenbark ceanothus. In addition to ceanothus, other species that are usually present in varying amounts are chamise, black sage, holly-leaf redberry, sugarbush, and coast golden bush[64].

Several sensitive plant species that occur in the chaparral of the Santa Monica Mountains area are: Santa Susana tarplant, Lyon's pentachaeta, marcescent dudleya, Santa Monica Mountains dudleya, Braunton's milk vetch and salt spring checkerbloom[65]. Several occurring or potentially occurring sensitive animal species in chaparral from the area are: Santa Monica shieldback katydid, western spadefoot toad, silvery legless lizard, San Bernardino ring-neck snake, San Diego mountain kingsnake, coast patch-nosed snake, sharp-shinned hawk, southern California rufous-crowned sparrow, Bell's sparrow, yellow warbler, pallid bat, long-legged myotis bat, western mastiff bat, and San Diego desert woodrat.[66]

Coastal sage scrub and chaparral are the predominant generic community types of the Santa Monica Mountains and provide the living matrix within which rarer habitats like riparian woodlands exist. These two shrub communities share many important ecosystem roles. Like coastal sage scrub, chaparral within the Santa Monica Mountains provides critical linkages among riparian corridors, provides essential habitat for species that require several habitat types during the course of their life histories, provides essential habitat for sensitive species, and stabilizes steep slopes and reduces erosion, thereby protecting the water quality of coastal streams.

Many species of animals in Mediterranean habitats characteristically move among several plant communities during their daily activities, and many are reliant on different communities either seasonally or during different stages of their life cycle. The importance of an intact mosaic of coastal sage scrub, chaparral, and riparian community types is perhaps most critical for birds. However, the same principles apply to other taxonomic groups. For example, whereas coastal sage scrub supports a higher diversity of native ant species than chaparral, chaparral habitat is necessary for the coast horned lizard, an ant specialist[67]. Additional examples of the importance of an interconnected communities, or habitats, were provided in the discussion of coastal sage scrub above. This is an extremely important ecosystem role of chaparral in the Santa Monica Mountains.

Chaparral is also remarkably adapted to control erosion, especially on steep slopes. The root systems of chaparral plants are very deep, extending far below the surface and

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[64] Ibid.
[65] Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.
[66] Ibid.
[67] A.V. Suarez. Ants and lizards in coastal sage scrub and chaparral. A presentation at the CCC workshop on the significance of native habitats in the Santa Monica Mountains. June 13, 2002.

penetrating the bedrock below[68], so chaparral literally holds the hillsides together and prevents slippage.[69] In addition, the direct soil erosion from precipitation is also greatly reduced by 1) water interception on the leaves and above ground foliage and plant structures, and 2) slowing the runoff of water across the soil surface and providing greater soil infiltration. Chaparral plants are extremely resistant to drought, which enables them to persist on steep slopes even during long periods of adverse conditions. Many other species die under such conditions, leaving the slopes unprotected when rains return. Since chaparral plants recover rapidly from fire, they quickly re-exert their ground stabilizing influence following burns. The effectiveness of chaparral for erosion control after fire increases rapidly with time[70]. Thus, the erosion from a 2-inch rain-day event drops from 5 yd^3/acre of soil one year after a fire to 1 yd^3/acre after 4 years.[71] The following table illustrates the strong protective effect of chaparral in preventing erosion.

Soil erosion as a function of 24-hour precipitation and chaparral age.

Years Since Fire	Erosion (yd^3/acre) at Maximum 24-hr Precipitation of:		
	2 inches	5 inches	11 inches
1	5	20	180
4	1	12	140
17	0	1	28
50+	0	0	3

Therefore, because of its important roles in the functioning of the Santa Monica Mountains Mediterranean ecosystem, and its extreme vulnerability to development, chaparral within the Santa Monica Mountains meets the definition of ESHA under the Coastal Act.

Oak Woodland and Savanna

Coast live oak woodland occurs mostly on north slopes, shaded ravines and canyon bottoms. Besides the coast live oak, this plant community includes hollyleaf cherry, California bay laurel, coffeeberry, and poison oak. Coast live oak woodland is more

[68] Helmers, H., J.S. Horton, G. Juhren and J. O'Keefe. 1955. Root systems of some chaparral plants in southern California. Ecology 36(4):667-678. Kummerow, J. and W. Jow. 1977. Root systems of chaparral shrubs. Oecologia 29:163-177.

[69] Radtke, K. 1983. *Living more safely in the chaparral-urban interface*. General Technical Report PSW-67. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Berkeley, California. 51 pp.

[70] Kittredge, J. 1973. Forest influences — the effects of woody vegetation on climate, water, and soil. Dover Publications, New York. 394 pp. Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. (Table 1). The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024. Vicars, M. (ed.) 1999. FireSmart: protecting your community from wildfire. Partners in Protection, Edmonton, Alberta.

[71] Ibid.

tolerant of salt-laden fog than other oaks and is generally found nearer the coast[72]. Coast live oak also occurs as a riparian corridor species within the Santa Monica Mountains.

Valley oaks are endemic to California and reach their southern most extent in the Santa Monica Mountains. Valley oaks were once widely distributed throughout California's perennial grasslands in central and coastal valleys. Individuals of this species may survive 400-600 years. Over the past 150 years, valley oak savanna habitat has been drastically reduced and altered due to agricultural and residential development. The understory is now dominated by annual grasses and recruitment of seedlings is generally poor. This is a very threatened habitat.

The important ecosystem functions of oak woodlands and savanna are widely recognized[73]. These habitats support a high diversity of birds[74], and provide refuge for many species of sensitive bats[75]. Typical wildlife in this habitat includes acorn woodpeckers, scrub jays, plain titmice, northern flickers, cooper's hawks, western screech owls, mule deer, gray foxes, ground squirrels, jackrabbits and several species of sensitive bats.

Therefore, because of their important ecosystem functions and vulnerability to development, oak woodlands and savanna within the Santa Monica Mountains met the definition of ESHA under the Coastal Act.

Grasslands

Grasslands consist of low herbaceous vegetation that is dominated by grass species but may also harbor native or non-native forbs.

California Perennial Grassland

Native grassland within the Santa Monica Mountains consists of perennial native needlegrasses: purple needlegrass, (Nassella pulchra), foothills needlegrass, (Nassella lepida) and nodding needlegrass (Nassella cernua). These grasses may occur in the same general area but they do not typically mix, tending to segregate based on slope

[72] NPS 2000. op. cit.
[73] Block, W.M., M.L. Morrison, and J. Verner. 1990. Wildlife and oak-woodland interdependency. *Fremontia* 18(3):72–76. Pavlik, B.M., P.C. Muick, S. Johnson, and M. Popper. 1991. *Oaks of California*. Cachuma Press and California Oak Foundation, Los Olivos, California. 184 pp.
[74] Cody, M.L. 1977. Birds. Pp. 223–231 *in* Thrower, N.J.W., and D.E. Bradbury (eds.). *Chile-California Mediterranean scrub atlas*. US/IBP Synthesis Series 2. Dowden, Hutchinson & Ross, Stroudsburg, Pennsylvania. National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701
[75] Miner, K.L., and D.C. Stokes. 2000. Status, conservation issues, and research needs for bats in the south coast bioregion. Paper presented at *Planning for biodiversity: bringing research and management together*, February 29, California State University, Pomona, California.

and substrate factors[76]. Mixed with these native needlegrasses are many non-native annual species that are characteristic of California annual grassland[77]. Native perennial grasslands are now exceedingly rare[78]. In California, native grasslands once covered nearly 20 percent of the land area, but today are reduced to less than 0.1 percent[79]. The California Natural Diversity Database (CNDDB) lists purple needlegrass habitat as a community needing priority monitoring and restoration. The CNDDB considers grasslands with 10 percent or more cover by purple needlegrass to be significant, and recommends that these be protected as remnants of original California prairie. Patches of this sensitive habitat occur throughout the Santa Monica Mountains where they are intermingled with coastal sage scrub, chaparral and oak woodlands.

Many of the raptors that inhabit the Santa Monica Mountains make use of grasslands for foraging because they provide essential habitat for small mammals and other prey. Grasslands adjacent to woodlands are particularly attractive to these birds of prey since they simultaneously offer perching and foraging habitat. Particularly noteworthy in this regard are the white-tailed kite, northern harrier, sharp-shinned hawk, Cooper's hawk, red-shouldered hawk, red-tailed hawk, golden eagle, American kestrel, merlin, and prairie falcon[80].

Therefore, because of their extreme rarity, important ecosystem functions, and vulnerability to development, California native perennial grasslands within the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

California Annual Grassland

The term "California annual grassland" has been proposed to recognize the fact that non-native annual grasses should now be considered naturalized and a permanent feature of the California landscape and should be acknowledged as providing important ecological functions. These habitats support large populations of small mammals and provide essential foraging habitat for many species of birds of prey. California annual grassland generally consists of dominant invasive annual grasses that are primarily of Mediterranean origin. The dominant species in this community include common wild oats (Avena fatua), slender oat (Avena barbata), red brome (Bromus madritensis ssp. Rubens), ripgut brome, (Bromus diandrus), and herbs such as black mustard (Brassica nigra), wild radish (Raphanus sativus) and sweet fennel (Foeniculum vulgare). Annual grasslands are located in patches throughout the Santa Monica Mountains in previously disturbed areas, cattle pastures, valley bottoms and along roadsides. While many of

[76] Sawyer, J. O. and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, 1722 J St., Suite 17, Sacramento, CA 95814.
[77] Biological Resources Assessment of the Proposed Santa Monica Mountains Significant Ecological Area. Nov. 2000. Los Angeles Co., Dept. of Regional Planning, 320 West Temple St., Rm. 1383, Los Angeles, CA 90012.
[78] Noss, R.F., E.T. LaRoe III and J.M. Scott. 1995. Endangered ecosystems of the United States: a preliminary assessment of loss and degradation. Biological Report 28. National Biological Service, U.S. Dept. of Interior.
[79] NPS 2000. op. cit.
[80] NPS 2000. op. cit.

these patches are dominated by invasive non-native species, it would be premature to say that they are never sensitive or do not harbor valuable annual native species. A large number of native forbs also may be present in these habitats[81], and many native wildflowers occur primarily in annual grasslands. In addition, annual grasslands are primary foraging areas for many sensitive raptor species in the area.

Inspection of California annual grasslands should be done prior to any impacts to determine if any rare native species are present or if any rare wildlife rely on the habitat and to determine if the site meets the Coastal Act ESHA criteria.

Effects of Human Activities and Development on Habitats within the Santa Monica Mountains

The natural habitats of the Santa Monica Mountains are highly threatened by current development pressure, fragmentation and impacts from the surrounding megalopolis. The developed portions of the Santa Monica Mountains represents the extension of this urbanization into natural areas. About 54% of the undeveloped Santa Monica Mountains are in private ownership[82], and computer simulation studies of the development patterns over the next 25 years predict a serious increase in habitat fragmentation[83]. Development and associated human activities have many well-documented deleterious effects on natural communities. These environmental impacts may be both direct and indirect and include the effects of increased fire frequency, of fire clearance, of introduction of exotic species, and of night lighting.

Increased Fire Frequency

Since 1925, all the major fires in the Santa Monica Mountains have been caused by human activities[84]. Increased fire frequency alters plant communities by creating conditions that select for some species over others. Strong resprouting plant species such as laurel sumac, are favored while non-sprouters like bigpod ceanothus, are at a disadvantage. Frequent fire recurrence before the non-sprouters can develop and reestablish a seed bank is detrimental, so that with each fire their chances for propagation are further reduced. Resprouters can be sending up new shoots quickly, and so they are favored in an increased fire frequency regime. Also favored are weedy and invasive species. Dr. Steven Davis in his abstract for a Coastal Commission

[81] Holstein, G. 2001. Pre-agricultural grassland in Central California. Madrono 48(4):253-264. Stromberg, M.R., P. Kephart and V. Yadon. 2001. Composition, invasibility and diversity of coastal California grasslands. Madrono 48(4):236-252.

[82] National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000.

[83] Swenson, J. J., and J. Franklin. 2000. The effects of future urban development on habitat fragmentation in the Santa Monica Mountains. Landscape Ecol. 15:713-730.

[84] NPS, 2000, op. cit.

Workshop stated[85] "*We have evidence that recent increases in fire frequency has eliminated drought-hardy non-sprouters from chaparral communities near Malibu, facilitating the invasion of exotic grasses and forbs that further exacerbate fire frequency.*" Thus, simply increasing fire frequency from about once every 22 years (the historical frequency) to about once every 12 years (the current frequency) can completely change the vegetation community. This has cascading effects throughout the ecosystem.

Fuel Clearance

The removal of vegetation for fire protection in the Santa Monica Mountains is required by law in "Very High Fire Hazard Severity Zones"[86]. Fuel removal is reinforced by insurance carriers[87]. Generally, the Santa Monica Mountains are considered to be a high fire hazard severity zone. In such high fire hazard areas, homeowners must often resort to the California FAIR Plan to obtain insurance. Because of the high risk, all homes in "brush areas" are assessed an insurance surcharge if they have less than the recommended 200-foot fuel modification zone[88] around the home. The combination of insurance incentives and regulation assures that the 200-foot clearance zone will be applied universally[89]. While it is not required that all of this zone be cleared of vegetation, the common practice is simply to disk this zone, essentially removing or highly modifying all native vegetation. For a new structure not adjacent to existing structures, this results in the removal or modification of a minimum of three acres of vegetation[90]. While the directly impacted area is large, the effects of fuel modification extend beyond the 200-foot clearance area.

Effects of Fuel Clearance on Bird Communities

The impacts of fuel clearance on bird communities was studied by Stralberg who identified three ecological categories of birds in the Santa Monica Mountains: 1) local and long distance migrators (ash-throated flycatcher, Pacific-slope flycatcher, phainopepla, black-headed grosbeak), 2) chaparral-associated species (Bewick's wren, wrentit, blue-gray gnatcatcher, California thrasher, orange-crowned warbler, rufous-crowned sparrow, spotted towhee, California towhee) and 3) urban-associated species

[85] Davis, Steven. Effects of fire and other factors on patterns of chaparral in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.
[86] 1996 Los Angeles County Fire Code Section 1117.2.1
[87] Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024. Vicars, M. (ed.) 1999. FireSmart: protecting your community from wildfire. Partners in Protection, Edmonton, Alberta.
[88] Fuel Modification Plan Guidelines. Co. of Los Angeles Fire Department, Fuel Modification Unit, Prevention Bureau, Forestry Division, Brush Clearance Section, January 1998.
[89] Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024.
[90] Ibid.

(mourning dove, American crow, Western scrub-jay, Northern mockingbird)[91]. It was found in this study that the number of migrators and chaparral-associated species decreased due to habitat fragmentation while the abundance of urban-associated species increased. The impact of fuel clearance is to greatly increase this edge-effect of fragmentation by expanding the amount of cleared area and "edge" many-fold. Similar results of decreases in fragmentation-sensitive bird species are reported from the work of Bolger et al. in southern California chaparral[92].

Effects of Fuel Clearance on Arthropod Communities

Fuel clearance and habitat modification may also disrupt native arthropod communities, and this can have surprising effects far beyond the cleared area on species seemingly unrelated to the direct impacts. A particularly interesting and well-documented example with ants and lizards illustrates this point. When non-native landscaping with intensive irrigation is introduced, the area becomes favorable for the invasive and non-native Argentine ant. This ant forms "super colonies" that can forage more than 650 feet out into the surrounding native chaparral or coastal sage scrub around the landscaped area[93]. The Argentine ant competes with native harvester ants and carpenter ants displacing them from the habitat[94]. These native ants are the primary food resource for the native coast horned lizard, a California "Species of Special Concern." As a result of Argentine ant invasion, the coast horned lizard and its native ant food resources are diminished in areas near landscaped and irrigated developments[95]. In addition to specific effects on the coast horned lizard, there are other Mediterranean habitat ecosystem processes that are impacted by Argentine ant invasion through impacts on long-evolved native ant-plant mutualisms[96]. The composition of the whole arthropod community changes and biodiversity decreases when habitats are subjected to fuel modification. In coastal sage scrub disturbed by fuel modification, fewer arthropod

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[91] Stralberg, D. 2000. Landscape-level urbanization effects on chaparral birds: a Santa Monica Mountains case study. Pp. 125–136 *in* Keeley, J.E., M. Baer-Keeley, and C.J. Fotheringham (eds.). *2nd interface between ecology and land development in California*. U.S. Geological Survey, Sacramento, California.

[92] Bolger, D. T., T. A. Scott and J. T. Rotenberry. 1997. Breeding bird abundance in an urbanizing landscape in coastal Southern California. Conserv. Biol. 11:406-421.

[93] Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. Ecology 79(6):2041-2056.

[94] Holway, D.A. 1995. The distribution of the Argentine ant (*Linepithema humile*) in central California: a twenty-year record of invasion. Conservation Biology 9:1634-1637. Human, K.G. and D.M. Gordon. 1996. Exploitation and interference competition between the invasive Argentine ant, (*Linepithema humile*), and native ant species. Oecologia 105:405-412.

[95] Fisher, R.N., A.V. Suarez and T.J. Case. 2002. Spatial patterns in the abundance of the coastal horned lizard. Conservation Biology 16(1):205-215. Suarez, A.V. J.Q. Richmond and T.J. Case. 2000. Prey selection in horned lizards following the invasion of Argentine ants in southern California. Ecological Applications 10(3):711-725.

[96] Suarez, A.V., D.T. Bolger and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. Ecology 79(6):2041-2056. Bond, W. and P. Slingsby. Collapse of an Ant-Plant Mutualism: The Argentine Ant (*Iridomyrmex humilis*) and Myrmecochorous Proteaceae. Ecology 65(4):1031-1037.

predator species are seen and more exotic arthropod species are present than in undisturbed habitats[97].

Studies in the Mediterranean vegetation of South Africa (equivalent to California shrubland with similar plant species) have shown how the invasive Argentine ant can disrupt the whole ecosystem.[98] In South Africa the Argentine ant displaces native ants as they do in California. Because the native ants are no longer present to collect and bury seeds, the seeds of the native plants are exposed to predation, and consumed by seed eating insects, birds and mammals. When this habitat burns after Argentine ant invasion the large-seeded plants that were protected by the native ants all but disappear. So the invasion of a non-native ant species drives out native ants, and this can cause a dramatic change in the species composition of the plant community by disrupting long-established seed dispersal mutualisms. In California, some insect eggs are adapted to being buried by native ants in a manner similar to plant seeds[99].

Artificial Night Lighting

One of the more recently recognized human impacts on ecosystem function is that of artificial night lighting as it effects the behavior and function of many different types of organisms[100]. For literally billions of years the only nighttime sources of light were the moon and stars, and living things have adapted to this previously immutable standard and often depend upon it for their survival. A review of lighting impacts suggests that whereas some species are unaffected by artificial night lighting, many others are severely impacted. Overall, most impacts are negative ones or ones whose outcome is unknown. Research to date has found negative impacts to plants, aquatic and terrestrial invertebrates, amphibians, fish, birds and mammals, and a detailed literature review can be found in the report by Longcore and Rich[101].

Summary

In a past action, the Coastal Commission found[102] that the Santa Monica Mountains Mediterranean Ecosystem, which includes the undeveloped native habitats of the Santa Monica Mountains, is rare and especially valuable because of its relatively pristine

[97] Longcore, T.R. 1999. Terrestrial arthropods as indicators of restoration success in coastal sage scrub. Ph.D. Dissertation, University of California, Los Angeles.
[98] Christian, C. 2001. Consequences of a biological invasion reveal the importance of mutualism for plant communities. Nature 413:635-639.
[99] Hughes, L. and M. Westoby. 1992. Capitula on stick insect eggs and elaiosomes on seeds: convergent adaptations for burial by ants. Functional Ecology 6:642-648.
[100] . Longcore, T and C. Rich. 2002. Protection of environmentally sensitive habitat areas in proposed local coastal plan for the Santa Monica Mountains. The Urban Wildlands Group, Inc., P.O. Box 24020 Los Angeles, CA 90024.
[101] Ibid, and Ecological Consequences of Artificial Night Lighting, Conference, February 23-24, 2002, UCLA Los Angeles, California.
[102] Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.

character, physical complexity, and resultant biological diversity. The undeveloped native habitats within the Santa Monica Mountains that are discussed above are ESHA because of their valuable roles in that ecosystem, including providing a critical mosaic of habitats required by many species of birds, mammals and other groups of wildlife, providing the opportunity for unrestricted wildlife movement among habitats, supporting populations of rare species, and preventing the erosion of steep slopes and thereby protecting riparian corridors, streams and, ultimately, shallow marine waters.

The importance the native habitats in the Santa Monica Mountains was emphasized nearly 20 years ago by the California Department of Fish and Game[103]. Commenting on a Draft Land Use Plan for the City of Malibu, the Regional Manager wrote that, "It is essential that large areas of land be reclassified to reflect their true status as ESHAs. One of the major needs of the Malibu LUP is that it should provide protection for entire drainages and not just stream bottoms." These conclusions were supported by the following observations:

> "It is a fact that many of the wildlife species of the Santa Monica Mountains, such as mountain lion, deer, and raccoon, have established access routes through the mountains. They often travel to and from riparian zones and development such as high density residential may adversely affect a wildlife corridor.
>
> Most animal species that exist in riparian areas will, as part of their life histories, also be found in other habitat types, including chapparal (sic) or grassland. For example, hawks nest and roost in riparian areas, but are dependent on large open areas for foraging. For the survival of many species, particularly those high on the food chain, survival will depend upon the presence of such areas. Such areas in the Santa Monica Mountains include grassland and coastal sage scrub communities, which have been documented in the SEA studies as supporting a wide diversity of plant and animal life."

This analysis by the Department of Fish and Game is consonant with the findings of the Commission in the case of the Malibu LCP, and with the conclusion that large contiguous areas of relatively pristine native habitat in the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

[103] Letter from F. A. Worthley, Jr. (CDFG) to N. Lucast (CCC) re Land Use Plan for Malibu dated March 22, 1983.

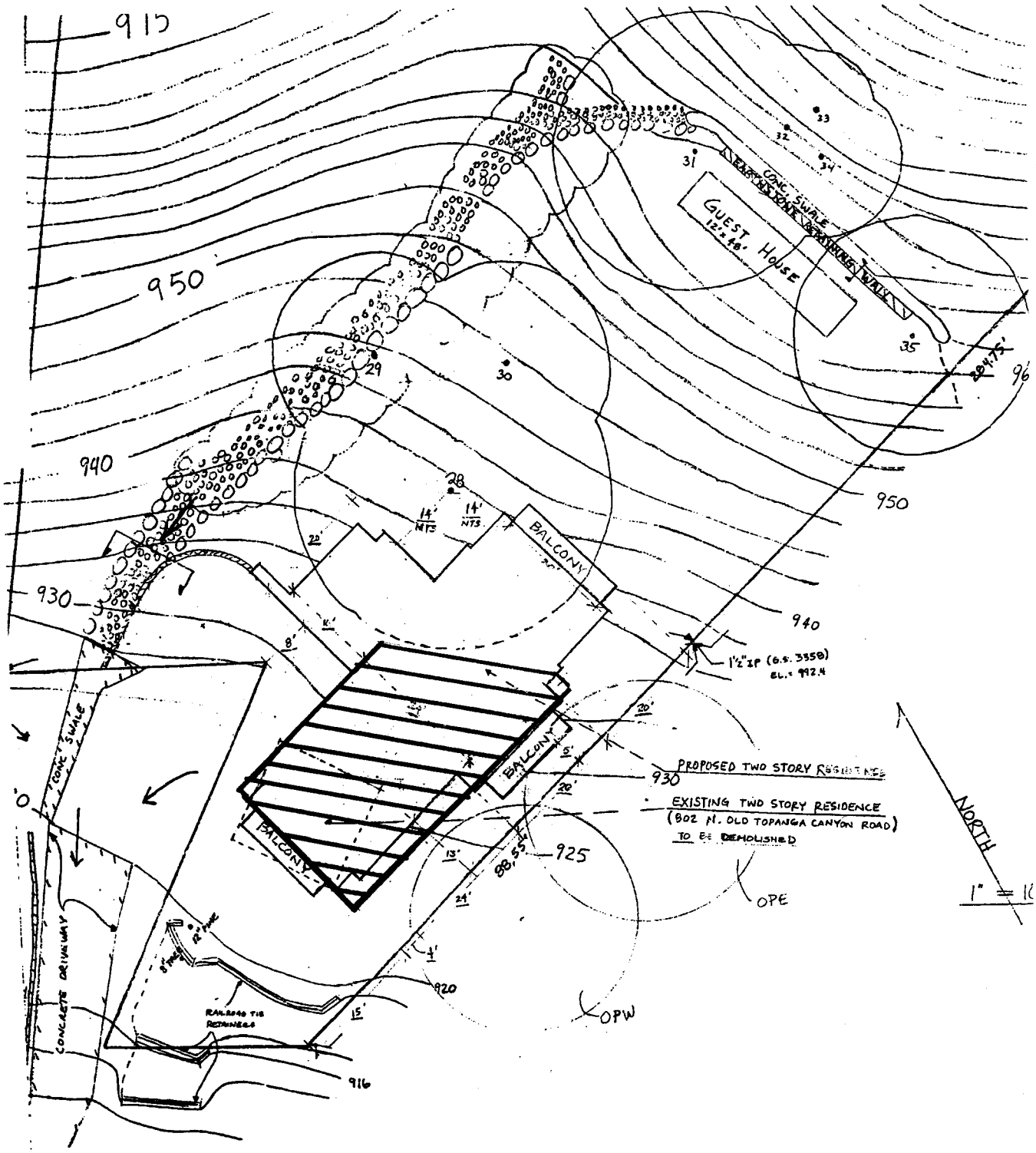


Exhibit 8
Permit 4-04-061
Potential Development Area

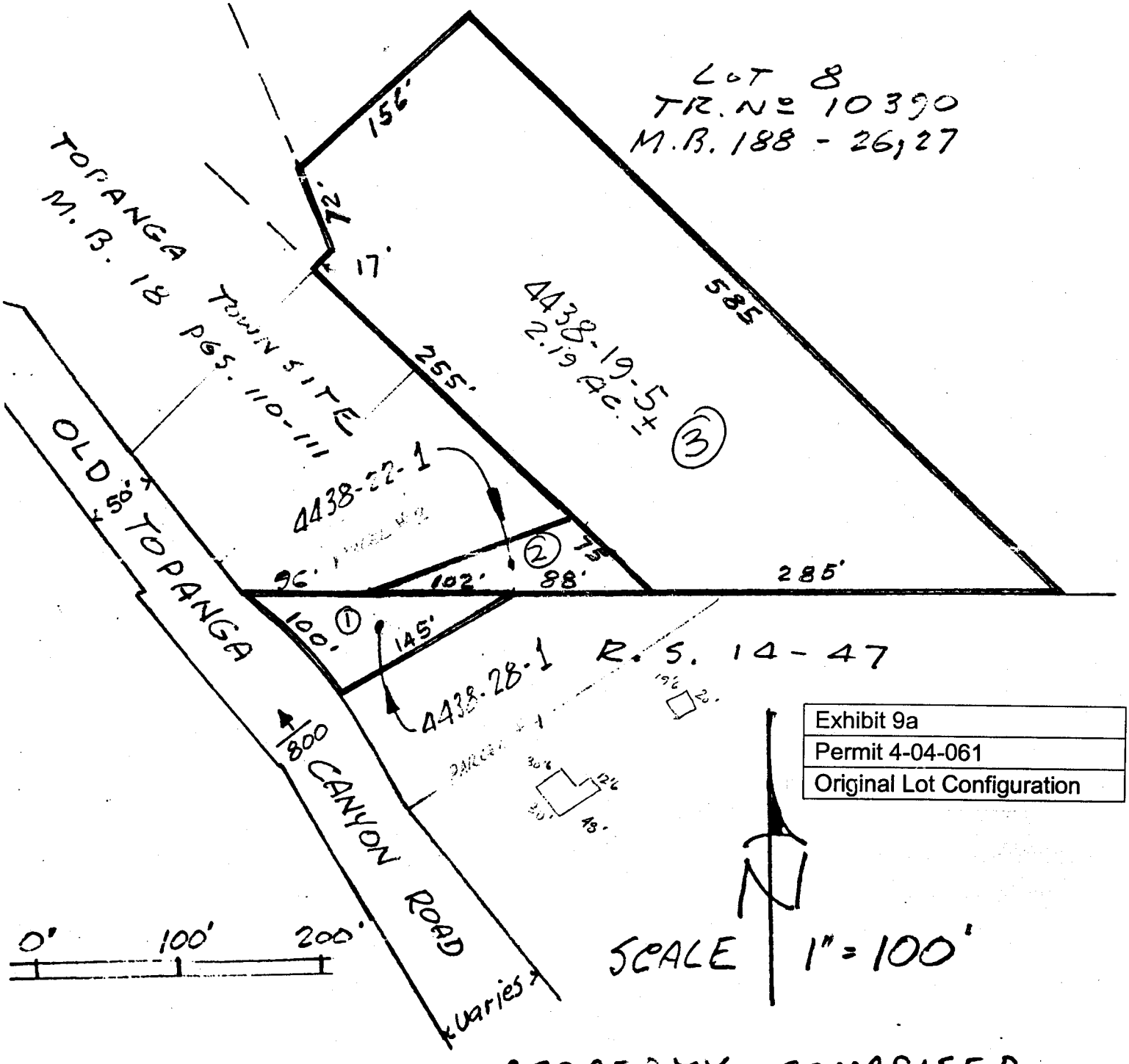


Exhibit 9a
Permit 4-04-061
Original Lot Configuration

MAP SHOWING PROPERTY COMPRISED OF: A.M.B. 4438-19-5 ; A.M.B. 4438-22-1 AND A.M.B. 4438-28-1 TOPANGA, LOS ANGELES COUNTY

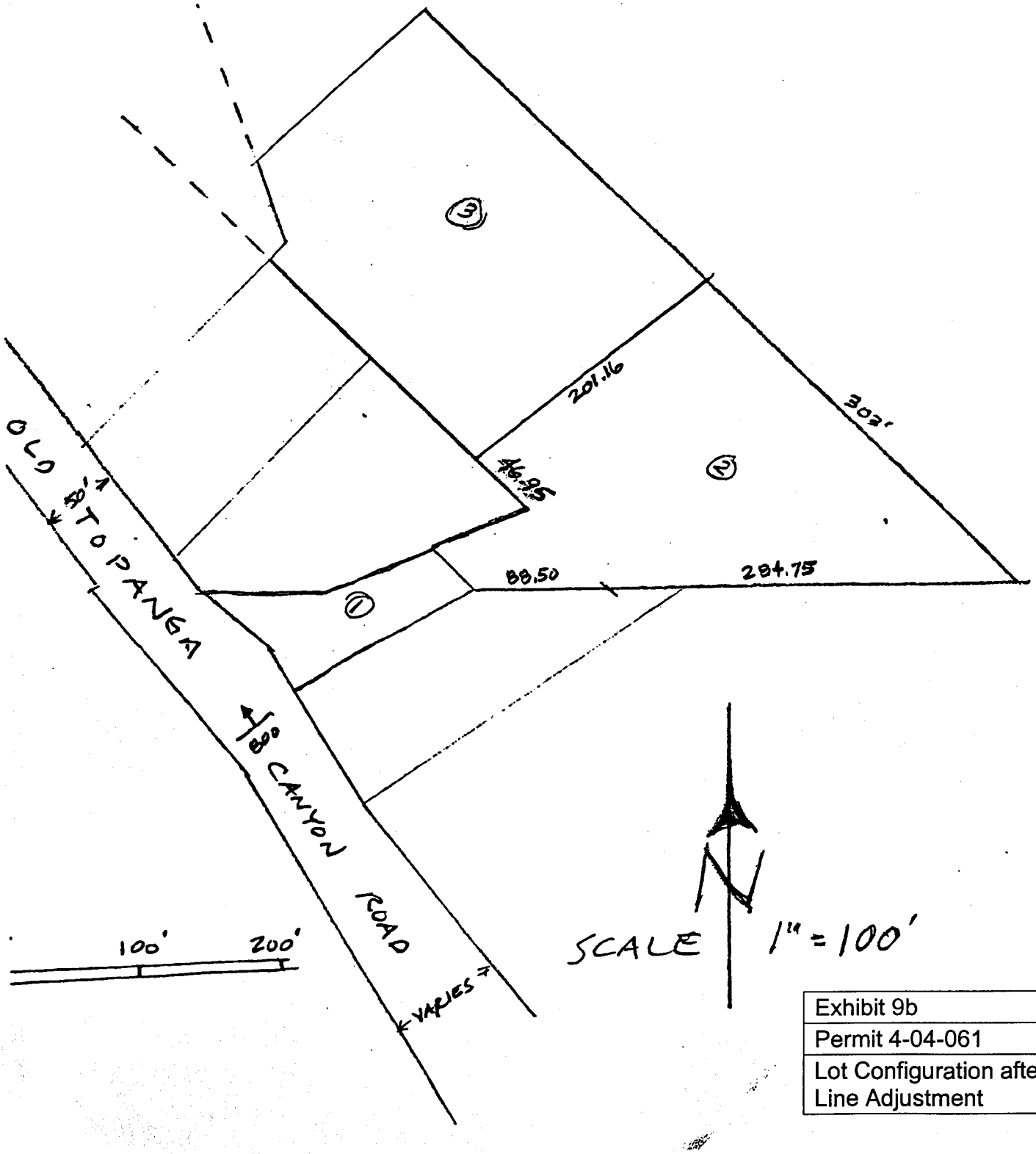
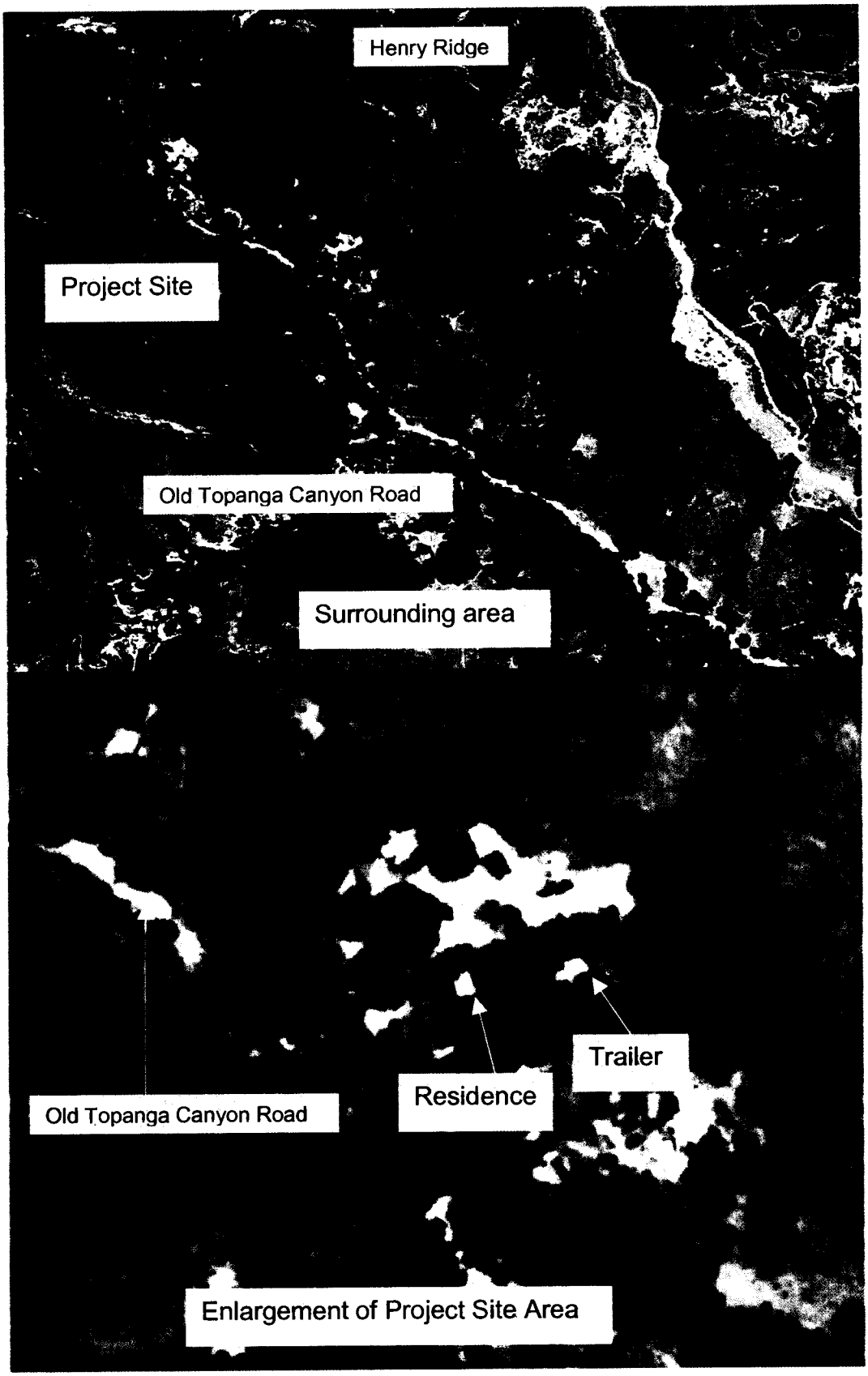


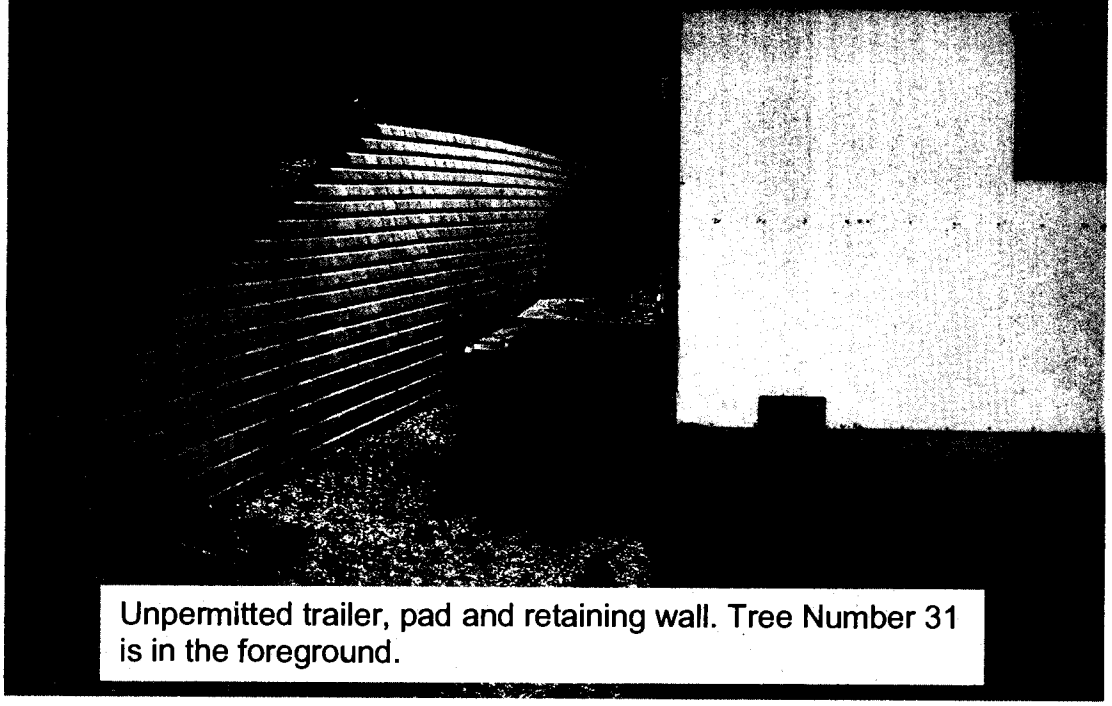
Exhibit 9b
Permit 4-04-061
Lot Configuration after "Lot Line Adjustment



Source: CDWR Aerial Photography (June 2001)

Exhibit 10
Permit 4-04-061
Airphotos

View looking upslope from driveway. Proposed residence is staked and shows relationship to Tree Number 28.



Unpermitted trailer, pad and retaining wall. Tree Number 31 is in the foreground.

Exhibit 11
Permit 4-04-061
Site Photos