Staff Report to the Planning Commission

Application Number: 04-0012

Applicant: Hamilton-Swift Land Use Planning
Owner: Richard & Elizabeth Crocker
APN: 041-301-42

Agenda Date: 1/12/05
Agenda Item #: 9
Time: After 9:00 a.m.

Project Description: Proposal to divide a 31.97 acre parcel into two parcels of **21.6** acres and 10.3 acres each.

Location: Property located on the north side of Race Horse Lane at about .5 mile north of Moon Valley Ranch Road (420 Racehorse Lane).

Supervisoral District: Second District (District Supervisor: Ellen Pirie)

Permits Required: Minor Land Division

Staff Recommendation:

- Approval of Application 04-0012, based on the attached findings and conditions.
- Certification of the Mitigated Negative Declaration per the requirements of the California Environmental Quality Act.

Exhibits

A. Project plans
B. Findings
C. Conditions
D. Mitigated Negative Declaration (CEQA Determination) with the following attached documents:
(Attachment 2): Assessor's parcel map
(Attachment 3): Zoning map
(Attachment 4): General **Plan** map
E. Rural Residential Density Matrix
F. Comments & Correspondence

Parcel Information

Parcel Size:	**31.97** acres
Existing Land Use - Parcel:	Single Family Dwelling (under construction)
Existing Land Use - Surrounding:	Rural residential neighborhood
Project Access:	Racehorse Lane
Planning Area:	Aptos Hills
Land Use Designation:	R-R (Rural Residential)
Zone District:	SU (Special Use)
Coastal Zone:	__ Inside __X__ Outside

Environmental Information

An Initial Study has been prepared (Exhibit D) that addresses the environmental concerns associated with this application.

Services Information

Urban/Rural Services Line:	Inside __X__ Outside
Water Supply:	Private Well
Sewage Disposal:	Septic
Fire District:	Aptos/La Selva Fire Protection District
Drainage District:	None

History

The subject property was created through Minor Land Division **(87-0162).** Minor Land Division 87-0162 divided an approximately 70 acre parcel into three parcels with a minimum of 10 acres of net developable land each and one parcel with a minimum of 20 net developable acres. The minimum required density at that time was determined to be 10 net developable acres and no requirement was placed on the larger parcel to prevent further division.

Project Setting

The project site is located on the north side of Racehorse Lane in a community of rural residential home sites. There is an existing structure (currently under construction) within the previously approved building envelope on the proposed Parcel 2 for this application.

The topography of the project site is relatively level at the lower (Southern) portion of the subject property and rises into two sloped areas to the north which are bisected by a natural drainage through the center of the parcel. Both the existing and proposed building sites are located to the east of the natural drainage course through the subject property.

Zoning & General Plan Consistency

The subject property is a 31.97 acre parcel, located in the SU (Special Use) zone district, **a** designation which allows residential uses when implementing the site's (R-R) Rural Residential General Plan designation. The allowed density for the division of land on parcels with a (R-R) Rural Residential General Plan designation is determined by the Rural Residential Density Matrix.

Minor Land Division

The applicant proposes to divide the subject property into two separate parcels for the purposes of constructing single family residences. The proposed new building site will be located below the existing approved site and will be accessed by a separate driveway. The proposed new building site is located adjacent to the natural drainage course which bisects the property. but is adequately setback from riparian vegetation to protect this resource.

The existing and proposed development is served by an existing private road (Racehorse Lane). The proposed structure will be located in an area off of steep slopes and will be able to used a stepped foundation to avoid unnecessary grading on the project site. The septic system is proposed to be located within the proposed building envelope and has received preliminary approval from the County department of Environmental Health Services.

Rural Residential Density matrix

The proposed Minor Land Division is subject to the Rural Residential Density Matrix in order to determine the appropriate density of development within the allowed General Plan density range. The subject property is located within the Rural Residential (R-R) General Plan land use designation. A matrix has been prepared (Exhibit E) which included a review of the previous matrix, an applicant prepared matrix, and current requirements. Due to the location of the proposed building site outside of fire hazard areas and the septic site outside of groundwater recharge areas, the allowed density is higher than in the previous matrix. The allowed maximum density, per the Rural Residential Density Matrix, is 5 acres of net developable land area per parcel. The proposed Minor Land Division complies with this requirement, in that the parcels to be created will be 18.88 acres of net developable land area and 10.00 acres of net developable land area.

Environmental Review

Environmental review has been required for the proposed project per the requirements of the California Environmental Quality Act (CEQA). The project was reviewed by the County's Environmental Coordinator on 11/1/04. A preliminary determination to issue a Negative Declaration with Mitigations (Exhibit D) was made on 11/3/04. The mandatory public comment period expired on 11/30/04, with no comments received.

The environmental review process focused on the potential impacts of the project in the areas of geologic and biotic issues. The environmental review process generated mitigation measures (including plan revisions which have been made prior to the public hearing for this item) that will reduce potential impacts from the proposed development and adequately address these issues.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please **see** Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- **APPROVAL** of Application Number **04-0012,** based on the attached findings and conditions.

a Certification of the Mitigated Negative Declaration per the requirements of the California Environmental Quality Act.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

Report Prepared By: _____

Randall Adams
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (831) 454-3218
E-mail:

Report Reviewed By: _____

Cathy Graves
Principal Planner
Development Review

Application #: 04-0012
APN: 041-301-42
Owner: Richard & Elizabeth Crocker

Subdivision Findings

1. That the proposed subdivision meets all requirements or conditions of the Subdivision Ordinance and the State Subdivision Map Act.

This finding can be made, in that the project meets all of the technical requirements of the Subdivision Ordinance and is consistent with the County General Plan and the Zoning Ordinance as set forth in the findings below.

2. That the proposed subdivision, its design, and its improvements, are consistent with the General Plan, and the area General Plan or Specific Plan, if any.

This finding can be made, in that this project which creates two parcels no smaller than **5** net developable acres in area is located in the Rural Residential (R-R) General Plan land use designation. The division of land on parcels with a Rural Residential (R-R) General Plan designation is allowed at densities determined by the Rural Residential Density Matrix. This proposal complies with the requirements of the Rural Residential Density Matrix, which authorizes a density of development of one dwelling unit per 5 acres of net developable land area, in that the parcels to be created will be 18.88 acres of net developable land area and 10.00 acres of net developable land area.

The project is consistent with the General Plan in that the necessary infrastructure is available to the site including private water, septic waste treatment, and nearby recreational opportunities. The land division is located off of a private street that provides satisfactory access. The proposed land division is similar to the pattern and density of the surrounding rural residential development in the project vicinity.

The proposed land division is not located in a hazardous or environmentally sensitive area and protects natural resources by expanding in an area designated for residential development at the proposed density.

3. That the proposed subdivision complies with Zoning Ordinance provisions as to uses of land, lot sizes and dimensions and any other applicable regulations.

This finding can be made, in that the use of the property will be residential in nature which is an allowed use in the SU (Special Use) zone district, where the project is located, a designation which allows residential uses when implementing the site's (R-R) Rural Residential General Plan designation. The proposed parcel configuration meets the minimum dimensional standards and setbacks for the zone district.

4. That the site of the proposed subdivision is physically suitable for the type and density of development.

This finding can be made, in that no challenging topography affects the building site, geological and geotechnical reports prepared for the property conclude that the site is suitable for residential development, and the proposed parcels are properly configured to allow development in

EXHIBIT B

compliance with the required site standards. No environmental constraints exist which would be adversely impacted by the proposed development.

5. That the design of the proposed subdivision or type of improvements will not cause substantial environmental damage nor substantially and avoidably injure fish or wildlife or their habitat.

This finding can be made, in that no mapped or observed sensitive habitats or threatened species impede development of the site and the project has received a mitigated Negative Declaration pursuant to the California Environmental Quality Act and the County Environmental Review Guidelines.

6. That the proposed subdivision or type of improvements will not cause serious public health problems.

This finding can be made, in that in that a private well and on site septic are available to serve the proposed development.

7. That the design of the proposed subdivision or type of improvements will not conflict with easements. acquired by the public at large, for access through, or use of property within the proposed subdivision.

This finding can be made, in that the development will be located at a safe distance from existing vehicular easements and improvements to the access roadways will provide a benefit to public safety.

8. The design of the proposed subdivision provides, to the extent feasible, for future passive or natural heating or cooling opportunities.

This finding can be made, in that the resulting parcels are oriented to the fullest extent possible in a manner to take advantage of solar opportunities.

9. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that the proposed minor land division is not subject to the design review ordinance.

EXHIBIT B

Conditions of Approval

Land Division 04-0012

Applicant: Hamilton-Swift Land Use Planning

Property Owner(s): Richard & Elizabeth Crocker

Assessor's Parcel No.: 041-301-42

Property Location and Address: North side of Race Horse Lane .5 mile north of Moon Valley Ranch Road (420 Racehorse Lane)

Planning Area: Aptos Hills

Exhibits:

A. Project Plans including Tentative Map & Preliminary Improvement Plans by Ifland Engineers, dated 1212'04.

All correspondence and maps relating to this land division shall carry tbe land division number noted above.

I. Prior to exercising any rights granted by this Approval, the owner shall:

A. Sign, date and return one copy of the Approval to indicate acceptance and agreement with the conditions thereof, and

B. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder). The conditions shall also be recorded on the Parcel Map and are applicable to all resulting parcels.

C. Pay a Negative Declaration De Minimis fee of *$25* to the Clerk of the Board of the County of Santa Cruz as required by the California Department of Fish and Game mitigation fees program.

II. A Parcel Map for this land division must be recorded prior to the expiration date of the tentative map and prior to sale, lease or financing of any new lots. The Parcel Map shall be submitted to the County Surveyor (Department of Public Works) for review and approval prior to recordation. No improvements, including, without limitation, grading and vegetation removal, shall be done prior to recording the Parcel Map unless such improvements are allowable on the parcel as a whole (prior to approval of the land division). The Parcel Map shall meet the following requirements:

A. The Parcel Map shall be in general conformance with the approved Tentative Map and shall conform to the conditions contained herein. All other State and County laws relating to improvement of the property. or affecting public health and safety shall remain fully applicable.

B. This land division shall result in no more than two (2) residential parcels total. **A** statement shall be added to clearly state that all structures must be located within the designated building envelopes and no disturbance other than an access driveway and perimeter fencing is allowed outside the building envelope on each parcel.

C. The minimum amount of parcel area per dwelling unit shall be ***5*** acres of net developable land.

D. The following items shall be shown on the Parcel Map:

1. Building envelopes located according to the approved Tentative Map. The building envelopes for the perimeter of the project shall meet the minimum setbacks for the SU (Special Use) zone district of 40 for the front yard, 20 feet for the side yards, and 20 feet for the rear yard.

2. Show the net developable land area of each lot to nearest square foot and to the nearest hundredth of **an** acre.

3. A statement shall be added to clearly state that all structures must be located within the designated building envelopes and no disturbance other than an access driveway and perimeter fencing is allowed outside the building envelope on each parcel.

4. Riparian Resources: In order to minimize impacts to the riparian corridor and for the project to comply with the Riparian Corridor and Wetland Protection Ordinance and the Santa Cruz County General Plan:

   a. All proposed development and improvements shall be located a minimum of **30** feet from riparian resource areas.

E. The following requirements shall be noted on the Parcel Map as items to be completed prior to obtaining a building permit on lots created by this land division:

1. The existing private well, and **any** new proposed wells, shall be reviewed by the County Department of Environmental Health Services.

2. The proposed septic system, serving the new parcel, shall be reviewed by the County Department of Environmental Health Services.

EXHIBIT C

3. The access road shall be resurfaced with all-weather materials at the existing width. No road widening is required.

4. Riparian Resources: The repair of the road culvert on Racehorse Lane over San Andreas Creek must follow all of the recommendations specified in the 12/7/04 letter prepared by the project biologist. All necessary permits must be obtained for the road repair and the work must be performed per the requirements of all reviewing agencies.

5. Submit 3 copies of a plan review letter prepared and stamped by a licensed geologist.

6. Submit 3 copies of a plan review letter prepared and stamped by a licensed geotechnical engineer.

7. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school district in which the project is located.

8. Prior to any building permit issuance or ground disturbance, a detailed grading and erosion control plan shall be reviewed and approved by the Planning Department. The erosion control plans shall identify the type of erosion control practices to be used and shall include the following:

   a. An effective sediment barrier placed along the perimeter of the disturbance area and maintenance of the barrier.

   b. Spoils management that prevents loose material from clearing, excavation, and other activities from entering any drainage channel.

9. Any changes between the approved Tentative Map must be submitted for review and approval by the Planning Department.

III. Prior to recordation of the Parcel Map, the following requirements shall be met:

A. Submit a letter of certification from the Tax Collector's Office that there are no outstanding tax liabilities affecting the subject parcels.

B. Meet all requirements of the Santa Cruz County Department of Public Works, Drainage section.

C. All requirements of the Aptos/La Selva Fire Protection District shall be met.

D. Park dedication in-lieu fees shall be paid for the total number of bedrooms in the

proposed dwelling unit. These fees are currently $578 per bedroom, but are subject to change.

E. Child Care Development fees shall be paid for the total number of bedrooms in the proposed dwelling unit. These fees are currently $109 per bedroom, but are subject to change.

F. Protected Species: In order to prevent impacts to Santa Cruz Long Toed salamanders, California Red legged frogs and certain protected bird species, conditions of the Biotic Report Review letter dated 6-14-04 shall be followed including:

1. **A** Biotic Declaration of Restriction, prepared **by** Environmental Planning Staff, shall be recorded on the deed prior to approval of the Tentative Map.

IV. All future construction within the property shall meet the following conditions:

A. Prior to any disturbance, the owner/applicant shall organize a pre-construction meeting on the site. The applicant, grading contractor, Department of Public Works Inspector and Environmental Planning staff shall participate.

B. All work adjacent to or within a County road shall be subject to the provisions of Chapter 9.70 of the County Code, including obtaining an encroachment permit where required. Where feasible: all improvements adjacent to or affecting a County road shall be coordinated with any planned County-sponsored construction on that road. Obtain an Encroachment Permit from the Department of Public Works for any work performed in the public right of way. All work shall be consistent with the Department of Public Works Design Criteria unless otherwise indicated on the approved improvement plans.

C. No land clearing, grading or excavating shall take place between October 15 **and** April 15.

D. No land disturbance shall take place prior to issuance of building permits (except the minimum required to install required improvements, provide access for County required tests or to carry out work required by another of these conditions).

E. Protected Species: In order to prevent impacts to Santa ***Cruz*** Long Toed salamanders, California Red legged frogs and certain protected bird species, conditions of the Biotic Report Review letter dated 6-14-04 shall be followed including:

1. No winter grading is allowed. If earthwork has not started prior to October 1 it shall be postponed until the following April 16;
2. **A** biologic monitor must be on site during clearing and grading;

EXHIBIT C

3. Pre-disturbance surveys must be conducted by a qualified biologist and mitigation measures specified in the biotic report shall be implemented;
4. No livestock may be corralled, boarded, or grazed on the property without additional focused surveys for special status species that are reviewed and approved by the Planning Department;
5. There shall be no exterior lighting along the driveway and other lighting shall be designed and shielded to protect the riparian area from nighttime light.

F. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.100, shall be observed.

G. Construction of improvements shall comply with the requirements of the geologic report. The geologist shall inspect the completed project and certify in writing that the improvements have been constructed in conformance with the geologic report.

H. Construction of improvements shall comply with the requirements of the geotechnical report. The geotechnical engineer shall inspect the completed project and certify in writing that the improvements have been constructed in conformance with the geotechnical report.

I. All required land division improvements shall be installed and inspected prior to final inspection clearance for any new structure on a new parcel.

V. In the event that future County inspections of the subject property disclose non-compliance with any Conditions of this Approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including Approval revocation.

VI. **As** a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees). against the COUNTY, it officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.

A. COUNTY shall promptly notify the Development Approval Holder of any claim,

EXHIBIT C

action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.

B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:

1. COUNTY bears its own attorney's fees and costs; and

2. COUNTY defends the action in good faith.

C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.

D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

E. Within 30 days of the issuance of this development approval, the Development Approval Holder shall record in the office of the Santa Cruz County Recorder an agreement, which incorporates the provisions of this condition, or this development approval shall become null and void.

VII. Mitigation Monitoring Program

The mitigation measures listed under this heading have been incorporated in the conditions of approval for this project in order to mitigate or avoid significant effects on the environment. As required by Section 21081.6 of the California Public Resources Code, a monitoring and reporting program for the above mitigation is hereby adopted as a condition of approval for this project. This program is specifically described following each mitigation measure listed below. The purpose of this monitoring is to ensure compliance with the environmental mitigations during project implementation and operation. Failure to comply with the conditions of approval, including the terms of the adopted monitoring program, may result in permit revocation pursuant to section 18.10.462 of the Santa Cruz County Code.

A. Mitigation Measure: Riparian Resources (Condition **II.D.4 & II.E.4)**

Monitoring Program: In order to minimize impacts to the riparian corridor and for the project to comply with the Riparian Corridor and Wetland Protection

Ordinance and the Santa Cruz County General Plan, prior to hearing the Tentative Map shall be revised as follows:

1. Clearly indicate a proposed development envelope which encompasses the proposed driveway, septic location and building area. There must be a minimum of thirty feet between the development envelope and the edge of the riparian vegetation. This will involve relocating the driveway and parking from that shown on the plans dated 6-20-03. Specifically indicate the thirty foot setback on the plans and the required fence pursuant to the conditions of the Biotic Report Review dated 6-14-04.

2. Provide a plan and cross section for the road repair referred to in Note 1 on the plans dated 6-20-03 and attach a letter from the project biologist indicating that she has reviewed the plan and making any recommendations necessary to protect special status species from harm, harassment or loss of habitat. The recommendations shall be incorporated into the plan and the plan approved by Environmental Planning staff.

B. Mitigation Measure: Protected Species (Conditions III.F & IV.E)

Monitoring Program: In order to prevent impacts to Santa Cruz Long Toed salamanders, California Red legged frogs and certain protected bird species, conditions of the Biotic Report Review letter dated 6-14-04 shall be followed including:

1. No winter grading is allowed. If earthwork has not started prior to October 1 it shall be postponed until the following April 16;
2. A biologic monitor must be on site during clearing and grading;
3. Pre-disturbance surveys must be conducted by a qualified biologist and mitigation measures specified in the biotic report shall be implemented;
4. No livestock may be corralled, boarded, or grazed on the property without additional focused surveys for special status species that are reviewed and approved by the Planning Department;
5. There shall be no exterior lighting along the driveway and other lighting shall be designed and shielded to protect the riparian area from nighttime light;
6. A Biotic Declaration of Restriction, prepared by Environmental Planning Staff, shall be recorded on the deed prior to approval of the Tentative Map.

EXHIBIT C

Application #: 04-0012
APN: 041-301-42
Owner: Richard & Elizabeth Crocker

AMENDMENTS TO THIS LAND DIVISION APPROVAL SHALL BE PROCESSED IN ACCORDANCE WITH CHAPTER 18.10 OF THE COUNTY CODE.

This Tentative Map is approved subject to the above conditions and the attached map, and expires **24** months after the 14-day appeal period. The Parcel Map for this division, including improvement plans if required, should be submitted to the County Surveyor for checking at **least 90 days** prior to the expiration date and in no event later than 3 weeks prior to the expiration date.

cc: County Surveyor

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Cathy Graves
Principal Planner

Randall Adams
Project Planner

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Planning Commission, may appeal the act or determination to the Board of Supervisors in accordance with chapter 18.10 of the Santa Cruz County Code.

EXHIBIT C

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831)454-2580 FAX: (831)454-2131 TDD: (831)454-2123
TOM BURNS, PLANNING DIRECTOR

NEGATIVE DECLARATIOX AND NOTICE OF DETERMINATION

Application Number: 04-0012 **Hamilton-Swift, for Richard & Elizabeth Crocker**
Proposal to divide a 31.97 acre parcel into two parcels of 21.6 acres and 10.3 acres each. The project site is located at 420 Racehorse Lane, on the north side of Racehorse Lane in a community of rural residential home sites, about .5 mile north of Moon Valley Ranch Road.
APN: 041-301-42 **Randall Adams, Staff Planner**
Zone District: SU (Special Use)

ACTION: Negative Declaration with Mitigations
REVIEW PERIOD ENDS: November 30,2004
This project will be considered at a public hearing by the Planning Commission. The time, date and location have not been set. When scheduling does occur, these items will be included in all public hearing notices for the project.

Findings:
This project, if conditioned to comply with required mitigation measures or conditions shown below, will not have significant effect on the environment. The expected environmental impacts of the project are documented in the Initial Study on this project attached to the original of this notice on file with the Planning Department, County of Santa Cruz, 701 Ocean Street, Santa Cruz, California.

Reauired Mitigation Measures or Conditions:
_____ None
__XX__ Are Attached

Review Period Ends November 30,2004

Date Approved By Environmental Coordinator December 2, 2004

KEN HART
Environmental Coordinator
(831)454-3127

If this project is approved, complete and file this notice with the Clerk of the Board:

NOTICE OF DETERMINATION

The Final Approval of This Project was Granted by _____

on _____. No EIR was prepared under CEQA.

THE PROJECT WAS DETERMINED TO NOT HAVE SIGNIFICANT EFFECT ON THE ENVIRONMENT

Date completed notice filed with Clerk of the Boa

EXHIBIT D

CALIFORNIA DEPARTMENT **OF FISH** AND GAME

CERTIFICATE **OF FEE** EXEMPTION

De minimis Impact Finding

Project **Title/Location** (Santa Cruz County):

Application Number: 04-0012 **Hamilton-Swift, for Richard & Elizabeth Crocker**
Proposal to divide a 31.97 acre parcel into two parcels of 21.6 acres and 10.3 acres each. The project site is located at 420 Racehorse Lane, on the north side of Racehorse Lane in a community of rural residential home sites, about .5 mile north of Moon Valley Ranch Road.
APN: 041-301-42 **Randall Adams, Staff Planner**
Zone District: SU (Special Use)

Findings of Exemption (attach as necessary):

An Initial Study has been prepared for this project by the County Planning Department according to the provisions of CEQA. This analysis shows that the project will not create any potential for adverse environmental effects on wildlife resources.

Certification:

I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse effect on wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

KEN HART
Environmental Coordinator for
Tom Burns, Planning Director
County of Santa Cruz

Date: 12/3/04

EXHIBIT D

NAME: Hamilton Swift for Crocker
APPLICATION: 04-0012
A.P.N: 041-301-42

NEGATIVE DECLARATION MITIGATIONS

1. In order to minimize impacts to the riparian corridor and for the project to comply with the Riparian Corridor and Wetland Protection Ordinance and the Santa Cruz County General Plan, prior to hearing the Tentative Map shall be revised as follows:

    a. Clearly indicate a proposed development envelope which encompasses the proposed driveway, septic location and building area. There must be a minimum of thirty feet between the development envelope and the edge of the riparian vegetation. This will involve relocating the driveway and parking from that shown on the plans dated 6-20-03. Specifically indicate the thirty foot setback on the plans and the required fence pursuant to the conditions of the Biotic Report Review dated 6-14-04.

    b. Provide a plan and cross section for the road repair referred to in Note 1 on the map dated 6-20-03 and attach a letter from the project biologist indicating that she has reviewed the plan and making any recommendations necessary to protect special status species from harm, harassment or ioss of habitat. The recommendations shall be incorporated into the plan and the plan approved by Environmental Planning staff.

2. In order to prevent impacts to Santa Cruz Long Toed salamanders, California Red legged frogs and certain protected bird species, conditions of the Biotic Report Review letter dated 6-14-04 shall be followed including:

    a. No winter grading. If earthwork has not started prior to October 1 it shall be postponed until the following April 16 ;
    b. Biologic monitor on site during clearing and grading;
    c. Pre-disturbance surveys to be conducted by a qualified biologist and mitigation measures specified in the biotic report shall be implemented:
    d. No livestock may be corralled, boarded, or grazed on the property without additional focused surveys for special status species;
    e. There shall be no exterior lighting along the driveway and other lighting shall be designed and shielded to protect the riparian area from nighttime light:
    f. Declaration of Restriction shall be recorded on the deed prior to approval of the Tentative Map.

EXHIBIT D

COUNTY OF SANTA CRUZ
PLANNING DEPARTMENT

Date: November 1,2004
Staff Planner: Randall Adams

ENVIRONMENTAL REVIEW
INITIAL STUDY

APPLICANT: Hamilton-Swift
APN: 041-301-42
SUPERVISORAL DISTRICT: Second District – Ellen Pirie
OWNER: Richard & Elizabeth Crocker
APPLICATION NO: 04-0012
LOCATION: Property located on the north side of Race Horse Lane at about .5 mile north of Moon Valley Ranch Road (420 Racehorse Lane).

EXISTING SITE CONDITIONS-

Parcel Size: 31.97 acres
Existing Land Use: Rural residential
Vegetation: Grasses, woodland & scrub (mixed).
Slope: Varies 5-50% - under 30% at building site.
Nearby Watercourse: Unnamed drainage at Racehorse Lane.
Distance To: Approximately 200 feet to proposed building site.
Rock/Soil Type: 136 – Elkhorn-Pfeiffer Complex, 30-50% slopes
139 – Fluvaquentic Haploxerolls- Aquic Xerofluvents Complex, 0-15% slopes

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Groundwater Supply: Mapped GW resource - south side of property – away from building site.
Water Supply Watershed: None Mapped
Groundwater Recharge: None Mapped
Timber or Mineral: None Mapped
Agricultural Resource: None Mapped
Biologically Sensitive Habitat: None Mapped
Fire Hazard: Mapped mitigatable fire hazard at edges of property – away from building site
Floodplain: None Mapped
Erosion: Low Potential
Landslide: None Mapped

Liquefaction: Low Potential
Fault Zone: None Mapped
Scenic Corridor: None Mapped
Historic: None Mapped
Archaeology: None Mapped
Noise Constraint: None Mapped
Electric Power Lines: None
Solar Access: Adequate
Solar Orientation: Rolling/South
Hazardous Materials: None

SERVICES

Fire Protection: Aptos/La Selva FPD
School District: Pajaro Valley USD
Sewage Disposal: Septic

Drainage District: None
Project Access: Racehorse Lane
Water Supply: Well

PLANNING POLICIES

Zone District: SU (Special Use)
General Plan. R-R (Rural Residential)

Special Designation: No

EXHIBIT D

Urban Services Line: ___ Inside ___X___ Outside
Coastal Zone: ___ Inside ___X___ Outside

PROJECT SUMMARY DESCRIPTION:

Proposal to divide a 31.97 acre parcel into two parcels of 21.6 acres and 10.3 acres each.

PROJECT SETTING AND BACKGROUND:

The project site is located on the north side of Racehorse Lane in a community of rural residential home sites. There is an existing structure and driveway (currently under construction) within the previously approved building envelope on the proposed Parcel 2 for this application.

The topography of the project site is relatively level at the lower (southern) portion of the subject property and rises into two sloped areas to the north which are bisected by a natural drainage through the center of the parcel. The vegetation on the project site is characterized by grassy areas on the lower portion of the sloped areas, with woodland and scrub vegetation on the higher slopes and riparian vegetation on the lowest portions of the subject property and along the natural drainage.

DETAILED PROJECT DESCRIPTION:

The applicant proposes to divide the subject property into two separate parcels for the purposes of constructing single family residences. The building envelope on the proposed Parcel 2 was created through Minor Land Division 87-0762, and the driveway and residence on this parcel are currently under construction. This application will create an additional parcel and building site on the proposed Parcel 1. Both of the two proposed building sites are located to the east of the natural drainage course through the subject property.

The existing and proposed development is served by Racehorse Lane, and a new driveway is proposed to be installed to serve the building site at the proposed Parcel 1. The driveway location has been selected to avoid steeply sloped areas, the adjacent riparian vegetation, and to minimize the volume of grading. The proposed structure will be located in an area off of steep slopes and will be required to use a stepped foundation to avoid unnecessary grading on the project site.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

ENVIRONMENTAL REVIEW CHECKLIST

A. Geology and Soils

Does the project have the potential to:

1. Expose people or structures to potential adverse effects, including the risk of material loss, injury, or death involving:

   A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or as identified by other substantial evidence? ____ ____ X ____

All of Santa Cruz County is subject to some hazard from earthquakes. A Geologic Investigation for the project was prepared by Nolan, Zinn & Associates, dated January 2, 2003 (Attachment 7), and a Geotechnical Investigation was prepared by Haro, Kasunich and Associates, dated May 2003 (Attachment 8). These reports have been reviewed and accepted by the Environmental Planning section of the Planning Department (Attachment 6). The reports concluded that fault rupture would not be a potential threat to the proposed development, and that seismic shaking could be managed by constructing with conventional spread footings or pier and grade beam foundation systems for the residence, by following the recommendations in the Geologic and Geotechnical reports, and by following the recommendations of the review letter prepared by Environmental Planning staff (Attachment 6).

   B. Seismic ground shaking? ____ ____ X ____

See comment A-I-a.

   C. Seismic-related ground failure, including liquefaction? ____ ____ ____ X

Not described as a potential hazard in the Geologic and Geotechnical Investigations (referred to in comment A-I-a).

   D. Landslides? ____ ____ ____ X

Not described as a potential hazard in the Geologic and Geotechnical Investigations (referred to in comment A-1-a).

EXHIBIT 5

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
2. Subject people or improvements to damage from soil instability as a result of on- or off-site landslide, lateral spreading, to subsidence, liquefaction, or structural collapse?				X

Not described as a potential hazard in the Geologic and Geotechnical Investigations (referred to in comment A-I-a).

3. Develop land with a slope exceeding 30%?				X

The building envelope and proposed driveway access will not be located in areas exceeding 30% slope.

4. Result in soil erosion or the substantial loss of topsoil?			X	

Any ground disturbance has the potential to create erosion. The location of the proposed building site, the recommendations of the Geologic and Geotechnical Investigations (referred to in comment A-I-a), and the erosion control plan (Attachment 5), will adequately control erosion in the proposed development.

5. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code(1994), creating substantial risks to property?				X

Not described as a potential hazard in the Geologic and Geotechnical Investigations (referred to in comment A-I-a).

6. Place sewage disposal systems in areas dependent upon soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems?				X

The location of the proposed septic system has been reviewed and approved by the County department of Environmental Health Services (Attachment 12) as being appropriate for septic waste disposal.

7. Result in coastal cliff erosion?				X

Project site is not located adjacent to, or otherwise near, a coastal cliff.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

B. Hydrology, Water Supply and Water Quality

Does the project have the potential to:

1.	Place development within a 100-year flood hazard area?			X

Project site is not located within a floodway or floodplain.

2.	Place development within the floodway resulting in impedance or redirection of flood flows?			X

See comment B-1.

3.	Be inundated by a seiche or tsunami?			X
4.	Deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit, or a significant contribution to an existing net deficit in available supply, or a significant lowering of the local groundwater table?		X	

The subject property is not in a mapped ground-water resource area. The proposed development will rely on a private well, and construction will comply with the Uniform Building Code and local ordinances regarding the conservation and use of water.

5.	Degrade a public or private water supply? (Including the contribution of urban contaminants, nutrient enrichments, or other agricultural chemicals or seawater intrusion).		X	

See comment B-4. Runoff from this project may contain small amounts of chemicals and other household contaminants, No commercial or industrial activities are proposed that would generate a significant amount of contaminants to a public or private water supply. Potential siltation from the proposed project and erosion control mitigation measures are discussed in comment A-4.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
6. Degrade septic system functioning?		X		

See comment A-6. The proposed project will include the installation of one additional septic system at the proposed building site. This is an insignificant additional amount of wastewater that is not anticipated to degrade the proper function of any existing septic system.

7. Alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which could result in flooding, erosion, or siltation on or off-site?			X	

The existing drainage pattern will not be significantly altered by the proposed project. All runoff will be collected and discharged into the same drainage area that the project site has drained to prior *to* the proposed development. The Department of Public Works Drainage section has reviewed and accepted the proposed drainage plan (Attachment 12).

8. Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems, or create additional source(s) of polluted runoff?			X	

See comment B-7.

9. Contribute to flood levels or erosion in natural water courses by discharges of newly collected runoff?			X	

See comment B-7.

10. Otherwise substantially degrade water supply or quality?				X

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

C. Bioloaical Resources

Does the project have the potential to:

1. Have an adverse effect on any species identified as a candidate, sensitive, or special status species, in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, or U.S. Fish and Wildlife Service? X

A Biotic Report was prepared for this project by Biotic Resources Group, dated August, 21, 2003 (Attachment 10). This report has been reviewed and accepted by the Environmental Planning section of the Planning Department (Attachment 9). No special status species have been identified in the proposed disturbance area (building envelope & driveway location). The Biotic Report and Environmental Planning staff have identified potential upland habitat for the Santa Cruz Long Toed Salamander and dispersal areas for California Red Legged Frog and potential raptor habitat. If the recommended mitigations in the Biotic Report (Attachment 10) and review letter (Attachment 9) must are followed the effect on sensitive or special status species will be reduced to a lees than significant level.

2. Have an adverse effect on a sensitive biotic community (riparian corridor), wetland, native grassland, special forests, inter-tidal zone, etc.)? X

The proposed building envelope and driveway are located adjacent to riparian resource areas. A riparian exception to allow development adjacent *to* these riparian resource areas will not be supported by Environmental Planning staff. In order to avoid adverse effects to the riparian resource areas, the proposed driveway and building envelope must be located a minimum of 30 feet (20 feet riparian buffer setback + 10 foot construction setback from the edge of the riparian vegetation). The subject property also contains some native grasses, stands of oak woodland, coyote brush scrub, and wetland areas which are valuable habitat and which will not be disturbed by the proposed development.

3. Interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native or migratory wildlife nursery sites? X

The project does not propose any activity that will restrict or interfere with movement of

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

migratory fish or wildlife species. Measures will be required to exclude Santa Cruz Long Toed Salamander and California Red Legged Frog from the construction area in order to prevent any interference with those species, and specific instructions will be developed to avoid impacts from the proposed road repair. Pre-construction surveys for nesting raptors will be conducted and mitigation measures, including an exclusion area around active nests, will be implemented if any are found. See Attachment 10.

4.	Produce nighttime lighting that will illuminate animal habitats?	X		

Exterior lighting along the driveway will not be permitted. Additional requirements to shield and direct nighttime lighting away from the riparian resource areas will ensure that those resource areas are not illuminated.

5.	Make a significant contribution to the reduction of the number of species of plants or animals?			X

As discussed above (see comments C-1 & C-2), the project would not be likely to adversely affect or cause a reduction in any species of wildlife.

6.	Conflict with any local policies or ordinances protecting biological resources (such as the Significant Tree Protection Ordinance, Sensitive Habitat Ordinance, provisions of the Design Review ordinance protecting trees with trunk sizes of 6 inch diameters or greater)?			X

See comments C-1 & C-2. Additionally, no trees are proposed to be removed as a part of this project.

7.	Conflict with the provisions of an adopted Habitat Conservation Plan, Biotic Conservation Easement, or other approved local, regional, or state habitat conservation plan?			X

There are no conservation plans or biotic conservation easements in effect or planned in the project area.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

D. Energy and Natural Resources

Does the project have the potential to:

1.	Affect or be affected by land designated as "Timber Resources" by the General Plan?				X

The project site does not contain any designated timber resources.

2.	Affect or be affected by lands currently utilized for agriculture, or designated in the General Plan for agricultural use?				X

The project site does not contain any designated agricultural resources.

3.	Encourage activities that result in the use of large amounts of fuel, water, or energy, or use of these in a wasteful manner?				X

The project will not involve the use of large amounts of fuel, water, and energy, or the use of these resources in a wasteful manner.

4.	. Have a substantial effect on the potential use, extraction, or depletion of a natural resource (i.e., minerals or energy resources)?				X

The project will not include or require the substantial extraction or consumption of minerals, energy resources, or other natural resources.

E. Visual Resources and Aesthetics

Does the project have the potential to:

1.	Have an adverse effect on a scenic resource, including visual obstruction of that resource?				X

There is no mapped scenic road or public view that will be obstructed or otherwise adversely impacted by the proposed project.

EXHIBIT 5

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
2. Substantially damage scenic resources, within a designated scenic corridor or public view shed area including, but not limited to, trees, rock outcroppings, and historic buildings?				X

See comment E-1.

3. Degrade the existing visual character or quality of the site and its surroundings, including substantial change in topography or ground surface relief features, and/or development on a ridge line?			X	

The proposed development will be limited to the proposed building envelope and driveway area.

4. Create a new source of light or glare which would adversely affect day or nighttime views in the area?			X	

The amount of light associated with the development will not significantly degrade nighttime views.

5. Destroy, cover, or modify any unique Geologic or physical feature?				X

There are no unique geological features on or adjacent to the site that would be destroyed, modified or covered by the project.

F. Cultural *Resources*

Does the project have the potential to:

1. Cause an adverse change in the significance of a historical resource **as** defined in CEQA Guidelines 15064.5?				X

No designated historical resources are present on the project site.

2. Cause an adverse change in the significance of an archaeological resource pursuant to CEQA				X

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
Guidelines 15064.5?				

No archaeological resources have been identified on the project site.

3. Disturb any human remains, including those interred outside of formal cemeteries?				X

The presence of human remains has not been identified on the project site.

4. Directly or indirectly destroy a unique paleontological resource or site?				X

No paleontological resources have been identified on the project site.

G. Hazards and Hazardous Materials

Does the project have the potential to:

1. Create a significant hazard to the public or the environment as a result of the routine transport, storage, use, or disposal of hazardous materials, not including gasoline or other motor fuels?				X

The proposed project will not involve handling or storage of hazardous materials.

2. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X

The project site is not listed as a known hazardous materials site.

3. Create a safety hazard for people residing or working in the project area as a result of dangers from aircraft using a public or private airport located within two miles of the project site?			X	

The parcel and the project are not located within the Airport Clear Zones and safety hazards for people residing in the project area are low.

EXHIBIT D

	significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
4. Expose people to electro-magnetic fields associated with electrical transmission lines?			X	

There are no high-voltage transmission lines on the project site.

5. Create a potential fire hazard?			**X**	

The project design will incorporate all applicable fire safety code requirements and will include fire protection devices as required by the local fire agency.

6. Release bioengineered organisms or chemicals into the air outside of project buildings?				X

The project will not involve processes which could result in the release of bioengineered organisms or chemical agents.

H. Transportation/Traffic

Does the project have the potential to:

1. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			X	

Traffic from one additional single family dwelling (one additional peak period trip per day) will not substantially affect the existing traffic load and capacity of streets and intersections in the project vicinity.

2. Cause an increase in parking demand which cannot be accommodated by existing parking facilities?				**X**

Adequate parking exists on the project site for the proposed project. The project complies with parking requirements.

3. Increase hazards to motorists, bicyclists, or pedestrians?				X

EXHIBIT I

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less-than significant Impact	No Impact

The proposed project will comply with current road design requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians.

4.	Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level of service standard established by the county congestion management agency for designated intersections, roads or highways?			X

The proposed project will generate 1 additional peak period trip per day (1 peak period trip per dwelling unit), which will not adversely effect intersections, roads, or highways in the project area.

I. Noise

Does the project have the potential to:

1.	Generate a permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X

The addition of the noise associated with one residence will not create a significant increase in the project vicinity.

2.	Expose people to noise levels in excess of standards established in the General Plan, or applicable standards of other agencies?			X

Noise levels at the project site are not anticipated to exceed established standards.

3.	Generate a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X

Noise generated during construction for the proposed project will increase the ambient noise levels for adjoining areas. Given the limited duration of this construction'related impact, it is considered to be less than significant.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

J. Air Quality

Does the project have the potential to: (Where available, the significance criteria established by the MBUAPCD may be relied upon to make the following determinations).

1.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X	

The proposed project does not include activities that could violate air quality standards, except for the additional traffic associated with one single family dwelling which is a less than significant impact to air quality.

2.	Conflict with or obstruct implementation of an adopted air quality plan?			X

The proposed project does not include activities that could conflict with or obstruct any adopted air quality plan.

3.	Expose sensitive receptors to substantial pollutant concentrations?			X

The proposed project does not include activities that could generate a substantial concentration of pollutants.

4.	Create objectionable odors affecting a substantial number of people?			X

The proposed project does not include activities that could emit potentially objectionable odors.

K. Public Services and **Utilities**

Does the project have the potential to:

1.	Result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, *in* order to maintain acceptable service ratios, response times, or other performance objectives for any of the			

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

public services:

a. Fire protection? X

While the project represents an incremental contribution to the need for services, this project meets the standards and requirements of the local fire agency. The project will include all fire safety features required by the local fire agency.

b. Police protection? X

While the project represents an incremental contribution to the need for services, the project will not create a significant demand for new services, nor will it require additional personnel.

c. Schools? X

While the project represents an incremental contribution to the need for school services. the proposed development will be subject to the payment of school impact fees to help offset the impacts of the increase in services.

d. Parks or other recreational activities? X

While the project represents an incremental contribution to the need for services, the project will not create a significant demand for new services. Additionally, parks capital improvement fees for the proposed development help offset the impacts of the incremental increase in public parks usage and needs generated by the project.

e. Other public facilities: including the maintenance of roads? X

While the project represents an incremental contribution to the need for services, the project will not create a significant demand for new services. Additionally, capital improvement fees for the proposed development help offset the impacts of the incremental increase in public facilities usage and needs generated by the project.

2. Result in the need for construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? X

The project will drain to existing drainage facilities, which are adequate to

EXHIBIT

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

accommodate the volume of runoff generated by the proposed development.

3. Result in the need for construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? _____ X

The project will connect to existing water and contain septic onsite, which are adequate to accommodate the relatively light demands of this project. The project will not necessitate expansion of wastewater facilities.

4. Cause a violation of wastewater treatment standards of the Regional Water Quality Control Board? _____ X

The project's wastewater flows will be very light and will not cause a violation of wastewater treatment standards.

5. Create a situation in which water supplies are inadequate to serve the project or provide fire protection? _____ X

The water service will be adequate for fire suppression at the site. Additionally, the local fire agency has reviewed and approved the plans, assuring conformity with fire protection standards.

6. Result *in* inadequate access for fire protection? _____ X

The project access meets County standards and has been approved by the local fire agency.

7. Make a significant contribution to a cumulative reduction of landfill capacity or ability to properly dispose of refuse? _____ X . _____

The small volume of waste generated by the proposed development Will not significantly reduce landfill capacity.

8. Result in a breach of federal, state, and local statutes and regulations related to solid waste management? _____ X

EXMIBIT D

	Significant Or Potentially Significant impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact

The project will not include any activity that would result in a breach of statutes or regulations related to solid waste management.

L. Land **Use,** Population, and Housing

Does the project have the potential to:

1.	Conflict with any policy of the County adopted for the purpose of avoiding or mitigating an environmental effect?			X

The proposed project does not conflict with any policies adopted for the purpose of avoiding or mitigating an environmental effect.

2.	Conflict with any County Code regulation adopted for the purpose of avoiding or mitigating an environmental effect?		X	

With the relocation of the proposed building envelope and driveway away from riparian resource areas (see comment C-2) the proposed project will not conflict with any regulations adopted for the purpose of avoiding or mitigating an environmental effect.

3.	Physically divide an established community?			X

The project will not include any element that will physically divide an established community.

4.	Have a potentially significant growth inducing effect, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?		X	

The proposed project is designed at the density and intensity of the development indicated by the General Plan and Zoning designations of the parcel. The applicant has not requested an increase in density that would allow more units than are currently designated for the site.

The proposed project does not involve extensions of utilities such as water, sewer, or new road systems into areas not designated for such services and is consistent with the County General Plan. The project will not include any substantial growth that is not consistent with County planning goals.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
5. Displace substantial numbers of people, or amount of existing housing, necessitating the construction of replacement housing elsewhere?				X

The proposed project will entail a gain in housing units and will not involve demolition of any existing housing units.

EXHIBIT D

M. Non-Local Approvals

Does the project require approval of federal, state, or regional agencies? Yes **No** X

N. Mandatory Findings of Sianificance

1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant, animal, or natural community, or eliminate important examples of the major periods of California history or prehistory? Yes No X

2. Does the project have the potential to achieve short term, to the disadvantage of long term environmental goals? (A short term impact on the environment is one which occurs in a relatively brief, definitive period of time while long term impacts endure well into the future) Yes No X

3. Does the project have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, and the effects of reasonably foreseeable future projects which have entered the Environmental Review stage)? Yes ____ No X

4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Yes No X

EXHIBIT D

TECHNICAL REVIEW CHECKLIST

	REQUIRED	COMPLETED*	N/A
Agricultural Policy Advisory Commission (APAC) Review			X
Archaeological Review			X
Biotic Report/Assessment	X	6114/04	
Geologic Hazards Assessment (GHA)			
Geologic Report	X	6/17/04	
Geotechnical (Soils) Report	X	6/17/04	
Riparian Pre-Site			X
Septic Lot Check	X	12/31/03	
Other:			

*Attach summary and recommendation from completed reviews

List any other technical reports or information sources used in preparation of this initial study:

- Geologic Investigation prepared by Nolan, Zinn & Assoc., dated 1/2/03.
- Geotechnicai Investigation prepared by Haro, Kasunich & Assoc., dated 5/03.
- Biotic Report prepared by Biotic Resources Group, dated 8/21/03.

EXHIBIT D

ENVIRONMENTAL REVIEW ACTION

On the basis of this initial evaluation:

— I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

L· I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect *in* this case because the mitigation measures described below have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

— I find the proposed project MAY have a significant effect on the environment, **and** an ENVIRONMENTAL IMPACT REPORT is required.

11-3-04
Date

Signature

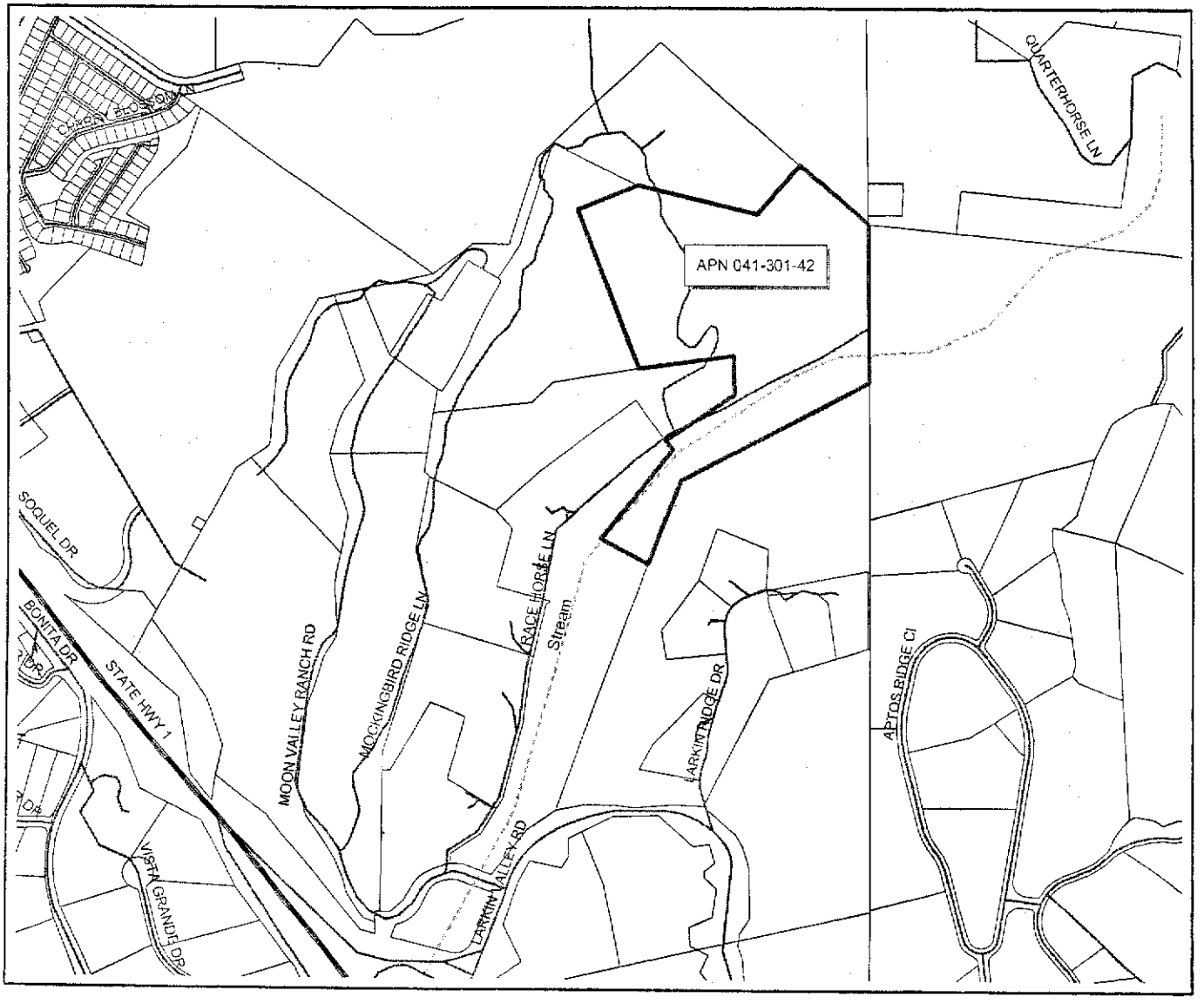
For: Ken Hart
Environmental Coordinator

Attachments:

1. Vicinity Map
2. Assessor's Parcel Map
3. Map of Zoning Districts
4. Map of General Plan Designations
5. Tentative Map & Preliminary Improvement Plans prepared by Ifiand Engineers, dated 6/2/03, revised 5/17/04.
6. Geologic & Geotechnical Report Review Letter prepared by Joe Hanna, County Geologist, da 6/17104.
7. Geoiogic investigation (Report Summary, Conclusions, Recommendations, Map & Cross Sections) prepared by Nolan, Zinn & Assoc., dated 1/2/03.
a. Geotechnical Investigation (Report Summary, Conciusions & Recommendations) prepared by Haro, Kasunich & Assoc., dated 5/03.
9. Biotic Report Review Letter prepared by Paia Levine, dated 6/14/04.
10. Biotic Report prepared by Biotic Resources Group, dated 8/21/03.
11. Septic Lot Check prepared by Environmental Health Services, dated 12/31/03.
12. Department of Public Works Drainage staff comments.

EXHIBIT D

Location Map



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Environmental Review Inital Study
ATTACHMENT
APPLICATION 04-0012

N

Map created by Santa Cruz County
Planning Department:
January 2004

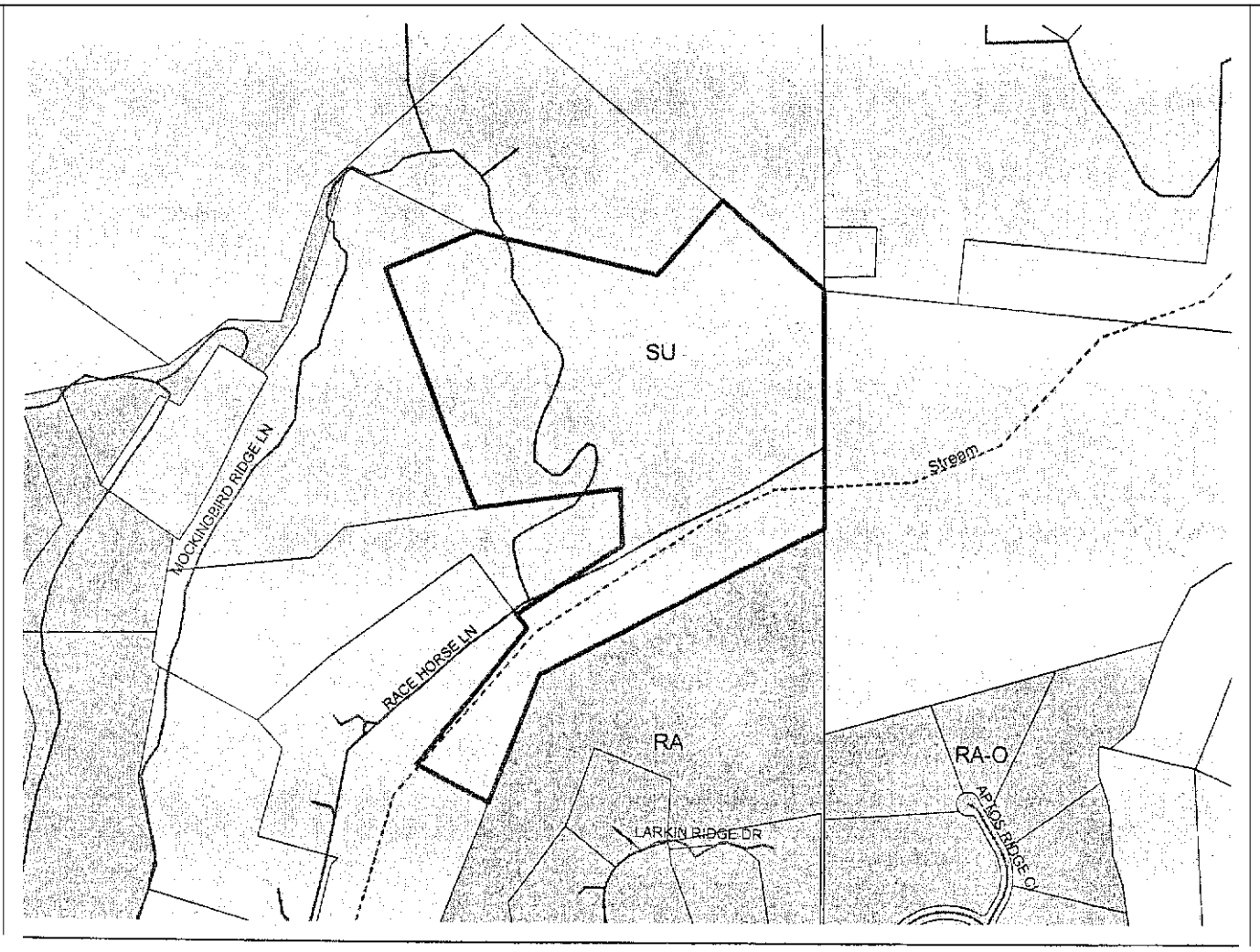
EXHIBIT D

EXHIBIT D

Environmental Review Initial Study
ATTACHMENT 2
APPLICATION 04-0012

4D

Zoning Map



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Environmental Review Inital Study
ATTACHMENT 3
APPLICATION 04-0012

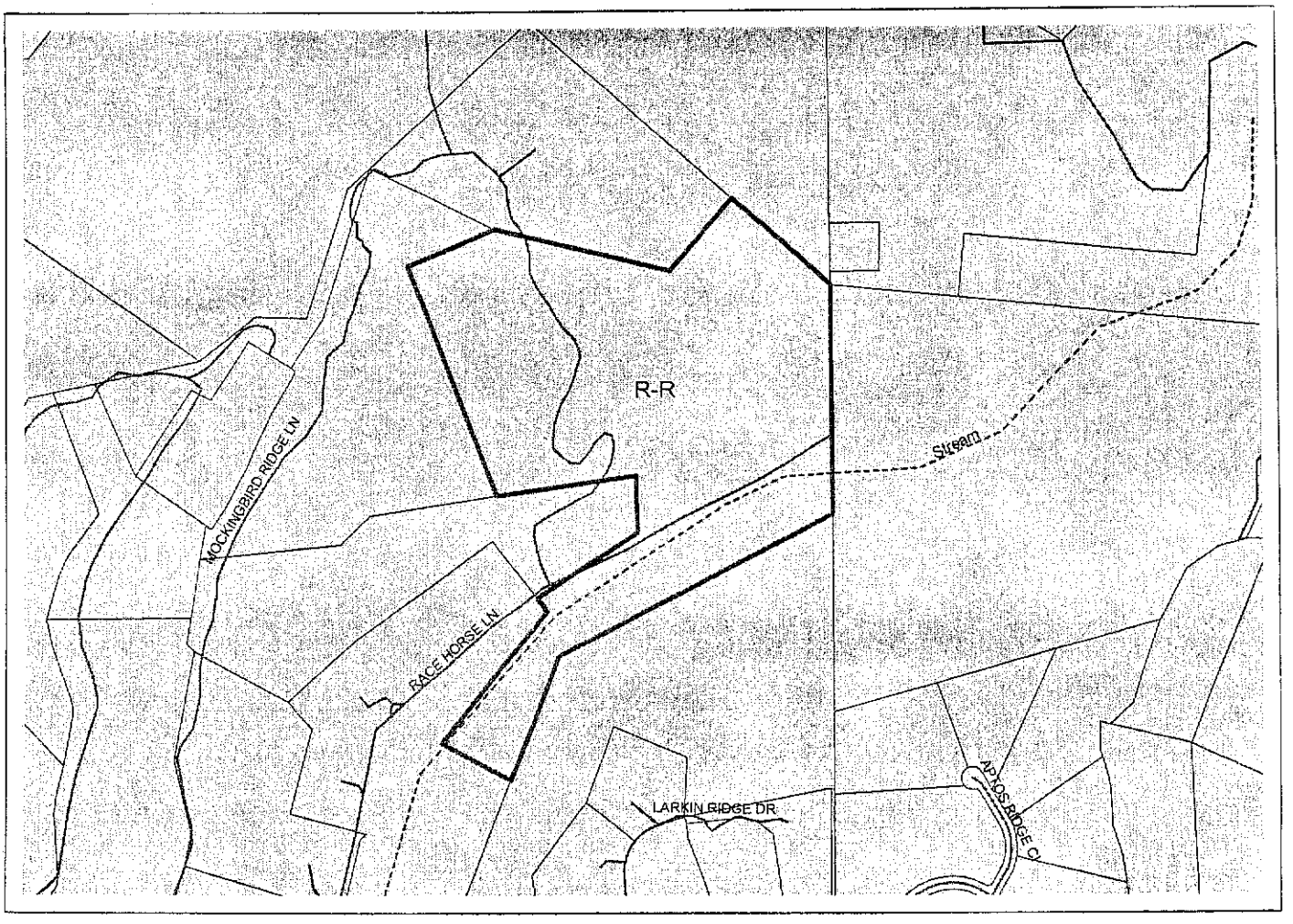
Legend

- APN 041-301-42
- Streets
- Intermittent Stream
- SU
- RA

Map created by Santa Cruz County Planning Department: January 2004

EXHIBIT D

General Plan Map



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Environmental Review Inital Study
ATTACHMENT 4
APPLICATION 04-0012

Legend

- APN 041-301-42
- Streets
- Intermittent Stream
- Rural Residential

Map created by Santa Cruz County Planning Department: January 2004

EXHIBIT D

43

EXHIBIT D

Project Data

Owner & Subdivider

Rick Crocker
Crocker Homes, Inc.
3030 Pleasant Valley Road
Aptos, CA, 95003
Phone: (831) 768-1099
Mailing Address:
P.O. Box 2171
Aptos, CA, 95001-2171

Existing Zoning

RR (RURAL RESIDENTIAL)

Existing Use

One Single Family Residence on a portion of the top site. Balance of site is vacant.

Proposed Use

Divide parcel to create an additional building site

Water Supply

Private Wells

Sewer Disposal

On site septic system.

Gas & Electric

Pacific Gas & Electric

Area Subject to Inundation

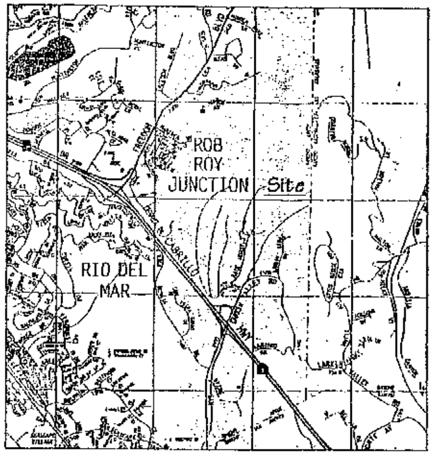
None

Total Area of Site

31.97 Acres- Parcel "A" of Parcel Map 50 PM 51

Land Slope Legend

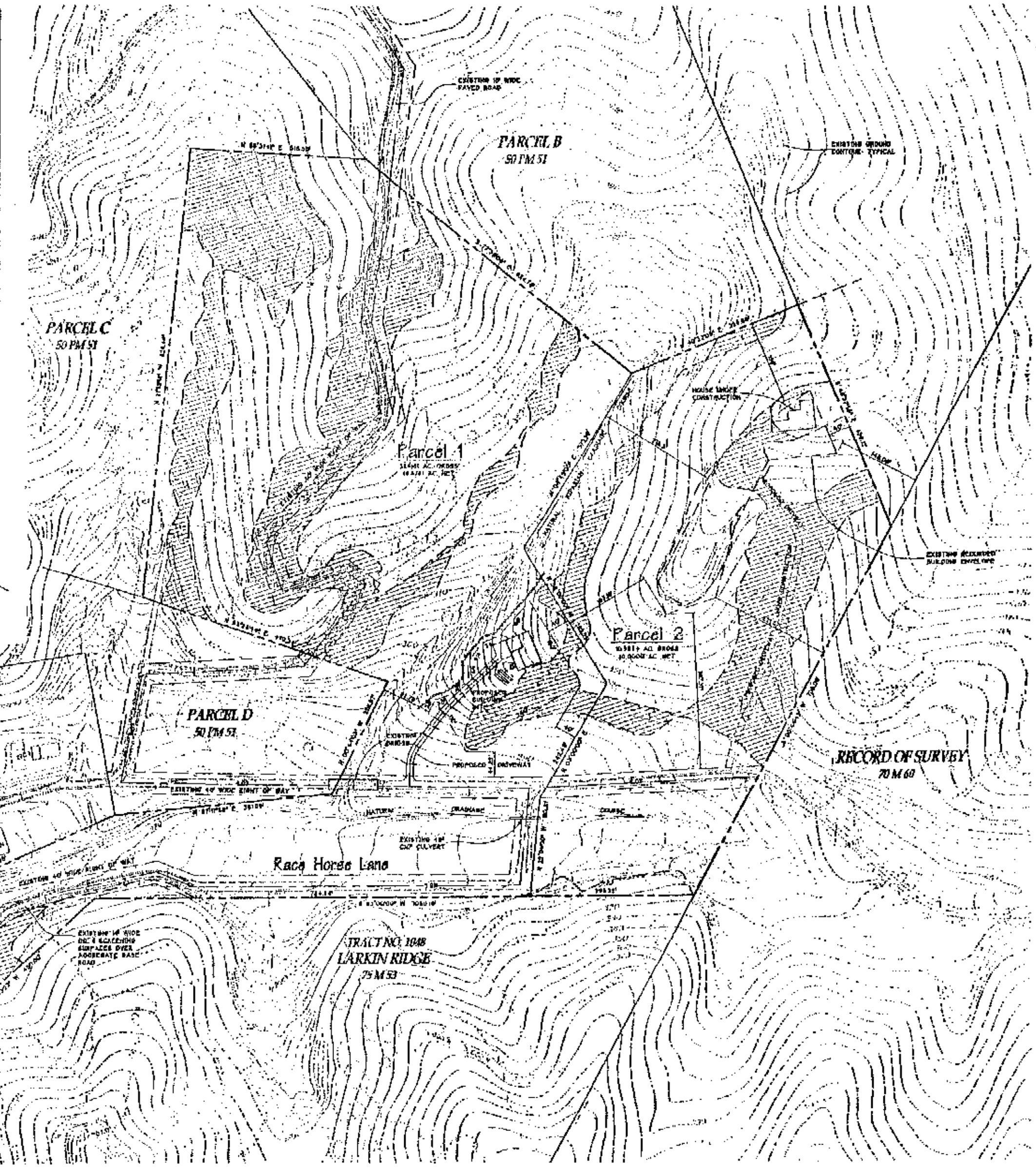
LAND WITH SLOPES 0% - 15%	582,811 SQ. FT., 13.38 AC.
LAND WITH SLOPES 15% - 30%	353,888 SQ. FT., 8.12 AC.
LAND WITH SLOPES 30% - 50%	456,935 SQ. FT., 10.47 AC.
LAND WITH SLOPES 50%+	NONE
TOTAL	1,392,634 SQ. FT., 31.97 AC.



Vicinity Map

NOT TO SCALE

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.



Environmental Review Initial Study
ATTACHMENT 5, 1 of 2
APPLICATION 04-0012

Tentative Map - Minor Land Division

Tentative Map Minor Land Division for:
Rick Crocker
420 Racehorse Lane, Aptos, Santa Cruz County California

ifland ENGINEERS, INC.
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1100 WATER STREET
SANTA CRUZ, CA 95062
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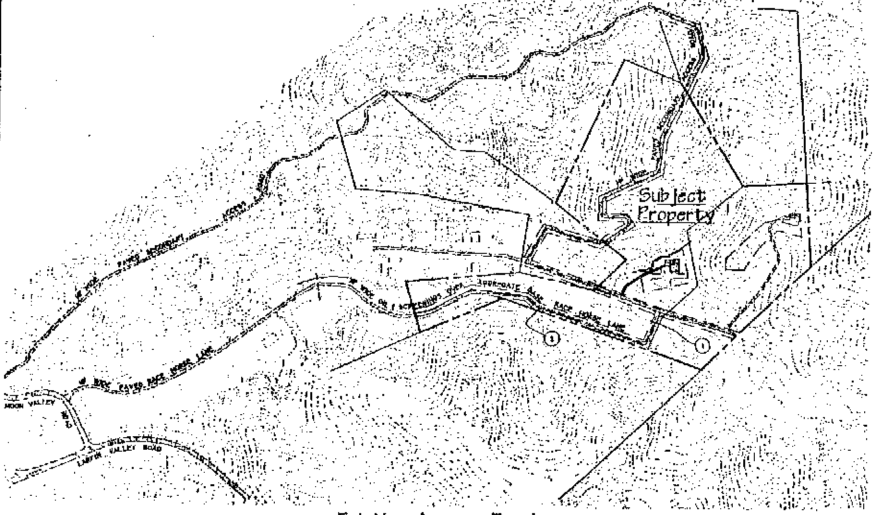
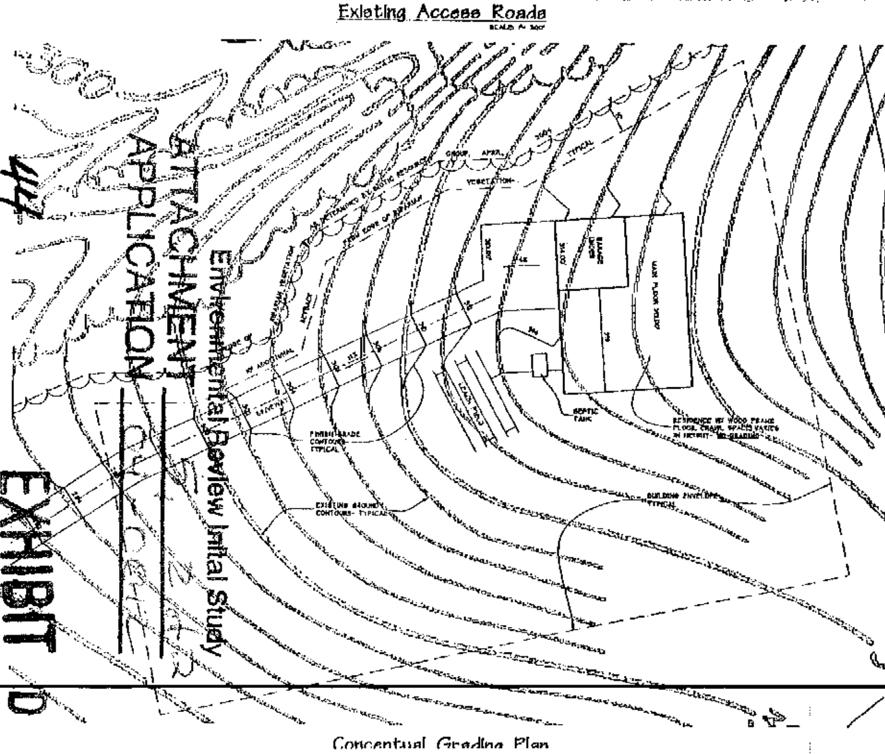
FAX (831) 426-1763
WWW.IFLANDENGINEERS.COM

APN 041-301-42
DATE 08/20/03
SCALE 1" = 100'
SHEET 1
JOB NO 02110



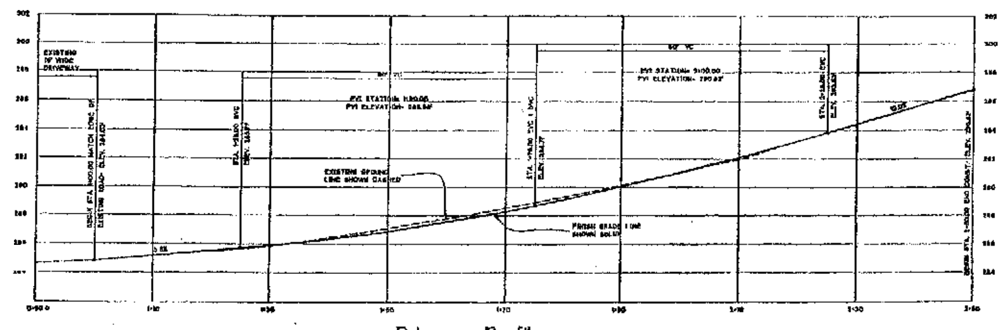
Existing Access Roads



Conceptual Grading Plan

Environmental Review Inital Study
ATTACHMENT 5, 2 of 2
APPLICATION 04-0242

EXHIBIT D



Driveway Profile

Erosion Control Notes

1. NO LAND CLEARING, GRADING OR EXCAVATION SHALL BE DONE BETWEEN OCTOBER 15th AND APRIL 15th. ANY DEVIATION FROM THIS CONDITION REQUIRES REVIEW AND APPROVAL OF A SEPARATE WINTER EROSION CONTROL PLAN BY ENVIRONMENTAL PLANNING PRIOR TO BEGINNING CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE EROSION CONTROL AT ALL TIMES.

2. UNNECESSARY GRADING AND DISTURBING OF SOIL SHALL BE AVOIDED.

3. BETWEEN OCTOBER 15th AND APRIL 15th EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. HAY BALES, FILTER BERMS, SILT FENCES OR OTHER MEANS SHALL BE EMPLOYED TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING ANY WATER COURSE.

4. DURING CONSTRUCTION, NO TURBID WATER SHALL BE PERMITTED TO ENTER THE CHANNEL OR STORM DRAIN SYSTEM. USE OF SILT AND GREASE TRAPS, FILTER BERMS, HAY BALES OR SILT FENCES SHALL BE USED TO PREVENT SUCH DISCHARGE.

5. ALL AREAS ON- AND OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED PER PLAN SHALL BE PROTECTED BY MULCHING AND/OR PLANTING OF THE FOLLOWING SCS APPROVED EROSION CONTROL MIX AT A RATE OF 35 LBS PER ACRE.

BLANDO BROME	60%
ROSE CLOVER (PELLET INOCULATED)	35%
CREEPING RED FESCUE	5%
ZORRO ANNUAL FESCUE	TRACE
WILDFLOWERS	TRACE

6. ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON SITE IN A MANNER THAT WILL NOT CAUSE EROSION.

7. ANY MATERIAL STOCKPILED DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.

8. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED SOILS SHALL BE PERMANENTLY REVEGETATED PER LANDSCAPING PLAN.

9. EXPOSED SOIL ON SLOPES GREATER THAN 30% SHALL BE SEEDED, COVERED WITH 3 INCHES OF STRAW, AND AN EROSION CONTROL BLANKET. THE EROSION CONTROL BLANKET SHALL BE STAKED IN PLACE.

10. IT IS THE DEVELOPER'S RESPONSIBILITY TO SEE THAT ADDITIONAL MEASURES NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.

Preliminary Earthwork Quantities

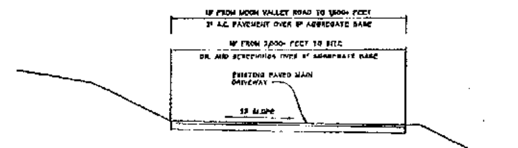
348 CUBIC YARDS EXCAVATION
2 CUBIC YARDS EMBANKMENT
346 CUBIC YARDS TO BE DISTRIBUTED ON SITE

NOTES

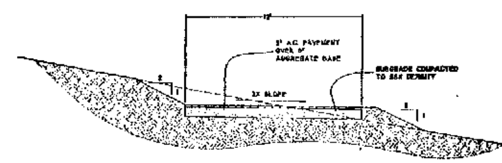
1. ESTIMATE DOES NOT INCLUDE STRIPPINGS, UTILITY TRENCH VOLUMES OR ANY OVEREXCAVATION, IF REQUIRED BY SITE CONDITIONS.
2. ESTIMATE ASSUMES A 10% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 0% EXPANSION FACTOR ON ALL CUT MATERIAL.
3. EARTHWORK QUANTITIES ARE PRELIMINARY ESTIMATES, ACCOUNT FOR THE DRIVEWAY CONSTRUCTION ONLY, AND DO NOT INCLUDE QUANTITIES FOR CONSTRUCTION OF RESIDENCE. DURING FINAL PROJECT DESIGN ESTIMATES MAY BE ADJUSTED TO ACCOUNT FOR UNSUITABLE SOILS, EXISTING PAVED SURFACES AND SITE STRIPPINGS SHOULD SUCH INFORMATION BE AVAILABLE.

(1) REPAIR ROAD WHERE WASHOUT TOOK OUT SLOPE AND ROADWAY DIKE. CONSTRUCT 3' 0" HIGH RETAINING WALL, BACKFILL TO ROAD SURFACE AND REPAVE AND CONSTRUCT A.C. DIKE.

(2) REMOVE SILT AND DOWNSLOPE BUILD UP OF SILT FROM ORIGINAL CULVERT TO ALLOW DRAINAGE TO PASS. RESTORE ROADWAY SURFACE.



Existing Access Roadway
Race Horse Lane



Proposed Driveway

Storm Drainage Calculations

RAINFALL INTENSITY - 10 YEAR STORM = 2.10 IN/HR - 10 MIN. T.C.

RUNOFF COEFFICIENT - UNDEVELOPED LAND = 0.25
- IMPERVIOUS SURFACES = 0.80

NOTE: RUNOFF ENTERS AN EXISTING NATURAL DRAINAGE COURSE ALONGSIDE RACEHORSE LANE AND CONTINUES ALONG LARKIN VALLEY ROAD TO SAN ANDREAS ROAD TO MONTEREY BAY. ASSUME DRIVEWAY AND PARKING AT 4,000 S.F. AND RESIDENCE, PATIOS, ETC AT 6000 S.F.

Pre-Development Run-off

Q_{10} = (0.25)(2.10)(31.77) + (0.80)(2.10)(0.20)
= 17.05 CUBIC FEET PER SECOND (C.F.S.)

Q_{100} = (17.05)(1.49)
= 25.40 C.F.S.

Post-Development Run-off

Q_{10} = (0.25)(2.10)(31.57) + (0.80)(2.10)(0.40)
= 17.33 C.F.S.

Q_{100} = (17.33)(1.49)
= 25.82 C.F.S.

Difference Between Pre and Post Development

Q_{10} = [illegible] - [illegible]
= .28 C.F.S.

Q_{100} = (25.82) - (25.40)
= .42 C.F.S.

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SANTA CRUZ, CA 95062
TEL (831) 426-5313
FAX (831) 426-1763
WWW.IFLANDENGINEERS.COM

Profile, Details, & Notes
Rick Crocker
420 Racehorse Lane, Aptos, Santa Cruz County California
APN 041-301-42
DATE 06/20/05 DESIGN Glen DRAWN Mgm
SHEET 2

County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET 4TH FLOOR, SANTA CRUZ, CA 95060-4000
(831) 454-2580 FAX (831) 454-2131 TDO (831) 454-2123
TOM BURNS, DIRECTOR

June 17,2004

Richard and Elizabeth Crocker
P.O. Box 2171
Aptos, CA 95001

SUBJECT: Review **of** Geotechnical investigation **by** Haro, Kasunich and Associates **May 2003**
Project No.: **SC8045**
Review of Engineering **Geology Report by** Nolan, **Zinn,** and Associates January **2, 2003**
Job # **02053-SC**
APN: **041-301-42,** Application **No.: 04-0012**

Dear Richard and Elizabeth Crocker:

Thank you for submitting the subject reports. These reports were reviewed for conformance with County Guidelines for Engineering Geology and Soils/Geotechnical Reports and also for completeness regarding site-specific hazards and accompanying technical reports. The purpose of this letter is to inform you that the Planning Department ***bas*** accepted these reports, and that the following recommendations will become permit conditions:

1. All report recommendations must be followed.

2. An engineered foundation plan is required that shows that that home is located in the engineering geologist designated building site.

3. Final plans shall include an engineered drainage pian that shows the drainage system including outlet locations and appropriate energy dissipation devices.

4. Final plans shall reference the approved Soils Engineering Report and Engineering Geology Report and shall state that all development shall conform to these reports' recommendations,

5. Prior to building permit issuance, the Soils Engineer and Engineering Geologist must submit a brief building, grading and drainage pian review letters to Environmental Planning staff stating that the plans and foundation design are in general conformance with their reports' recommendations. If, upon plan review: the engineering geciogist or engineer requires revisions or additions, the applicant shall submit to Environmental

Environmental Review Inital St.
ATTACHMENT 6, 1 of 2
APPLICATION 04-0012

EXHIBIT D

Planning two copies of revised plans and a final plan review letter stating that the plans, as revised, conform to the Report recommendations.

6. The Soils Engineer must inspect all foundation excavations, and a letter of inspection must be submitted to Environmental Planning staff and your building inspector prior *to* pour of concrete.

7. The Engineering Geologist and Soil Engineer must submit a final letter report to Environmental Planning staff regarding conformance with all technical recommendations of the Soils Report prior to final inspection. For all projects with engineered fills, the Soils Engineer must submit a final grading report to Environmental Planning regarding the conformance with all technical recommendations of the Soils Report prior to final inspection.

This Soils Report acceptance is limited *to* the technical adequacy of the Report. Other issues, such as planning, building, septic or sewer approvals, may still require resolution.

The Planning Department will check final development plans to verify project consistency with Report recommendations and Permit conditions prior to building permit issuance. If not already done, please submit two copies of the approved Soils Report at the time of building permit application for attachment to your building plans.

Please call 454-3175 if we can be of any assistance.

Sincerely,

Joe Hanna
County Geologist

Cc: Robert Loveland, Resource Planner
Building Plan Check
Soiis Engr
Engineering Geologist

Environmental Review Inital Study
ATTACHMENT G 2 of 2
APPLICATION 04-0012

• Engineering Geology
• Coastal Geology
• Hydrogeology

Nolan, Zinn, and Associates

FOCUSED GEOLOGIC INVESTIGATION

Proposed development
Lands of Crocker
420 Race Horse Lane
Aptos, California
Santa Cruz County APN 041-301-42

Environmental Review Initial Study
ATTACHMENT 7, Att 25
APPLICATION 04-0012

Job #02053-SC
2 January 2003

1509 Seabright Avenue, Suite A2 Santa Cruz, CA 95062. Tel. 831-423-7006 Fax 831-423-7008 email: nza@nolanzinn.com

EXHIBIT D

• Engineering Geology
• Coastal Geology
• Hydrogeoiogy

Nolan, Zinn, and Associates

2 January 2003 Job No. 02053-SC

Mr. Rick Crocker
Crocker Homes
P.O. Box 2171
Aptos, California 95001

Re: Focused Geologic investigation
Proposed development
Lands of Crocker
420 Race Horse Lane
Aptos, California
Santa Cruz County APN 041-301-42

Dear Mr. Crocker:

Based on the information gathered and analyzed, it is our opinion that a residence located within our 'Geologically Suitable Building Envelope For Residence", shown on Plate 1, will be geologically suitable, provided our recommendations are followed. Residential development within our designated building envelope on the subject property will be subject to "ordinary risks" as defined in Appendix B. Appendix B should be reviewed in detail by the developer and all property owners to determine whether an "ordinary"risk as defined in the appendix is acceptable. If this level of risk is unacceptable to the developer and the property owners, then the geologic hazards in question should be mitigated to reduce the corresponding risks to an acceptable level.

A geologic hazard likely to affect the subject property within the design life of the proposed development is intense seismic shaking due to an earthquake on one of the local fault systems, such as the Zayante or San Andreas faults. Your design consultants should carefully review our seismic shaking analysis and incorporate our recommendations where prudent. If the structures on the property are properly designed for the expected intensity and duration of seismic shaking, they will be subject to an "ordinary"risk due to this hazard (see Appendix B).

A 6 to 12 foot deep gully is continuing to develop, west of our designated building envelope, and serves as a good example of the predisposition toward erosion that the Aromas Sand has throughout this region. We have accounted for the impact that future incision and widening of the gully may have on development by setting back the western edge of our designated building envelope 40 to 50 feet from the western bottom of the gully. It is important that any development-related surface drainage be carefully controlled to prevent erosion from occurring on the property. In particular, we recommend that no water generated or collected for the development be discharged or allowed to flow into the existing gully west of our designated building envelope.

Environmental Review Inital Study
ATTACHMENT 7 2 of 25
APPLICATION 04-0012

1509 Seabright Avenue, Suite A2 Santa Cruz, CA 95062 Tel. 831-423-7008 Fax 831-423-7008 email: nzo@nolanzinn.com

EXHIBIT D

If you have any questions or comments regarding this report, please contact us at your earliest convenience.

Sincerely,
Nolan, Zinn And Associates, Inc.

Erik N. Zinn
Principal Geologist
C.E.G. No.2139

Environmental *Review* Inital Stud)
ATTACHMENT 7, 3 of 2
APPLICATION 04-0012

EXHIBIT D

TABLE OF CONTENTS

INTRODUCTION 5

SCOPE OF INVESTIGATION 5

SITE GEOLOGIC SETTING 6
Topography 6
Drainage 6
Earth Materials 6

GEOLOGICHAZARDS 7
Seismic Shaking Hazard 8
Deterministic Seismic Shaking Analysis 8
TABLE 1: Modified Mercalli Intensity Scale 10
TABLE 2:Faults, Earthquakes and Deterministic Seismic Shaking Data 11
Erosion 12

CONCLUSIONS 12

RECOMMEKDATIONS 13

INVESTIGATION LIMITATIONS 14

REFERENCES 15
Aerial Photographs 15
Maps and Reports 15

APPENDIXA 17
FIGURES 17
Figure 1 - Topographic Index Map 18
Figure 2 - Local Geologic Map 19

APPENDIX B - SCALE OF ACCEPTABLE RISKS 19

PLATES
PLATE 1 Maps showing Areas Geologically Suitable for Construction ..... In Pocket

NOTE: Plate must accompany text of report in order for report to be considered complete.

Environmental Review Inital Study
ATTACHMENT 7 4 of 25
APPLICATION 04-0012

EXHIBIT D

INTRODUCTION

This report presents the results of our focused geologic investigation for the proposed development to the property located at 420 Race Horse Lane in Xptos, California (Figure 1). The purpose of this investigation was to evaluate potential geologic hazards relevant to the proposed construction of a single family residence. We restricted our investigation to the southeastern comer of the property, in an area that would not likely require a quantitative slope stability analysis, as per discussions with your project planner, John Swift of Hamilton-Swift Land Use & Development Consultants, Inc.

This letter is intended to update the geologic reports written by Rogers E. Johnson & Associates (see below for a list ofreports). We have focused on updating the site specific geology and seismic shaking parameters for the new relocation of the proposed development. The other components of the fornier geologic reports, such as regional geology and regional seismicity have already been adequately discussed, and can be applied to our site specific conclusions and recommendations for this project.

We were provided with the following documents for this project:

"Geologic Report, Sperling-Geiseke Subdivision" by Rogers E. Johnson & Associates, Job #G8743-71, dated 7 June 1987.

"Geologic Re-evaluation, Crocker Property, Race Horse Lane, Watsonville, California, Santa Cruz County APN 041-301-42, (Parcel 3, Apollo Group Subdivision)" by Rogers E. Johnson & Associates, Job #G00044-58, dated 23 October 2000

"Subject: Geotechnical Investigation, Reference: Residential Structure, Race Horse Lane (APN 041-301-42), Watsonville, Santa Cruz County, California" by Haro, Kasunich And Associates, Inc., Project No. SC7250, dated 13 Novemeber 2000.

An electronic copy of "Topographic Map Of Lands Of John G. Sperling et al., For Apollo Development Corp." by Towill, Inc, Job No. 7053, dated 23 May 1984, 2 sheets.

SCOPE OF INVESTIGATION

Work performed during this study included:

1. A review of geologic literature pertinent to the subject property.
2. Examination and interpretation of eight sets of vertical stereo aerial photographs
3. Geologic mapping of the property.

Environmental Review Inital Study
ATTACHMENT 7 5 of 25
APPLICATION 04-0012

EXHIBIT D

4. Review of small diameter boring data and quantitative slope stability analysis for a different site, northeast **of** our study area, in the Haro, Kasunich and Associates report.

5. Final analysis and interpretation of the data and preparation of this report.

SITE GEOLOGIC SETTING

Plate 1 depicts relevant topographic and geologic information for the portion of the property investigated. See also the Local Geologic Map (Figure 2) for information of a more general nature.

Topography

The southeastern corner of the property is occupied a gently sloping, broad-crested ridge descending southwest into a west-southwest trending valley (Plate 1 and Figure 1). The ridge is flanked by a steep-sided gully to the west, and a moderately steep swale to the east. Northeast of the proposed home site, the crest of the ridge steepens considerably and changes to a southerly direction (Plate 1). The area northeast of the currently proposed home site has been studied in the past by Rogers Johnson & Associates and Haro, Kasunich and Associates. The total vertical drop from the top of the gently sloping ridge to the valley floor is approximately 40 feet.

Drainage

Natural surface drainage across the broad-crested ridge is via sheet flow, ranging from the west into the gully, to the southwest to southeast into the valley below (Plate 1j. Some of the rainfall on the property probably infiltrates into the ground and enters the ground water regime. We did not observe any evidence of seeps or shallow groundwater in the immediate vicinity of the area studied for this project, including observation of backhoe test pits excavated by our firm in the fall of 2002 as part of a separate scope of work for a septic feasibility investigation. No groundwater was encountered by Haro, Kasunich and Associates in any of the shallow exploratory borings advanced on the ridge, above and northeast of our study area on 14 September 2000.

Ultimately, all the surface water on the portion of the property being considered for development flows into the valley, and the seasonal groundwater table in the valley may be just slightly below the level of the valley floor during select rainy winter seasons.

Earth **Materials**

Dupre and Tinsley (1980) show the site as being underlain by Quaternary fluvial deposits belonging to the Aromas Sand (Figure 2). The Aromas Sand is at least 60 feet thick in the study area, since the roughly flat-lying formation outcrops continuously across the original subdivision to its extreme western boundary, approximately 60 feet lower than the study area. The fluvial deposits subdivision of the Aromas Sand is characterized by Dupré and Tinsley (1980) as being

comprised of "semiconsolidated, moderately to poorly sorted silty clay, silt, sand, and gravel deposited by meandering and braided streams as well as alluvial fans. Includes beds of relatively well sorted gravel ranging from *3* to *30* m thick that are locally important as aquifers in the region. Locally includes buried soils high in expansive clays, which act as aquicludes." These descriptions are consistent with the earth materials encountered by our firm in the backhoe test pits excavated for the septic feasibility investigation, and in the small diameter exploratory borings advanced by Haro, Kasunich and Associates northeast of the currently proposed home site. The predominant sediment encountered in the site specific work is a medium grained sand containing varying amounts of silt and clay, and some gravel (pebbles). It is likely that the sand is interbedded and interfingered with beds of clay, silt, sand and gravel deposits elsewhere on the property and the subdivision.

A veneer of colluvium and pedogenic soil, as thick as several feet, was observed in the backhoe test pits. The colluvium is an incoherent mass of soil: composed of loose, mixed, sand and silt, deposited by slow downslope creep, mantling the Aromas Sand on the flanks of the ridge. The pedogenic soil is composed of layers of silty sand and clayey sand, and is present across the gently sloping portions of the broad ridge crest. The precise distribution and location of the colluvium and pedogenic soil is not shown on the maps or cross sections, due to the thinness of the units, and the prohibitive scale of the maps and cross sections. In any event, the presence of these units does not appear to present any geologic hazards to the proposed development.

GEOLOGIC HAZARDS

The potential geologic hazards that could affect the proposed home site 1) intense seismic shaking and 2) erosion. The following sections address these hazards.

We attempted to designate a geologically suitable building envelope for the residence that would be subject to low hazard levels due to landsliding and liquefaction. Our building envelope is setback 40 *to* 50 feet from the toe of the steep gully flanking the ridge to the west, and 35 to 50 feet from the toe of the steeper slope northeast of the study area (Plate 1). The setback from the gully conservatively assumes that the side slope gradient of the six to twelve feet deep gully will never be gentler than 2:1 (horizontal to vertical). Our setback from the toe of the steeper slope to the northeast is somewhat arbitrary in light of the fact that we observed no evidence that the slope above the study area has failed in the past tens of thousands of years. The building envelope for the residence is underlain entirely by Aromas Sand, hence avoiding the potential liquefaction hazard presented by the alluvium underlying the valley floor to the south.

We attempted to designate a geologically suitable building envelope for the septic system leach fields that would be subject to low hazard levels due to landsliding and liquefaction, and would also conform to the County of Santa Cruz Environmental Health ordinance for standard septic systems (Plate 1). Similar to the residential building envelope, the septic system leach field building envelope is setback 40 to *50* feet from the toe of the steep gully flanking the ridge to the west, and *35* to 50 feet from the toe of the steeper slope northeast of the study area (Plate 1). Additionally, the southern boundary of the septic system leach field envelope follows the *300*

foot contour on the topographic base map, to ensure adequate separation of the septic system from any seasonal ground water in the valley. The southern setback was essentially decided upon in the field during discussions with an inspector from the County of Santa Cruz Environmental Health, in order to preclude the requirement for winter water table testing for the septic system in the study area. Similar to the residential building envelope, the septic system leach field building envelope is underlain entirely by Aromas Sand, hence avoiding the potential liquefaction hazard presented by the alluvium underlying the valley floor to the south.

Seismic Shaking Hazard

Seismic shaking at the subject site will be intense during the next major earthquake along one of the local fault systems. Modified Mercalli Intensities (see Table 1) of up to VIII are possible at the site, based on the intensities reported by Lawson et al. (1908) for the 1906 earthquake and by Stover et al. (1990) for the 1989 Loma Prieta earthquake. It is important that recommendations regarding seismic shaking he used in the design for the proposed development.

Deterministic ***Seismic Shaking Analysis***

For the purpose of evaluating deterministic peak ground accelerations for the site, we have considered two seismic sources: the San Andreas and the Zayante faults. While other faults or fault zones in this region may be active, their potential contribution to deterministic seismic hazards at the site is overshadowed by these two faults.

Table 2 shows the moment magnitude of characteristic or maximum earthquakes, estimated recurrence interval and the distance from the site for each of these fault systems. We took the fault data from "Database of potential sources for earthquakes larger than magnitude 6 in Northern California" (Working Group On Northern California Earthquake Probabilities [WGONCEP], 1996) and Petersen et al. (1996). Also shown on Table 2 are calculated on-site accelerations from the listed earthquakes derived using several different methods. These accelerations are based on attenuation relationships derived from the analysis of historical earthquakes. Because the historical data can he interpreted in different ways, there are a number of different attenuation relationships available. We have employed two fairly conservative attenuation relationships for rock/shallow soil sites in deriving the acceleration values listed in Table 2. As can be seen in the table, the results from these attenuation curves are somewhat similar.

The "maximum considered earthquake ground motion," as defined by FEMA (1998), is also listed in Table 2. FEMA (1998) and the National Earthquake Hazards Reduction Program suggest that in regions of high seismicity, such as coastai California, the appropriate design level for ground shaking is the deterministically derived mean peak horizontal ground acceleration multiplied by 1.5. Applying this method to the subject property results in ground shaking parameters roughly equivalent to the deterministically derived mean values plus one dispersion.

TABLE 1
Modified Mercalli Intensity Scale

The modified Mercalli scale measures the intensity of ground shaking as determined from observations of an earthquake's effect on people, structures, and the Earth's surface. Richter magnitude is not reflected. This scale assigns to an earthquake event a Roman numeral from I to XII as follows:

I	Not felt by people, except rarely under especially favorable circumstances.
II	Felt indoors only by persons at rest, especially on upper floors. Some hanging objects may swing.
III	Felt indoors by several. Hanging objects may swing slightly. Vibration like passing of light trucks. Duration estimated. Ma? not be recognized as an earthquake.
IV	Felt indoors by many, outdoors by few Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt **like** a heavy ball striking the walls. Standing automobiles rock. Windows, dishes, doors rattle. Wooden walls and frame may creak.
V	Felt indoors and outdoors by nearly everyone; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset; some dishes and glassware broken. Doors swing; shutters, pictures move. Pendulum clocks stop. start, change rate. Swaying of tall trees and poles sometimes noticed.
VI	Felt by all. Damage slight. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes; glassware broken. Knickknacks and books fall off shelves; pictures off walls. Furniture moved or overturned. Weak plaster
VII	Difficult to stand. Damage negligible in buildings of good design and construction, slight to moderate in well-built
VIII	
IX	General panic. Damage considerable in specially designed structures; great in substantial buildings, with some collapse. General damage to foundations; frame structures, if not bolted, shifted off foundations and thrown out of plumb. serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground; liquefaction.
X	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes. embankments. Landslides on river banks and steep slopes considerable. Water splashed onto banks of canals, rivers, lakes. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.
XI	Few, if any masonry structures remain standing. Bridges destroyed. Broad fissures in ground; earth slumps and landslides widespread. Underground pipelines completely out of service. Rails bent greatly.
XII	Damage nearly total. Waves seen on ground surfaces. Large rock masses displaced. Lines of sight and level distorted. Objects thrown upward into the air.

Environmental Review Initial Study
ATTACHMENT 7 9 of 25
APPLICATION 04-0012

EXHIBIT D

TABLE 2
Faults. Earthquakes and Deterministic Seismic Shaking Data

Fault	Moment Magnitude or Maximum Earthquake (M_w)	Estimated Interval (years)	Distance from Site (km)	Estimated Mean Peak Ground Acceleration (g)	Estimated Mean + One Dispersion Ground Acceleration (g)	Maximum Considered Earthquake Ground Motion[3] (g)
San Andreas (1906 rupture)	1.9	210	9%	0.49[1] 0.48[2]	0.75[1] 0.71[2]	0.73[1] 0.72[2]
Zayante	6.8	10,000	4	0.61[1] 0.54[2]	0.96[1] 0.84[2]	0.91[1] 0.81[2]

[1] Abrahamson and Silva, 1997
[2] Sadigh et al., 1997
[3] FEMA, 1998

If the deterministically derived accelerations are used for engineering analysis on the subject property, we recommend utilizing the attenuation relationship developed by Abrahamson and Silva (1997). Although the different authors arrived at their values using slightly different techniques of analysis, the end results are roughly the same, as may be noted from Table 2. It is important to note that predicting seismic shaking intensity is a field that is dominated heavily by theory: with a paucity of near-field station readings in rock and shallow soil settings. It should also be noted that the accelerations listed in Table 2 are only average values. Therefore, we caution that the listed values are approximations. rather than precise predictions. Actual measured "free-field" accelerations may be larger.

Based on the results listed in Table 2, the expectedearthquake ground motion (mean acceleration) for the subject property will be approximately 0.61g. The maximum earthquake ground motion (mean acceleration plus one dispersion) expected at the subject property will be approximately 0.96g. Both values are based on a M_w 6.8 earthquake centered on the Zayante fault, 4 kilometers northeast of the site.

Naeim and Anderson (1993) found that "effective peak acceleration" (EPA) is more typically about 75 percent of the peak acceleration. Effective peak acceleration is comparable to "repeatable high ground acceleration" (after Ploessel and Slossen, 1973) and is generally considered to represent the large number of lower amplitude peaks on an accelerogram recording. This suggests that the mean peak horizontal ground acceleration of 0.61 g would generate an EPA of approximately 0.46 g, and the mean plus one dispersion peak ground acceleration of 0.96 g would generate an EPA of approximately 0.72 g.

The duration of strong shaking is dependent on magnitude. Dobry et al. (1978) have suggested a relationship between magnitude and duration of "significant" or strong shaking expressed by the formula:

$$\text{Log } D = 0.432\ M - 1.83$$ (where D is the duration and M is the magnitude).

EXHIBIT D

On the basis of the above relationship, the duration of strong shaking associated with a magnitude 6.8 earthquake (the maximum earthquake for the Zayante fault) is estimated to be about 13 seconds. In contrast, the duration of strong shaking associated with a magnitude 7.9 earthquake (the characteristic earthquake for the San Andreas fault) is estimated to be about 38 seconds. Considering the recurrence intervals of the San Andreas and Zayante faults, the proposed residence is much more likely to experience the characteristic event on the San Andreas, with slightly lower peak accelerations than the design earthquake on the Zayante but lasting three times as long (see Table **2).** Bear in mind that the duration of strong seismic shaking may be even more critical as a design parameter than the peak acceleration itself.

Erosion

Severe erosion is common within the Aromas Sand throughout this region, particularly where the natural drainage is modified by the works of man and not properly controlled. Once the upper surface of the weathered earth materials is breached by a rill or a gully, erosion proceeds at an accelerated rate, and the rills and gullies deepen and migrate headward (up slope).

The swale west of the ridge contains an example of a developing 6 to 12 foot deep gully. The genesis of the gully is currently unknown, but it is clear that the gully is continuing to actively form, incise and migrate headward. The walls of the gully are too steep for the exposed earth materials, and are actively "laying back" to achieve a smaller slope gradient through erosion and minor sloughing. We have taken this process into account by setting back the western edge of the building envelope 40 to 50 feet from the western edge of the gully bottom. This presumes that the side walls of the gully will never lay back to a gradient steeper than 2:1 (horizontal to vertical), and the gully won't incise any deeper than 20 to *25* feet within the lifetime of the residence.

We didn't observe evidence of erosion in the advanced stages in the other drainages abutting the ridge. Nonetheless, it is important that drainage controls are adequately designed and constructed for any proposed development on the property, since the earth materials exposed at ground surface on the property are predisposed to erosion.

Environmental Review Inital Study
ATTACHMENT 7 11 of 6
APPLICATION 04-0012

CONCLUSIONS

Based on the information gathered and analyzed, it is our opinion that a residence located within our "Geologically Suitable Building Envelope For Residence", shown on Plate 1, will be geologically suitable, provided our recommendations are followed. Residential development within our designated building envelope on the subject property will be subject to "ordinary risks" as defined in Appendix B. Please note that development need not be restricted to the areas prescribed by this report, provided that all the geologic hazards are adequately mitigated and we are accorded the privilege of reviewing any new geotechnical engineering reports, civil engineering plans, and sewage disposal plans. Appendix B should be reviewed in detail by the developer and all property owners to determine uhether an "ordinary" risk as defined in the

EXHIB

appendix is acceptable. If this level of risk is unacceptable to the developer and the property owners, then the geologic hazards in question should be mitigated to reduce the corresponding risks to an acceptable level.

The property is located in an area of high seismic activity and will be subject to strong seismic shaking in the future. Modified Mercalli Intensities of VIII are possible. The controlling seismogenic source for the subject property is the Zayaiite fault, about 4 kilometers to the northeast. The design earthquake on this fault should be a M_w 6.8. Expected duration of strong shaking for this event is about 13 seconds. Although it yields slightly lower seismic shaking values, the expected duration of strong shaking for a M_w 7.9 earthquake on the San Andreas fault is about 38 seconds. Deterministic analysis for the site yields a mean peak ground acceleration of 0.61 g and a mean peak ground acceleration plus one dispersion of 0.96 g. The mean peak horizontal ground acceleration of 0.61 g would generate an effective peak analysis (EPA) of approximately 0.36 g, and the mean plus one dispersion peak ground acceleration of 0.91g would generate an EPA of approximately 0.72 g. The above values reflect analysis of the San Andreas and Zayante faults?with the highest values being assigned to the Zayante fault. The most recent slip rate and earthquake magnitude data were taken from the 1996 Working Group on Northern California Earthquake Potential (WGONCEP, 1996) and Petersen et al. (1996).

The 6 to 12 foot deep gully west of the ridge is good example of the style of erosion that common with the Aromas Sand throughout this region. Although the genesis of the gully is unknown at this stage, we have noted that new rills and gullies can form, or iiicision and width of existing gullies can increase particularly quickly when the natural drainage is modified by the works of man and not properly controlled. It is important that any development related surface drainage be carefully controlled to prevent erosion from occurring on the property. Note that the existing erosion hazards on the property would not imperil any development constructed within our designated building envelope, and may be more appropriately characterized as a geologic nuisance at this stage.

Environmental Review Inital Stud
ATTACHMENT 7 12 of
APPLICATION 04-0017

RECOMMENDATIONS

1. The project engineers may also want to consider our deterministic analysis for the site yielding an effective peak acceleration of 0.46 g, a mean peak ground acceleration of 0.61 g and a mean peak ground acceleration plus one dispersion of 0.96 g. We recoinmend that the project engineers use the data generated by the method that is most appropriate for the intended design.

2. We recommend that all drainage from improved surfaces such as walkways, patios, roofs and driveways be collected in impermeable gutters or pipes and carried to a drainage system or natural drainage course. However, no water generated or collected for the development should be discharged or allowed to flow into the existing gully west of **our** designated building envelope. At no time should any concentrated discharge be allowed to spill directly onto the ground adjacent to the proposed developments. Any water landing on paved areas should not be allowed to flow toward the proposed

developments. **At** no time should concentrated runoff be allowed to spill onto steep slopes or to pond above steep slopes. Where development map interrupt natural drainage channels; a drainage scheme should be instituted to redirect runoff into natural drainages, other than the existing gully west of the building site. The control of runoff is essential for erosion control and prevention of ponding water against the foundation.

Control of runoff water is the single **most** important thing developers and homeowners can do to reduce the potential for erosion. Avoiding the disposal of surface water runoff into the existing **gully** may significantly slow the continued incision **and** development of the gully.

3. We request the privilege of reviewing any additional geotechnical reports on the site and all new civil engineering and architectural plans pertaining to the proposed development.

INVESTIGATION LIMITATIONS

1. The conclusions and recommendations noted in this report are based on probability and in no way imply the site will not possibly be subjected to ground failure or seismic shaking so intense that structures will be severely damaged or destroyed. The report does suggest that building structures at the subject site, in compliance with the recommendations noted in this report, is an "ordinary" risk as defined in Appendix B.

2. This report is issued with the understanding that it is the duty and responsibility of the owner or his representative or agent to ensure that the recommendations contained in this report are brought to the attention of the architect and engineer for the project, incorporated into the plans and specifications: and that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. If any unexpected variations in soil conditions or if any undesirable conditions are encountered during construction or if the proposed construction will differ from that planned at the present time. Nolan, Zinn and Associates should be notified so that supplemental recommendations can be given.

Environmental Review Inital Study
ATTACHMENT 7 13 of 2
APPLICATION 04-0012

EXHIBIT D

REFERENCES

Aerial Photographs

DATE FLOWN	FLIGHT LINE	PHOTO NUMBERS	PRINTS
1935	3300	84-86	Black & white
5/14/48	CDF5-3	57-59	Black & white
5/18/68	GS-VBZK	236-238	Black & white
10/14/75	SCZCO 1	126-128	Black & white
4/12/80	179	160 & 161	Black & white
1/07/82	JSC 12 JSC 13	4 & 5 6 & 7	Black & white
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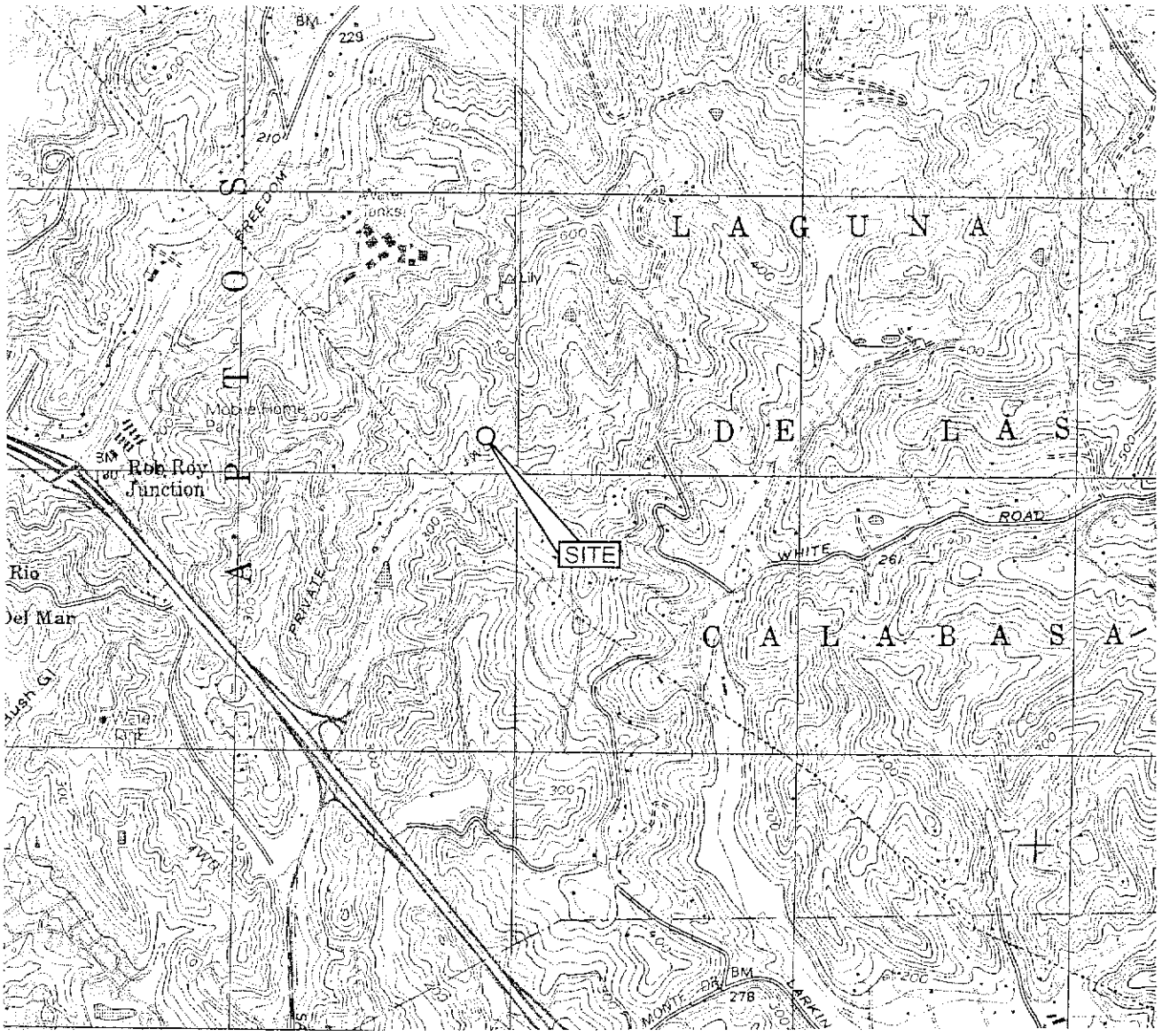
Environmental Revlew Inital Study
ATTACHMENT 7 15 of 25
APPLICATION 04-0012

EXHIBIT D

APPENDIX A

FIGURES



N

0 feet 2000

Base Map: Watsonville West, California **U.S.** Geological Survey 7.5' quadrangle, 1995, scale: 1"=2000'

Environmental Review Inital Study
ATTACHMENT 7, 17 of 25
APPLICATION 04-0012

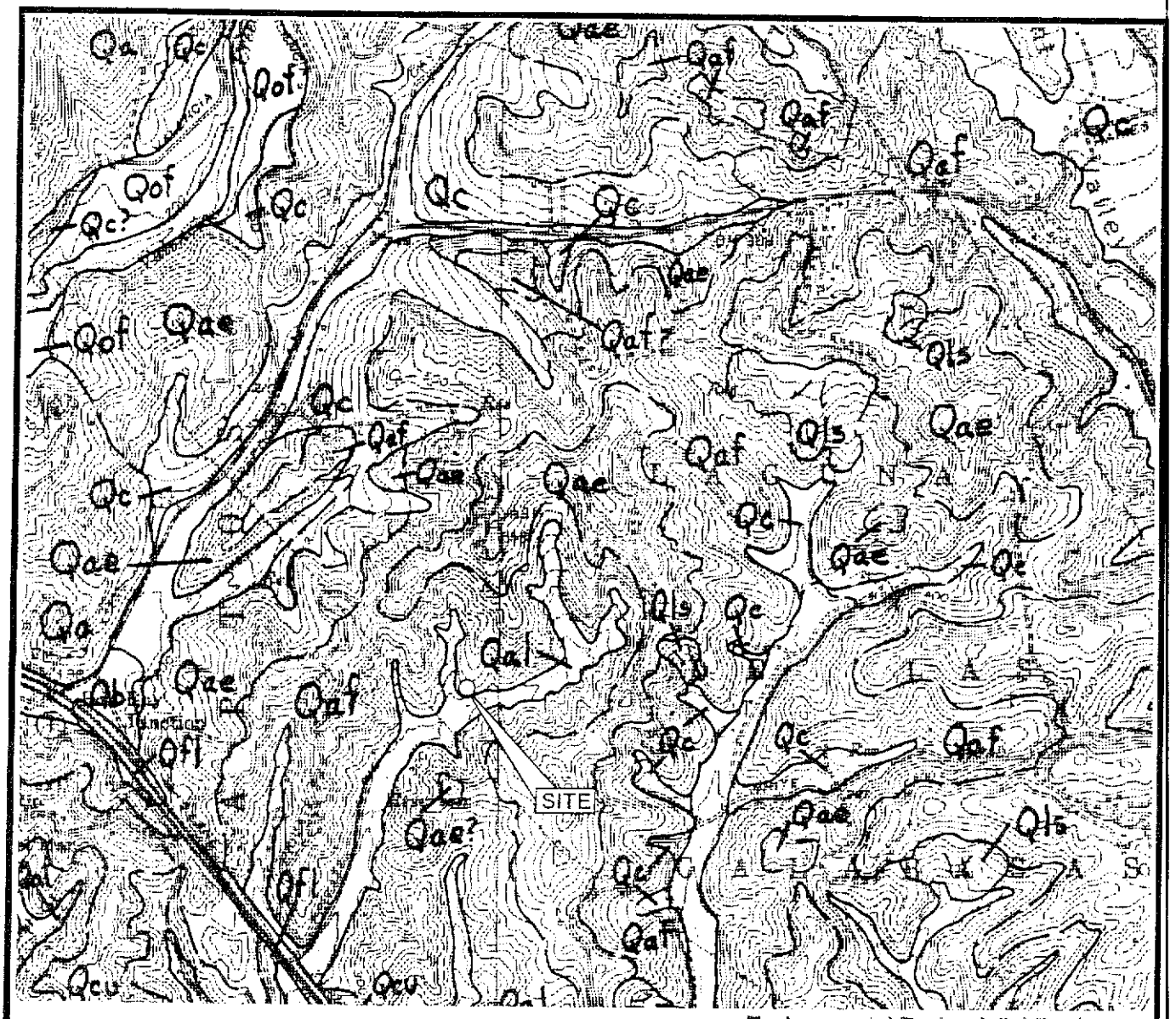
• Engineering Geology
• Coastal Geology
• Hydrogeology

Nolan, Zinn, and Associates

Topographic Index Map
Lands Of Crocker
Race Horse Lane
Aptos, California

FIGURE # 1
JOB # 02053-SC

EXHIBIT D



Environmental Review Inital Study
ATTACHMENT 7, 18 of 25
APPLICATION 04-0012

EXPLANATION

Qb	Basin deposits
Qal	Alluvial deposits
Qc	Colluvium
Qls	Landslide deposits
Qa	Aromas Sand
Qae	Aromas Sand - Eolia deposits
Qaf	Aromas Sand - Fluvial deposits
	Earth materials contact

N

0 feet 2000

BASE MAP: MAP SHOWING GEOLOGY AND LIQUEFACTION POTENTIAL OF NORTHERN MONTEREY AND SOUTHERN SANTA CRUZ COUNTIES, CALIFORNIA, Dupre and Tinsley, 1980, Scale: 1:62,500

• Engineering Geology
• Coastal Geology
• Hydrogeology

Nolan, Zinn, and Associates

Local Geologic Map
Lands Of *Crocker*
Race Horse Lane
Aptos, California

FIGURE # 2
JOB # 02053-SC

EXHIBIT D

APPENDIX B

SCALE OF ACCEPTABLE RISKS FROM GEOLOGIC HAZARDS

SCALE OF ACCEPTABLE RISKS FROM SEISMIC GEOLOGIC HAZARDS

Risk Level	Structure Types	Extra Project Cost Probably Required to Reduce Risk to an Acceptable Level
Extremely low[1]	Structures whose continued functioning is critical, or whose failure might be catastrophic: nuclear reactors: large dams; power intake systems, plants manufacturing or storing explosives or toxic materials.	No set percentage (whatever is required for maximum attainable safety).
Slightly higher than under "Extremely low" level.[2]	Structures whose use is critically needed after a disaster: important utility centers; hospitals; fire, police and emergency communication facilities; fire station; and critical transportation elements such as bridges and overpasses; also dams.	5 to 25 percent of project cost.[2]
Lowest possible risk to occupants of the structure?	Structures of high occupancy, or whose use after a disaster would be particularly convenient: schools. churches, theaters. large hotels. and other high rise buildings housing large numbers of people, other places normally attracting large concentrations ofpeople, civic buildings such as fire stations, secondary utility structures, extremely large commercial enterprises, most roads. alternative or non-critical bridges and overpasses.	5 to 15 percent of project cost.[4]
An "ordinary" level of risk to occupants of the structure.[3,5]	The vast majority of structures: most commercial and industrial buildings, small hotels and apartment buildings, and single family residences.	1 to 2 percent of project cost, in most cases (2 to 10 percent of project cost in a minority of cases[2].'

1 Failure of a single structure may affect substantial populations

2 These additional percentages are based on the assumptions that the base cost is the total cost of the building or other facility when ready for occupancy. In addition, it is assumed that tie structure would have been designed and built in accordance with current California practice. Moreover, the estimated additional cost presumes that structures in this acceptable risk category are to embody sufficient safety to remain functional following an earthquake.

3 Failure of a single structure would affect primarily only the occupants.

4 These additional percentages are based on the assumption that the base cost is the total cost of the building or facility when ready for occupancy. In addition, it is assumed that rhe structures would have been designed and built in accordance with current California practice. Moreover the estimated additional cost presumes that structures in this acceplabie-risk category are to be sufficiently safe to give reasonable assurance of preventing injury or loss of life during and following an earthquake, but otherwise not necessarily to remain functional.

5 "Ordinary risk": Resist niinor earthquakes without damage: resist moderate earthquakes without structural damage. but with some non-structural damage; resist major earthquakes of the intensity or severity of the strongest experienced in California, without collapse. but with some structural damage as well as non-structural damage. In most structures it is expected that structural damage, even in a major eanhquake, could be limited to repairable damage. (Structural Engineers Association of California)

Source: *Meeting the Earthquake*, Joint Comminee on Seismic Safety of the California Legislature, Jan. 1974, p.9.

Environmental Review Inital Study
ATTACHMENT 7, 20 of 25
APPLICATION 04-0012

EXHIBIT

SCALE OF ACCEPTABLE RISKS FROM NON-SEISMIC GEOLOGIC HAZARDS[6]		
Risk Level	Structure Type	Risk Characteristics
Extremely low risk	Structures whose continued functioning is critical, or whose failure might be catastrophic: nuclear reactors, large dams, power intake systems, plants manufacturing or storing explosives or toxic materials.	1. Failure affects substantial populations, risk nearly equals nearly zero.
Very low risk	Structures whose use is critically needed after a disaster: important utility centers; hospitals; fire, police and emergency communication facilities; firs station; and critical transportation elements such as bridges and overpasses; also dams.	1. Failure affects substantial populations. Risk slightly higher than 1 above.
Low risk	Structures of high occupancy, or whose use after a disaster would be particularly convenient: schools, churches, theaters, large hotels, and other high rise buildings housing large numbers ofpeople, other places normally attracting large concentrations ofpeople, civic buildings such as fire stations. secondary utility structures, extremely large commercial enterprises, most roads. alternative or non-critical bridges and overpasses.	1. Failure of a single structure would affect primarily only the occupants.
"Ordinary" risk	The vast majority of structures: most commercial and industrial buildings. small hotels and apartment buildings, and single family residences.	1. Failure only affects owners /occupants of a structure rather than a substantial population. 2. No significant potenrial for loss of life or serious physical injury. 3. Risk level is similar or comparable to other ordinary risks (including seismic risks) to citizens of coastal California. 4. No collapse of structures; structural damage limited to repairable damage in most cases. This degree of damage is unlikely as a result of storms with a repeat time of 50 years or less.
Moderate risk	Fences, driveways, non-habitable structures, detached retaining walls, sanitary landfills, recreation areas and open space.	1. Structure is not occupied or occupied infrequently. 2. Low probability of physical injury. 3. Moderate probability of collapse.

[6] Non-seismic geologic hazards include flooding. landslides, erosion, wave runup and sinkhole collapse

Environmental Review Inital Study
ATTACHMENT 7, 21 of 25
APPLICATION 04-0012

EXHIBIT D

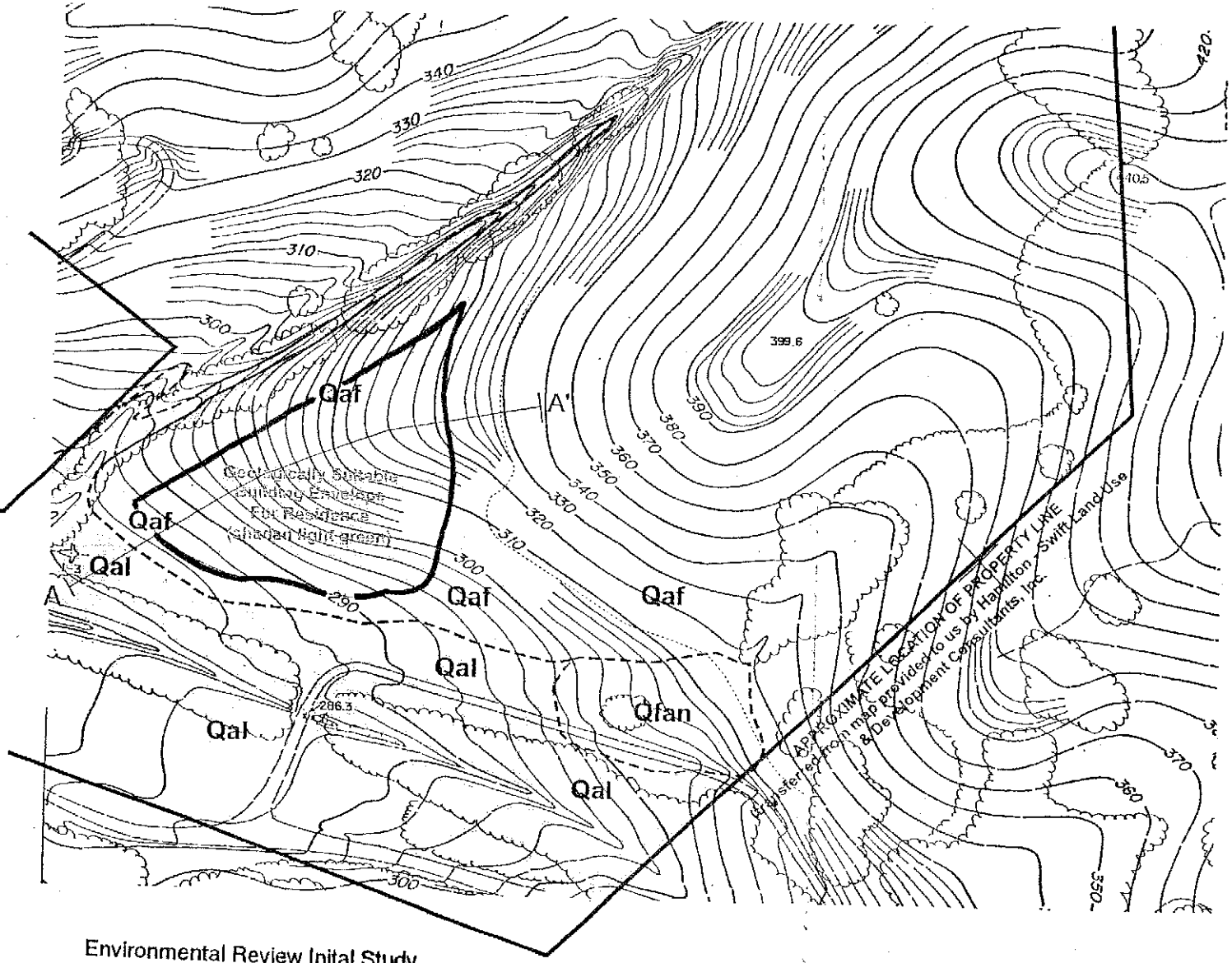
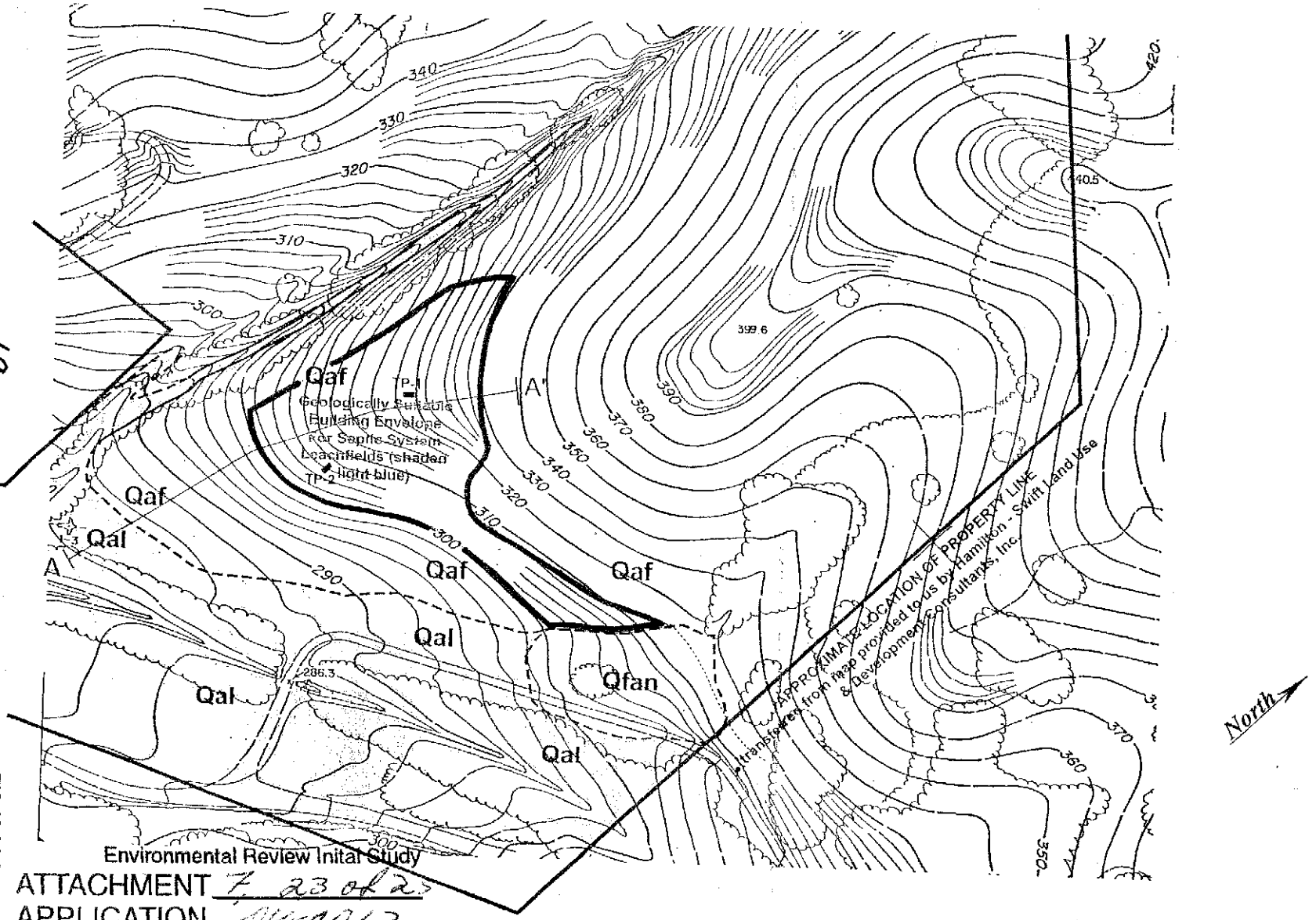


EXHIBIT G

Environmental Review Inital Study
ATTACHMENT 7 22 of 25
APPLICATION



69

EXHIBIT

Environmental Review Inital Study
ATTACHMENT F 23 of 23
APPLICATION 04-0012

EARTH MATERIALS

Qal	Alluvium
Qfan	Alluvial fan
Qaf	Aromas Sand - fluvial deposits

SYMBOLS

Earth materials contact - dashed where approximate

TP-1 Backhoe test pit advanced by Nolan, Zinn and Associates for septic feasiblity investigation

Area of shallow landsliding and erosion along west wall of gully

Toe of steeper slope above area studied

A' Geologic cross section

70

EXHIBIT D

ATTACHMENT 7 to 24 pl. 45
APPLICATION 04-0012
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Environmental Review Initial Stud

Geologic Cross Section A-A'

Environmental Review Inital *Study*
ATTACHMENT 7, 25 of 2
APPLICATION 04-0012

EXHIBIT D

GEOTECHNICAL INVESTIGATION
for
PROPOSED SINGLE FAMILY RESIDENCE
420 Race Horse Lane(APN 041-301-42)
Santa Cruz County, California

Prepared For
Rick Crocker

Prepared By
HARO, KASUNICH AND **ASSOCIATES, INC.**
Geotechnical & Coastal Engineers

Project No. SC8045
May 2003

Project No SC8045
9 May 2003

TABLE OF CONTENTS

LETTER OF TRANSMITTAL

GEOTECHNICAL INVESTIGATION 1
Introduction 1
Purpose and Scope 1
Site Location and Description 2
Field Exploration 2
Laboratory Testing 3
Subsurface Conditions 4
Groundwater 4
Seismicity 5

DISCUSSIONS AND CONCLUSIONS 6

RECOMMENDATIONS 7
Site Grading 7
Conventional Spread Footing Foundations 10
Drilled Pier Foundation 11
Retaining Walls and Lateral Pressures 12
Table 1 -Active and At-Rest Pressures 12
1597 UBC Seismic Design Considerations 13
Slabs-on-Grade 14
Site Drainage 15
Plan Review, Construction Observation, and Testing 16

LIMITATIONS AND UNIFORMITY OF CONDITIONS 18

APPENDIXA 19
Vicinity Map 20
Site Plan 21
Logs of Test Borings 22
Laboratory Test Results 25
Keying and Benching Detail 26

Environmental Review Inital Study
ATTACHMENT 8, 2 of 20
APPLICATION 04-0012

EXHIBIT D

Project No. SC8045
9 May 2003

GEOTECHNICAL INVESTIGATION

Introduction

This report presents the results of our Geotechnical Investigation for the proposed new residential structure to be located at 420 Race Horse Lane (APN 041-301-42) in Santa Cruz County, California. Haro, Kasunich, and Associates has previously completed a geotechnical investigation for a building site located on this parcel in a different location. It is our understanding that the parcel is to be split. .This report is directed at the proposed homesite closest to Race Horse Lane.

Purpose and Scope

The purpose of our investigation was to explore and evaluate the surface and subsurface conditions at the building site and provide geotechnical criteria for design and construction of the proposed residence. The specific scope of our services was as follows:

1 Review the data in our files pertinent to the site. Specifically, our firm reviewed the focused geologic investigation by Nolan, Zinn, and Associates dated 2 January 2003.

2. Explore the subsurface conditions at the site with three (3) continuous flight-augered exploratory borings drilled to depths ranging from 11 ½ to 21 %feet deep.

3. Test selected soil samples to determine their pertinent engineering properties.

Environmental Review Inital Stud
ATTACHMENT 3 of 20
APPLICATION 04-0012

EXHIBIT D

4. Evaluate the field and laboratory data to develop geotechnical design criteria and recommendations for site grading, building foundaticns, retaining walls, slab-on-grade, and site drainage.
5. Present the results of our investigation in a report.

Site Location and Description

The project site is at 420 Race Horse Lane (APN 041-301-42) in an unincorporated area northwest of the city *of* Watsonville in Santa Cruz County, California. A single family residence is proposed.

The parcel is irregular in shape. The geologically feasible building envelope is to be located on a mild slope which drops to the south. West of the building envelope is a steep-sided gully. Northeast of the geologically feasible building envelope is a steep ridgecrest.

The site is currently vegetated with grasses and scattered oak trees

Field Exploration

Subsurface conditions were investigated on *2* April 2003. The approximate location ofthe test borings are indicated on the Boring Site Plan. The borings were advanced using 6-inch diameter continuous flight-auger equipment mounted on a truck.

Environmental Review Inital Study
ATTACHMENT 8 4 of 20
APPLICATION 04-0012

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using the 3.0 inch O.D. Modified California Sampler (L) or the Standard Terzaghi Sampler (T).

The penetration resistance blow counts noted on the boring logs were obtained as the sampler was dynamically driven into the in situ soil. The process was performed by dropping a 140-pound hammer a 30-inch free fall distance and driving the sampler 6 to 18 inches and recording the number of blows for each 6-inch penetration interval. The blows recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches.

The soils encountered in the borings were continuously logged in the field and described in accordance with the Unified Soil Classification System (ASTM D2486). The Logs of the Borings are included in the Appendix of this report. The Boring Logs denote subsurface conditions at the locations and time observed, and it is not warranted that they are representative of subsurface conditions at other locations or times.

Laboratory Testing

The laboratory testing program was directed toward determining pertinent engineering and index soil properties

Environmental Review Inital Study
ATTACHMENT 4 5 of 12
APPLICATION 04-0017

76

EXHIBIT 1

A sieve analysis was performed to further classify the soil.

The strength parameters of the underlying earth materials were determined from field test values derived from standard penetration blow count measurements of the in situ soil.

The results ofthe field and laboratory testing appear on the "Logs of Test Boring" opposite the sample tested or in their respective graphs attached as part of the appendix *of* this report.

Subsurface Conditions

The native earth materials within the geologically suitable (B-1 and B-3) building envelope consist of medium dense silty sand within the maximum depth explored of 21 ½ feet. Boring B-2 was drilled west of the geologically suitable and encountered loose sand in the upper 6 to 10 feet. Medium dense sand was encountered below this depth.

Groundwater

Grcundwaterwas only encountered in boring B-2 at a depth of 6 feet. It can be anticipated that groundwater conditions may fluctuate based on seasonal factors and other conditions not readily apparent,

Environmental Review Inital Study
ATTACHMENT 5
APPLICATION 04-0012

EXHIBIT D

Seismicity

The Nolan, Zinn', and Associates focused geologic investigation dated 2 January 2003 should be referred to for seismic data.

EXHIBIT I

DISCUSSIONS AND CONCLUSIONS

Based on the results of our investigation, the proposed development, from a geotechnical standpoint, is feasible. The recommendations presented in this report are to be incorporated into the design and construction of the proposed development.

Foundation elements located within 75 feet (and within the geologically feasible building envelope) of the western gulley should be supported by drilled piers. All other foundation elements may be supported by shallow foundations on native in-situ soil or engineered fill.

RECOMMENDATIONS

The following recommendations should be used as guidelines for preparing project plans and specifications:

Site Grading

1. We request the opportunity to review project grading and foundation plans during the design phase of the project. We can then provide our opinion regarding geotechnical considerations.

2. Observation and testing services for earthwork performed at the project site should be provided by Haro, Kasunich and Associates. The observation and testing of earthwork allows for contractors compliance evaluation to project plans and specifications and our geotechnical recommendations, It also allows us the opportunity to confirm that actual soil conditions encountered during construction are essentially the same as those anticipated based on the subsurface exploration.

3. The geotechnical engineer should be notified at ***least*** **four (4) workinu davs** prior to any site clearing or grading so that the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The

SO

recommendations of this report are based on the assumption that the geotechnical engineerwill performthe required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

4. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557-91.

5. Areas to be graded or to receive building foundations should be cleared of obstructions including **loose** fill, debris, foundations, trees not designated to remain and their principal roots, or other unsuitable material. Existing depressions or voids created during site clearing should be backfilled with engineered fill.

6. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness, moisture conditioned, and compacted to a minimum of 90 percent relative compaction. The upper8 inches should be compacted to a minimum of 95 percent relative compaction. Engineered fill placed on slopes greaterthan 20 percent should be keyed and benched into the hillside. A typical keying and benching detail is provided in the appendix.

7. Areas to receive engineered fill should be scarified, moisture conditioned, and cornpacted to a relative density of 90 percent

Environmental Review Inital Study
ATTACHMENT 3 10 of 20
APPLICATION 04-0012

EXHIBIT D

8. The on-site material may be reused as engineered fill once the majority of organics and other deleterious material is removed

9. Any imported fill should meet the following criteria:

   a. Be free of wood, brush, roots, grass, debris and other deleterious materials.

   b. Not contain rocks or clods greater than 2.5 inches in diameter.

   c. Not more than 20 percent passing the #200 sieve.

   d. Have a plasticity index less than 15.

   e. Be approved by the geotechnical engineer. Submit to the geotechnical engineer samples of import material or utility trench backfill for compliance testing a minimum of 4 days before it is delivered to the job site.

10. After the earthwork operations have been completed and the geotechnical engineer has finished his observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the geotechnical engineer.

11. All cut and fill slopes should be planted with erosion resistant material after construction.

Environmental Review Inital Study
ATTACHMENT 4. 11 of 21
APPLICATION 04-0012

82

EXHIBIT D

Conventional Spread Footing Foundations

Foundation elements located 75 feet or further from the western gulley may be supported by shallow foundations.

12. The proposed structure may be supported on conventional spread footings founded on medium dense in-situ soil or engineered fill as outlined in the grading section of this report. Footing dimensions should be determined in accordance with anticipated use and applicable design standards, but should be a minimum of 15 inches wide and be embedded a minimum of 12 inches for one-story structures and 18 inches for two-story structures. The base of the footings should be located a minimum of 8 feet from daylight measured horizontally. The footings should be reinforced as required by the structural designer based on the actual loads transmitted io the foundation.

13. Foundations designed in accordance with the above may be designed for an allowable soil bearing pressure of 2,500 psf for dead plus live loads. This value may be increased by one-third to include short-term seismic and wind loads.

14. Lateral load resistance for the buildings supported on footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.35 is considered applicable. Passive resistance of 250 pcf may be used below a depth of 12 inches.

Environmental Review Inital Study
ATTACHMENT 4, 12 of 15
APPLICATION 04-0012

Drilled **Pier** Foundation

Foundation elements located within 75 feet (and within the geologically feasible building envelope) of the western erosion gulley should be supported by drilled piers

15. Drilled piers should be a minimum of 16 inches in diameter. The drilled piers should be a minimum of 12 feet deep. The piers may be designed for an allowable end bearing of 4,000 psf and an allowable skin friction of 300 psf below a depth of 10 feet. The upper 10 feet should be neglected when calculating skin friction.

16. For passive lateral resistance, an equivalent fluid pressure of 250 psf may be assumed to act against 1½ pierdiameters. For design purposes, the upper 5 feet should be ignored for passive resistance.

17. As *a* minimum, the piers should be vertically reinforced the full length with at least two Number 4 bars. The vertical reinforcement should be tied to the upper grade beam reinforcement. Actual reinforcement requirements should be determined by the structural designer.

18. Prior to placing concrete, all foundation excavations should be thoroughly cleaned. It is anticipated that groundwater will be encountered. Excavations will need to be fully cased or stabilized with drilling fluid. All drilled piers should be poured immediately after

84

EXHIBIT D

excavation. The foundation excavations must be observed by the geotechnical engineer or his representative prior to placing concrete.

Retaining Walls and Lateral **Pressures**

19. Retaining walls should be designed to resist the lateral earth pressures listed in Table 1. The values listed in Table 1 are for non-seismic conditions and are based on the assumption that walls will be adequately drained.

Table 1 - Active **and** At-Rest Pressures

Backslope Gradient	Active Pressure (pcf)	At-Rest Pressure (pcf)
Level	35	55
2:1	45	65

20. Active pressures should be used for walls where horizontal movement at the top of the wall is not restricted. At-rest pressures should be used to design walls with movement restrained at the top, such as basement walls and walls structurally connected at the top. The walls should also be designed to resist one half of any surcharge loads imposed on the backfill behind the walls. The designer should account for the surcharge loading created during backfill operations.

21. To account for seismic loading, a horizontal line load surcharge equal to $10H^2$ lbs/horizontal foot of wall may be assumed to act at 0.6H above the heel of the wall base (where H is the height of the wall.)

22. The above lateral pressures assume the walls are fully drained to prevent hydrostatic pressure behind the walls. Drainage materials behind the wall should consist of Class 1, Type A permeable material complying with Section 68 of CalTrans Standard Specifications, latest edition, or 3/4 inch permeabie drainrock wrapped in Mirafi 140 N or equivalent. The drainage material should be at least 12 inches thick. The drains should extend from the base of the walls to within 12 inches of the top of the backfill. A perforated pipe should be placed (holes down) about 4 inches above the bottom of the wall and discharge at a suitable location. Wall backdrains should be plugged at the surface with clayey material to prevent infiltration *of* surface runoff into the backdrains.

1997 UBC Seismic Design Considerations

For purposes of design of structural features for the proposed project seismic coefficients may be used based on a soil profile Sd as described in Table 16-J of the 1997 UBC. The coefficients should be based on the 1997 UBC and the San Andreas Fault (Type A at a distance of 9 ½ kilometers) and/or the Zayante-Vergales Fault (Type B at a distance of 4kilometers) being the controlling fault.

Environmental Review Inital Study
ATTACHMENT 4, 15 of 2
APPLICATION 04-0012

EXHIBIT

Slabs-on-Grade

23. Concrete slabs-on-grade planned for the site should be constructed on medium dense in-situ soil or engineered fill as outlined in the grading section of this report. Prior to construction of the slab, the subgrade surface should be proof-rolled to provide a smooth, firm, uniform surface for slab support. Slab reinforcement should be provided in accordance with the anticipated use and loading of the slab. As a minimum, we recommend the use of number 4 bars placed within the slab at 18 inches on center. Slab joints should be spaced no more than 15 feet on center to minimize random cracking. While some movement of slabs is likely, a well-prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints, and good workmanship should minimize cracking and movement.

24. in areas where floor wetness would be undesirable, a blanket of **4** inches of free-draining gravel should be placed beneath the floor slab to act as a capillary break. In order to minimize vapor transmission, an impermeable membrane should be placed over the gravel. The membrane should be covered with 2 inches of sand or rounded gravel to protect it during construction. The sand or gravel should be lightly moistened just prior to placing the concrete to aid in curing the concrete. If moisture **is** expected a surface treatment or moisture retardant should be added to the concrete.

87

EXHIBIT i

Site **Drainage**

25. Proper control of drainage will be essential to the project because of the potentially highly erodible soil. No collected surface water should be directed towards or into the western erosion gulley.

26. Where exterior walls are anticipated to be constructed below final grade elevations, the interception of subsurface seepage will be important. The interception of subsurface seepage should be planned in accordance with the recommendations for retaining wall backdrains outlined within the retaining wall section of this report. Backdrains for exterior walls should extend to depths below the bottom of foundation elements, and discharge water at a suitable location.

27. Runoff must not be allowed *to* sheet over graded slopes. Where uncontrolled runoff flows over the slopes or concentrated runoff is directed onto slopes, the potential for erosion or shallow debris flows is greatly increased. Asphalt or earthen berms, or lined V-ditches should be planned, as determined by the project Civil Engineer, to adequately control surface runoff.

28. Surface drainage should include positive gradients so that surface runoff is not permitted to pond adjacent to foundations, slabs or retaining walls. Surface drainage should be directed away from building foundations. The slope from the foundation

elements should be 2 percent, Overall runoff must be intercepted and diverted awayfrom planned structures and released into either natural drainage courses or energy dissipators.

29. Full roof gutters and downspouts should be placed around eaves. Discharge from the roof gutters should **be** conveyed away from the building site in closed plastic conduit and dispersed into either natural drainage features *or* energy dissipators

30. The migration of water or spread of extensive root systems below foundations, slabs, or pavements may cause undesirable differential movements and subsequent damage to these structures. Landscaping should be planned accordingly.

Plan **Review,** Construction Observation, and Testing

31. Our firm must be provided the opportunity for a general review of the final project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. The recommendations presented in this report require our review of final plans and specifications prior to construction and

Environmental **Review** Inital ***Study***
ATTACHMENT 5 4 of 2
APPLICATION 04-0012

EXHIBIT D

upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

EXHIBIT D

Project No. SC8045
9 May 2003

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recornmendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a geotechnical engineer.

Environmental Review Inital Study
ATTACHMENT 5, 20 & 2C
APPLICATION 04-0012

EXHIBIT D

COUNTY OF SANTA CRUZ

PLANNING **DEPARTMENT**

701 **OCEAN** STREET, ROOM 400, SANTA CRUZ, CA 95060
(831)454-2580 FAX: (831)454-2131 TDD: (831) 454-2123
TOM BURNS, DIRECTOR

June 14,2004

John Swift for Richard and Elizabeth Crocker
1509 Seabright Avenue Suite A1
Santa Cruz, CA 95060

APN: 041-301-42
Situs: 420 Racehorse Lane, Watsonville
App #: 04-0012

Dear John:

Introduction:

The review of your biotic report ("Crocker Property Residential Development Biotic Report", Biotic Resources Group, August 21, 2003) has been completed. A copy of the review letter from our consultant is attached for your reference. The letter explains that the report has been accepted as adequate, even though the reviewer noted wetland resources on the property that were not identified in the report. The property includes riparian woodland and upland habitat suitable for California Red Legged frogs and Santa Cruz Long Toed salamanders. No special status species were identified on the site during surveys.

It is important to note that the biotic report was Limited to the area of the building site and driveway on proposed Parcel 1 of the Minor Land Division and that the entire property was not surveyed. Areas not surveyed may host sensitive plants and animals.

Conditions Regarding Biotic Resources:

As long as disturbance is confined to the proposed building site and driveway as shown on the tentative map, Ifland Engineers, dated 6-2-03, and subject to the following conditions, significant impacts to sensitive habitat and special status animals are not expected.

In order to comply with the Sensitive Habit Ordinance (Chapter 16.32) and the Santa Cruz County General Plan, the following conditions will be attached to any development on the parcel(s):

1. No development as defined in Chapter 16.32 of the County Code, clearing or modification of vegetation is permitted outside the proposed building site and driveway as shown on the tentative map, Ifland Engineers, dated 6-2-03, including that which does not require a building permit, without additional focused surveys for special status plants

Environmental Review Inital Study
ATTACHMENT 9 1 of 5
APPLICATION 04-0012

EXHIBIT D

ana wildlife which are reviewed and approved by the Planning Department in advance of the **work.**

2. To mitigate potential loss ofprotected animals a qualified biotic monitor shall observe initial site grading and clearing. If special status species are located the work shall halt and the monitor shall immediately contact the U.S. Fish and Wildlife Service and the California Dept. of Fish and Game. Site plans shall indicate this condition.

3. Grading and site disturbance is limited to the time between June 1 and October 15 or **the** first measurable rainfall if it occurs prior to October 15. Site plans shall indicate this condition.

4. **A** qualified biologist shall conduct pre-site disturbance surveys for Cooper's hawk and other protected raptors within 30 days of the start of grading. If protected birds are nesting in the area the biologist shall designate an appropriate buffer around nests. As an alternative to this survey grading can be limited to the period between August 1 and October 15 or the first measurable rainfall if it occurs prior to October 15.

5. The site plans shall be revised to indicate **an** open type, minimum four foot high fence along the west boundary of the designated building envelope that will allow free access by wildlife but that will prevent accidental incursion into the riparian area. The property owner shall install the fence prior to exercising any approvals and shall maintain it over time.

6. No livestock shall be corralled, boarded, or grazed on any portion of the property without additional focused surveys for special status plants and wildlife, which are reviewed and approved by the Planning Department.

7. Off road vehicle use is prohibited.

8. Applicant shall submit a landscape plan that shows the driveway lined with native **plants.** Landscaping in general shall be with native plants, preferably grown from native stock propagated from on site vegetation. **Oak** trees on the property shall be retained unless there is an imminent safety hazard. A landscape plan shall be reviewed and approved by Environmental Planning staff.

9. An erosion control plan that provides for silt and drainage control and for all bare areas to be revegetated shall be prepared to protect the riparian corridor during construction.

IO. The property may require vegetation management to reduce fire hazard. Such management shall only be conducted as part of a plan that is reviewed and approved by the Planning Department biologist in advance. Consultation with the US Fish and Wildlife Service and California Department of Fish and Game may also be necessary.

11. Prior to the issuance of any discretionary *or* building permits, a Declaration of Restriction acknowledging the above listed conditions, including an exhibit showing that areas outside the building site and driveway are a "no disturbance biotic resource protection area" shall be recorded on the property deed. A copy of the Declaration is attached.

Environmental Review Inital Study
ATTACHMENT 9 2 of 5
APPLICATION RW-2012

EXHIBIT D

Please call me if you have a questions about this letter. A copy will also be sent to the project planner so that the conditions can be properly incorporated into the land division.

Sincerely,

Paia **Levine**
Resource Planner

FOR Ken **Hart**
Principal Planner
Environmental Planning

CC: Randall Adams, Project Planner
Bob Loveland, Resource Planner

Environmental **Review Initial Study**
ATTACHMENT 9, 3 of 5
APPLICATION 04-0012

EXHIBIT D

ECOSYSTEMS WEST
CONSULTING GROUP

May 10.2004

Paia Levine
Planning Department
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Re: Biological Review of tho Biotic Report for the Crocker Property

Dear Paia:

This letter summarizes our review of the "Biotic Report" prepared by Biotic Resource Group dated 21 August 2003 for Rick Crocker entitled "Crocker Property APN 041-30-42 Residential Development Project Biotic Report". The biotic survey and report findings were prepared for construction of a single residential dwelling on an 18.9-acre parcel created as part of a minor land division. The subject Crocker Parcel (APN 041-130-42) is located in the Larkin Valley Area and is accessed via Race Horse Lane northwest of Larkin Valley Road near the San Andreas Road exit from California State Highway 1 in southern Santa Cruz County.

Kathleen Lyons and Dana Bland conducted biological reconnaissance surveys on two days in May and June of 2003. These surveys were confined to a portion of the subject 18.9-acre parcel where the proposed building envelope and access roads and driveways are proposed (approximately 5 acres). During the course of the reconnaissance surveys they conducted habitat characterization for special-status species with potential to occur on or adjacent to the parcels. No protocol-level surveys were conducted for listed species known to occur in the Larkin Valley area.

The surveys performed did not result in the location of any of the special-status plant species listed in Table 1 of the report or special-status wildlife listed in the text. The habitats on the surveyed portion of the property are characterized as willow dominated riparian woodland; non-native grassland; Coyote brush scrub and mixed grassland Willow riparian woodland habitat occurs dong an intermittent stream channel that bisects the subject parcel from north to south entering into San Andreas Creek, an intermittent willow dominated stream corridor on the southeastern edge of the property. This San Andreas Creek parallels both access roads to the property, one on each side, draining this small valley to the southwest. At the time of our site visit in March of 2004 both stream corridors had surface flows. The lower corridor had significant bank full flow while the sloped corridor west of the proposed building site had a narrow meandering surface flow. The rerouted Portion of Race Horse Lane paralleling San Andreas Creek was mapped as non-native grassland by Biotic Resources Group but appeared at the time of our visit to support freshwater wetland grassland habitat. This field had standing, pocketed water with surface flows sheeting from the adjacent slopes

Environmental Review Inital Study
ATTACHMENT 9 4 of 5
APPLICATION 04-0012

8191/2 Pacific Avenue, Suite 4 • Santa Cruz, CA 95060
Phone 831-429-8730 • Fax 831-429-8742

EXHIBIT D

or popping out as springs scattered throughout the grassland. Similarly, the mapped non-native grassland below the building envelope had standing water and wetland iudicators similar to the other location. Natural Resource Conservation maps the soils on this portion of the parcel as Fluvaquentic Haploxerolls-Aquic Xerofluvents complex, 0-15 percent slopes. This soils complex is indicative of wetland habitats and stream corridors. The building envelope is comprised primarily of the mixed grassland habitat and coyote brush scrub habitat. It appeared to be similar to the composition describe in the biotic report. The soils on the upland portions of the parcel are mapped as Elkhorn-Pfeiffer complex, 30 to 50 percent slopes. This soil type typically does not support special-status plant species know to occur in the southern Santa Cruz County area (i.e., Santa Cruz tar plant and Monterey spineflower).

No special-status plants or animals were observed during the course of the reconnaissance level surveys. Plant surveys were conducted at the appropriate phenological period for the potential to occur species listed in Table 1 of the report. In addition, soil *types* indicative of these species (i.e. Watsonville Loam or Baywood Sandy Loam) do *not* occur on the subject parcel. The parcel doe5 occur within the migration range of both the Santa Cruz long-toed salamander and California red-legged frog. The close proximity of stream corridors and wet grasslands offer potential resting refugee for migrating amphibians. Development activities adjacent or within these habitats during wet periods could result in "incidental take" of individuals.

As a result *of* this assessment, the surveyors determined that the proposed project as proposed would result in little or no impacts to special-status species or their habitats, The residential development will be placed primarily within the mixed grassland and coyote brush scrub habitat. It is the opinion of both Ms. Lyons and Ms. Bland that the developments will not likely result in significant impacts to potentially occurring special-status species if their recommendations and mitigation measures outlined in Impacts and Mitigation Sections of their report bc implemenied, particularly if grading is conducted in the dry season. We concur, wid these measures should be implemented as part of the Project. It should also be reconfirmed that no federally listed species may he handled or moved without a permit from the U.S. Fish and Wildlife Service. If a listed species is encountered, all work shall cease immediately and emergency consultation with agency initiated. Also, it should be noted that the biotic assessment did not survey the majority of the parcel. Therefore, no other development should be permitted outside the building envelope and access driveway right-of-way, in particular the placement of barns, corrals, or other appurtenant structures until a complete survey is conducted. No corrals should be permitted within the wet grassland area adjacent to the Race Horse Lane access to the building envelope until wetland delineation is completed.

Should you require further clarification of this review. please don't hesitate to contact me.

Environmental Review Inital Study
ATTACHMENT 1 5 of 5
APPLICATION 04-0012

Sincerely,

Bill Davilla
Principal/Senior Botanist

EXHIBIT D

Biotic Resources Group

Biotic Assessments ◆ Resource Management ◆ Permitting

Croclter Property APN 041-30-42
Residential Development Project

Biotic Report

Prepared for
Rick [rocker

Prepared by:
Biotic Resources Group
Kathleen Lyons. Plant Ecologist

With

Dana Bland & Associates
Dana Bland, Wildlife Biologist

August 21, 2003

Environmental Revlew Inital Study
ATTACHMENT 10, 1 of 15
APPLICATION 04-0012

2551 South Rodeo Gulch Road #I2 ◆ Soquel, Californica 95073 ◆ (831) 476-4803 ◆ Fax (831) 476- 4803

EXHIBIT D

INTRODUCTION

This property (AFN 041-30-42) is located in the Larkin Valley area of Santa Cruz County. The parcel is accessed from Race Horse Lane, a private road off Larkin Valley Road. An existing paved road reaches the parcel: after the paved road crossed San Andreas Creek the road branches east and west as dirt driveways/roads. The Crocker property encompasses approximately 28.9 acres; the parcel is bound by rural residential lands (Figure 1).

The landowner currently has a permit to construct one residential dwelling on the parcel on the upper portion of the property. The landowner is proposing a minor land division into a 18.87-acre parcel (Parcel 1)and a 10.0 acre parcel (Parcel *2)* (Tentative Map Minor Land Division, Eland Engineers, 6/20-03). The existing recorded building envelope is proposed to be contained in Parcel 2; a new building envelope is proposed for Parcel 1. This proposed development area, of approximately 26,800 square feet (0.66 acre), is the focus of the biological evaluation.

The Biotic Resources Group and Dana Bland & Associates assessed the biotic resources of the proposed Parcel 1 building envelope in spring and summer 2003 on behalf of the landowner, Rick Crocker. The focus of the assessment was to identify sensitive biotic resources within the proposed residential development area (building envelope and proposed driveway (Tentative Map Minor Land Division, Ifland Engineers, 6/20-03).

Specific tasks conducted for this study include:

- Characterize and map the major plant communities within the proposed residential development area;
- Identify sensitive biotic resources, including plant and wildlife species of concern and native trees, within the proposed residential development area,
- Evaluate the potential effects of the proposed residential development on sensitive biotic resources and recommend measures to avoid or reduce such impacts.

Intended Use of this Report

The findings presented in this biological report are intended for the sole use of Rick Crocker, his representatives, and the County of Santa Cruz in evaluating the proposed building envelope for Parcel 1 of the minor land division for the subject parcel. The findings presented by the Biotic Resources Group in this report are for information purposes only; they are not intended to represent the interpretation of any State; Federal or County laws or ordinances pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

Environmental Review Inital Study
ATTACHMENT 10, 1 of 15
APPLICATION 04-0012

EXHIBIT E

EXISTING BIOTIC RESOURCES

METHODOLOGY

The biotic resources of the proposed residential development area were assessed through literature review and field observations. The site was surveyed in late spring and early summer 2003 (May 6 and June 27, 2003). The proposed residential development area was walked to ascertain the dominant community features and species occurrences. The field survey focused on areas around the proposed building site and driveway. Areas on the property that are not proposed for development or are have already been approved for residential development were not surveyed. Vegetation mapping of the proposed residential development area was conducted from aerial photos and the field survey. The major plant communities within the proposed residential development area were identified during the field survey. The plant communities were mapped onto the project base map (Ifland Engineers, 6/20/03) (Figure 2).

The proposed residential development area was visually identified in the field. The habitat type and quality of each of the site and the adjacent area were documented and recorded in a field notebook.

To assess the potential occurrence of special status biotic resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's(CNPS) Electronic Inventory (2002), and California Department of Fish & Game's(CDFG) RareFind database (CDFG, 2003) for the Watsonville East U.S.G.S. quadrangle.

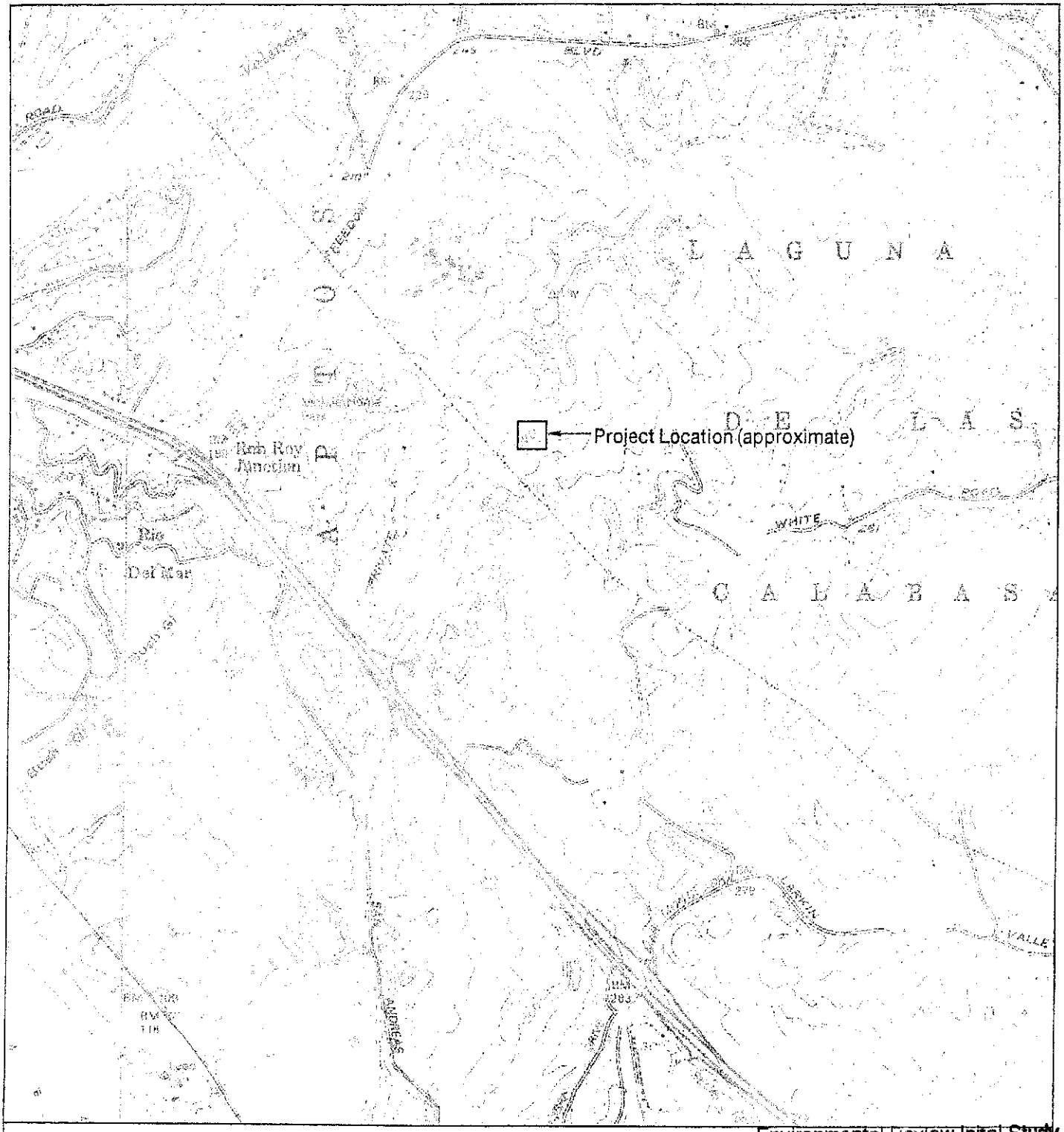
This report summarizes the findings of the biotic assessment for the proposed residential development area. The potential impacts of the proposed development (i.e., creation of one residence) on sensitive resources are discussed below. Measures to reduce significant impacts to a level of less-than-significant are recommended, as applicable.

EXISTING BIOTIC RESOURCES

Three plant community types were observed within the proposed residential development area. These community types include: non-native grassland: mixed grassland, and coyote brush scrub. **A** willow-dominated riparian woodland occuJs immediately west of the proposed building envelop, as depicted on Figure *2.*

Grassland

Non-Native Grassland. This grassland type was observed in the low-lying portions of the proposed residential der-elopment area during the 2003 survey, as depicted on Figure 2. The grassland abuts an existing dirt road and is dominated by non-native grasses, including canary grass (*Phalaris* sp.), ripgut brome (*Bromus diandrus),* Italian ryegrass *(Lolium multiflorum),* soft chess (*Bromus hordeaceus),*velvet grass (*Holcus lanatus),* fanner's foxtail *(Hordeum leporinum),* rattail fescue *(Vulpia myuros),* quaking grass (*Briza minor),* and soft chess (*Bromus hordeaceus).* Other herbaceous species observed during the June 2003 survey include bird's foot trefoil *(Lotus corniculatus),* Mediterranean clover (*Trifolium angustifolium),* cat's ear (*Hypochaeris radicata),* cut-leaved geranium *(Geranium dissectum),* and patches of spreading rush (*Juncus patens)*



SCALE: 1" = 2,000'

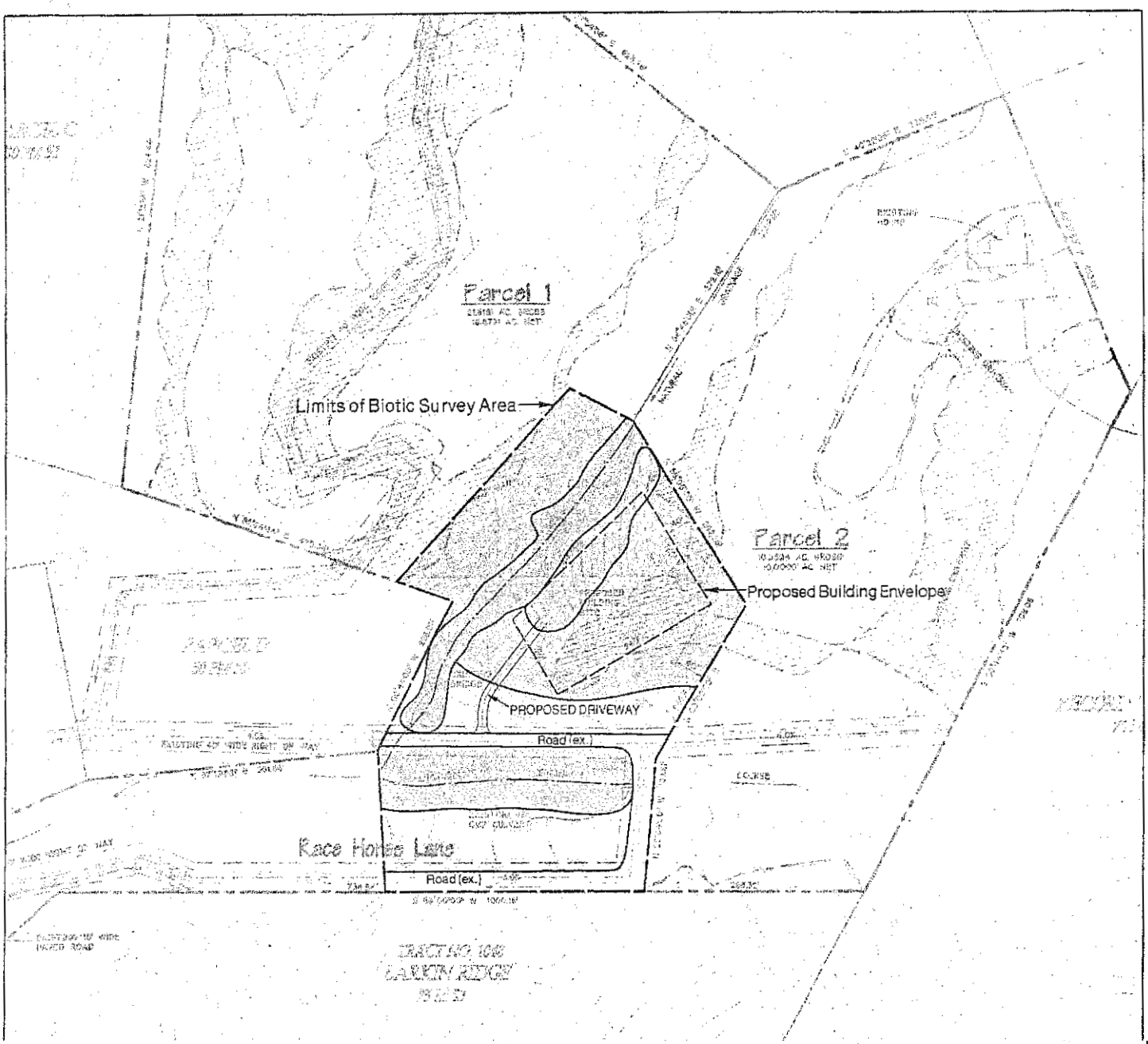
0 2,000' 4,000'

NORTH

Environmental Review Inital Study
ATTACHMENT 10 4 of 25
APPLICATION 04-0012

Biotic Resources Group 2551 S. Rodeo Gulch # 12 • Soquel, California 95073 (831) 476-4103 • Fax (831) 476-8038	Crocker Property Location Map	Figure 1 **8/03** 407-01

EXHIBIT D



Environmental Review Inital Study
ATTACHMENT 10, 5 of 15
APPLICATION 04-0012

SCALE: 1" = 200'

0 200' 400'

NORTH

LEGEND

- Riparian Woodland
- Mixed Grassland
- Non-native Grassland
- Coyote Brush Scrub

Biotic Resources Group

2551 S. Rodeo Gulch # I2 • Soquel, California 95073
(831) 476-4803 • Fax (831) 476-8038

Cracker Property
Existing Biotic Resources

Figure 2
8/03
407-01

EXHIBIT D

Grasslands in the greater project area are known to provide habitat for special status plant species (e.g., robust spineflower, Monterey spineflower and Santa Cruz tarplant). The non-native grassland habitat within the proposed residential development area does not currently have suitable habirat for these species due to the dense growth of non-native grasses. Figure 3 depicts the condition of the non-native grassland.

Mixed Grassland. The slopes and a small knoll are proposed for residential development. This area was observed to support a mixture of native and non-native grasses and forbs during the 2003 surveys. This mixed grassland type is comprised of non-native grasses, such as wild oat (*Avena barbata)* and ripgut brome (*Bromus diandrus)*, but also includes stands of native grasses, primarily purple needlegrass (*Nassella pulchra)* and California oatgrass (*Danthonia californica)*. Purple needlegrass is more common on the slopes of the ridge, while the California oatgrass occupies a small area at the end of the small ridge. Other plant species in this area include madia (*Madia* sp.), yellow shamrock (*Trifolium dubium)*, velvet grass, cat's ear, American vetch (*Vicia americana)*, European hairgrass (*Aira caryophyllea)*, sheep's sorrel (*Rumex acetosella)*, Italian thistle (*Carduus* sp.), California poppy (*Eschscholtzia californica)*, false brome (*Brachypodium distachyon)* and annual lupine (*Lupinus nanus)*. The mixed grassland habitat within the proposed residential development area was not observed to support special status plant species during rhe June 2003 survey. Figure 4 depicts the condition of the mixed grassland.

Grasslands provide an important foraging resource for a wide variety of wildlife species. The grasses and forbs produce an abundance of seeds and attract numerous insects; providing food for granivorous and insectivorous wildlife. Sparrows, rabbits and rodents are commonly found in this habitat. Consequently, grasslands are valuable foraging sites for raptors such as hawks and owls, and other predators including coyote, fox, skunk and snakes. Species that forage aerially over grasslands include bats and swallows.

Common wildlife species that are expected to utilize grassland habitat on the Crocker property include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis melanoleucus*), house Finch *(Carpodacus mexicanus)*, cliff swallow *(Hirundo pyrrhonota)*, red-tailed hawk *(Buteo jamaicensis)*, California ground squirrel *(Spermophilus beecheyi)*, and Botta's pocket gopher (*Thomomys bottae*).

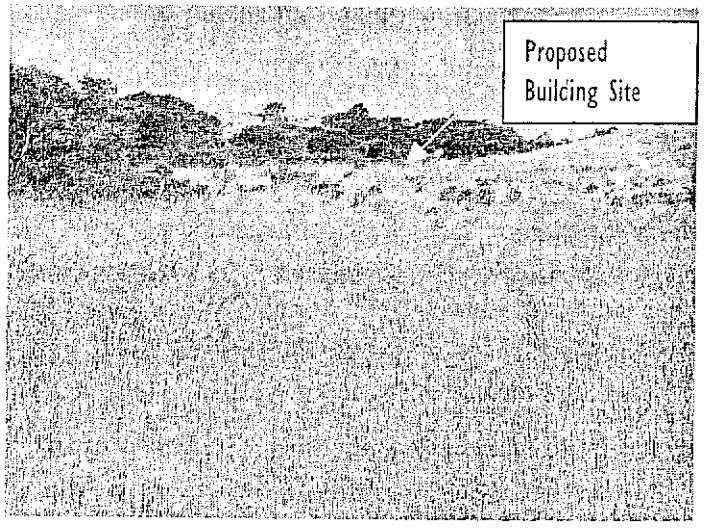


Figure 3. View of non-native grassland in low-lying areas of property, June 2003. The proposed driveway would traverse this habitat type.

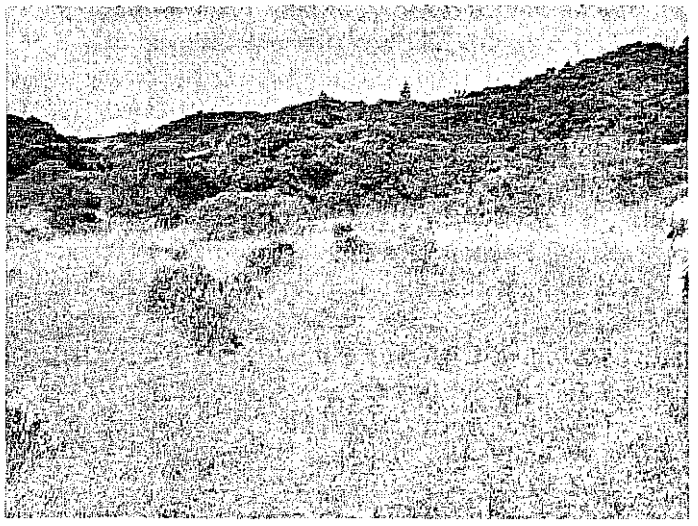


Figure 4. View of mixed grassland on small knoll, where residential development is proposed, May 2003.

Coyote Brush Scrub

The proposed residential development area also supports patches of coyote brush (*Baccharis pilularis)* and California sage *(Artemisia californica)*. This scrub is most prevalent where the grassland abuts the adjacent riparian woodland, s depicted on Figure 2. Openings between the shrubs were observed to support patches of purple needlegrass and scarlet pimpernel (*Anagallis arvensis)*.

The shrubs of the coyote brush scrub habitat provide berries and the herbaceous understory plants provide seeds for wildlife forage. The patches of scrub adjacent to woodland habitat provide an ecotone that is important to many wildlife species. Wildlife may perch on the outer perimeter of scrub habitats to take advantage of hunting opportunities in adjacent openings: and take cover in the denser shrub parches and adjacent forests as needed. Common wildlife species found in coyote brush scrub on the central coast include western fence lizard, California towhee (*Pipilo crissalis*), white-crowned sparrow (*Zonotrichia leuco phrys*), brush rabbit (*Sylvilagus bachmani*), and coyote *(Canis latrans*). Special status wildlife that may inhabit coastal scrub habitat near ponds in this portion of Santa Cruz County includes the Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*).

Willow Riparian Woodland

The riparian woodland occurs along an intermittent drainage that travels west of the proposed residential development area (see Figure 2). This drainage is a tributary to San Andreas Creek. The vegetation is dominated by trees of arroyo willow (*Salix lasiolepis)*. Associated species include coast live oak (*Quercus agrifolia)* and madrone (*Arbutus menziesii)*. The understory is dominated by California blackberry (*Rubus ursinus)* and poison oak ***(Toxicodendron****diversilobum)*. The drainage was dry during the June 2003 field survey.

The riparian habitat is one of the highest value habitats for wildlife species diversity and abundance in California. Factors that contribute to the high wildlife value include the seasonal presence of surface water, the variety of niches provided by the high structural complexity of the habitat, and the abundance of plant growth. Riparian habitat on the property may be used by a diversity of wildlife species for food, water, escape cover, nesting, and thermal cover.

Environmental Review Initial Study
ATTACHMENT 10, 7 of 15
APPLICATION 04-0012

Common wildlife species that are expected to inhabit the riparian habitat include Pacific treefrog *(Hyla regilla),* western aquatic garter snake (*Thamnophis couchii*), Wilson's warbler *(Wilsonia pusilla),* Bewick's wren (*Thryomanes bewickii*), several swallows, raccoon *(Procyon lotor*), Virginia opossum (*Didelphis virginium),* and California myotis (*Myotis californicus*). Special status species that may inhabit the riparian habitat on the Crocker property include Santa Crur long-toed salamander *(Ambystoma macrodactylum croceum*) and California red-legged frog *(Runa aurora draytonii).*

SENSITIVE **BIOTIC RESOURCES**

Sensitive **Habitats**

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types: and/or provide high biological diversity. The following plant communities have been documented adjacent to the proposed residential development area and are considered sensitive habitats according to Santa Cruz County Code: riparian woodland. CDFG also recognizes riparian areas as a plant community with a high priority for protection.

Special Status Plant Species

Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS. The search of the CNPS and CNDDB inventories resulted in fifteen special status species with potential to occur in the project area. These species are listed on Table **1;** the species considered most likely to occur in the project area arc discussed below.

Robust spineflower ***(Chorizanthe robusta* var. *robusta).*** This species is federally listed as endangered. This species is also listed as rare (List 1B) by the California Native Planr Society and is considered rare by the County of Santa Cruz and California Department of Fish and Game. The species is not listed under the California Endangered Species Act. The plant grows in sandy soils within several portions of Santa Cruz County; the closest known colonies to the Croclier property are located in the Aptos area (Baker Road, Freedom Blvd.) and the Buena Vista area (Fiesta Way) (USFWS, 2000). **A** member of the Polygonaceae family, the species is characterized by its low-growing habit and spiny bracts surrounding the flowers. The species tends to occur open, sandy areas. The proposed development area was not observed to support suitable habitat for this species; however, edges of the existing dirt road east of the proposed driveway appears to be suitable habitat. No individuals of this species were observe3 during the June 2003 field survey. This species is a summer-blooming plant and would have been recognizable during this survey period, therefore, the current likelihood of the species presence within the proposed residential development area is considered low.

Monterey spineflower *(Chorizanthe **pungens*** **var. *pungens).*** This species is federally listed as endangered. This species is also listed as rare (List 1B) by the California Native Planr Society and is considered rare by the County of Santa Cruz and California Department of Fish and Game. The species is not listed under the California Endangered Species Act. Similar in habitat conditions as the robust spineflower, the Monterey spineflower grows in sandy soils within portions of Santa Cruz County; the closest known locations are from grassland/oak woodland mosaic habitat on parcels fronting Freedom Boulevard and chaparral habitat at the end of East Bel Mar. Another colony is known from Sunset State Beach and the Buena Vista area (USFWS, 2000). **A** member of the Polygonaceae family, the species is

Environmental Review Initial Study
ATTACHMENT 4 Page 15
APPLICATION 04-0212

characterized by its whitish flowers, low-growing habit and spiny bracts surrounding the flowers. The species tends to occur open areas. The proposed development area was not observed to support suitable habitat for this species; however, edges of the existing dirt road east of the proposed driveway appears suitable. No individuals of this species were observed during the June 2003 field survey. This species is a summer-blooming plant and would have been recognizable during the 2003 survey, therefore, the current likelihood of the species presence within the proposed residential development area is considered low.

Santa Cruz **tarplant** (*Holocarpha macradenia).* The Santa Cruz tarplant is State-listed as endangered and Federally listed as threatened. The species is currently known from 12 native populations and 6 experimental seedings. Populations are known to occur within the Watsonville area. The closest known locations to the Crocker property are from grassland/oak woodland mosaic habitat on rhe Spring Hills Golf Course off Casserly Road. Open areas within the mixed grassland may provide suitable habitat for this species; however, none were observed during the June 2003 field survey. This species is a summer-blooming plant and would have been recognizable during the 2003 survey, therefore, the likelihood of the species presence within the proposed residential development area is considered low.

Special Status Wildlife Species

Special status wildlife species include those listed by either the Federal or State resource agencies as well **as** those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Game Code, and migratory birds are protected by the Migratory Bird Treaty Act. The text below summarizes the status and occurrence of sensitive wildlife species that are potential inhabitants of the property.

Santa Cruz long-toed salamander *(Ambystoma macrodactylum croceum)* spends most of the year in upland refugia. They use small mammal burrows or hide under dense leaf litter and rotting logs. This salamander prefers riparian, oak woodland and coastal scrub for upland habitat. During rainy winter nights, adult salamanders travel from their upland refugia to temporary or semi-permanent ponds to breed (USFWS 1999). Santa Cruz long-toed salamanders have been documented to travel up to 0.6 mile from upland habitat to breeding ponds (Steve Ruth, pers. comm.). Females lay eggs singly on stalks of submerged vegetation, which hatch within 30 days. Larvae take up to 6 months to transform into juveniles, depending upon pond conditions. The juveniles then typically remain in the moist pond environs until the first fall rains, when they begin their dispersal to upland areas.

There are 12 –13 known breeding populations of this salamander, and it is listed by both California Department of Fish and Game (CDFG) and the U. S. Fish and Wildlife Service (USFWS) as endangered. The closest known breeding pond of the Santa Cruz long-toed salamander is an unnamed pond on Shadowmere Lane behind the Aptos High School (Wes Savage, pers. comm.), which is located approximately 0.6 mile north of the Crocker property. Other known breeding sites for this salamander in the general vicinity include Calabasas Pond (1.2 miles south), Seascape Ponds (1.3 miles southwest), Tucker Pond (0.9 mile northeast) and Gillette Pond (1.5 miles east). There are two ponds located on private property within 0.4 mile of the Crocker property, but these ponds have not been sampled for amphibians and it is unknown if any special status species occur in those ponds (see Figure 1).

There is riparian habitat on the Crocker property provides suitable upland salamander habitat, but the property does not have any still water or off-channel ponded areas for breeding.

Environmental Review Initial Study
ATTACHMENT 10 Page 15
APPLICATION

The **California red-legged frog** (*Rana aurora draytonii*) is a State Species of Special Concern and Federally listed as threatened. This species is found in quiet pools along streams, in marshes, and ponds. Red-legged frogs are closely tied to aquatic environments and favor intermittent streams, including some areas with water at least 2.5 ft. deep, a largely intact emergent or shoreline vegetation, and a lack of introduced bullfrogs and non-native fishes. This species' breeding season spans January to April (Stebbins 1985). Females deposit large egg masses on submerged vegetation at or near the surface. Embryonic stages require a salinity of $\leq$ 4.5 parts per thousand (Jennings and Hayes 1994). They are generally found on streams having a small drainage area and low gradient (Hayes and Jennings 1988). Recent studies have shown that although only a small percentage of red-legged frogs from a pond population disperse, they are capable of moving distances of up to 2 miles (Bulger 1999). The red-legged frog occurs west of the Sierra Nevada-Cascade crest and in the Coast Ranges along the entire length of the state. Much of its habitat has undergone significant alterations in recent years, leading to extirpation of many populations. Other factors contributing to its decline include its former exploitation as food, water pollution, and predation and competition by the introduced bullfrog and green sunfish (Moyle 1973, Hayes and Jennings 1986).

California red-legged frogs are known to occur in the Gillette Pond and the Calabasas Pond (Amelia Orton-palmer, pers. comm., CDFG 2001). Both of these known locations of red-legged frogs are within the range that this species in known to travel. ***As*** noted above, there are two ponds within 0.4 mile of the Crocker site: but they have not been sampled for amphibians. California red-legged frog may utilize the riparian habitat on the Crocker property for seasonal movements when water is present; however, there are.no slow moving ponded areas within the creeks suirable for breeding by this species.

Cooper's hawk (Accipiter *cooperi*). The Cooper's hawk is a State species of special concern. This bird is a rare breeder in the Santa Cruz Mountains. Cooper's hawks prefer forested habitats in mountainous regions, bur also use riparian woodlands. Their primary prey is other smaller birds, but they also hunt small mammals, reptiles and amphibians. They build stick nests in trees, and often nest in oak woodland. The local breeding season typically spans March/April through July (Suddjian 1990). Cooper's hawks are uncommon migrants and winter visitors. Migrant and wintering individuals occur in a variety of habitats, including *oak* woodland, conifer and mixed broadleaf forests, grasslands, residential areas and riparian woodland.

No focused surveys for breeding raptors were conducted at the Crocker property; however, the riparian woodland on this property has potential nesting and foraging habitat for Cooper's hawk. Measures *are* recommended to avoid any impacts to this bird.

Table 1. List Of Special Status Plant Species with Potential to Occur In The Vicinity Of the Crocker Property, Santa Cruz County, California

Species	*CNPS*	State Status	Federal Status	Habitat Preference Observed on Site?
California bottlebrush grass *(Elymus californicus)*	None	None	None	**Oak** Woodlands No
Hooker's manzanita *(Arctostaphylos hookeri)*	List 1B	None	None	Sandy slopes, often intermixed with oak woodland NO
Robust spineflower *(Chorizanthe robusta var. robusta)*	List 1B	None	Endangered	Sandy slopes, often intermixed with **oak** woodland/maritime chaparral No, poor habitat
Monterey spineflower *(Chorizanthe pungens var.pungens)*	List 1B	None	Endangered	Sandy **slopes,** often intermixed with oak woodland/maritime chaparral No, poor habitat
San Francisco popcorn flower *(Plagiobothrys diffusus)*	List 1B	Endangered	Species of Special Concern	Mesic grasslands No
Santa Cruz Clover *(Trifolium buckwestiorum)*	List 1B	None	None	**Mesic** grasslands No
Santa Cruz tarplant *(Holocarpha macradenia)*	List 1B	Endangered	Threatened	Grasslands, often on coast terrace deposits No, poor habitat
Congdon's tarplant *(Centromadia parryi* ssp. *parryi)*	List 1B	None	None	Grasslands. often moist areas No
Kellogg's horkelia *(Horkelia cuneata ssp. sericea)*	List 1B	None	Species of Special Concern	Oak Woodland and **edges** of grasslands NO
Small-leaved lomatium *(Lomatium parviflorum)*	List **4**	None	None	**Oak** Woodland No, potential habitat
Santa Cruz microseris *(Microseris decipiens)*	List **4**	None	Species of Special Concern	Grasslands, often on coastal terrace deposits No
Gairdner's yampah *(Perideridia gairdneri ssp. gairdneri)*	**List4**	None	Species of Special Concern	Grasslands, often on coastal terrace deposits NO
Michael's piperia *(Piperia michaelii)*	List 1B	None	Species of Special Concern	Grasslands, often on **coastal** terrace deposits NO
Maple-leaved checkerbloom *(Sidalcea malachroides)*	**List** 1B	None	None	Grasslands, often on coastal terrace deposits No
				Grasslands, often **an** coastal terrace deposits NO

List 1B: These plants (predominately endemic) are rare through their **range and are** currently vulnerable **or have a** high potential far vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. list 1B plants meet the definitions of Section 1901, Chapter 10 of the CDF&G Code.

List 4: List **4** is a watch list of plants with limited distribution in the state that have low vulnerability and threat at this time. These plants are uncommon, often significant locally. and should be monitored.

Environmental Review Initial Study
ATTACHMENT 10, 11 of 15
APPLICATION 12-0012

EXHIBIT U

IMPACT AND MITIGATION DISCUSSION

IMPACT CRITERIA

The thresholds of significance presented in the California Environmental Quality Act (CEQA) were used to evaluate project impacts and to determine if the proposed development of the single-family residence poses significant impacts to biological resources. In addition, Santa Cruz County codes were also used to develop the significance criteria. For this analysis, significant impacts are those that substantially affect either:

- A species (or its habitat) listed or proposed for listing by State or Federal governments as rare or endangered (e.g., California red-legged frog, Santa Cruz long-toed salamander);
- Breeding/nesting habitat for a State species of special concern (e.g., Cooper's hawk);
- A plant considered rare (i.e., List 1B) by CNPS (none expected on site);
- A habitat regulated by State or Federal law (riparian woodland);
- A habitat recognized as sensitive by Santa Cruz County (e.g., riparian woodland);
- A habitat recognized as sensitive by CDFG (none identified on site).

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed residential development was evaluated as to potential direct and indirect impacts to sensitive biotic resources. Examples of direct impacts are the removal of habitat for house construction and related residential activities. Examples of indirect impacts include the potential disturbance to sensitive habitats from discharge of development and/or animal/barn run-off into natural areas.

Measures are recommended to reduce impacts from the proposed residential development, including measures to prevent water quality impacts from potential use of a barn or horse stables.

The proposed project is not expected to require removal of any mature trees, nor will any construction occur within the riparian woodland. The proposed residential development is located between 40 and 50 feet from the intermittent drainage (bankfull location) and outside the dripline of the riparian woodland. This setback is consistent with the County's Riparian Corridor and Wetlands Protection (County Code 16.30). Development of the driveway and building envelope will affect approximately 6,000 square feet of coyote brush scrub, 23,000 square feet of mixed grassland and 900 square feet of non-native grassland.

Potential **Impact 1. Impact *to* Special Status Amphibians.** Santa **Cruz** long-toed salamander and California red-legged frog may occasionally travel through the riparian habitat on the Crocker property during the rainy winter and spring months; however, no breeding habitat for these species exists on the site. There is a chance that dispersing individuals may be injured or killed by grading, if they are present on the site. Santa Cruz long-toed salamander may also utilize the dense leaf litter of the riparian habitat for upland refugia; but the grassland and dry coyote brush scrub habitats do not provide suitable upland habitat for this species. The project does not include any work within the riparian habitat; therefore, no loss of habitat for these species is expected.

Environmental Review Inital Study
ATTACHMENT 10, 12 of 1
APPLICATION 04-0012

Mitigation Measure 1a. The landowner should schedule all vegetation removal and grading to occur during the dry summer and fall months when dispersing amphibians are not likely to traverse the site.

Mitigation Measure Ib. Prior to any ground disturbances, the landowner should install silt fencing at the limit of grading line to prevent any sediment from entering the adjacent riparian areas.

Mitigation Measure 1c. Concurrent with construction of the residence, a 4-6-foot tall permanent fence (open style, or equivalent) should be placed along the outside edge of the building envelope that abuts the riparian woodland. The fence will demarcate the limit of residential activities (including landscaping) adjacent to the riparian woodland and prevent inadvertent indirect impacts to the woodland from future residential activities.

Potential Impact 2. Impact to Cooper's Hawk and Other Raptors During Grading. Cooper's hawk and other more common raptors may nest in the riparian habitat adjacent to the project site. Although no work is proposed to occur within the riparian habitat, noise and dust from the adjacent work area may cause nesting Cooper's hawk to abandon their nests before the young have fledged.

Mitigation Measure 2. Schedule grading for late summer and fall, August 1 to November 1, to avoid the nesting season for Cooper's hawk and other raptors. If this schedule is not feasible, the applicant shall hire a qualified biologist *to* conducr pre-construction surveys for nesting raptors no more than 30 days prior to onset of grading. If nesting raptors are observed, the biologist shall recommend an appropriate buffer zone around the nest where no construction will begin until the biologist has determined that all young have fledged and can feed on their own.

Potential Impact 3. Indirect Impacts to Natural Habitats by the Introduction/Spread of Invasive, Non-Native Plant Species. If the landowner utilizes invasive, non-native plant species in their landscaping?these species may infest undeveloped areas of the parcel, including oak woodland and riparian woodlands, two sensitive habitats.

Mitigation Measure 3. The following measures are recommended **to** reduce impacts to native habitats from the potential introduction of invasive, non-native plant species to a less-than significant level:

- The landowner should not utilize invasive, non-native plant species for landscaping. Plant species that should not be used on the site include: all brooms (it., French broom, Spanish broom and Scotch broom), periwinkle (*Vinca* sp.), Cape (or German) ivy, English ivy, Algerian ivy, acacia (all kinds), eucalyptus (all kinds), Monterey pine, cotoneaster, and pyracantha.
- If evidence of the fungus responsible for Sudden Oak Death (*Phytophthora* sp.) is detected on the property, the homeowners should voluntarily implement measures to prevent/control the spread of this fungus both on and off-site. Homeowners should be responsible for implementing the most current disease-preventing measures for the use: storage and/or transporting of oakfirew-ood as a means of minimizing the spread of the disease with the County and the State of California. Preventative and treatment measures should also be implemented as

recommended: Current information on this disease and recommended treatments is available through the University of California Cooperative Extension, Sudden Oak Death website (http:/!cemarin.ucdavis.edu).

Potential Impact 4. Indirect Impacts to General Wildlife Habitat, Oak Woodland and Riparian Habitat. Clearing vegetation within the oak woodland and riparian woodland, including cutting trees for firewood, has the potential to reduce the value of the woodland habitats for wildlife, by reducing cover and roosting sites. Construction debris and contaminated runoff from horse/barn facilities (if proposed) has the potential to degrade these habitats.

Mitigation Measure 4a. The landowner should refrain from cutting oak trees and snags on the parcel that occur outside the development area to only what is necessary if sudden oak death or other disease must be contained, and if a tree poses an imminent threat to human safety. Retaining snags and downed logs for wildlife habitat, and an intact forest habitat greatly increases the values for wildlife and maintains movement corridors with other forested habitats surrounding the property.

Mitigation Measure 4b. If horse facilities are proposed on the parcel, the landowner should implement appropriate manure management practices to prevent nutrient-laden runoff from entering the riparian habitat.

Environmental Review Inital Study
ATTACHMENT 10, 14 of 15
APPLICATION 04-0012

LITERATURE CITED AND REFERENCES

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Environmental Review Inital Study
ATTACHMENT 10 15 of 15
APPLICATION 04-0013

SANTA C JZ COUNTY HEALTH SERVICES A INCY
ENVIRONMENTAL HEALTH SERVICE
701 Ocean Street - Room 312, Santa Cruz, CA 95060 (831) 454-2022

SA 1232
PE 4201

SITE EVALUATION

02-074

☐ **PRELIMINARY LOT INSPECTION REPORT**
MLD # _____ PROPOSED LOT ___ LOT SIZE ~35 ACRES SITE LOCATION 420 RACE HORSE LANE NORTH AND LA
APN 049-301-47 WATER SUPPLY _____ OWNER'S WRITTEN PERMISSION ATTACHED YES X NO

☐ **SITE EVALUATION** VALIDATION
☒ FULL ☐ SOIL ☐ GROUNDWATER ☐ PERCOLATION ☐ REPAIR ☐ ALTERNATIVE SYSTEM

☐ **OTHER CONSULTATION** _____

REQUESTED BY:	ANDREW BROWNSTONE NOLAN, ZIND, AND ASSOC.	1509 SEABRIGHT AVE. STE. M	(831) 423-7006
	(NAME)	(ADDRESS)	(PHONE)
OWNER:	RICK CAMPBELL	P.O. BOX 2191, APTOS CA 95001	831 728-1099
	(NAME)	(ADDRESS)	(PHONE)

☐ Item's checked below do not meet present sewage disposal requirements or require further testing:

- ☐ Soil tests indicate soils not suitable.
- ☐ Lot slope excessive, area has been graded; and/or unable to provide setback from cut bank
- ☐ Winter water table testing required.
- ☐ Tests indicate failure to provide required separation of leaching and seasonal high groundwater.
- ☐ Unable to provide a 100 foot separation between a septic system and a well, spring, stream, or waterway.
- ☐ Inadequate space for both the sewage disposal system and the required future expansion area.
- ☐ Septic area in floodplain.
- ☐ Other _____

☑ Preliminary inspection of this lot indicates suitability for individual sewage disposal using conventional septic technology under standards currently in effect, subject to any limitations identified below.

☑ Water supply must be developed.

☐ Site conditions may be mitigated by alternative technology. Further testing and evaluation is needed.

Design Parameters

, Percolation Rate 1-5 (6-30) 30-60 60-120 Groundwater Depth for Design Purposes _____

REMARKS:
WATER: APTOS HILLS MUTUAL WATER COMPANY OR WELL. PROPOSED PARCEL #2

Environmental Review Inital Study
ATTACHMENT 11
APPLICATION 04-0012

NOTE: Preliminary inspections and evaluations do not take into account all factors which are considered in the issuance of a sewage disposal permit. An application for sewage disposal will be subject to further evaluation based on the specific sewage disposal design: *the* possible presence of geologic hazards, biotic resources, or other site constraints; and, the provisions of the Sewage Disposal Ordinance in effect at the time of permit application.

ENVIRONMENTAL HEALTH SPECIALIST	DATE 12/31/03	SUPERVISOR	DATE 12/31/03

PHD-72 (REV. 12/01)

112

EXHIBIT

1. The project geologist and geotechnical engineer need to submit "Plan Review" letters prior to building permit issuance.

2. A detailed grading and drainage plan are required

3. A detailed erosion control plan is required.

4. All technical report recommendations will be incorporated into the final plans

Dpw Drainage Completeness Comments

LATEST COMMENTS HAVE NOT YET BEEN SENT TO PLANNER FOR THIS AGENCY

======== REVIEW ON JANUARY 27, 2004 BY ALYSCN B TOM ======== Application with civil plans dated 6/20/03 has been received. This application is complete for the discretionary stage. Please see miscellaneous comments for issues to be addressed prior to recordation of the final nap.

Please note that though portions of the project site are zoned primary groundwater recharge zone, the area of the propcsed improvements does not appear to be zoned groundwater recharge.

Dpw Orainage Hiscellaneous Comments

LATEST CCMMENTS HAVE **NOT** YET BEEN SENT TO PLANNER FOR THIS AGENCY

======== REVIEW ON JANUARY 27, 2004 BY ALYSON B TOM ======== Please address the following prior to recordation of the final map.

1) The outsloping of the proposed'driveway is a good concept. Will any dissipation measures be required at .the downstream edge?

2) Please describe how the drainage from the proposed driveway will tie into the existing road.

3) Please provide general notes describing how runoff from structures and other impervious areas on the new parcel should be handled. Hard piping runoff directly to the existing drainage course(s) shcuid be avoided if possible. Best management practices that dissipate runoff and allow for some infiltration so that the pre-development runoff conditions are maintained should be incorporated.

4) Approval from the project geotechnical/soils engineer for the final drainage plan should be submitted. This letter should state that the proposed drainage plan should not cause erosion or stability problems on site or downstream from the site.

5) If this project disturbs more than one acre, or is part of a larger plan of development that disturbs more than one acre, the project should receive coverage under the State Water Resources Control Board's general construction storm water permit. See http://www.swrcb.ca.gov/stormwtr/genconst.html#constpermit

For questions regarding this review Public Works stormwater management staff is

Environmental Review Initial Study
ATTACHMENT
APPLICATION

Rural Residential Density Matrix

APN: 041-301-42 General Plan: Rural Residential (R-R)

Developable Land:
31.97 gross acres - 3.09 acres (right-of-way) - **2.6 acres (Riparian** area) = **26.28 acres** Net Developable

		Point Score
1.	Location: Private road 12-18 feet wide	7
2.	Groundwater Quality: Adequate quantity, good quality Private/mutual well	8
3.	Water Resource Protection: Septic outside groundwater recharge and water supply watershed	6
4.	Timber Resources: None mapped	10
5.	Biotic Resource: None mapped	10
6.	Erosion: Aromas bedrock (0-50% slopes) (.4 (0-15% slope) x 6) + (.3 (16-30% slope) x 3) + 0 (31-50% slopes)	3.3
7.	Seismic Activity: No mapped faults, low liquefaction potential	9
8.	Landslide: Aromas bedrock (0-50% slopes) (.4 (0-15% slope) x 6) + (.3 (16-30% slope) x 3) + 0 (31-50% slopes)	3.3
9.	Fire Hazard: Less than 10 minute response time Building sites outside mapped critical fire areas 12-18 foot wide road, over ½ mile from through road with secondary access	6
	TOTAL	62.6

Minimum Average Developable Parcel Size*: **5** acres
(from Rural Residential Table minus Cumulative Constraint Points
as determined by the point score)

Number of Potential Building Sites* **4** sites
(developable acreage divided by minimum average parcel size)

EXHIBIT E

COUNTY OF SANTA CRUZ
DISCRETIONARY APPLICATION COMMENTS

Project Planner: Randall Adams
Application No.: 04-0012
APN: 041-301-42

Date: December 2, 2004
Time: 15:05:50
Page: 1

Environmental Planning Completeness Comments

========== REVIEW ON FEBRUARY 9, 2004 BY ROBERT S LOVELAND ==========

1. The geotechnical and geologic reports have been submitted (per requirement of application 03-0246) to the County Geologist for review. These reports are currently in review status.

2. Please identify the building footprint(s) within the "proposed building site". NOTE: A riparian area is located along the northern edge of the "proposed building site". This is an ephemeral drainage and would require a 20 to 30 foot setback (depending on slope percent) from the existing tree canopy dripline. Once the buffer is determined, a ten foot setback from the edge of the buffer is required for all structures, to allow for construction equipment and use of yard area. The only way to reduce the distances listed above is to apply for and be granted a riparian exception. At this time, I don't have enough information to say whether a riparian exception would be required for the structures within the "proposed building envelope"

3. Please identify the drainage course adjacent to the "proposed building site" as a riparian area.

4. The submitted biotic report is currently in review status

5. The grading information provided only shows driveway information. Please submit preliminary grading information for the structure(s) proposed within the "proposed building site" and for all road improvements leading to the driveway. NOTE: There are several sections along the proposed access route to the parcel that will require the granting of a riparian exception. There is some question to whether the proposed access route running along the southern property line was ever formally reviewed and accepted by the County as an access road to this parcel. NOTE TO PLANNER: Environmental Planning Department would support abandonment of this road in support of utilizing the other access road running through "Parcel A" and "Parcel D" on "Sheet 1". This road appears to be the primary access road that was approved under MLD application 87-0162. ========== UPDATED ON JUNE 11, 2004 BY ROBERT S LOVELAND ==========

1. Reports still in process according to the computer.

2. Items 2 & 3 above have been addressed.

4. Report still in process according to the computer.

5. This item has been addressed.

Environmental Planning Miscellaneous Comments

========== REVIEW ON FEBRUARY 10, 2004 BY ROBERT S LOVELAND ==========

Conditions of Approval:

EXHIBIT F

1. The project geologist and geotechnical engineer need to submit "Plan Review" letters prior to building permit issuance.

2. A detailed grading and drainage plan are required.

3. A detailed erosion control plan is required

4. All technical report recommendations will be incorporated into the final plans.

Dpw Drainage Completeness Comments

LATEST COMMENTS HAVE NOT **YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON JANUARY 27, 2004 BY ALYSON B TOM ========== Application with civil plans dated 6/20/03 has been received, This application is complete for the discretionary stage. Please see miscellaneous comments for issues to be addressed prior to recordation of the final map.

Please note that though portions of the project site are zoned primary groundwater recharge zone, the area of the proposed improvements does not appear to be zoned groundwater recharge.

Dpw Drainage Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON JANUARY 27, 2004 BY ALYSON B TOM ========== Please address the following prior to recordation of the final map.

1) The outsloping of the proposed driveway is a good concept. Will any dissipation measures be required at the downstream edge?

2) Please describe how the drainage from the proposed driveway will tie into the existing road.

3) Please provide general notes describing how runoff from structures and other impervious areas on the new parcel should be handled. Hard piping runoff directly to the existing drainage course(s) should be avoided **if** possible. Best management practices that dissipate runoff and allow for some infiltration so that the pre-development runoff conditions are maintained should be incorporated.

4) Approval from the project geotechnical/soils engineer for the final drainage plan should be submitted. This letter should state that the proposed drainage plan should not cause erosion or stability problems on site or downstream from the site.

5) **If** this project disturbs more than one acre, or is part of a larger plan of development that disturbs more than one acre, the project should receive coverage under the State Water Resources Control Board's general construction storm water permit. See http://www.swrcb.ca.gov/stormwtr/genconst.html#constpermit

For questions regarding this review Public Works storrnwater management staff is

available from 8-12 Monday through Friday. All submittals regarding this application should be made through the planning department or survey department.

Dpw Road Engineering Completeness Comments

========== REVIEW ON JANUARY 27, 2004 BY GREG J MARTIN ==========
The surface and the condition of the existing driveway on Parcel 2 should be provided on the plans. The driveway should meet current County standards. ==========
UPDATED ON JUNE 7, 2004 BY GREG J MARTIN ==========
NO COMMENT

Dpw Road Engineering Miscellaneous Comments

========== REVIEW ON JANUARY 27, 2004 BY GREG J MARTIN ==========
========== UPDATED ON JUNE 7, 2004 BY GREG J MARTIN ==========

Environmental Health Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

REVIEW ON FEBRUARY 4, 2004 BY JIM G SAFRANEK ==========
Applicant demonstrated that the parcel(s) is(are) suitable for onsite sewage disposal as part of the proposed MLD.
========== UPDATED ON FEBRUARY 12, 2004 BY JIM G SAFRANEK ==========
========== UPDATED ON OCTOBER 15, 2004 BY JIM G SAFRANEK ==========
========== UPDATED ON OCTOBER 15, 2004 BY JIM G SAFRANEK ==========

Environmental Health Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON FEBRUARY 4, 2004 BY JIM G SAFRANEK ==========
NO COMMENT
========== UPDATED ON OCTOBER 15, 2004 BY JIM G SAFRANEK ==========
NO COMMENT

Aptos-La Selva Beach Fire Prot Dist Completeness C

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON FEBRUARY 6, 2004 BY ERIN K STOW ==========
DEPARTMENT NAME:Aptos/La Selva Fire Dept. Plans approved.
The access road shall be 18 feet minimum width and maximum twenty percent slope.
All bridges, culverts and crossings shall be certified by a registered engineer.
Minimum capacity of 25 tons, Cal-Trans H-20 loading standard.
The access road shall be in place to the following standards prior to any framing construction, or construction will be stopped:
- The access road surface shall be "all weather", a minimum 6" of compacted aggregate base rock, Class 2 or equivalent, certified by a licensed engineer to 95% compaction and shall be maintained. - ALL WEATHER SURFACE: shall be minimum of 6" of compacted Class II base rock for grades up to and including 5%, oil and screened for

grades up to and including 15% and asphaltic concrete for grades exceeding 15%. but in no case exceeding 20%. The maximum grade of the access road shall not exceed 20%. with grades greater than 15% not permitted for distances of more than 200 feet at a time. The access road shall have a vertical clearance of 14 feet for its entire width and length, including turnouts, A turn-around area which meets the requirements of the fire department shall be provided for access roads and driveways in excess of 150 feet in length. Drainage details for the road or driveway shall conform to current engineering practices, including erosion control measures. All private access roads, driveways, turn-around and bridges are the responsibility of the owner(s) of record and shall be maintained to ensure the fire department safe and expedient passage at all times.
A 30 foot minimum clearance will be maintenance with non-combustible vegetation around all structures or to the property line whichever is a shorter distance. There will be some portions that will be required to have a 100 foot clearance.
All bridges are required to meet Cal-Trans Bridge Standard H20. (25 ton limit). Please provide details for bridge as part *of* submittal.
Provide certification by a licensed engineer that the bridge meets a minimum load bearing capacity of 25 tons. .SCP 0 Bridge capacity shall be posted and shall be certified every five years by a licensed engineer.
48" culvert to be treated as a bridge and meet bridge requirements.
The existing bridge between parcels D & 1 to be upgraded to bridge standards.
Existing *driveway* on Parcel 2 needs turnouts. Turnout locations to be determined by the Fire Department.
All roadways will have vegetation cleared back at least 10 feet from edge of roads.
Plan check is based upon plans submitted to this office. Any changes or alterations shall be re-submitted for' review prior to construction.
========== UPDATED ON JUNE 11, 2004 BY ERIN K STOW ==========
========== UPDATED ON JUNE 11, 2004 BY ERIN K STOW ==========
DEPARTMENT NAME:Aptos/La Selva Fire Dept. Same conditions as approval as noted in letter dated February 5, 2004.
========== UPDATED ON JUNE 17, 2004 BY ERIN K STOW ==========
DEPARTMENT NAME:Aptos/La Selva Fire Deot. CORRECTED APPROVAL
The existing access road shall be maintained at 16 feet minimum unobstructed width and maximum 20% slope.
All bridges, culverts and crossings shall be certified by a registered engineer. Minimum capacity of 25 tons. Cal-Trans H-20 loading standard.
The access road shall be in place to the following standards prior to any framing construction, or construction will be stopped:
- The access road surface shall be "all weather", a minimum 6" of compacted aggregate base rock, Class 2 or equivalent, certified by a licensed engineer to 95% compaction and shall be maintained. - ALL WEATHER SURFACE: shall be minimum of 6" of compacted Class II base rock for grades up to and including 5%, oil and screened for grades up to and including 15% and asphaltic concrete for grades exceeding 15%. but in no case exceeding 20%. The maximum grade of the access road shall not exceed 20%. with grades greater than 15% not permitted for distances of more than 200 feet at a time. The access road shall have a vertical clearance of 14 feet for its entire width and length, including turnouts. A turn-around area which meets the requirements of the fire department shall be provided for access roads and driveways in excess of 150 feet in length. Drainage details for the road or driveway shall conform to current engineering practices, including erosion control measures. All private access roads, driveways, turn-around and bridges are the responsibility of the

owner(s) of record and shall be maintained to ensure the fire department safe and expedient passage at all times.
========== UPDATED ON JUNE 17, 2004 BY ERIN K STOW ==========
NO COMMENT

Aptos-La Selva Beach Fire Prot Dist Miscellaneous

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON FEBRUARY 6, 2004 BY ERIN K STOW ==========
NO COMMENT
========== UPDATED ON JUNE 11, 2004 BY ERIN K STOW ==========
NO COMMENT
========== UPDATED ON JUNE 17, 2004 BY ERIN K STOW ==========
NO COMMENT
========== UPDATED ON JUNE 17, 2004 BY ERIN K STOW ==========
NO COMMENT

EXHIBIT F

Biotic Resources Group

Biotic Assessments • Resource Management • Permitting

December 7, 2004

John Swift
Hamilton Swift Land Use & Development Consultants, Inc.
1509 Seabright Avenue, Suite A-1
Santa Cruz, CA 95062

RE: Crocker Property, 420 Racehorse Lane, Aptos APN 041-30-42
Application No. 04-0012

Dear John,

This letter provides a review of the proposed repair of the road washout on Race Horse Lane, relative to the recommendations to protect special status species and habitat, as per the County of Santa Cruz's Negative Declaration Mitigation 1.

Review of Road Repair Work Relative to Biological Resources

The proposed roadway repair involves the construction of a soldier beam retaining wall adjacent to an existing 48" C.M.P. within San Andreas Creek, a perennial waterway. The project also specifies the removal of silt from the culvert and the creek bed immediately downstream of the culvert.

As documented in an earlier biotic report ***(Crocker Property Biotic Report,*** Biotic Resources Group, August 2003), San Andreas Creek supports riparian woodland and may support California red-legged frog, a federally listed species. In addition, the riparian woodland has potential to support protected bird species (i.e., yellow warbler). The following measures are recommended to protect special status species and/or habitat that may be present within the road repair work area:

Recommendations:

1. Prior to roadway repair work, the landowner should secure a 1602 Streambed Alteration Agreement (SAA) with California Department of Fish and Game (CDFG). A SSA is required for activities within the bed and bank (including the riparian woodland) of San Andreas Creek. In addition, prior to roadway repair work, the landowner should consult with U.S. Army Corps of Engineers (ACOE) regarding the need for a Section 404 permit for the placement of fill within the bed of San Andreas Creek. It is likely that the supporting piers and a portion of the soldier beam retaining wall will be placed within the limits of Waters of the U.S. and the project will require a nationwide permit. In addition, due to the potential presence of the California red-legged frog and Santa Cruz long-toed salamander within the creek corridor, the ACOE will likely consult with U.S. Fish and Wildlife Service (under Section 7 of the Endangered Species Act) on this species. All conditions required by the USFWS and CDFG shall be implemented by the project applicant. The following measures are recommended to avoid and minimize impacts to these amphihian species, if they are present:
    a. Conduct creek crossing repair work when creek is completely dry. Pre-construction surveys for amphibians are not recommended if the work is scheduled when the stream is completely dry. However, amphibians may take

EXHIBIT F

2551 South Rodeo Gulch Road, #12 ♦ Soquel, California 95073 ♦ (831) 476-4803 ♦ Fax (831) 476-8038

refuge in the dense vegetation of the creek banks even when the creek is dry, and measures are recommended below to avoid and minimize impacts to any amphibians that may be present in the leaf litter and understory vegetation.

b.. Prior to initiation of any work in the creek or riparian zone, the maximum extent of the work area shall he clearly flagged with stakes and bright colored flagging. No vegetation removal shall occur during placement of stakes and flagging.

c. Prior to initiation of any work in the creek or riparian zone, a qualified biologist shall be retained by the applicant to present a "worker awareness session'' for all construction personnel involved in the creek crossing repairs. This session should be scheduled for the first morning of planned construction activity. The session should include a brief description of the species, photos, life history, protected status, and measures being implemented to avoid and minimize harm to the species. The biologist may hand out a printed flyer with this information for the workers, along with name and contact information should questions arise during construction.

d. *All* vegetation removal necessary to complete the repair work shall be conducted using only hand held tools, and shall be supervised by a qualified biologist retained by the project applicant for this purpose. Rakes, shovels, clippers, and chain saws are examples of tools that may be needed to remove vegetation by hand. Removed vegetation shall be taken to an approved disposal site, and shall not be placed in any other part of the riparian corridor. The qualified biologist shall search the area for special status amphibian species prior to and during the vegetation removal. If any Santa Cruz long-toed salamanders or California red-legged frogs are found during the work, the qualified biologist shall capture the animals by hand or net, place the animals in a 5-gallon bucket with water. and immediately relocate the animals to an area with appropriate habitat either upstream or downstream of the project site. Relocation **of** these species must **be** approved **by** the **USFWS** and **CDFG in** the permits issued for **the** project. The biologist will prepare a report for the USFWS and CDFG documenting the results of the construction monitoring.

e. Once the project site is cleared of vegetative cover, all special status amphibians relocated (if any), the excavation and construction shall begin immediately. If any special status amphibians were observed during the initial clearing, and there is a lapse of 48 hours or more between clearing and construction activity, the qualified biologist shall again survey the site immediately prior to onset of construction activities. This is to ensure that relocated animals have not reentered the site. If these species are again observed, the qualified biologist shall capture and relocate them, if allowed by the USFWS and CDFG permits.

2. Schedule the repair work such that it can be completed in as short a time frame as possible, to avoid the possibility of special status wildlife from nesting or entering the work area during a break in construction schedule.

3. Avoid the removal of trees. If this is not possible, prepare a revegetation plan to mitigate trees removed at a 3:1 replacement ratio.

4. If possible, schedule repair work to occur in late fall from August 1 to November 1, to avoid potential indirect impacts of noise and dust, and potential direct impacts of nest tree removal (if any) on raptors that may be nesting in the adjacent riparian corridor. If this schedule is not feasible, the applicant shall hire a qualified biologist to conduct pre-construction surveys for nesting raptors no more than 30 days prior to onset of repair work. If nesting raptors are observed, the biologist shall recommend an appropriate buffer zone around the nest, if possible, where no construction will begin until the biologist has determined that all young have fledged and can feed on their own. If a

EXHIBIT

buffer zone is not feasible, then construction shall be delayed until the biologist has determined that all young have fledged and can feed on their own.

Please let me know if you have any questions on this evaluation.

Sincerely,

Kathleen Lyons

Kathleen Lyons
Plant Ecologist

With

Dana Bland
Wildlife Biologist

EXHIBIT F

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