Staff Report to the Zoning Administrator

Application Number: **06-0488**

Applicant: Stephen Graves & Associates
Owner: Paul Gravenhorst; Gravenhorst FLP
APN: 103-171-31,32

Agenda Date: July 20,2007
Agenda Item #: 6
Time: After 10:00 a.m.

Project Description: Proposal to do an equal exchange of 0.136 acres between two parcels (APN 103-171-31 and APN 103-171-32) and to create a development envelope and a building envelope at the proposed building site.

Location: Property located on the west side of Soquel San Jose Road approximately 1,000 feet north of Las Robles Road (2599 Soquel San Jose Road).

Supervisoral District: 1st District (District Supervisor: Jan Beautz)

Permits Required: Lot Line Adjustment, Variance, and Riparian Exception

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under **the** California Environmental Quality Act.
- Approval of Application 06-0488, based on the attached findings and conditions.

Exhibits

A.	Project plans	H.	Geotechnical Reports, **Dees** and Associates, dated 6/12/06 & 12/31/05
B.	Findings		
C.	Conditions		
D.	Categorical Exemption (CEQA determination)	1.	Geologic Reports, Zinn Geology, dated 5/2/07, 1/17/07, & 12/6/05
E.	Assessor's parcel map	J.	County Geologist Acceptance Letter, **Joe** Hanna, dated 3/1/07
F.	Zoningmap		
G.	Comments & Correspondence		

Parcel Information

Parcel **Size:**	2.487 acres/ 108,334 square feet (103-171-31) 4.599 acres / 200,313 square feet (103-171-32)
Existing Land **Use** - Parcel:	Single Family Residence (103-171-31) Vacant (103-171-32)

Existing Land Use - Surrounding:	Single Family Residential
Project Access:	Soquel San Jose Road
Planning Area:	Summit
Land Use Designation:	R-R (Rural Residential)
Zone District:	RA (Residential Agriculture)
Coastal Zone:	__ Inside X Outside
Appealable to Calif. Coastal Comm.	__ Yes X No

Environmental Information

Geologic Hazards:	Geologic Report reviewed and accepted by County Geologist
Soils:	Soils Report reviewed and accepted by County Geologist
Fire Hazard:	Not a mapped constraint
Slopes:	Steep slopes in excess of 30%; no development proposed on slopes
Env. Sen. Habitat:	Ephemeral stream located adjacent to building site; Riparian exception required.
Grading:	No grading proposed
Tree Removal:	Some riparian redwood trees proposed for removal
Scenic:	Not a mapped resource
Drainage:	Existing drainage adequate; to be further reviewed at building permit stage.
Archeology:	Not mapped/no physical evidence on site

Services Information

Urban/Rural Services Line:	__ Inside X Outside
Water Supply:	Private wells
Sewage Disposal:	Septic
Fire District:	Central Fire Service Area
Drainage District:	None

History

Parcels 103-171-30, 31, and 32 were legally created on January 19, 1972.

In 1972, the property owner was denied a use permit (4399-U) to construct four resort cabins and a restaurant on parcels 103-171-30, 31, and 32.

Between 1973 – 1976, the property owner applied for two variances (1684-V and 75-1 132-V) to build a single family residence on parcel 103-171-31 with reduced side yard setbacks and to temporarily reside in a mobile home during construction of the residence (1 15-T). Both variance applications and the temporary permit application were denied.

In 2001, a code compliance case on parcel 103-171-31 was opened and eventually the property was retagged for the unpermitted conversion of a non-habitable accessory structure to a second unit, a retaining wall over three-feet in height and electrical problems in the single family

dwelling.

In 2000, the property owner submitted an application for a second unit (00-0242); however the applicant withdrew the application and instead obtained a building permit (#142189) to reduce the retaining wall to three feet in height and to remove all habitable features from the non-habitable accessory structure, except for a sink that was previously approved in building permit #127545. In addition, the property owner obtained an electrical building permit (#135220) to repair the electric problems in the single family dwelling. The attainment of these building permits allowed code compliance to expunge the recorded violations against the property and therefore resolve the code compliance case.

Project Setting

The existing parcels, 103-171-31 and 32 are approximately 2.586 acres and 4.422 acres, respectively.

On parcel 103-171-31, there is an existing single family dwelling and non-habitable accessory structure located along the north property line on the west side of the parcel. **A** pump house, well and septic tank are located nearby the existing structures. A water tank is located upslope approximately 5-feet from the south property line. This parcel takes access via a shared private driveway which is accessed from Soquel San Jose Road, a public road with a 60-foot right of way. There is an existing access driveway that leads from the private driveway to the south property line, where a vacant trailer is parked.

Parcel 103-171-32 is currently a vacant parcel with steep uphill slopes to the south in excess of 30%. This parcel takes access from Los Robles Road, a private road with a 50-foot right of way that intersects with Soquel San Jose Road. An ephemeral stream runs through the northern portion of the parcel and vanes in distance from 70-feet to 90-feet from the edge of the roadway. There is an existing dirt roadway that runs through the middle of the parcel to the west property line of parcel 103-171-31.

To the north, south, west and east across Soquel San Jose Road is Residential Agriculture zoned land that is developed with single family residences at rural densities.

Project Scope

The property owners are proposing to do an equal exchange of land between parcels 103-171-31 and -32 of about 0.136 acres and to designate a development envelope and building envelope on the vacant parcel (-32) for future development of a single family residence. The building envelope as shown on "Exhibit A" represents the area approved for habitable development by the project geologist.

*Lot **Line Adjustment***

Both parcels are over the minimum 1 acre size required for the RA (Residential Agriculture) zone district and the equal exchange of land transferred will not reduce either parcel below the minimum 1 acre size for the zone district.

The transfer of this property will not increase the development potential on either property. Vacant parcel -32 has been determined by staff to be a buildable parcel prior to a lot line adjustment, therefore no new building sites will be created as a result of this application. There are 2 parcels currently and there will be 2 parcels as a result of this permit. No new parcels will be created.

***Development & Building** Envelopes*

A future building on parcel -32 within the designated envelope would require a variance for reduced front yard setbacks and a riparian exception prior to development; therefore the property owners have elected to obtain these permits at this time although no development is currently proposed. The proposed building site is the only possible building site on all four acres of the subject parcel due to the steep topography and heavily wooded land; therefore, staff was able to make the findings for a Variance and for a Riparian Exception. The proposed development envelope would allow a single family residence with a garage and carport to be built at the proposed building site. The Variance would move the development closer to the road, rather than to an adjacent home; therefore, no light, air, access or privacy to neighboring residences will be negatively impacted by approval of the Variance.

Zoning & General Plan Consistency

The subject parcels are approximately 108,334 square feet (103-171-31) and 200,313 square feet (103-171-32) and are located in the RA (Residential Agriculture) zone district, a designation which allows residential uses. The proposed development envelope **for** a single family residence is a principal permitted use within the zone district and the project is consistent with the site's (R-R) Rural Residential General Plan designation.

	RA Site Standards	Proposed **(103-171-32)**
Front Yard Setback	40'	**Approx.** 23' (requires Variance)
Rear Yard Setback	20'	>20'
Side Yard Setback	20' & 20'	>20' on both sides
Maximum Height	**28'**	**28'**
Maximum **% Lot** Coverage	**10%**	<0.1%
Maximum Floor Area Ratio	N/A	N/A

Riparian Exception

This is a redwood riparian setting where the required riparian setbacks are normally 50-feet from the edge of the riparian woodland to beyond the edge of the dripline. In addition, a ten foot setback from the edge of the buffer is required for all structures, to allow for construction equipment and the use of yard area (Section 16.30.040). The entire ''geologically safe" habitable area as designated by the building envelope on "Exhibit **A"** is within the riparian setback area. Some redwoods within the building envelope, which are considered riparian, will be removed for construction. At the closest point, the development envelopment encroaches to within 15-feet of the bank **full** flow line.

Findings for a riparian exception can be made because no alternative building area exists on the subject property that is geologically suitable and, as a condition of approval, no disturbance shall occur outside of the development envelope.

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

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.

- APPROVAL of Application Number **06-0488,** based on the attached findings and conditions.

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

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Riparian Exception Findings

1. That there are special circumstances or conditions affecting the property.

This finding can be made in that the special circumstances affecting this property include the steep slopes, zoning setbacks, and riparian setbacks which, when combined, limit the developable area of the parcel. From a geologic and geotechnical safety perspective, there is no other feasible location to build a structure on the property.

2. That the exception is necessary for the proper design and function of some permitted or existing activity on the property.

This finding can be made in that the exception is necessary for the proper design and function of a future single-family dwelling, which is a permitted use on this property, due to the setback constraints on the parcel which limit the area of development.

3. That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located

This finding can be made in that the granting of the exception will not be detrimental to the public welfare or injurious to other properties downstream or in the area because, as conditions of approval, the property owner shall provide erosion control measures, proper site drainage, and tree protection and preservation measures to ensure protection of the public welfare and surrounding property. Additionally, no further encroachment into the riparian conidor will be allowed beyond what has been designated as the development envelope by this application.

4. That the granting of the exception, in the coastal zone, will not reduce or adversely impact the riparian conidor, and there is no feasible less environmentally damaging alternative.

The project is not located within the Coastal Zone.

5. That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the General Plan and elements thereof, and the Local Coastal Program land use plan.

This finding can be made in that the granting of the exception is in accordance with the purpose of the Riparian Comdor Protection Ordinance and the objectives of the General Plan, in that development activities will be minimized to the greatest extent possible within the Conidor, while allowing a safe economic use of an existing residential lot.

Variance Findings

1. That because of special circumstances applicable to the property, including size, shape, topography, location, and surrounding existing structures, the strict applicaiion of ihe Zoning Ordinance deprives such property of privileges enjoyed by other property in the vicinity and under identical zoning classification.

This finding can be made, in that parcel 103-171-32, the parcel proposed for a variance to the required 40-foot front yard setbacks, is extremely steep in all other areas besides the proposed development envelope and would require a massive amount of grading to create another buildable area on the site. In addition, the parcel is further constrained by a creek located near the only flat buildable area, which creates additional setback requirements. Other surrounding properties are developed with single family residences at rural densities, therefore, strict application of the Zoning Ordinance on this particular parcel would deprive the property of the privilege to build a small single family residence as enjoyed by other properties in the vicinity and under the same Residential Agriculture (RA) zoning district.

2. That the granting of the variance will be in harmony with the general intent and purpose of zoning objectives and will not be materially detrimental to public health, safety, or welfare or injurious to property or improvements in the vicinity.

This finding can be made, in that a reduction of the front yard setbacks from 40-feet to about 23-feet is still in harmony with the general intent and purpose of the zoning objective, which is to allow residential structures to be built at rural densities. There is a vacant building located directly across from the proposed building site, therefore, the reduction to the front yard setback will move the residence closer to the street, rather than towards a single family residence thereby preserving light, access and open space between residences, which is **the** intent of setbacks for the zone district. In addition, a future single family residence shall require applicable building permits from the County and the proposed building envelope is still located well off of the traveled way; therefore the structure will not be materially detrimental *to* public health, safety or welfare or injurious to property or improvements in **the** vicinity.

3. That the granting of such variances shall not constitute a grant **of** special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which such is situated.

This finding can be made, in that the creek runs through many adjacent parcels and the topography is severely limiting in this area; therefore, any parcel of similar size and topography would be granted a variance to site standards for building site location if the building site was the only buildable area on the parcel.

Lot Line Adjustment Findings

1. The lot iine adjustment will not result in a greater number of parcels than originally existed.

This finding can be made, in that there were 2 parcels prior to the adjustment and there will be 2 parcels subsequent to the adjustment.

2. The lot line adjustment conforms with the county zoning ordinance (including, without limitation, County Code section 13.10.673), and the county building ordinance (including, without limitation, County Code section 12.01.070).

This finding can be made, in that no additional building sites will be created by the transfer as parcel -31 is already developed with a single family residence and parcel -32 has only one building site available that it located on the parcel prior to the lot line adjustment. In addition, none of the parcels have a General Plan designation of 'Agriculture' or 'Agricultural Resource', none of the parcels are zoned 'TP' **or** have a designated Timber Resource as shown on the General Plan maps, and the proposal complies with the General Plan designation of the parcels (Rural Residential- (R-R)) per 13.10.673(e).

3. No affected parcel may be reduced or further reduced below the minimum parcel size required by the zoning designation, absent the grant of a variance pursuant to County Code section 13.10.230.

This finding can be made, in that none of the parcels included in the proposal will be reduced below the minimum parcel size required by the zone district as a result of this lot line adjustment

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operaied or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the location of the proposed development envelope and the conditions under which future development will be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity in that the project is located in an area designated for single family residential uses and has received all prior approvals to build within an area that is encumbered by physical constraints to development. Construction will comply with prevailing building technology, the Uniform Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed development envelope will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the building site meets current side and rear yard setbacks that ensure access to light, air, and open space in the neighborhood and a reduction in front yard setback moves the development envelope closer to the road rather than an adjacent residence.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the proposed location of the development envelope and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the RA (Residential Agriculture) zone district in that the primary use of the property will be one single family residence that meets current site standards for the zone district including side and rear yard setbacks, height and lot coverage and has received variance approval for reduced front yard setbacks and riparian corridor setbacks.

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed development envelope for a single family residence is consistent with the use and density requirements specified for the R-R (Rural Residential) land use designation in the County General Plan.

A future single family residence located within the proposed developed envelope will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties, and meets most current site and development standards for the zone district as specified in Policy 8.1.3 (Residential Site and Development Standards Ordinance), in that the location of a future single family residence within the proposed development envelope will not adversely shade adjacent properties, and will meet current setbacks for the zone district (including side and rear yard setbacks, height and lot coverage) that ensure access to light, air,

and open space in the neighborhood.

A future single family residence located within the proposed development envelope will not be improperly proportioned io the parcel size or the character of the neighborhood as specified in General Plan Policy 8.6.1 (Maintaining a Relationship Between Structure and Parcel Sizes), in that the proposed development envelope complies with most of the site standards for the RA zone district (including side and rear setbacks and lot coverage) and will result in future structure consistent with a design that could be approved on any similarly sized lot in the vicinity.

A specific plan has not been adopted for this portion of the County.

4. That the proposed **use** will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that the proposed development envelope is proposed on an existing undeveloped lot. The expected level of traffic generated by the proposed project is anticipated to be only 1 peak trip per day (1 peak trip per dwelling unit) and such an increase will not adversely impact existing roads and intersections in the surrounding area.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed development envelope will accommodate a future single family residence in a neighborhood of existing single family residences of mixed design, built at rural densities; therefore the proposed development envelope is consistent with the land use intensity and density of the neighborhood.

6. 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 a future single family residence located within the proposed development envelope will be reviewed to ensure it is of an appropriate scale and type of design that will enhance the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area.

Application #: 06-0488
APN: 103-171-31,32
Owner: Paul **Gravenhorst; Gravenhorst** FLP

Conditions of Approval

Exhibit A: Tentative Map, 2 sheets, prepared by *Cary* Edmundson & Associates, dated March 8,2007

I. This permit authorizes a Lot Line Adjustment and the designation of a development envelope within a front yard setback and riparian comdor. Prior to exercising any rights granted by this permit the applicant/owner shall:

A. File deed(s) of conveyance (which must result in parcel configurations that match the approved Exhibit "A" for this permit) with the County Recorder to exercise this approval. Parcels or portions of parcels to be combined must be in identical ownership.

1. The deed(s) of conveyance must contain the following statement after the description of the property(ies) or portion(s) of property to be transferred:

a. "The purpose of the deed is to adjust the boundary between Assessor's Parcel Number 103-171-31 and Assessor's Parcel Number 103-171-32 as approved by the County of Santa Cruz under Application 06-0488. This conveyance may not create **a** separate parcel, and is null and void unless the boundary is adjusted as stated."

2. Return a conformed copy of the deed(s) to the Planning Department.

3. Record a record of survey with the County Surveyor's office which monuments the new property comers as a result of the Lot Line Adjustment and the location and legal description of the development and building envelopes as approved in "Exhibit A". You must include a copy of these Conditions of Approval to the County Surveyor with the map to be recorded.

B. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

C. Pay the current fees for Parks and Child Care mitigation for three bedrooms, which are currently $578 and $109 per bedroom, respectively. Any additional bedrooms proposed will require additional fee payment at the building permit stage.

II. Prior to any construction or site disturbance, the applicant/owner shall:

A. Obtain a Building Permit from the Santa Cruz County Building Official.

B. Obtain a Grading Permit from the Santa Cruz County Building Official, if required.

EXHIBIT C

III. Prior to issuance of a Building Permit the applicant/owner shall:

A. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder).

B. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "A" on file with the Planning Department. Any changes from the approved Exhibit "A" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:

1. Identify finish of exterior materials and color of roof covering for Planning Department approval. Any color boards must be in 8.5" x 11" format.

2. Any proposed structures or development disturbance on Parcel -32 must take place completely within the approved geologic envelope as approved in Exhibit "A".

3. Plans shall reference the Engineering Geology Investigation by Zinn and Associates dated January 17,2007 and December *6,2005,* Project No. 2005032-G-SC as accepted by the County Geologist.

4. Plans shall reference the Geotechnical Investigation by Dees and Associates dated December 31, *2006,* Project No. SCR-0084, as accepted by the County Geologist.

5. Grading, drainage and erosion control plans.

6. The applicant shall submit a certified arborist's report that provides recommendations for tree preservation of any tree in the vicinity of the proposed improvements.

   a. Tree removal outside of the building envelope shall not occur

   b. All recommendations provided in the arborist report shall be clearly printed on the plans.

   c. Building plans shall show tree protection fencing around trees to be retained and construction fencing and sediment control barriers between the proposed development and the creek.

7. For any structure proposed to be within 2 feet of the maximum height limit for the zone district, the building plans must include **a** roof plan and a

surveyed contour map of the ground surface, superimposed and extended to allow height measurement of all features. Spot elevations shall be provided at points on the structure that have the greatest difference between ground surface and the highest portion of the structure above. This requirement is in addition to the standard requirement of detailed elevations and cross-sections and the topography of the project site which clearly depict the total height of the proposed structure.

8. Details showing compliance with fire department requirements, including all requirements of the Urban Wildland Intermix Code, if applicable.

C. Fully engineered geology and geotechnical engineering reports are required prior to building, as per County Geologist acceptance letter dated March 1,2007.

D. No building, grading or other development shall occur outside of the designated development envelope as shown on approved "Exhibit A".

E. Submit plan review letters from the project geologist and geotechnical engineer. The plan review letters must review the **FINAL** building permit application plans and should not be submitted until final plans acceptable to all reviewing agencies have been prepared. The plan review letters must state that the final project plans conform to the recommendations in the reports.

F. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.

G. Meet all requirements of and pay drainage fees to the County Department of Public Works, Drainage.

H. Obtain Environmental Health Clearance for this project from the County Department of Environmental Health Services. The proposed septic area on parcel -32 is approved for a maximum of four bedrooms. Should a future property owner request more than four bedrooms, further Environmental Health review of the septic system shall be required.

I. Meet all requirements and pay any applicable plan check fee of Central Fire Protection District.

J. The property owner shall submit photographs of the existing conditions of Los Robles Road to the Planning Department. The property owner shall be responsible for the repair of any damage to Los Robles Road due to heavy equipment use.

K. Provide required off-street parking as per section 13.10.552 of the County Code. Parking spaces must be 8.5 feet wide by 18 feet long and must be located entirely outside vehicular rights-of way. Parking must be clearly designated on the plot plan and is based on the number of bedrooms proposed.

L. 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.

M. Complete and record a Declaration of Geologic Hazards. **You** may **not** alter the wording **of** this declaration. The County Geologist will provide the Declaration of Geologic Hazards form after his review of the full geology and geotechnical reports. Follow the instructions to record and return the form to the Planning Department.

IV. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:

A. **All** site improvements shown on the final approved Building Permit plans shall be installed.

B. **All** inspections required by the building permit shall be completed to the satisfaction of the County Building Official.

C. Submit a letter from the Project Geotechnical Engineer confirming that all of the construction complies with the recommendations of the geotechnical engineer.

D. 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.

V. Operational Conditions

A. The project soils engineer and engineering geologist must remain involved with the project during construction.

B. No trees shall be removed that are not specified for removal on approved "Exhibit A".

C. The property owner shall be responsible for repair of any road damage to Los Robles caused during building construction.

D. **All** construction shall comply with the arborist's recommendations.

E. In the event that future County inspections of the subject property disclose

noncompliance 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 actians, up to and including permit 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, 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'sfees 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.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning **Director at the request** of **the applicant** or staff in **accordance with Chapter 18.10 of** the **County Code.**

Please note: This permit expires two years from the effective date an the expiration date listed below unless you obtain tbe required permits and commence construction.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Don Bussey	Samantha Haschert
Deputy Zoning Administrator	Project Planner

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

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

The Santa Cruz County Flaiiiiiig Depaitiiicnt has reviewed !he project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of **CEQA** for the reason(s) which have been specified in this document.

Application Number: 06-0488
Assessor Parcel Number: 103-171-31,32
Project Location: 2599 Soquel San lose Road; No Situs

Project Description: Proposal to do an equal exchange **of** land and to designate a development envelope **on** parcel **103-171-32**

Person or Agency Proposing Project: Stephen Graves & Associates

Contact Phone Number: **(831) 465-0677**

A. ____ The proposed activity is not a project under CEQA Guidelines Section 15378.
B. ____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).
C. ____ Ministerial Proiect involving only the use of fixed standards or objective measurements without personal judgment.
D. ____ Statutory Exemption other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type:

E. __X__ Categorical Exemption

Specify type: Class 5 - Minor Alterations in Land Use Limitations (Section 15305)

F. Reasons why the project **is** exempt:

Proposal for **a** minor lot line adjustment and setback variances not resulting in the creation **of** a new parcel.

In addition, none of the conditions described in Section 15300.2 apply to this project.

_____ Date:_____
Samantha Haschert, Project Planner

EXHIBIT D

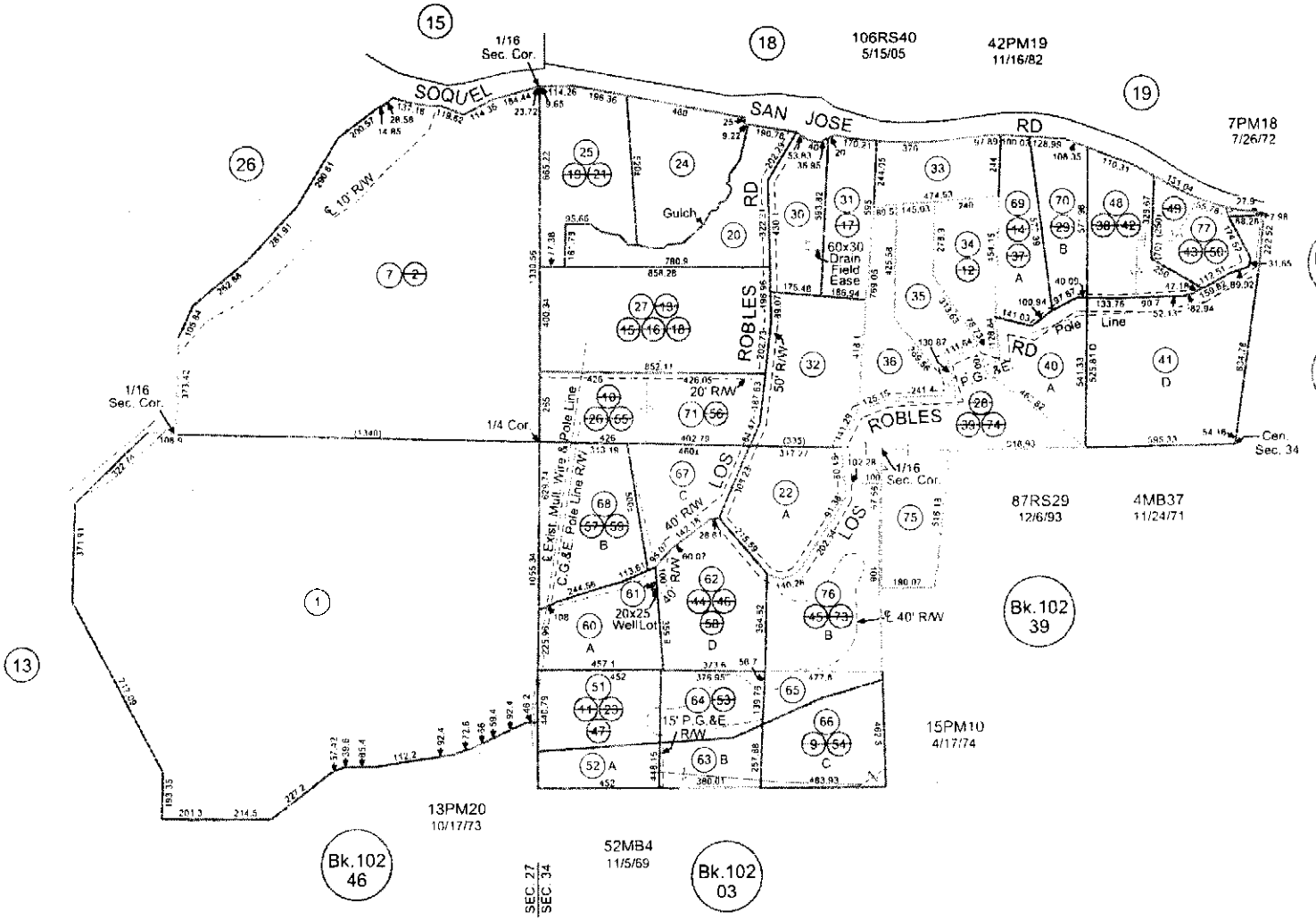
FOR TAX PURPOSES ONLY

THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.

POR. SECS. 27 & 34
T.10S., R.1W., M.D.B. & M.

Tax Area Code
83-010

103-17



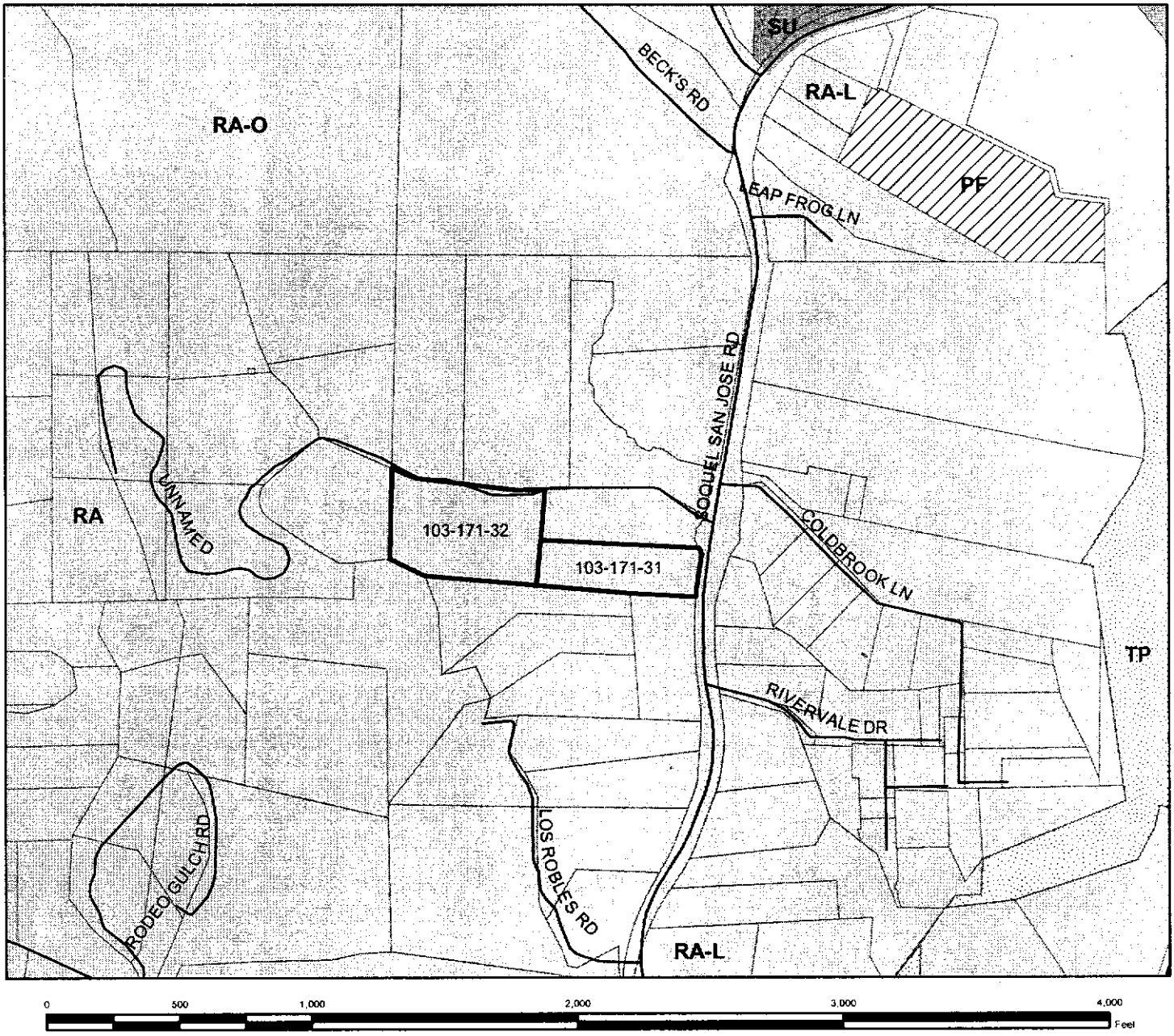
Note - Assessor's Parcel & Block Numbers Shown in Circles.

Assessor's Map No. 103-17
County of Santa Cruz, Calif.
Aug. 1998

Electronically redrawn 8/21/98 KSA
Rev. 9/29/01 mvm (changed page refs.)
Rev. 3/18/02 mvm (st name)
Rev. 9/30/02 OO (combo form, 1-77)
Rev. 8/30/05 mvm (106RS40)

EXHIBIT [25]

Zoning Map



Legend

- Subject Parcels
- Streets selection
- Assessors Parcels
- AGRICULTURE RESIDENTIAL (RA)
- TIMBER PRODUCTION (TP)
- PUBLIC FACILITY (PF)
- SPECIAL USE (SU)

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
June 2007

EXHIBIT F

C O U N T Y O F S A N T A C R U Z
Discretionary Application Comments

Project Planner: Samantha Haschert
Application No.: 06-0488
APN: 103-171-31

Date: June 11, 2007
Time: 14:48:12
Page: 1

Environmental Pianning Compieteness Comments

========= REVIEW ON SEPTEMBER 26, 2006 BY ANDREA M KOCH =========

1) Please pay the fee for review of the feasibility studies completed by the geologist and soils engineer. After payment of the fee, the County Geologist will review the studies.

2) Submit a surveyed topographic map showing topographic contours of the subject properties (APN 103-171-32 and APN 103-171-31).

3) Show all significant features on the surveyed topographic map. including:

- bankfull flowline of the creek

- top of bank of the creek

- location of the proposed building site

locations of proposed septic sites

location, size. and species of all trees i the v cinity f he ek and proposed building site

proposed access to the building site

========= UPDATED ON NOVEMBER 27, 2006 BY JOSEPH L HANNA =========

The information requested by Miss Koch has not been submitted and must be submitted before the project is determined to be complete. Staff has met the geologist on the site, and has discussed the issue of the transfer of land to allow for an improved septic system location. Based upon the conversations and the letter, a feasible drain field can be placed, from a slope stability stand point, on both lot configurations. Even so. the applicant has not demonstrated that there is a building site on the existing or proposed lot configurations.

Letter sent to applicant's geologist requesting an opinion about the ability to construct a home on the site. ========= UPDATED ON DECEMBER 5, 2006 BY JOSEPH L HANNA =========
========= UPDATED ON MARCH 1, 2007 BY JOSEPH L HANNA =========
The engineering geology report and geotechncial engineering report have been accepted. The reports indicate that a building site does exist on parcel 103-171-32, but indicates that further work will be need at Building Permit stage. ========= UPDATED ON APRIL 10, 2007 BY ANDREA M KOCH =========

1) Per the County Geologist, please show on the plans the geologic envelope as designated by the project geologist.

EXHIBIT G

Please also submit a plan review letter from the project geologist. The plan review letter must review the plan sheet showing the geologic envelope. It must state that the geologic envelope is acceptable and in accordance with the geology report's recommendations.

Environmental Planning Miscellaneous Comments

========== REVIEW ON SEPTEMBER 26. 2006 BY ANDREA M KOCH ==========

Compliance Comments:

1) To build at the proposed building site. you will need to apply for and be granted a Riparian Exception. To grant a Riparian Exception, Environmental Planning staff must be able to make certain findings. See the attachment for details.

The Riparian Exception will not be granted if there are other feasible building sites on this property that do not require a Riparian Exc eption. The surveyed topographic map will help to determine if there are o ther feasible building sites. More geologic and/or geotechnical information may also be needed at a later time to determine if there are other feasible sites.

Note: Without a Riparian Exception, no disturbance is allowed within 20 feet of the top-of-bank of the ephemeral stream. Any structures must be set back an additional 10 feet for a total setback for structures of 30 feet from the top-of-bank of the stream.

In addition. there is no disturbance allowed within 20 feet of the edge of the dripline of woody vegetation along the stream (in this case, the redwoods). All structures must be located an additional 10 feet away to allow for construction equipment and use of the yard area. Therefore, all structures must be set back a total of 30 feet from the edge of the dripline of the redwoods, unless a Riparian Exception is granted. ========== UPDATED ON APRIL 10, 2007 BY ANDREA M KOCH ==========

Conditions of Approval:

1) Full engineering geology and geotechnical engineering reports must be submitted during building permit application

2) Submit a certified arborist's report during building permit application. The report must make recommendations for tree preservation in the vicinity of the proposed improvements.

All construction shall comply with the arborist's recommendations. The arborist's recommendations must be printed on the plan sheet showing grading and tree removal

3) Tree removal outside of the immediate vicinity of the proposed improvements shall not take place.

4) Building permit application plans must show tree protection fencing around trees to be retained and construction fericiriy and sediment control barriers between the proposed development and the creek.

EXHIBIT G

5) During building permit application, please submit full grading, drainage, and erosion control plans.

6) Building permit application plans must show the geologic envelope as designated by the project geologist

7) During the building permit application phase, please submit plan review letters from the project geologist and geotechnical engineer. The plan review letters must review the FINAL building permit application plans and should not be submitted until final plans acceptable to all reviewing agencies have been prepared. The plan review letters must state that the final project plans conform to the recommendations in the reports.

8) A Declaration of Geologic Hazards must be recorded before the issuance of the building permit. The County Geologist will provide the Declaration of Geologic Hazards after his review of the full geology and geotechnical reports.

Environmental Health Completeness Comments

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

========== REVIEW ON SEPTEMBER 25. 2006 BY JIM G SAFRANEK ==========
Application is not approved by EHS until the septic site location is reviewed and approved by the County Geologist.
========== UPDATED ON SEPTEMBER 26, 2006 BY JIM G SAFRANEK ==========
========== UPDATED ON APRIL 6, 2007 BY JIM G SAFRANEK ========== EH requires a complete layout of the septic leachfield/expansion field for -32. Leachfield sizing must be based on the proposed # of bedrooms in the SFR. The septic consultant must also state that the tightline from the septic tank to the leachfield will be properly setback to the proposed waterline.Contact Brian Blease of EHS at 454-2736.

Environmental Health Miscellaneous Comments

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

========== UPDATED ON SEPTEMBER 26. 2006 BY JIM G SAFRANEK ========== No Comment
========== UPDATED ON APRIL 6, 2007 BY JIM G SAFRANEK ==========
NO COMMENT

EXHIBIT G

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

May 29, 2007

Richard Crescini
2621 Old San Jose Road
Soquel, CA 95073

Subject: Application # **06-0488** Assessor's Parcel #: **103-171-31,32**
Owner: **Paul Gravenborst; Gravenhorst FLP**

Dear Mr. Crescini:

I have received your letters dated March 22,2007 and March 23, 2007 regarding your concerns about application 06-0488 for a Lot Line Adjustment, Variance and Riparian Exception. The Zoning Administrator will have the ability to review your letters prior to a public hearing.

I have copied your letters for the applicant. I encourage you and the other neighbors to work individually with the applicant to resolve these issues prior to a public hearing in order to obtain an outcome that is agreeable to all parties involved.

I have responded to some of your specific concerns below:

1) I am happy to meet with you to further discuss this project if my below responses do not address your concerns. In addition, if you would like to come to the Planning Department to review the project file and plans, please let me know in advance and I will make those available to you. This project has not yet been scheduled for a public hearing. Please let me know if you would like to be added to the list of people to receive a copy of the agenda and staff report, which are distributed about one week prior to the public hearing. Please remember that you will have an opportunity to speak at the public. hearing if you feel that your concerns were not adequately addressed.

2) Our files do not indicate that this parcel was determined "unbuildable". In ihe past, several projects on the two subject parcels have been denied by the County for various reasons; however they were not denied based on a determination that parcel 103-171-32 was unbuildable. This would require a written determination by the County Geologist and Environmental Health Services and would be recorded with the Assessors Office.

3 & 4) I will try to explain the process the applicant has gone through up until now. To clarify, this application does not include a proposal to construct a building, rather the applicant is requesting the designation of a building site. The property owner would still need to obtain a building permit prior to construction on the site.

EXHIBIT G

Any time we receive an application for a lot line adjustment which involves a vacant parcel, we must determine that the parcel is buildable before and after the lot line adjustment. This means that the parcel is reviewed by both Environmental Health Services and Environmental Planning to determine if there is a building site that could be adequately served by septic. Specifically, we review lot line adjustments against the following standards:

- It must involve four or fewer parcels
- All parcels must be adjacent (touching)
- No additional building sites may be created (as discussed above)
- All parcels involved are legal parcels
- All parcels involved meet the minimum lot size as it applies to lot line adjustments

Should any of these standards not be true, then staff would recommend denial of the lot line adjustment. In this case, both Environmental Planning and Environmental Health Services have determined that there is a building site on the existing parcel and on the resulting parcel.

Variances are parcel specific and, in this case, the building site that was approved as "buildable" by the County Geologist and Environmental Health Services would require Variance approval and/or a Riparian Exception to actually build on the site. The applicant chose to apply for these permits at this time so that when the property is sold, a future owner would not be burdened by these requirements for development. Because it is the ONLY possible building site on the property, due primarily to the steep topography, staff felt that they could make the findings to support these permits. These findings will be included in the staff report for you to review at that time.

5) All required soils reports for the proposed development envelope were submitted by certified geotechnical engineers and have been reviewed and approved by Environmental Planning. In addition, there will be several conditions associated with this approval that pertain to development and land disturbance occumng ONLY within the approved development envelope. Unfortunately, we cannot protect against mismanagement, as code violations occur all the time. The best way to handle code violations is to report them to the Code Compliance Division. The detailed reports and reviews are in the project file for you to review at your convenience. Again, Environmental Planning staff has determined that they can make the findings for a riparian exception and these findings will be included in the staff report.

6) The purpose of property line setbacks are indeed to ensure that there is adequate light, air, and access between parcels. The proposed Variance would allow a future potential home to be located closer to the street; not to an existing residence. The proposed side and rear yard setbacks far exceed the setback requirements for the zone district.

7) I understand your concerns regarding construction and possible road damage. I can easily add a condition of approval that would hold the property owner or applicant responsible for all roadway damages incurred by construction.

EXHIBIT G

8) No on-street parking is proposed in this project. The proposed building site is very small and therefore will be severely limited in terms of house size and the associate parking requirements. As proposed, the building site could incorporate a 2-car garage and a 1-car carpoit. In terms of the parking only, three parking spaces would fulfill the requirements for a 2-4 bedroom house; however, as I've mentioned, the building site is very small and it's very unlikely that a future home would be able to meet or exceed 1000 square feet in size.

I hope this helps to answer your questions. Again, I encourage you to come in and take a look at the plans to see what is actually being proposed in this project. Your comments will be included in the project file and will be included in the staff report for the Zoning Administrator to review prior to a public hearing.

Should you have further questions concerning this application: please contact me at: (831) 454-3214.

Sincerely,

Samantha Haschert

Samantha Haschert
Project Planner
Development Review

EXHIBIT G

March 23.2007

Samantha Haschert
Project Pianner
Planning Department
701 Ocean Street, 4" Floor
Santa Cruz, CA. 95060

Please disregard the named Abreus family in the land exchange, the items in red in the initial letter appears to be in error with the current information I have in my possession. Item # 7 still stands as a concern due to their swimming pool construction and land clearing on behalf of the Abreus property owner's actions and the road damages associated with this project and the now "proposed project". In addition to the items described in the letter **of** May 22,2007, I would like to go on record as requesting details on the proposed project "on property parking" of vehicles since it appears by my physical inspection of this area that there is little to no land to build a structure and still adequately allow for this on property parking to occur. Can there be discussions as to restrictions in this matter in the proposed project to ensure that no on right of way (street parking) will occur? The Old San Jose Road is narrow already and requires vehicle pull over in certain sections. On street parking will compound this situation. Currently this section of the road is sufficient to allow for little to no pull over vehicle needed.
Currently **no** street parking occurs on our Old San Jose Road to date.

6. The land exchange with the Abreus property. directly adiacent to the proposed project to the West. may in fact further reduce the size of this property. and which in fact to the best of my knowledge is already below the minimum five acre requirements for this developed area.
There is **a** cardinal fact about the current Old **San** Jose Road neighborhood that is due to large property line set backs in place, and the five acre minimums have provided privacy for the residents heretofore by not being impacted by such a "proposed development" with the requested reduced variances. Also. will there be a change in the Abreus access roads due this "land exchange" which may cause additional land excavationisoil damage, and additional heavy equipment traffic damaging our collective road surface? Will the potentials for any such changes on

EXHIBIT G

I

the Abreus property is included for review or questioned by the Planning Commission as part of this proposed development project?

7. Two years back or so, with the Abreus's purchase of the above mentioned adjacent property to this proposed project, created an undue amount of damage to our road surfaces which was solely supported by our Road Fund dues. This also included damage to a cross over culvert/bridge. All in all, the Abreus payment of their annual road fund dues significantly lacked covering the damage done to the entire road surface due to their created heavy equipment traffic. Would not this proposed project also incur equal, if not greater damage to our surfaces, which will ultimately be collectively required by all to support repairs?

Thank you for your added attention in this matter.

Sincerely,

Richard Crescini
Resident
2621 Old San Jose Road
Soquel; **CA.** 95073
831-464-2792 Home
831-466-8500 Pager

EXHIBIT G

2

March 22, 2007

Samantha Haschert
Project Planner
Planning Department
701 Ocean Street: **4"** Floor
Santa Cruz. CA. 95060

The proposed project Application Number **06-0488,** the applicant being Stephen Graves of Soquel, involving parcels APN 103-171-31 and **32,** on the West side of Old San Jose Road in Soquel has raised several questions by the Road Fund members of our small private neighborhood.

From this perspective there are several concerns and questions currently with the "proposed development" and the associated requested variances.

1. We are requesting a meeting with you, prior to any hearings being held. The two Road Fund representatives are Paul Giles and I. When is the earliest possible date and time we can meet with you for the ultimate details needed?

2. This parcel historically **has** been found to "unbuildable" for various reasons to be explained in the process of this letter.

3. Unbuildable realistically incorporates several issues to be addressed to the Planning Commission. The first being, why now that a "developer" has indicated a desire to construct a building, and why now would the County consider reducing the set back requirements to a point which it has not allowed on any other developed parcel on this road to date, and likely the immediate surrounding area? How many such reduced variances have been granted in the past year: five years, or ten years by the Planning Commission? If any, what are the extenuating circumstances that these reduced set backs have been granted?

4. What, if any, are the Planning Commission guidelines which may deem a parcel unbuildable? How do they apply to this proposed project? Are they available for our review? I do know the Planning Commission is strict on granting permits which are deemed both buildable and unbuildable.

5. There is **a** protected riparian comdor (a rain water runoff tributary), which is vital in many years past to handle extreme rain runoff during heavy rain falls. At times I have personally witnessed runoff water levels in this conidor reaching up to six plus feet for varying brief periods of time from six to eighteen hours. The major concerns here concerning this riparian comdor are two fold.

    a. The first being owner mismanagement of this riparian comdor may cause blockage due to debris in this comdor **as** a result of inappropriate

EXHIBIT G
1

and unmonitored residence activity in this project location. **Also,** due to land excavation in the surrounding area may cause this corridor to be blocked by dirt or tree slides. Have all of the soil requirements been addressed in this proposal to ensure that this will not be a **risk** to the residents of Old San Jose Road? Which to date there has **not** been an issue with blockage under the current environmental conditions present on this road by the associated current residences. If blockage may occur in the future, due to owner mismanagement of this corridor, it has the potential of creating large flows of backed **up** rain water on to the current road creating damage and vehicle safety issues. *Also,* to mention the potential of this volume of water over flow could endanger not only **this** proposed development but also the properties of at least three other properties below the blockage point and maybe even beyond.

b. The second is this riparian corridor has water flow directly to the Soquel Creek and ultimately to the Monterey Bay. Has there been an environmental impact services study done on the potential hazards associated with a septic system leeching into this riparian corridor? Has an appropriate environmental health inspector been here for physical review of this potential invasion via **a** septic tank? Is there a guarantee in time that the County environmental health inspectors will be continuously inspecting the efficiencies of any proposed septic system to prevent environmental harm and damage?

6. The **land** exchange with the Abreus property, directly adjacent to the proposed project to the West, may in fact further reduce the size of this property, and which in fact to the best of my knowledge is already below the minimum five acre requirements for this developed area.
There is a cardinal fact about the current Old San Jose Road neighborhood that is due to large property line set backs in place, and the five acre minimums have provided privacy for the residents heretofore by not being impacted by such a "proposed development" with the requested reduced variances. *Also,* will there be a change in the Abreus access roads due this "land exchange" which may cause additional land excavationisoil damage, and additional heavy equipment traffic damaging our collective road surface? Will the potentials for any such changes on the Abreus property be included for review or questioned by the Planning Commission **as part** of this proposed development project?

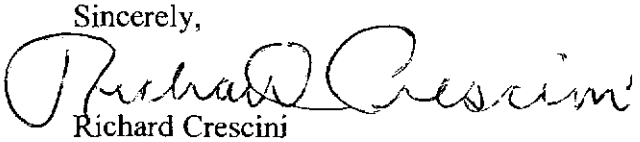
7. Two years back or so, with the Abreus's purchase of the above mentioned adjacent property to this proposed project, created an undue amount of damage to our road surfaces which was solely supported by our Road Fund dues. This also included damage to a cross over culvert/bridge. All in all, the Abreus payment of their annual road fund dues significantly lacked covering the damage done to the entire road surface due to their created heavy equipment traffic. Would not this proposed project also incur equal, if not greater damage to our surfaces, which will ultimately be collectively required by all to support repairs?

EXHIBIT G

Although I understand there is due processes in place by the County Planning Commission to consider each request submitted, but, I believe I have demonstrated significant considerations around this "unbuildable property" which could adversely impact the current residences of Old San Jose Road.

Thank you for your time and consideration in this matter and we look forward to meeting very soon to gain more information and to discuss our points of interest.

Sincerely,



Richard Crescini
Resident
2621 Old San Jose Road
Soquel, CA. 95073
831-464-2792 Home
831-466-8500 Pager

EXHIBIT G

Samantha Haschert

From: Jim Safranek
Sent: Monday, April 16, 2007 10:11 AM
To: Samantha Haschert
Subject: RE: Update 06-0488

SH:
Zack stated on a voice mail that the proposed septic area, based on the septic consultant's work, is acceptable for up *to* **4** bedrooms. That should be a condition of this planning permit, regardless of what the project description is.

This project is now approved by EHS

Jim

-----Original Message-----
From: Samantha Haschert
Sent: Friday, April 13, 2007 7:29 AM
To: Jim Safranek
Subject: RE: Update 06-0488

Thanks. I agree with you that it's better to know upfront rather than create surprises for future property owners.

Sam

Samantha Haschert
Project Planner II
Santa **Cruz** County Planning Department
701 Ocean Street, 4th Floor
Santa **Cruz, CA** 95060
Ph: (831) 454-3214
Fx: (831) 454-2131

-----Original Message-----
From: Jim Safranek
Sent: Thursday, April 12, 2007 1:38 **PM**
To: Samantha Haschert
Subject: RE: Update 06-0488

I spoke with Zack and asked him to contact the septic consultant and his client. I'd accept a verbal, though a layout is preferable, from Zack or the consultant on the maximum number of bedrooms based on the leachfield area available. That response may come today, and then I can revise **EH** comments.

Jim

-----Original Message-----
From: Jim Safranek
Sent: Thursday, April 12, 2007 9:35 AM

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street. Suite 8A Santa Cruz. CA 95060 Phone (831) 427.1770 Fax (831) 427.1794

June 12, 2006 Project No. SCR-0084

GRAVENHORST FLP
% Martha Brower – General Partner
2190 Camino A ios Cerros
Menlo Park, California 94025

Subject: Geotechnical Feasibility Study – Proposed Single Family Residence

Reference: Los Robles Road, West of Soquel-San Jose Road
APN 103-171-32
Santa Cruz County,,California

Dear Ms. Brower:

As requested, this letter discusses the geotechnical feasibility of constructing 2 single family residence at the referenced site. The residence would be located on a gently sloping pad adjacent to the existing paved access road

Our scope of work was as follows. 1) a site visit and reconnaissance of the lower portion of parcel APN 103-171-32 with Joseph Hanna, Santa Cruz County Geologist, Erik Zinn. Geoiogist with Zinn Geology and Ken Mabie, Sanitarian with Environmental Concepts, 2) review of available data in our files regarding the site and region, 3) engineering analysis and evaiaation of the resulting data and **4)** submittal of this letter presenting the results of our study.

Site Description

The referenced site is iocated west of Soquel-San Jose Road, just south of Coldbrook Lane in the County of Santa Cruz, California, Figure 1. The site comprises the north side *ot* a broad east-west trending ridgeline and extends from the top of the ridge down to the valley floor. A common driveway provides access to the site from the valley below. The portion of the site adjacent to driveway is level to gently sloping with an incised drainage channel that flows west to east between the toe of the steep ridge slope and the driveway.

The site is undeveloped and heavily vegetated with smal! to medium size trees and a thick underbrush.

Project Description

We understand a new single family residence is being considered for the site. The proposed homesite is located on the valley floor between the common driveway and the drainage channel. The building pad is fairly level with the exception of the drainage channel that has 8 to 10 foot high, nearly vertical side slopes. The steep ridge slope begins a few feet on the other side of the drainage channel.

EXHIBIT H

The homesite is vegetated with large redwood tree groups, scattered small and medium sized trees and underbrush.

Soil Conditions

The site is underlain by Purisima Formation Bedrock (Tp), (Brabb), with varying thicknesses of soil cover. The soil cover is typically thinner near the top of slopes, thicker at the base of slopes and thickest under the valley floors. The depth of soil below the valley floor is unknown.

Discussions and Conclusions

A homesite located at the base of the slope within the valley floor is feasible from a geotechnical standpoint. Primary geotechnical considerations for the residence include setting back from the edge of the drainage channel and providing firm, uniform support for the proposed foundation.

The homesite is fairly level, however, the drainage channel lies adjacent to the homesite and the edges of the channel are comprised of loose alluvial soils that are susceptible to erosion and slumping. The proposed residence should be setback from the edge of the channel or the side slopes of the channel should be protected from erosion and landsliding. A design-level geotechnical investigation should be performed to determine an appropriate setback distance.

There may be a debris flow potential on the side slopes of the ridge due to its steepness and shallow soil cover. There does not appear to be any deep seated landslide potentials at the site. Discussions with Erik Zinn and Joe Hanna indicate any debris flows that occur on the ridge side slope would not impact the residence because the landslide material would collect in the drainage channel.

Conclusions

The homesite proposed for the site appears feasible from a geotechnical standpoint. The homesite located on the valley floor is the most suitable location from a slope stability perspective. The homesite is flat and only needs **to** be setback from a small, incised drainage.

Limitations

The opinions expressed in this letter are based on a visual examination of the lower portion of the site, review of available data regarding the site and vicinity and discussions with Erik Zinn, project Geologist, Ken Mabie, project sanitarian and Joseph Hanna, County Geologist. While we believe that our conclusions are well founded, it is possible that there may be undiscovered conditions that would cause us to revise our opinions and/or recommendations. This letter, therefore, should not be construed to be any type of guarantee or insurance.

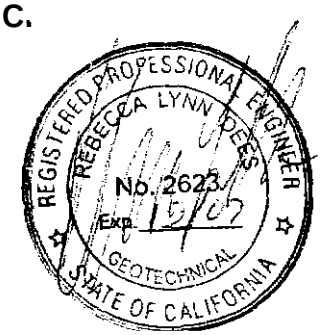
EXHIBIT H

A more detailed study shouid be undertaken to develop design-level geotechnical recommendations for the proposed improvements. We would be pleased to perform such a study if you desire. We understand an engineering geologist will be preparing a geology study of the site, We will work closely with the project geologists.

Should you have any question, please do not hesitate to call our office

Very truly yours,

DEES 8 ASSOCIATES, INC.



Rebecca L. Dees
Geotechnical Engineer
G.E. 2623

Attachments

Copies: 2 to Addressee
1 to Stephen Graves & Associates

EXHIBIT H

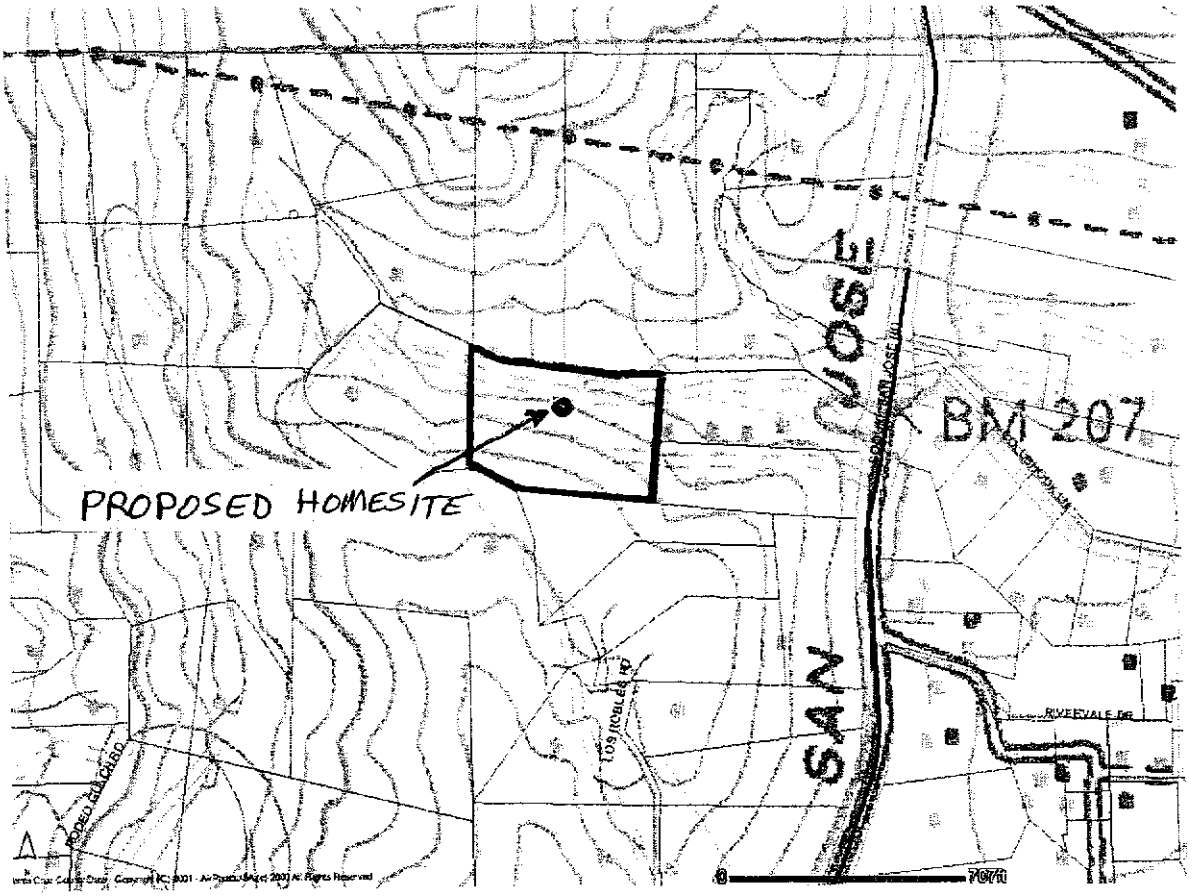


EXHIBIT H

U.S.G.S. Topographic Map	
APN 103-171-32 Santa Cruz County, CA	Drawn By: BD
Project No. SCR-0084	**FIGURE 1**

Dees & Associates
Geotechnical Engineers
501 Mission Street, Suite 8A Santa Cruz, CA 95060 Phone (831) 427-1770 Fan (831) 427-1794

December 31, 2005 Project No. SCR-0084

GRAVENHORST FLP
% Martha Brower – General Partner
2190 Camino A Los Cerros
Menlo Park, California 94025

Subject: Geotechnical Feasibility Study – Proposed Septic Leachfield

Reference: Las Robles Road, West of Soquel-San Jose Road
APN'S 103-171-31 and 103-171-32
Santa Cruz County, California

Dear Ms. Brower:

At your request, we are providing this letter discussing the geotechnical feasibility of installing septic leachfield at the referenced sites We understand you would like to perform a lot-line adjustment between the referenced sites in order to move the proposed leachfield from APN 103-171-32 to APN 103-171-31.

Our scope *of* work was as follows: 1) a single site visit and reconnaissance of the lower portion of parcel APN 103-171-32 with Joseph Hanna, Santa Cruz County Geologist, Erik Zinn, Geologist with Zinn Geology and Ken Mabie, Sanitarian with Environmental Concepts,' 2) review of available data in our files regarding the site and region, 3) engineering analysis and evaluation of the resulting data, 4) based on our findings we have determined the geotechnical feasibility of installing a septic leachfield at the *two* referenced sites. and 5) submittal of this letter presenting the results of our study.

The opinions expressed in this letter are based an a single site visit to the base of the slope on APN 103-171-32, review of data available in our files and discussions with Erik Zinn, project Geologist. We have not observed the proposed septic location on APN 103-171-31, nor have we performed a septic investigation at either site. Therefore, we highly recommend performing a full geologic and geotechnical investigation, performing a septic investigation by a licensed sanitarian and consulting with the appropriate governing agencies prior to preparing plans or submitting for permits for the proposed improvements.

Site Description

The referenced sites are located west of Soquel-San Jose Road, just south of Coldbrook Lane in the County of Santa Cruz, California, Figure 1. Both sites, APN'S 103-171-32 and 103-171-31, comprise the north side of a broad east-west trending ridgeline. The largest parcel, APN 103-171-32, is located west of APN 103-171-31 and extends from the top of the ridge down to the valley floor adjacent to Las Robles Road. Access to APN 103-171-32 is from Las Robles Road. The smaller parcel. APN 103-171-31. is east of the larger parcel

EXHIBIT H

and is situated near the top edge of the ridge line. Access to APN 103-171-31 is from a private driveway off Soquel-SanJose Road. Both parcels are undeveloped. See Figure 2.

Project Description

We understand a new single family residence and septic leachfield are being considered for the referenced sites. The proposed homesite is located on the valley floor adjacent to Las Robles Road on parcel APN 103-171-32. Two potential septic leachfield sites are being evaluated on parcel APN 103-171-32, one at the base of the valley adjacent to Las Robles Road and one on top of the ridge and one potential septic leachfield site is being evaluated on parcel APN 103-171-31 at the top of the ridge. The preferred septic leachfield site is located on Parcel APN 103-171-31. We understand a lot-line adjustment is proposed to move the septic leachfield location currently on APN 103-171-31 to APN 103-171-32, Figure 3.

Soil Conditions

The site is underlain by Purisima Formation Bedrock (Tp), (Brabb), with varying thicknesses of soil cover. The soil cover is typically thinner near the top of slopes, thicker at the base of slopes and thickest under the valley floors. The project geologist has postulated the soil cover is less than 10 feel thick at the top of the ridge. The depth of soil cover on the slope and along the valley floor is unknown.

Discussions and Conclusions

The septic leachfield site located at the base of the slope within the valley floor area of APN 103-171-32 is feasible from a geotechnical standpoint. The proposed site is fairly level and is not located near any descending slopes. A small, incised drainage channel passes through the valley floor and site. The edges of the channel are comprised of loose alluvial soils that are susceptible to erosion and slumping. The primary geotechnical consideration for septic leachfields located in the valley floor is setting back from the edge of the drainage channel. Septic leachfields should be setback from the edge of the channel to avoid being undermined in the future. There appears to be enough room to construct a properly located leachfield between the road and the drainage channel. A design-level geotechnical investigation should be performed to determine an appropriate setback distance.

The septic leachfield site located at the top of the ridge on APN 103-171-32 is located near the steep north slope of the ridgeline. Although we have not observed the actual location of the leachfield site, we have observed the north face of the ridge, reviewed topographic information for the leachfield site and had discussions with Erik Zinn regarding the geologic conditions in the vicinity of the leachfield site. The primary geotechnical consideration for leachfields located at the top of the ridge above APN 103-171-32 is landsliding. The parcel only includes the top edge of the ridgeline which is located adjacent to steep slopes.

EXHIBIT H

Although there have not been any landslides mapped at the site, there is a potential for shallow landslides to occur within the soil covering the bedrock if the soil is allowed to become saturated. Full geologic and geotechnical investigations should be performed at this site to develop appropriate setbacks and recommendations for the proposed leachfield. The geologic and geotechnical investigations should include a comprehensive slope stability analysis to evaluate the stability of the steep slopes under saturated soil conditions to determine if a "conventional" type leachfield can be installed in this location. If the slope is not stable under saturated soil conditions, then an "alternative" septic system can be considered. The alternative system would need to be located and designed to control the outflow of water onto the slope to avoid over-saturation of the slope. In addition to the leachfield stability, the pipes ihat connect the residence to the leachfield system need to be safe from landsliding. If the slope is found to be potentially unstable, the pipes leading to the leachfield could be designed to resist damage from landslides. This type of pipe system could be very expensive to construct.

The leachfield site on APN 103-171-31 is located on the top of the ridge on gentle sloping ground. Although we have not observed the actual location of the leachfield site. we have observed the north face of the ridge, reviewed topographic information for the leachfield site and had discussions with Erik Zinn regarding the geologic conditions in the vicinity of the leachfield site. The primary geotechnical consideration for leachfields located at the top of the ridge on APN 103-171-31 is landsliding. However, there appears to be sufficient room at the top of the ridge to set back the proposed leachfield from the edge of the slope without performing a comprehensive (and potentially expensive) slope stability analysis.

Conclusions

The three leachfield sites located APN'S 103-171-32 and 103-171-31 are feasible from a geotechnical standpoint. The leachfield site located on the valley floor is the most stable location from *a* slope stability perspective. The leachfield site is flat and only needs to be setback from a small, incised drainage. We anticipate the setback from the drainage due to slope stability reasons will be less than the setback required by the County of Santa Cruz for septic effluent reasons. We recommend performing a septic investigation and consulting with appropriate Santa Cruz County development agencies prior to developing plans for this location and performing a geotechnical investigation to evaluate the stability of the drainage channel in order to develop appropriate setbacks.

The leachfield proposed at the top edge of the ridge above APN 103-171-32 is also feasible from a geotechnical standpoint provided a full geologic and geotechnical investigation is performed to evaluate the stability of the adjacent slopes. Alternative or enhanced septic treatment systems may be required to maintain slope stability. We recommend performing a full geotechnical and geologic investigation of the proposed septic site to evaluate the stability of the adjacent slopes, performing a septic investigation

by a licensed sanitarian and consulting with appropriate Santa Cruz County development agencies prior to developing plans for this location.

The leachfield proposed at the top edge of the ridge on APN 103-171-31 is also feasible from a geotechnical standpoint. There appears to be adequate room at the top of the ridge to accommodate conservative setbacks from the top edge of the ridge without performing a comprehensive slope stability analysis. We recommend performing a septic investigation by a licensed sanitarian, consulting with the project geologist and consulting with appropriate Santa Cruz County development agencies prior to developing plans for this location.

Limitations

The opinions expressed in this letter are based on a visual examination of the lower portion of APN 103-171-32, review of available data regarding the site and vicinity and discussions with Erik Zinn, project Geologist, Ken Mabie, project sanitarian and Joseph Hanna, County Geologist. While we believe that our conclusions are well founded, it is possible that there may be undiscovered conditions that would cause us to revise our opinions and/or recommendations. This letter, therefore, should not be construed to be any type of guarantee or insurance.

A more detailed study should be undertaken to develop design-level geotechnical recommendations for development of septic leachfields and construction of improvements. We would be pleased to perform such a study if you desire.

Should you have any question, please do not hesitate to call our office,

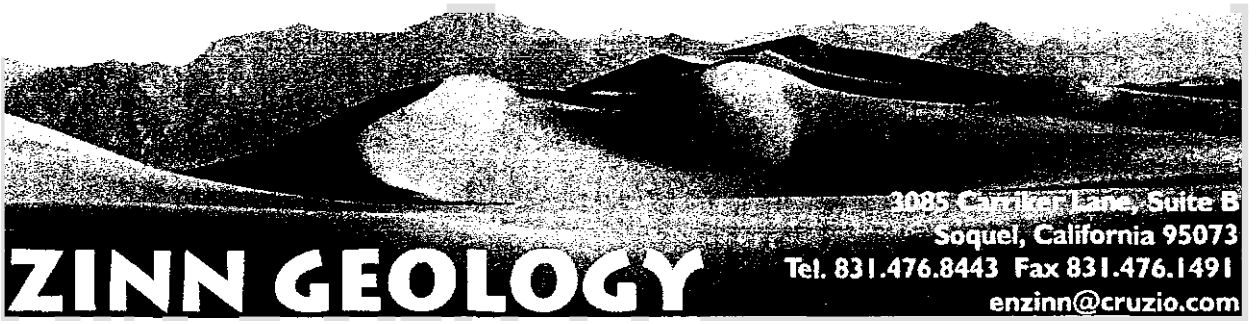
Very truly yours,

DEES *8* ASSOCIATES

Rebecca **L.** Dees
Geotechnical Engineer
G.E. 2623

Attachments

Copies: 2 to Addressee
1 to Zinn Geology



2 May 2007 Job #2005032-G-SC

Gravenhorst FLP
c/o Martha Brouwer - General Partner
2190 Camino A Los Cerros
Menlo Park, California 94025
Tel. &Fax: 650.234.1252

Re: Review of Boundary Adjustment Map
Parcel west of Old San Jose Road
Soquel, California 95073
Countyof Santa Cruz APN 103-171-32

Dear Ms. Brouwer:

This letter summarizes the results of review of an annotated copy of the "Boundary Adjustment Map", dated 8 March 2007, 2 of 2 sheets, drawn by Cary Edmundson & Associates Land Surveying. The boundary survey map by Cary Edmundson & Associates Land Surveying and the annotations by Stephen Graves and Associates are in general conformance with our geological feasibility letter dated 17 January 2007 and our geological septic feasibility letter dated 6 December 2005.

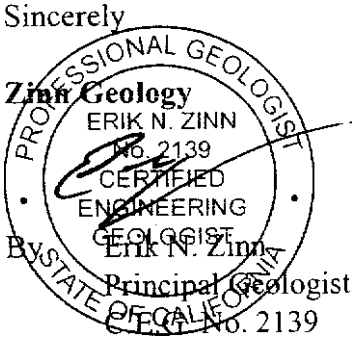
It is important to note that the designated geologically feasible building envelopes are issued as the result of a necessarily limited scope of work by our firm. This does not mean that the geological building envelopes cannot be amended in the future, if property owners elect to pursue more rigorous geological investigations or mitigation.

Geologic investigations for residential development typically focus upon the hazards and attendant risks posed to habitable structures, access roads and septic systems. The goal of geological feasibility studies and design-level geological investigations is to characterize the potential geologic processes that might injure or kill people, cut off vehicular access (such as emergency vehicles) to the residence, or prevent usage of the septic system over the assumed 50-year design life of a residence. Consulting geologists do not typically address other types of development, such as landscaping designs, unless they will elevate the risk to greater than ordinary for habitable structures, access roads or septic systems. Keeping this in mind, we emphatically state that the geologically feasible building envelopes portrayed on the "Boundary

Adjustment Map" are not intended to constrain any development other than habitable structures and septic systems.

It is also important to note the final design of the site development is contingent upon the outcome of full geological and geotechnical engineering studies that adequately characterize the hazards and **risks** identified in our prior letters. All of our recommendations from those letters should be followed in the future, during the design and construction process.

Sincerely



Zinn Geology

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

cc: Ken Mabie - Environmental Concepts
Becky Dees - Dees and Associates
Zack Dahl - Stephen Graves And Associates

EXHIBIT II

17 January 2007 Job #2005032-G-SC

Gravenhorst FLP
c/o Martha Brouwer - General Partner
2190 Camino **A** Los Cerros
Menlo Park, California 94025
Tel. &Fax: 650.234.1252

Re: Geological feasibility for proposed residential site
Parcel west of Old San Jose Road
Soquel, California 95073
County of Santa Cruz APN 103-171-32

Dear Ms. Brouwer:

This letter summarizes the results of our site consultation for the above-referenced property as it pertains to residential development. The original purpose of our consultation was to provide you with a discussion of potential geologic hazards that may impact the proposed development, so as to assist you with making a more informed choice regarding sale of the property. In the middle of the project, you requested that we address the feasibility of the proposed leach field locations on the subject property and the neighboring property to the east, since the Gravenhorst FLP intends to perform a lot-line adjustment between the two lots, so that they may acquire a strip of land for which it will be significantly simpler to design and construct a leach field. In order to perfonn this lot-line adjustment? though: it was our understanding that you would have to demonstrate to the sundry County of Santa Cruz agencies that it would be feasible to design and construct a septic system on the subject property without the lot line adjustment. We issued a letter dated 5 December 2005 that summarized our opinion about the geological feasibility of designing and constructing a leach field at several sites on the subject property, as well as a site on the property to the east.

The County of Santa Cruz Geologist, Joseph Hanna, has now requested that we verify that there is a geologically feasible building site on your property, which would include the construction of a driveway, septic system and residence. Hence, we have written this letter.

This letter is intended for general information purposes only and is not a complete geologic hazards investigation for the property It is intended solely for the use of the addressee and only

for the purpose expressed above. Use by others without reference to the verbal communications that took place between the addressee and Zinn Geology may result in misinterpretation or misunderstanding of our observations and conclusions.

Our services included the following tasks:

1. A review of readily available geologic maps pertinent to the subject property

2. Several site visits with you during which we performed a geologic reconnaissance of the subject property and adjacent terrain, particularly the areas where prospective septic systems may be located. The first site visit was performed with the following people present: project sanitarian, Ken Mabie of Environmental Concepts, project geotechnical engineer, Becky Dees of Dees and Associates, and the County of Santa Cruz Geologist, Joseph Hanna. A subsequent site visit was performed with Mr. Hanna in the fall of 2006 to confirm the proposed residence location in the field.

3. Preparation of a letter dated 5 December 2005 summarizing our observations at the subject property and our opinions regarding the feasibility of designing and constructing a septic system for the property.

3. Preparation of this letter summarizing our observations at the subject property and our opinions regarding the feasibility of designing and constructing a residence for the property.

We were recently provided with a copy of a letter issued by the project geotechnical engineer, Rebecca L. Dees of Dees & Associates, Inc., titled "Subject: Geotechnical Feasibility Study - Proposed Single Family Residence - Reference: Los Robles Road, West of Soquel-San Jose Road - APN 103-171-32 - Santa Cruz County, California", dated 12 June 2006.

Since we have already issued a letter confirming three geologically feasible leach field sites, we refer the reader to that letter dated 5 December 2006 for the geological issues surrounding the design and construction of the septic system.

The proposed development site abuts a paved access road leading to Old San Jose Road to the east. Due to the fact that the development abuts the road, the resulting driveway will be very short and will traverse relatively flat ground. In our opinion, there are no geological hazards that would pose a greater than moderate risk (as defined in Appendix B) to a driveway leading to the residence.

REGIONAL GEOLOGIC SETTING

The subject property is located on a fluvial terrace, notched into deep, steep-sided valley at the foot of the central Santa Cruz Mountains. The Santa Cruz Mountains are formed by a series of

rugged, linear ridges and valleys following the pronounced northwest to southeast structural grain of central California geology. Underlying most of the Santa Cruz Mountains is a large, elongate prism of granitic and metamorphic basement rocks, known collectively as the Salinian Block. These rocks are separated from contrasting basement rock types to the northeast and southwest by the San Andreas and San Gregorio-Sur Nacimiento strike-slip fault systems, respectively. Overlying the granitic basement rocks is a sequence of dominantly marine sedimentary rocks of Paleocene to Pliocene age and non-marine sediments of Pliocene to Pleistocene age (Figure 2).

Throughout the Cenozoic Era, this portion of California has been dominated by tectonic forces associated with lateral or "transform" motion between the North American and Pacific lithospheric plates, producing long, northwest-trending faults such as the San Andreas and San Gregono, with horizontal displacements measured in tens to hundreds of miles. Accompanying the northwest direction of the horizontal (strike-slip) movement of the plates have been episodes of compressive stress, reflected by repeated episodes of uplift, deformation, erosion and subsequent redeposition of sedimentary rocks. Near the crest of the Santa Cruz Mountains, this tectonic deformation is most evident in the sedimentary rocks older than the middle Miocene, and consists of steeply dipping folds, overturned bedding, faulting, jointing, and fracturing. Along the coast, the ongoing tectonic activity is most evident in the formation of a series of uplifted marine terraces. The Loma Prieta earthquake of 1989 and its continuing aftershocks are the most recent reminders of the geologic unrest in the region.

REGIONAL SEISMIC SETTING

California's broad system of strike-slip faulting has had a long and complex history. Some of these faults present a seismic hazard to the subject property The most important of these are the Zayante (-Vergeles) and San Andreas (Figure 2). These faults are either active or considered potentially active (Hall et al., 1974; Cao et al., 2003). Each fault is discussed below. Locations of epicenters associated with the faults are shown in Figure **3.** The intensity of seismic shaking that could occur at the subject property in the event of a future earthquake on one of these faults will be discussed in a later section.

Zayante(-Vergeles) Fault

The Zayante fault lies west of the San Andreas fault and trends about SO miles northwest from the Watsonville lowlands into the Santa Cruz Mountains. The southern extension of the Zayante fault, known as the Vergeles fault, merges with the San Andreas fault south of San Juan Bautista.

The Zayante fault has a long, well-documented history of vertical movement (Clark and Reitman, 1973), probably accompanied by right-lateral, strike-slip movement (Hall et al., 1974; Ross and Brabb, 1973). Stratigraphic and geomorphic evidence indicates the Zayante fault has undergone late Pleistocene and Holocene movement and is potentially active (Buchanan-Banks et al., 1978; Coppersmith, 1979).

Some historical seismicity may be related to the Zayante fault (Griggs, 1973). For instance, the Zayante fault may have undergone sympathetic fault movement during the 1906 earthquake centered on the San Andreas fault, although this evidence is equivocal (Coppersmith, 1979). Seismic records strongly suggest that a section of the Zayante fault approximately 3 miles long underwent sympathetic movement in the 1989 earthquake. The earthquake hypocenters tentatively correlated to the Zayante fault occurred at a depth of 5 miles; no instances of surface rupture on the fault have been reported.

In summary, the Zayante fault should be considered potentially active. The WGONCEP (1996) considers it capable of generating a magnitude 6.8 earthquake with an effective recurrence interval of 10,000 years. Alternatively, Cao et al. (2003) considers this fault capable of generating a maximum earthquake of Mw 7.0, with no stated recurrence interval.

San Andreas Fault

The San Andreas fault is active and represents the major seismic hazard in northern California. The main trace of the San Andreas fault trends northwest-southeast and extends over 700 miles from the Gulf of California through the Coast Ranges to Point Arena, where the fault extends offshore.

Geologic evidence suggests that the San Andreas fault has experienced right-lateral, strike-slip movement throughout the latter portion of Cenozoic time, with cumulative offset of hundreds of miles. Surface rupture during historical earthquakes, fault creep, and historical seismicity confirm that the San Andreas fault and its branches, the Hayward, Calaveras, and San Gregorio faults, are all active today.

Historical earthquakes along the San Andreas fault and its branches have caused significant seismic shaking in the Santa Cruz County area. The two largest historical earthquakes on the San Andreas to affect the area were the moment magnitude (M_w) 7.9 San Francisco earthquake of 18 April 1906 (actually centered near Olema) and the M_w 7.0 Loma Prieta earthquake of 17 October 1989. The San Francisco earthquake caused severe seismic shaking and structural damage to many buildings in the Santa Cruz Mountains. The Loma Prieta earthquake appears to have caused more intense seismic shaking than the 1906 event in localized areas of the Santa Cruz Mountains, even though its regional effects were not as extensive. There were also significant earthquakes in northern California along or near the San Andreas fault in 1838, 1865 and possibly 1890 (Sykes and Nishenko, 1984; Working Group On Northern California Earthquake Probabilities [WGONCEP]: 1996).

Geologists have recognized that the San Andreas fault system can be divided into segments with "characteristic" earthquakes of different magnitudes and recurrence intervals (Working Group On California Earthquake Probabilities, 1988 and 1990). A more recent study by the WGONCEP in 1996 has redefined the segments and the characteristic earthquakes for the San Andreas fault system in northern and central California. Two overlapping segments of the San Andreas fault

system represent the greatest potential hazard to the subject property. The first segment is defined by the rupture that occurred from the Mendocino triple junction to San Juan Bautista along the San Andreas fault during the great M_w 7.9 earthquake of 1906. The WGONCEP (1996) has hypothesized that this "1906 rupture" segment experiences earthquakes with comparable magnitudes in independent cycles about two centuries long.

The second segment is defined by the rupture zone of the M_w 7.0 Loma Prieta earthquake, despite the fact that the oblique slip and focal depth of this event do not fit the ideals of a typical, right-lateral strike-slip event on the San Andreas fault. Although it is uncertain whether this "Santa Cruz Mountains" segment has a characteristic earthquake independent of great San Andreas fault earthquakes, the WGONCEP (1996) has assumed an "idealized" earthquake of M_w 7.0 with the same right-lateral slip as the 1989 Loma Pneta earthquake: but having an independent segment recurrence interval of 138 years and a multi-segment recurrence interval of 400 years.

The 2002 Working Group On California Earthquake Probabilities [WGOCEP] (2003) segmentation model is largely similar to that adopted by WGONCEP. although they have added far more complexity to the model, and have reduced the forecasted magnitudes for the different segments. Cao et al. (2003) appears to have largely adopted the earthquake magnitudes issued by the 2002 WGOCEP. The magnitudes for the sundry segments are as follows: Parkfield segment - Mw 6.5, Creeping Segment - Mw 6.2, Santa Cruz Mountains - Mw 7.0, Peninsula segment - Mw 7.1, North Coast North Segment - Mw 7.3, North Coast South Segment - Mw 7.4. The most significant change in modeling the San Andreas Fault Zone by 2002 WGOCEP and Cao et al. (2003) is the elimination of a the penultimate event, the 1906 Mw 7.9 earthquake.

SITE GEOLOGIC SETTING

Topography

The proposed residential site occupies a nearly flat fluvial terrace at the bottom of deeply-incised, steep-side valley. The terrace has been incised by an unnamed narrow stream channel which runs along the toe of the steep slope along the southern margin of the boundary (Figure 1). The channel bank is very steep to nearly vertical, with incised depths up to 10 feet.

Drainage

Natural surface drainage across the proposed residential area is primarily by overland sheet flow to the south, where the water is captured by the unnamed creek. All of the water draining from the properties ultimately enters into Soquei Creek, east of the property (Figure 1).

Some of the rainfall on the property probably infiltrates the ground and enters the groundwater regime, whose depth is unknown at this stage of the investigation.

In addition to the regional groundwater table, there may also seasonally perched, shallow groundwater. Shallow groundwater may present design and construction issues which should be adequately investigated by the project geotechnical engineer and engineering geologist in future investigations. Mitigation recommendations regarding this issue should be issued where warranted by the project geotechnical engineer and engineering geologist.

Earth Materials

McLaughling et al. (2001, Figure 4) has mapped the subject property as being underlain by the Purisima Formation, Marine Terrace Deposits and Alluvium, which is partially consistent with the results of our feasibility investigation. The proposed residence site appears to be underlain by alluvium which is at least ten feet thick, based upon the fact that we only observed alluviuni outcropping in the northern bank of the channel by the residential site. The alluvium observed in the channel bank is interbedded and interfingering, unconsolidated, loosc. sand, gravel, silt and clay, which in turn overlies a valley carved into the underlying bedrock.

The Purisima Formation (Tp) is described by McLaughlin et al. (2001) as consisting of very thick bedded, yellowish gray, tuffaceous and diatomaceous siltstone containing thick interbeds of bluish-gray, semi-friable, andesitic sandstone. We observed exposures of both sandstone and siltstone in the vicinity of the property.

GEOLOGIC HAZARDS

The primary potential geologic hazards that could affect the proposed development are flooding, erosion, intense seismic shaking and liquefaction. There may also be issues with subsurface drainage, depending upon the location and style of construction

Flooding

Although the property is not located within any Federal Emergency Management Agency flood zones, there is geomorphic and geological evidence that water has historically (1998? 2006?) spilled out of the channel upstream of the residential site and flowed across the relatively flat fluvial terrace. The existing channel for the creek that cuts across the southern edge of the valley is tightly constrained by a narrow channel, whose sidewalls are hardened on the south hank as the channel incises into the Purisima Formation bedrock on that bank. At first glance, it appears that the creek may spill out of its' channel at some point again in the future, since it appears to be underfit and incapable of carrying peak flows. We unsuccessfully attempted to find evidence of historical high water marks or stranded water-borne debris upstream and downstream of the development area on the property.

In our opinion, some the fluvial terrace occupied by the proposed residential site has been sculpted by the creek, and will likely continue to be sculpted at some point in the future. It is our

opinion that the creek will likely spill out of the channel in some future flooding event, but we are not qualified to precisely quantify the elevation that the flood waters may reach.

In our opinion, the prospective flooding hazard should be adequately characterized and the attendant risks to the proposed development should be reduced to ordinary through the uplifting of the house pads or other mitigation techniques.

Erosion

The creek also poses an erosion hazard to prospective development on the fluvial terrace. Because the south bank is primarily underlain by bedrock and the north bank is primarily underlain by alluvium, the tightly constrained creek channel may preferentially erode into the relatively softer alluvium during peak flow events.

We also considered the possibility that the creek may deepen its' channel in the future. but there is no evidence along the channel that this is currently occurring at an accelerated rate that exceeds the average uplift rate of approximately one millimeter per year in this section of the Santa Cruz Mountains (Weber et al., 1995). This is substantiated by the fact that there are no manmade dams immediately upstream from the property There may some elevated scour occumng downstream from the property, but the channel elevation isn't significantly different here than across other properties. and there is no evidence of flows scouring the bedrock here and dropping the bedload further downstream.

In our opinion, future creek erosion may impact the proposed residence site if its' effects are not taken into account for the design and construction. The potential for the creek hank to migrate to the north should be characterized through further geological and geotechnical engineering studies, mitigation recommendations should be issued by the project geologist and geotechnical engineer where warranted. Some mitigative techniques that might be considered include foundational elements for the residence relying solely upon support from the underlying Purisima Fonnation bedrock, rather than upon support from the alluvium. This may make it more likely for the residence to survive intact during future flooding and scour events, as well as long term bank retreat.

Seismic Shaking Hazard

Seismic shaking in this region is ubiquitous and will be intense at the subject site during the next major earthquake along one of the local fault systems. Modified Mercalli Intensities (see Table 1) of up to IX to X 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 Pneta earthquake. It is important that recommendations regarding seismic shaking be developed by consultants and used in the design for the future proposed development.

TABLE 1
Modified Mercalli Intensity Scale

'he modified Mercalli scale measures the intensity of ground shaking as determined from observations of **an** earthquake's ffect or eople, structures. and the Earth's surface. Richter magnitude is not reflected This scale **assigns** to an earthquake vent a man **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 pairing of light trucks. Duration estimated. May not be recognized as **an** earthquake.
N	Fell 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 more. Pendulum clacks 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 and masonry cracked.
VII	Difficult to stand. Damage negligible in buildings of goad design and construction; slight to moderate in well-built **ordinary** buildings; considerable in badly designed or poorly built buildings. Noticed by drivers of automobiles. Hanging objects quiver Furniture broken. Weak chimneys braken. Damage to masonry: fall of plaster. loose bricks. stones. tiles. and unbraced parapets. Small slides and caving in along nand or gravel banks. Large bells ring.
VIII	People frightened. Damage slight in specially designed structures: considerable in ordinary substantial buildings. partial collapse; great in poorly built structures. Steering of automobiles affected. Damage or partial collapse to some **masonry** and stucco. Failure of some chimneys, factory stacks, monuments, towers. elevated tanks. Frame houses moved on foundations if not baited down; loose panel walls thrown out. Decayed pilings broken off. Branches broken from trees. Changes in flow or temperature of springs **and** wells. Cracks in wet ground and on steep slopes.
IX	General panic. Damage considerable in specially designed structures, great in substantial buildings. with some collapse. General damage to foundations: frame structures. if not balled. shifted off foundations and thrown out of plumb. Serious damage to reservoirs. Underground pipes braken. 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.

Liquefaction and Lateral Spreading Hazards

The physical process of seismically induced liquefaction has been documented by numerous researchers (Youd, 1973; Seed and Idriss, 1982; National Research Council, 1985). During an earthquake seismic waves travel through the earth and vibrate the ground. In cohesionless. granular materials having low relative density (loose sands for example), this vibration can disturb the particle framework, thus leading to increased compaction of the material and reduction of pore space between the framework grains. If the sediment is saturated, water occupying the pore spaces resists this compaction and exerts pore pressure that reduces the contact stress between the sediment grains. With continued shaking, transfer of intergranular stress to pore water can generate pore pressures great enough to cause the sediment to lose its strength and change from a solid state to a liquefied state. This mechanical transformation can cause various kinds of ground failure at or near the ground surface.

The liquefaction process typically occurs at depths less than 50 feet below the ground surface. Liquefaction can occur at deeper intervals, given the right conditions. however ground manifestations should be minor. The most susceptible zone occurs at depths shallower than 30 feet below the ground surface. Diminished susceptibility with increase in depth can he attributed mainly to hvo factors: 1) increased overburden pressure resulting from the load of overlying sediment layers, and 2) increased geologic age. These two factors tend to create a denser packing of sediment grains in the deeper sedimentary materials, which thus are less likely to experience the additional compaction and elevated pore pressures that are necessary to induce loss of shear strength and liquefaction during an earthquake.

Liquefaction can lead to several types of ground failure, depending on slope conditions and the geologic and hydrologic setting (Seed, 1968: Youd, 1973; Tinsley et al, 1985). The four most common types of ground failure are: 1) lateral spreads, 2) flow failures, *3)* ground oscillation and 4) loss of bearing strength. Sand boils (injections of fluidized sediment) commonly accompany these different types of ground failure and form sand volcanoes at the ground surface or convolute layering and sand dikes in subsurface sediment layers.

The different types of ground failure associated with liquefaction often leave geomorphic evidence after the event in the form of scarps, and open (or infilled) ground cracks, and sand volcanoes. This type of evidence can be readily observed via site reconnaissance or aerial photo analysis on undisturbed ground long after the liquefaction has occurred. However, if the ground surface is disturbed, such as by subsequent grading (during timber harvests) or flooding (such as that mentioned earlier in the Flooding section): the ground information is erased. We did no! observe evidence of differential settlement, lurch cracking or lateral spreading at the residential site during our aerial photo analysis or our reconnaissance. However, any evidence of past liquefaction may have been obscured by recent historical flooding and cultural activities on the property. and it was impossible to see the ground surface of the fluvial terrace through the canopy of the trees that have occupied the property through the past seven decades..

It is unknown as to whether liquefaction or lateral spreading occurred within the fluvial terrace deposits on the property during the 1989 Loma Prieta earthquake. We hasten to add, however, that the 1989 earthquake occurred after a string of drought years, and the resulting intensity and duration of seismic shaking was lower than that which occurred in 1906. Hence, the 1989 earthquake may not he the "acid test" for the potential susceptibility of liquefaction in this area. No record of liquefaction related damage was reported as a result of the 1906 earthquake in the Youd and Hoose summary (I 978) or by Lawson (1908), but the population and anecdotal reports were so sparse in this region in 1906, it is possible that any damage sustained on the subject property during the 1906 earthquake could have gone unnoticed.

The subject property has been characterized by Dupre (1975) as having a low susceptibility to liquefaction hut that is likely because the site is portrayed by him as being entirely underlain by Tertiary aged bedrock. Regardless of the interpretations by regional researchers, it is our opinion that the unconsolidated, loose, sand and silt encountered in the creek hank outcrops may possibly he liquefiable. Although a detailed evaluation has not been performed by a geologist or geotechnical engineer, our preliminary opinion is that the potential for liquefaction and related settlement and lateral spreading processes to occur within the lifetime of the development might be high for the areas underlain by alluvium, based upon the relative density of the alluvium encountered in the channel hank and potential presence of seasonally shallow groundwater. If the deposits are liquefiable, and this process is not adequately mitigated through appropriate foundation design or ground modification, structures sited upon the alluvium may be damaged by differential settlement or lateral spreading during an intense seismic shaking event. We hasten to add, however, that our analysis is qualitative in nature and isn't based upon data collected through a robust subsurface investigation. If the project geotechnical engineer performs an adequate field investigation in conjunction with an engineering geologist, and performs a more robust quantitative liquefaction analysis that concludes that liquefaction is not a potential hazard, we will defer to that conclusion.

CONCLUSIONS AND RECOMMENDATIONS

Overall, our preliminary opinion is that the single best site for development, from a geological perspective, is the one addressed in this letter. The proposed residential site appears to he subject to some geological hazards that may pose risks to the proposed development. It is important to note that this does not preclude the geological feasibility of the site, *but* it ***does*** *make final design* ***and*** *permitting of the* ***site*** *contingent* ***upon the*** *outcome of full geological and geotechnical engineering studies.* Hence, the residential site is geologically feasible in our opinion.

There may be other sites ihat are also geologically feasible to develop, hut the consulting geological, consulting geotechnical engineering and planning fees: as well **as** construction costs may be substantially more than for the site addressed in this letter. The mitigation schemes for the other sites may also be prohibitively expensive, when compared to this site.

In our opinion, there are no geological hazards that would pose a greater than moderate risk (as defined in Appendix B) to a driveway leading to the residence.

In our opinion, the proposed development might be subject to a greater than ordinary risk from flooding, coming from the creek that borders the development area.. The flooding hazard and risk should be identified and analyzed in detail by the project engineers or hydrologists. Mitigation schemes intended to lower risk to an acceptable level should be developed where the risk is deemed to be greater than ordinary.

In our opinion, future lateral erosion of the creek banks may pose a greater than ordinary risk to the proposed residential area if it is not adequately characterized by the project geotechnical engineer and geologist and taken into account for design of the residence. The project geotechnical engineer and geologist should assist the design team by constructing a "Creek Erosion Set Back Line" on a site-specific topographic map. The intention of said line is predict where the crest of the bank might retreat to in the next 50 years.

There is a high potential that the site will experience strong seismic shaking during the standard residential design life (50-100 years). In general, wood frame structures designed and constructed to modem California Building Code standards perform well during earthquakes. Many of the risks associated with earthquakes, however, are not due to structural failure. Most injuries result from falling debris, overturned furniture, the disruption of utilities, and fires that occur as a result of broken utility lines, overturned gas stoves, etc. Large appliances or pieces of furniture (i.e. refrigerators, pianos, wall units, bookshelves, water heaters, etc.) should be firmly attached to the floor or the structural members of the walls. For a discussion of simple procedures for making homes safer during a major earthquake, we recommend "Peace of Mind in Earthquake Country" by Peter Yanev (Chronicle Press).

The alluvium underlying the proposed development area may be potentially liquefiable, based upon our preliminary screening of the geological and hydrogeological conditions at the site. If the deposits are liquefiable, and this process is not adequately mitigated through appropriate foundation design or ground modification, structures sited upon the alluvium may be damaged by differential settlement or lateral spreading during an intense seismic shaking event. We hasten to add, however?that our analysis is preliminary and qualitative in nature. If the project geotechnical engineer performs a more robust quantitative liquefaction analysis that concludes that liquefaction is not a potential hazard, we will defer to that conclusion.

Shallow groundwater conditions might be present seasonally on the property. It is particularly important for the consultants to note this where warranted and bring it to the designers and builders attention. Where warranted, it should be taken into account when designing foundations, retaining walls and sub-surface drains. Any subsurface excavations performed on the site may encounter some flowing sand conditions at depth on the fluvial terrace, depending upon the depth of perched groundwater encountered.

If the property is sold prior to design of the residence, we STRONGLY recommend that the prospective buyer contact our firm to discuss this letter and results of our letter PRIOR TO CLOSE OF ESCROW. Sale of the property without the buyer being informed of the verbal communications that took place between the addressee and Zinn Geology may result in misinterpretation or misunderstanding of our observations and conclusions.

In conclusion, it is our opinion that the proposed residential building site is geologically feasible, even though it appears to be currently at risk from some geological hazards. In our opinion, tt is possible that all of the aforementioned hazards and attendant risks can he adequately mitigated, provided that the appropriate geological and geotechnical engineering studies are performed. But it is important to note the final design and permitting of the site is contingent upon the outcome of full geological and geotechnical engineering studies that adequately characterize the hazards and risks identified in this letter.

INVESTIGATION LIMITATIONS

1. Our services consist of professional opinions and recommendations made in accordance with generally accepted engineering geology principles and practices. No warranty. expressed or implied, including any implied warranty of merchantability or fitness for the purpose is made or intended in connection with our services or by the proposal for consulting or other services, or by the furnishing of oral or written reports or findings. If the client desires assurances against project failures, he or she agrees to obtain appropriate insurance through his or her own insurance broker.

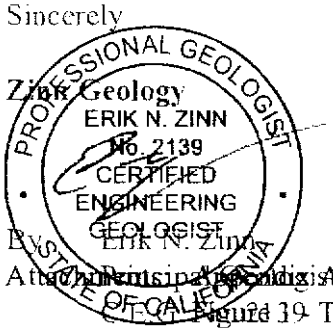
2. The analysis and recommendations submitted in this report are based on the geologic information derived from the steps outlined in the introduction and scope of investigation sections of this report. The information is derived from necessarily limited natural and artificial exposures. Consequently, the conclusions and recommendations should be considered preliminary.

3. The findings of this report are valid as of the present date. However, changes in the conditions of property and its environs can occur with the passage of time, whether they be due to natural processes or to the works of man. 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, the conclusions and recommendations contained in this report cannot be considered valid beyond a period of six months from the date of this report without review by a representative of this firm.

4. This report is intended solely for the use of the addressee and only for the purpose expressed in the introduction of the report. Use by others without reference to the verbal

communications that took place between the addressee and Zinn Geology may result in misinterpretation or misunderstanding of our observations and conclusions.

Sincerely



Zinn Geology

By: Erik N. Zinn
Attachments: Principal Geologist

Figure 1 - Topographic **Index** Map
Figure **2** - Regional Geologic Map
Figure **3** - Regional Seismicity Map
Figure 4 - Local Geologic Map
Figure 5 - County Landslide Map
Appendix B - Scale of acceptable risks from geologic hazards

cc: Ken Mabie - Environmental Concepts
Becky Dees - Dees and Associates

EXHIBIT I

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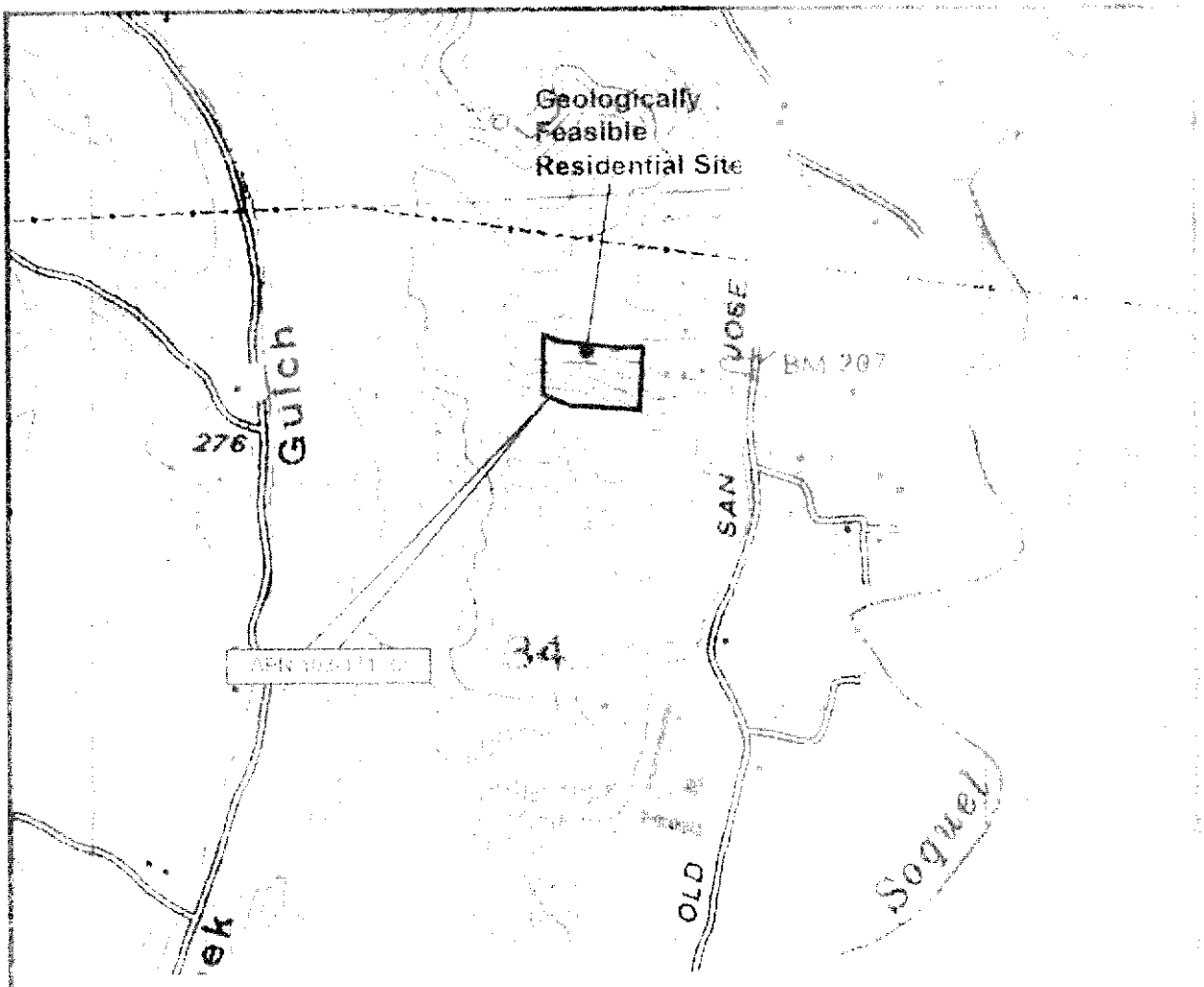
EXHIBIT 1

APPENDIX A

FIGURES

EXHIBIT I

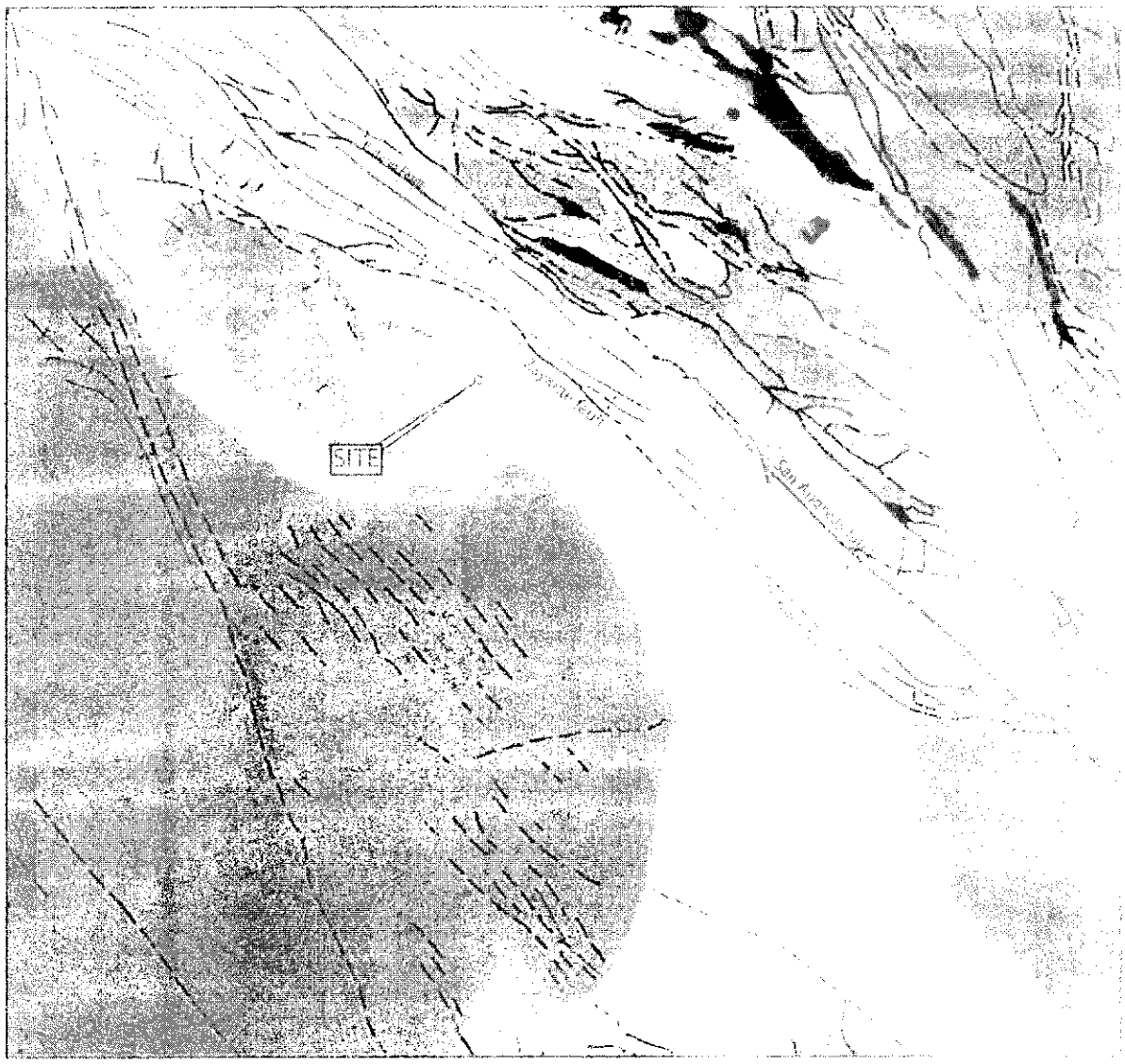


BASE MAP: U.S. Geological Survey 1956, revised 1994, Laurel quadrangle, 7.5' topographic series, scale 1:24,000

ZINN GEOLOGY

Topographic Index Map
Lands Of [illegible]
Old San [illegible] Road
Soquel [illegible]

EXHIBIT I



EXPLANATION

Geologic Units

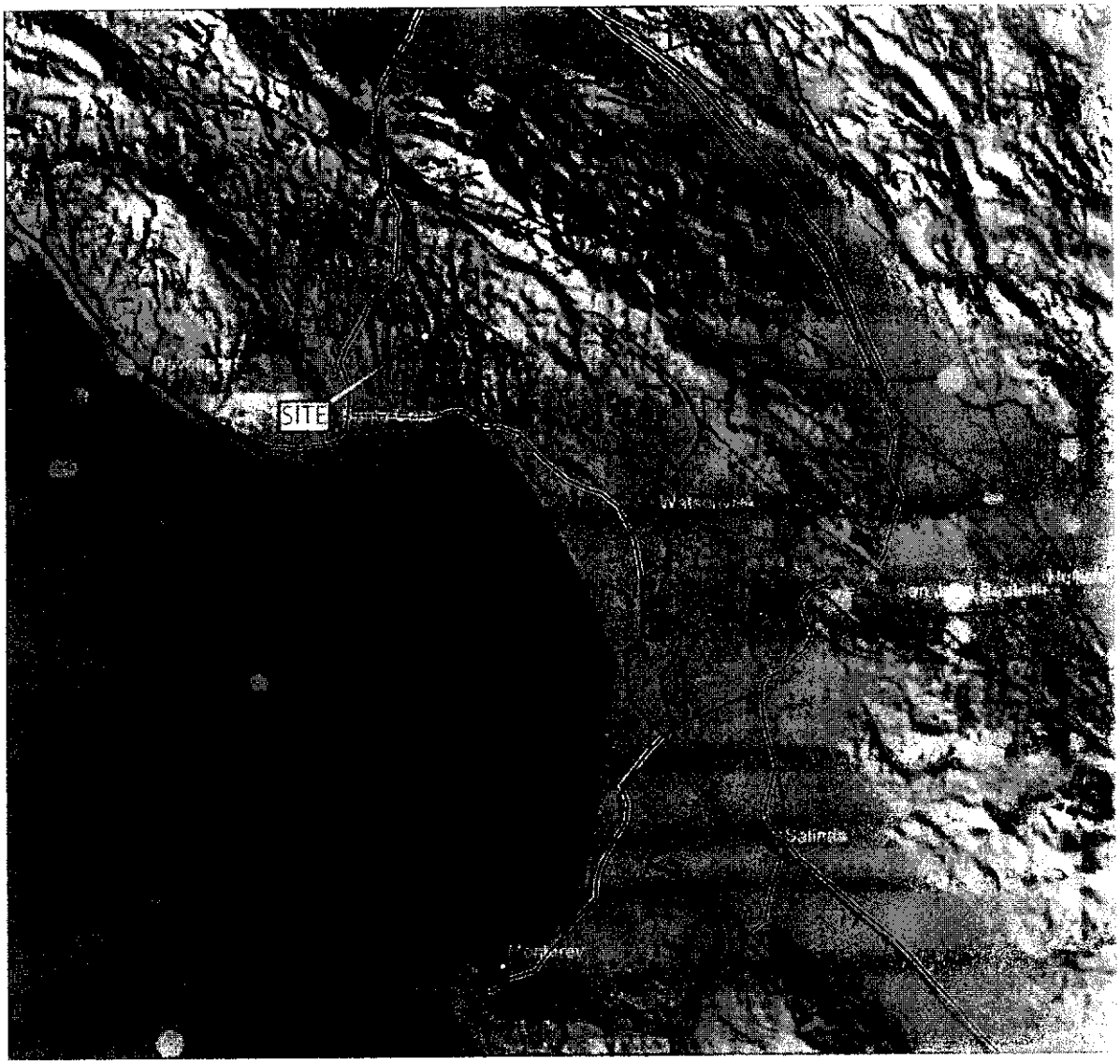
Symbols

ZINN GEOLOGY

Regional Geologic Map
Lands Of Grey Whale Ranch
Old San Jose Road
Soquel, California

2

EXHIBIT I



Seismicity Information: Magnitude 4 and greater earthquakes, compiled from various sources, 1769 to 2000, available at www.consrv.cagov/CGS/rghm/quakes/cgs2000.htm

Fault Information: Jennings, C.W., 1977, Geologic map of California: California Department of Conservation, Division of Mines and Geology, scale 1:750,000

EXPLANATION

Symbols

- fault, certain
- fault,approx. located
- fault, concealed or inferred

Earthquake Magnitude

- 4.0 to 4.99
- 5.0 to 5.99
- 6.0 to 6.99
- 7.0 +

SCALE 1:750,000

10 0 10 20 Miles

ZINN GEOLOGY

Regional Seismicity Map
Lands Of Grace-Yacos
Old San Jose Road
Soquel, California

EXHIBIT I

BASE MAP: Clark, J.C., E.E. Brabb, and R.J. McLaughlin, "Geologic Map of the Southwestern Santa Clara Valley and Santa Cruz Mountains, Santa [illegible], California, Sheet 2, Laurel Quadrangle", U.S. Geological Survey Miscellaneous Field Studies Map MF-2001, scale 1:24,000.

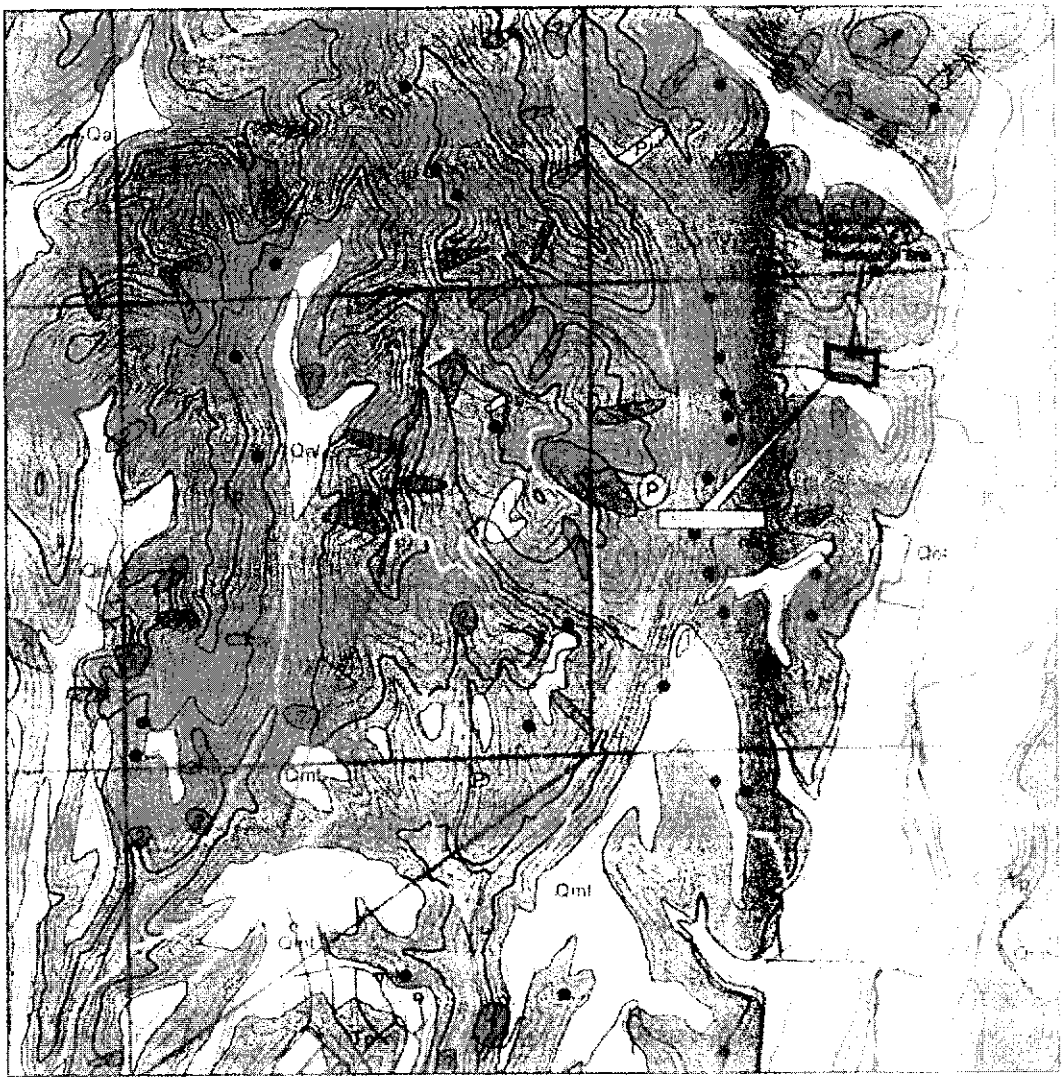
EXPLANATION

	UNITS	SYMBOL
Qal	Alluvial deposits	Fault, [illegible]
Qof	Older floodplain deposits	Bedding [illegible]
Qmt	Marine terrace deposits	
Tp	Purisima Formation	

LOCAL GEOLOGIC MAP
Lands Of Grant [illegible]
Old San [illegible] Road
Soquel, [illegible]

[illegible]
4

EXHIBIT I



BASE MAP: Digitized County of Santa Cruz landslide map compiled by Roberts and Sarna (1998) superimposed over a portion of the Laurel Quadrangle geologic map by McLaughlin et al. (2001).

County Landslide Map
Lands Of Gr[illegible]
Old San [illegible] Road
Soque[illegible], California

ZINN GEOLOGY

EXHIBIT I

ZINN GEOLOGY
3085 Cranker Lane, Suite B
Soquel, California 95073
Tel. 831.476.8443 Fax 831.476.1491
enzinn@cruzio.com

6 December 2005 Job #2005032-G-SC

Gravenhorst FLP
c/o Martha Brouwer - General Partner
2190 Camino A Los Cerros
Menlo Park, California 94025
Tel. &Fax: 650.234.1252

Re: Feasibility of proposed leach field locations
Parcel west of Old San Jose Road
Soquel, California 95073
County of Santa Cruz APN 103-171-32

Dear Ms. Brouwer:

This letter summarizes the results of our site consultation for the above referenced property. The original purpose of our consultation was to provide you with a discussion of potential geologic hazards that may impact the proposed development, so as to assist you with making a more informed choice regarding sale of the property. In the middle of the project, you requested that we address the feasibility of the proposed leach field locations on the subject property and the neighboring property to the east, since the Gravenhorst FLP intends to perform a lot-line adjustment between the two lots, so that they may acquire a strip of land for which it will be significantly simpler to design and construct a leach field. In order to perform this lot-line adjustment, though, it is our understanding that you will have to demonstrate to the sundry County of Santa Cruz agencies that it would be feasible to design and construct a septic system on the subject property without the lot line adjustment. This letter summarizes our opinion about the geological feasibility of designing and constructing a leach field at several sites on the subject property, as well as a site on the property to the east.

This letter is intended for general information purposes only and is not a complete geologic hazards investigation for the property. It is intended solely for the use of the addressee and only for the purpose expressed above. Use by others without reference to the verbal communications that took place between the addressee and Zinn Geology may result in misinterpretation or misunderstanding of our observations and conclusions.

EXHIBIT I

Site **Two**

The second site lies near the southern edge of the subject property, at the "rim" of the flat-topped crest of a bedrock ridge (see Figure 1). This location marks a transition between the flat-topped bedrock ridge to the south and moderately-steep hill slope to the north. **It** also likely marks the transition between two types of earth materials that blanket the flat-lying Purisima Formation bedrock in this area. **A** thin veneer (five to ten feet thick?) of marine terrace (second or third emergent?) deposits likely overlie the bedrock to the north, and a veneer of colluvium (two to six feet?) derived from the underlying bedrock probably underlies the leach field site and certainly underlies the moderately-steep hill slope to the south.

The potential geological constraint for this site is landsliding. The County of Santa Cruz Geologist indicated that the project geotechnical engineer would have *to* perform a quantitative slope stability analysis with some assistance from the project geologist for this leach field site. Such a study would likely cost ten thousand dollars or more if done in conjunction with studies for the residence. The most likely outcome of such a study would he the design of an alternative enhanced treatment system for the site that disposes of effluent shallowly and in an attenuated manner (controlled doses with a long periodicity). This does not preclude the geological feasibility of the site, *but it does make final design and permitting of the sire contingent upon the outcome of the aforementioned geological and geotechnical engineering studies.* Hence, the second site is geologically feasible, in our opinion.

Third Site

The third site lies upon the adjacent property, APN 103-171-31, along the southern margin of the property. The proposed leach field area lies upon a Purisima Formation bedrock ridge crest which is likely overlain by a thin veneer of soil derived from the bedrock. The depth and hydrogeological properties of the bedrock may necessitate the design and construction of an alternative enhanced treatment septic system, but this site does not appear to have any other obvious geological constraints such as high ground water or elevated landsliding potential.

Conclusions

We understand that other ordinances and statutes of the Planning Department and Environmental Health Services may serve as impediments to designing or constructing a septic system for the subject property as it is currently configured. In spite of this, we have identified two sites on the subject property that are, in our opinion, geologically feasible for the location of a leach field. Site One, as described above, will need very little geological input, but may require the design and installation of an alternative enhanced treatment system. Site Two, as described above: will require extensive investigation by a geologist and geotechnical engineer, which will likely result in the recommendation that an alternative enhanced treatment system be designed and constructed for the site.

artificial exposures. Consequently, the conclusions and recommendations should be considered preliminary.

3. The findings of this report are valid as of the present date. However, changes in the conditions of property and its environs can occur with the passage of time, whether they be due to natural processes or to the works of man. 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, the conclusions and recommendations contained in this report cannot be considered valid beyond a period of six months from the date of this report without review by a representative of this firm.

4. This report is intended solely **for** the use of the addressee and **only** for the purpose expressed in the introduction of the report. Use by others without reference to the verbal communications that **took** place between the addressee and Zinn Geology may result in misinterpretation or misunderstanding of our observations and conclusions.

Sincerely,

Zinn Geology

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

Attachments: Figure 1 - Topographic Index Map

cc: Ken Mabie - Environmental Concepts
Becky Dees - Dees and Associates

EXHIBIT J

COUNTY OF SANTA CRUZ

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

March 1, 2007

Steven Graves and Associates
2735 Porter Street
Soquel, CA 95073

Subject: Review of Engineering Geology Investigation Geotechnical Investigation by Zinn and Associates Dated January 17, 2007, and December 6, 2005, Project No 2005032-G-SC and; Geotechnical Investigation by Dees and Associates, December 31, 2006, Project No. SCR-0084

Reference: APN **103-171-31 & 32**

APPL# **06-0488**

Dear Applicant:

The purpose of this letter is to inform you that the Planning Department has accepted the subject report and the following items shall be required:

1. All construction shall comply with the recommendations of the report.

2. Final plans shall reference the report and include a statement that the project shall conform to the report's recommendations.

3. Full Engineering Geology and Geotechnical Engineering Reports are required for any site development. The current reports are adequate to indicate that a feasible building site is located on the property. (See page *10,* third paragraph ***of*** the Zinn Geology *Report* for the project engineering geologist's intent in making this recommendation,)

4. Before final inspection, the geotechnical engineer must confirm in writing that all of the construction complies with the recommendations of the geotechnical engineer.

5. Before building permit issuance a plan review letter shall be submitted to Environmental Planning. The authors of the reports shall write the plan review letter. These letters shall state that the project plans conform to the reports' recommendations.

6. A declaration of Geologic Hazard must be recorded before the issuance of the Building Permit. This will be prepared after the completion of the engineering geology and geotechnical engineering geology reports.

After building permit issuance the soils engineer and engineering geologist *must* remain involved with the project during construction. Please review the Notice *to Permits* Holders (attached).

(over)

EXHIBIT J

Our acceptance of the reports is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please call the undersigned at (831) 454-3175 if we can be of any further assistance

Sincerely,

Joe Hanna
County Geologist

Cc: Zinn and Associates
Dees and Associates
Gravenhorst FLP
File

EXHIBIT J

NOTICE TO PERMIT HOLDERS WHEN A SOILS REPORT HAS BEEN PREPARED, REVIEWED AND ACCEPTED FOR THE PROJECT

After issuance of the building permit, the County requires your soils engineer to be involved during construction. Several letters or reports are required to be submitted to the County at various times during construction. They are as follows:

1. When a project has engineered fills and / or grading, a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Department prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.

2. Prior to placing concrete for foundations, a letter from the soils engineer must be submitted to the building inspector and to Environmental Planning stating that the soils engineer has observed the foundation excavation and that it meets the recommendations of the soils report.

3. At the completion of construction, a *final letter* from your soils engineer is required to be submitted to Environmental Planning that summarizes the observations and the tests the soils engineer has made during construction. The final letter must also state the following: "Based upon our observations and tests, the project has been completed in conformance with our aeotechnical recommendations."

   If the *final soils letter* identifies any items of work remaining to be completed or that any portions of the project were not observed by the soils engineer, you will be required to complete the remaining items of work and may be required to perform destructive testing in order for your permit to obtain a final inspection.

EXHIBIT J