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

June 19,2006

Agenda Date: June 28,2006
Agenda Item: # 8
Time: After 9:00 a.m.
Application # 04-0255
APN 043-152-71

Planning Commission
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Subject: Continuation of Application 04-0255 (APN 043-152-71)
Applicant: Jim Mosgrove for Michael and Deborah Collins

Members of the Commission:

On Apnl 12,2006, your Commission heard this application to construct a three-story single-family dwelling of about 5,800 square feet at the toe of the coastal bluff on Beach Drive in Aptos. At that hearing your Commission continued the item to the May 10,2006 hearing and gave the applicant direction to hold a meeting with the neighbors to address their concerns and to allow the opportunity for the project Civil Engineer and Department of Public Works Drainage staff to be present. A neighborhood meeting was held on May 6, 2006.

On May l0'', your Commission took action and voted 3 to 1 to deny the application with direction to staff to provide findings for denial on the consent agenda on May 24,2006, attached (Exhibit AA). At the May 24'' hearing, the applicant requested a re-hearing, because only four Commissioners were in attendance on May 10th. Your Commission voted to remove the item from the consent agenda and continue it to the regular agenda on June 28,2006, with re-notification of the neighbors.

The original staff report with findings for approval is included as Exhibit BB, with recommended conditions of approval.

Staff continues to recommend approval of the project based on the attached findings and conditions of approval in Exhibit AA. Though the project plans do not comply with the Geotechnical report and Engineering Geologic report recommendations for a flat roof flush with the base of the bluff, both the Geotechnical Engineer and the project Geologist have reviewed the

current plans and approved the design as proposed, per the submitted plan review letters (Exhibit BB, Exhibit G). Furthermore, construction will be closely monitored and additional conditions of approval have been placed on the project, resulting in more County oversight during the construction process. This oversight includes the requirement **for** a separate building permit and inspections for the temporary shoring.

If your Commission wishes to pursue denial of the project, the findings for denial are included in Exhibit AA.

Recommendation: Approve application 04-0255 subject to the attached findings and conditions of approval.

Sincerely,

David Kevon
Project Planner
Development Review

Exhibits:

AA. Letter and Findings for denial from the May 24'' Planning Commission hearing
BB. Staff report to the Planning Commission for the 4/12/06 and 5/10/06 hearings.

APPLICATION NO. 04-0255

STAFF REPORT TO THE PLANNING COMMISSION

EXHIBIT AA

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

Agenda Item #: 6.2
Time: After 9 AM
Application # 04-0255
APN: 043-152-71

May 17,2006

Agenda Date: May 24,2006

Planning Commission
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Subject: Denial findings for Application 04-0255 (APN 043-152-71)
Applicant: Jim Mosgrove for Michael and Deborah Collins

Members of the Commission:

On April 12,2006, your Commission heard this application to construct a three-story single-family dwelling of about 5,800 square feet at the toe of the coastal bluff on Beach Drive in Aptos. At that hearing your Commission continued the item to the May 10,2006 hearing and gave the applicant direction to hold a meeting with the neighbors to address their concerns and to allow the opportunity for the project Civil Engineer and Department of Public Works Drainage staff to be present. A neighborhood meeting **was** held on May 6, 2006.

At the May 10,2006 hearing, your Commission **took** action and voted **3** to **1** to deny the application due to overriding concerns over health and safety due to the location of the proposed project at the toe of the coastal bluff within a coastal flood hazard area. Your Commission then directed staff to provide findings for denial on the consent agenda on May 24,2006, which are attached (Exhibit 1).

The applicant is requesting that your Commission remove the item from the consent agenda to be re-heard before the full Commission. If you Commission should choose to re-hear the item, staff recommends the item be continued to another hearing date so neighbors can be re-noticed in adequate time to make arrangements to attend.

Recommendation: Adopt the findings included in Exhibit 1 and deny application 04-0255 without prejudice.

Sincerely,

David Keyon

Project Planner
Development Review

Exhibits:

1. Findings for denial.
2. Letter from applicant.
3. Staff report to the Planning Commission for the 4/12/06 and 5/10/06 hearings.

APPLICATION NO. 04-0255

STAFF REPORT TO THE PLANNING COMMISSION

EXHIBIT 1

Coastal Development Permit Findings

5. That the proposed development is in conformity with the certified local coastal program.

This finding cannot be made, as the proposed development as designed does not comply with General Plan/Local Coastal Program Policy 6.2.10 (Site Development to Minimize Hazards), as the structure as proposed does not comply with all recommendations of the Engineering Geologic and Geotechnical Reports prepared for the site. Although the project Geologist and Geotechnical Engineer prepared plan review letters approving the current plans (leading to acceptance of the design by the County), further review by staff found the design to be inconsistent with recommendations in both the Engineering Geologic and Geotechnical Reports for the roof to be flat and flush with the rear of the bluff. The concept behind these recommendations is for landslide debris to flow onto and over the home unobstructed, with no vertical elements to absorb landslide impacts or deflect debris. The current design proposes a 3.5 foot tall landslide containment wall on the roof, which will create a vertical element that may be impacted by landslide debris, resulting in possible structural damage and deflection of debris during large scale slope failures.

Residential Development Permit Findings

1. That the proposed location of the project and the conditions under which it would 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.

This finding cannot be made, as the proposed dwelling will result in potential slope instability during excavation due to the length of the cut into the coastal bluff for construction of the shoring and rear wall. The proposed residence is about 74 feet in length, about 27 feet longer than previously approved houses of a similar design on Beach Drive. The length of the cut required for construction increases the possibility of slope instability and landsliding. Other houses of a similar length exist on the bluff side of Beach Drive (at **629** Beach Drive and the duplex at 542 and **544** Beach Drive), but these structures were constructed prior to the adoption of the reinforced concrete "bunker" style construction techniques currently required for new homes at the toe of the coastal bluff, and could not be constructed today.

The "landslide containment wall" on the roof of the proposed residence may result in increased potential for structural damage and debris deflection during larger slide events. This wall will be a vertical element, which will be impacted during a large-scale slide event with the potential for damage to the structural integrity of the house. Previously approved homes of a similar "bunker" style design have flat roofs of reinforced concrete with **the** rear of the structure flush with the bluff and minimal vertical elements in order to minimize landslide impacts to the rear of the structure.

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 cannot be made, as the structure as proposed does not comply with General Plan/Local Coastal Program Policy 6.2.10 (Site Development to Minimize Hazards), **as** discussed in Coastal Development Permit finding 5, above.

APPLICATION NO. 04-0255

STAFF REPORT TO THE PLANNING COMMISSION

EXHIBIT 2

Jim Mosgrove, Architect

117 Little Creek Road ♦ Soquel, California 95073
Phone/Fax 831-476-4575

4/25/06

Dennis Osmer, **Chairman**
County of **Santa Cruz Planning** Commission
701 Ocean St., **4" floor**
Santa **Cruz, Ca 95060**

RE. Application **No.** 04-0255, A.P.N. **043-152-56**
548 Beach Dr., Aptos, **Ca.**

Dear **Chairman** Osmer:

On May **10,2006** at 9:00 *AM* this **matter** was before the board **as** a continued item The **board** voted to deny this **application** and continue it to the May 24 **Planning** Commission meeting on the **consent** agenda for **a final** vote. **My** clients, **Mr.** and **Mrs. Collins,** would like to request that **yon** remove this item **from** the consent agenda and move it to the **regular** agenda as **a** continued item They would like to present their project to the entire board for review.

They deserve the opportunity to **be** heard in front of the entire board.

Sincerely
Jim Mosgruve, Architect

c.c. Travers E. **Durkee,** Denise **Holbert,** Renee Shepard,
Mike **Collins,** Gerald Bowdwen, Robert Bremner

COUNTY OF SANTA CRUZ
PLANNING DEPARTMENT

Planning Commission
Meeting Date: 06/28/06
Agenda Item: # 8
Time: After 9:00 a.m.

APPLICATION NO. 04-0255

STAFF REPORT TO THE PLANNING COMMISSION

EXHIBIT BB

Staff Report to the Planning Commission

Application Number: **04-0255**

Applicant: Jim Mosgrove, Architect
Owner: Michael and Deborah Collins
APN: 043-152-56

Agenda Date: May 10 2006
Agenda Item: No. 7
Time: After 9:00 a.m.

Project Description: Proposal to construct a 3-story, five bedroom single-family dwelling and grade more than 1,000 cubic yards within a Coastal Scenic Area. Requires a Coastal Development Permit, Preliminary Grading Approval, A Variance to increase the number of stories to three, Design Review, Soils Report Review, and a Geotechnical Report Review.

Location: Property located on the north side of Beach Drive about 1 mile southeast of Rio Del Mar Blvd. (at 548 Beach Dr, a vacant parcel).

Supervisoral District: 2nd District (District Supervisor: Ellen Pirie)

Permits Required: Coastal Development Permit

Staff Recommendation:

- Certification of the Mitigated Negative Declaration to the California Environmental Quality Act.
- Approval of Application 04-0255, based on the attached findings and conditions.

Exhibits

A. Project plans
B. Findings
C. Conditions
D. Mitigated Negative Declaration (CEQA document)
E. Comments from reviewing agencies
F. Public Comments
G. Revised plan review letters from project geologist and geotechnical engineers.

Parcel Information

Parcel Size:	12,888 square feet (determined by survey)
Existing Land Use - Parcel:	Vacant
Existing Land Use - Surrounding:	Single-family dwellings
Project Access:	Beach Drive (a private road at this location)
Planning Area:	Aptos

Land **Use** Designation:	R-UL (Urban Low Density Residential)
Zone District:	RB (Ocean Beach Residential)
Coastal Zone:	X Inside __ Outside
Appealable to Calif. Coastal Comm.	X Yes __ No

Environmental Information

Geologic Hazards:	FEMA Flood Zone V (Wave run-up hazard zone), landslide potential at the base of coastal bluff
Soils:	Beach sand (soils map index number 109) and Purisima Foundation Sands
Fire Hazard:	Not a mapped constraint
Slopes:	50% to over 70% (base of coastal bluff)
Env. Sen. Habitat:	Not mapped/no physical evidence on site
Grading:	About 1,250 cubic yards
Tree Removal:	No trees proposed to be removed
Scenic:	Designated Coastal Scenic Resource Area
Drainage:	Drainage to beach
Archeology:	Not mapped/no physical evidence on site

Services Information

Urban/Rural Services line:	X Inside __ Outside
Water Supply:	Soquel Creek Water District
Sewage Disposal:	Santa Cruz Sanitation District
Fire District:	Aptos/La Selva Fire Protection District
Drainage District:	Zone *6*

Background

A previous development permit (96-0159) was approved in May of 1996 for the construction of a single-family dwelling on site, but was never exercised. On June 3, 2004 the County Planning Department accepted this application to construct one single-family dwelling at the toe of the bluff, requiring a Coastal Development Permit and a Variance to allow a three-story single-family dwelling within the Urban Services Line. **The** application required Environmental Review as more than 1,000 cubic yards of grading are proposed within a designated scenic resource area (about 1,250 cubic yards). The Environmental Coordinator issued a Negative Declaration with Mitigations on December 14, 2005 to comply with the California Environmental Quality Act (CEQA) (Exhibit D).

Project Setting

The project site is located on the bluff side of the private section of Beach Drive in Aptos, between existing residences at 544 Beach Drive and 615 Beach Drive. The property is steeply sloped, with the entire site in excess of 50% slopes. A line of mostly one-story homes already exists on the coast side of Beach Drive, between the project site and the beach.

	RB Zone District	Proposed
Front yard setback	10'*	**About** *5'*
Side yard setbacks	*0'* and *5'*	**24'** 6" each side
Rear yard setback	10'	**48'**
Lot Coverage	**40%**	27%
Floor Area Ratio	**50%**	49.75%
Maximum height	**25'** *on* ***bluff*** side	22'

Local Coastal **Program/General** Plan Consistency

The subject parcel retains a General Plan/Local Coastal Program Land Use Designation of R-UL (Urban Low Density Residential), implemented by the **RE3** (Ocean Beach Residential) zone district. The proposed single-family dwelling complies with the purposes of this Land Use Designation, as the primary use of the site will remain residential.

Geologic Hazards

General Plan policy 6.2.10 requires all development to be sited and designed to avoid or minimize hazards as determined by geologic or engineering investigations. Due to the location of the parcel adjacent to an open beach at the toe of a coastal bluff, potential coastal flooding and landslide hazards cannot be avoided and therefore must be mitigated. General Plan policy 6.2.15 allows for new development on existing lots of record in areas subject to storm wave inundation or coastal bluff erosion where a technical report demonstrates that potential hazards can be mitigated over the 100-year lifetime of the structure. Mitigations can include, but are not limited to, building setbacks, elevation of the structure, friction pier or deep caisson foundation; and where a deed restriction indicating the potential hazards on the site and level of prior investigation conducted is recorded on the property deed with the County Recorder. If properly constructed and maintained, the project design is expected to provide protection from landslide hazards and flooding during 100-year storm events within the 100-year life span of the structure.

Due to the location of the proposed dwelling at the base of a coastal bluff, the structure will be vulnerable to damage **or** destruction from landslides and slope failure. Consequently, Engineering Geologic and Geotechnical Reports have been prepared addressing geologic hazards, site conditions, and hazard mitigations for the proposed dwelling (excerpts of conclusions and recommendations in Exhibit D, Attachments **9** and 10). The project soils engineer and geologist recommend constructing the dwelling with a reinforced concrete structure

designed to withstand the impact of any expected landslides, utilizing a "bunker" style design with a flat roof constructed of reinforced concrete and the sides of the structure designed as retaining walls to prevent damage by landslide flows along the side yards. The structure will be built flush with the face **of** the slope to minimize impacts to the rear of the dwelling. Finally, the foundation is designed to withstand slope failure and to mitigate for unconsolidated soils. As recommended by the project geologist and soils engineer, deck areas will be covered by an overhang **to** provide refuge in the event of a landside.

The project site is located within the FEMA Flood Zone-V, an 100-year coastal flood hazard zone designating areas subject to inundation resulting from run-up from waves and storm surges. FEMA regulations and the County Geologic Hazards ordinance (Chapter 16.10) require flood elevation of all new residential structures within 100-year flood zones. FEMA determined the expected 100-year wave impact height to be 21 feet above mean sea level (M.S.L.). The lowest habitable floor of the proposed dwelling is elevated more than one foot above 21 feet M.S.L. to prevent the habitable portions of the dwelling from flooding due to a 100-year storm surge. The garage doors and non-load bearing walls must function as "break-away" walls as required by the FEMA regulations for development in the V-Zone and in Chapter 16.10 of the County Code.

The dwelling at 641 Beach Drive was the first structure approved incorporating this design (approved in 1993 as permit 91-0506), and dwellings of a similar design have been approved elsewhere on Beach Drive, including at the southeast end of Beach Drive under Coastal Development Permit 99-0354 and 04-0044.

Grading and Erosion Control

General Plan/LCP policy 8.2.2 requires new development to be sited and designed to minimize grading, avoid or provide mitigations for geologic hazards and conform to the physical constraints and topography of the site. The project has been designed to step down the slope to reduce excavation and to conform to the topography of the site to the greatest extent possible while maintaining a dwelling of similar size to neighboring homes on Beach Drive.

The proposed dwelling will not destabilize or exacerbate erosion of the bluff, and when completed will act **as** retaining structures to stabilize the toe of the bluff. The only potential for bluff destabilization will occur during excavation and construction. To minimize **the** chances of a failure occurring during this period, the project soils engineer has outlined a plan for construction phasing (See Exhibit D, Attachment 10). The key elements of this plan are as follows:

- Site grading and retaining wall construction must take place between April 15th and October 15th, when the site is *dry.*
- The project soils engineer and geologist must be on site during the work.
- Excavation and construction should begin at the top and work downward, a section at a time. Under this plan, a portion of the cliff would be excavated, followed by construction of that portion **of** the wall. After that section of the wall is completed, the next lower section of the cliff would be excavated.

A detailed work plan following these elements will be submitted with the building permit application. This work plan will detail the height of each individual section to be excavated and retained, and will take into account any concurrent excavation into the bluff for neighboring projects. Furthermore, a Waiver, Indemnification, Bonding, and Insurance Agreement will be required, which will include a requirement that the applicant/owner obtain and maintain Comprehensive Personal Liability (or equivalent) or Owner's Landlord and Tenant Liability Insurance coverage (as appropriate) of $1,000,000 plus an additional $1,000,000 of excess coverage to insure construction of the retaining structure will be completed in a timely manner (See Condition of Approval I.D). In addition, security bonds will be required to ensure bluff stabilization work can be completed by the County if construction stops prior to completion of all necessary shoring, retaining walls, tie-backs, and any other construction required to stabilize the bluff. One bond will be for 150% of the total construction cost to stabilize the bluff, which will be released after satisfactory completion of all retention structures as determined by the County Geologist. The second bond will be for 50% of the above construction costs, to be released not less than one year after final inspection (Condition of Approval **11.0).**

Public Access

The proposal complies with Policy 7.7.10 of the General Plan/LCP (Protecting Existing Beach Access) in that pedestrian and emergency vehicle access will not be impeded by the proposed dwelling and construction, and no public access easements exist across the subject property. Furthermore, the site is not designated for Primary Public Access in Policy 7.7.15 of the General Plan/LCP, and is not suitable for access due to the steep topography of the site.

Design Review

The project is located within a mapped scenic resource area, and therefore must comply with General Plan Objective 5.10b (New Development within Visual Resource Areas). The purpose of this objective is to ensure that new development is appropriately designed and constructed to have minimal to no adverse impact upon identified visual resources. General Plan/LCP policies 5.10.2 and **5.10.3** require that development in scenic areas be evaluated against the context of their environment, utilize natural materials, blend with the area and integrate with the landform and that significant public vistas be protected from inappropriate structure design. Moreover, General Plan/LCP policy 5.10.7 allows structures to be visible from a public beach where compatible with the pattern of existing development. Generally, impacts to existing public views occur when development extends into areas that are currently natural and are visible from the beach. In this case, the project site is located behind a line of existing one-story homes on the coast side of Beach Drive, and adjacent to existing single-family dwellings constructed in the late 1960's. The upper story of the proposed dwelling will be visible from the open beach at low tides (See photo-simulations in Exhibit D, Attachment 16). However, the design of the structure will be integrated into the Beach Drive neighborhood in terms of height, bulk, mass, scale, architectural style, colors, and materials. The size of the proposed residence will be larger than some of the adjacent residences, but will be proportioned to the size of the lot, as the residence will comply with County standards for Floor Area Ratio and lot coverage. The mass of the residence will be broken up by stepping back each of the three levels to be flush with the hillside, and by the central clearstory which breaks the structure **up** into three horizontal components.

General Plan/LCP policies 8.6.5 and 8.6.6 require that development be complementary with the natural environment and that the colors and materials be chosen blend with the natural landforms. To comply with this policy, the proposed dwelling will incorporate teak wood-siding with earth-tone colored concrete to better blend in with the coastal bluff and vegetation behind the residence, minimizing the visual impact of the residence.

The County's Urban Designer evaluated the project for conformance with the County's Coastal Zone Design Criteria (Section 13.20.130) and the County's Site, Landscape, and Architectural Design Review Ordinance (Section 13.11) (Exhibit D, Attachment 15). The Urban Designer determined the proposed single-family dwelling to be in conformance with all applicable provisions of these ordinances, including criteria regarding protection of the public viewshed and compatibility with the existing neighborhood and coastal setting. Although the project will be visible from the beach, the design, materials, and colors minimize the visual impact of the dwelling to the greatest extent possible while maintaining a similar bulk, mass, and scale to existing and proposed houses on the bluff side of Beach Drive.

Variance to allow three stones

To construct a house within the limitations placed on the site by flooding hazards, visual compatibility, and General Plan policies to minimize grading, the applicant has requested variances to site standards to increase the maximum number of stories to three from two.

Inside the Urban Services Line, the County Code prohibits single-family dwellings greater than two stones absent a variance approval. To compensate for FEMA flood elevation requirements, construct within the constraints of the site, and minimize grading, the applicant has requested a variance to construct a three-story single-family dwelling similar to existing houses on the bluff side of Beach Drive. The steep topography of the site (with slopes greater than 70%) and the FEMA flood elevation requirements present special circumstances inherent to the property that would deny the property owner a reasonably sized dwelling as enjoyed by residents of similar structures on the bluff side of Beach Drive. Many homes along the bluff side of Beach Drive already have three stories, including the house at 641 Beach Drive and the dwellings recently approved on adjacent lots. For this reason, the granting of a variance to allow three stories will not constitute the granting of a special privilege.

Environmental Review

Environmental review has been required for the proposed project per the requirements of the California Environmental Quality Act (CEQA), as more than 1,000 cubic yards of grading is proposed. The project was reviewed by the County's Environmental Coordinator on December 5, 2005. A preliminary determination to issue a Negative Declaration with Mitigations (Exhibit D) was made on December 14,2005. The mandatory public comment period expired on January 20,2006, with comments from the Monterey Bay Air Pollution Control District and the Association of Monterey Bay Area Governments (AMBAG) (Exhibit E).

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

Staff recommends your Commission:

- Certify the Mitigated Negative Declaration to the California Environmental Quality Act.
- APPROVE Application Number **04-0255,** 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

Report Prepared By: _____

David Keyon
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA **95060**
Phone Number: **(831) 454-3561**
E-mail: david.keyon@co.santa-cruz.ca.us

Report Reviewed By: _____

Cathy Graves
Principal Planner
Development Review

Coastal Development Permit Findings

1. That the project is a use allowed in one of the basic zone districts, other than the Special Use (SU) district, listed in section 13.10.170(d) as consistent with the General Plan and Local Coastal **Program** LUP designation.

This finding can be made, as a single-family dwelling is a principal permitted use in the "RB" (Ocean Beach Residential) zone district with the approval of a Coastal Development Permit. The " R B zone district is consistent with the General Plan and Local Coastal Program land use designation of Urban Low Residential.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, **or** open space easements.

This finding can be made, as the parcel is not encumbered by any open space easements or similar land use contracts. The project will not conflict with any existing right-of-way easement or development restrictions as none exist. The proposed dwelling will not affect public access as none exists down the cliff face at this location, and the project will not impede lateral pedestrian access.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to section 13.20.130 et seq.

The proposed single-family dwelling is consistent with the design criteria and special use standards and conditions of County Code Section 13.20.130 et seq. for development in the coastal zone. Specifically, the house follows the natural topography by stepping up the hillside, proposes minimal grading considering the topography of the site, and is visually compatible with the character of the surrounding residential neighborhood, and includes mitigations for the coastal hazards which may occur within its' 100 year lifespan (landslides, seismic events and coastal inundation). The project is not on a ridgeline, and does not obstruct any public views to the shoreline. The design and siting of the proposed residence will minimize impacts on the site and the surrounding neighborhood. The house will incorporate earth-tone colors and teak wood siding to blend in with the vegetation on the bluff to the rear.

The architecture is complementary to the existing pattern of development and will blend with the built environment. The size of the dwelling is larger than most **of** the dwellings along the bluff side of Beach Drive due to the larger parcel size, but the structure will be proportional to the size of the parcel and will be comparable in size to the existing residence at 629 Beach Drive. The structure will be flood elevated, but will meet the 25 foot RB height limit. This height is consistent with the existing older development along the bluff of side of Beach Drive, most **of** which is three stones similar to the proposed dwelling.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between and nearest public road and the sea or the shoreline of any body of water located within the

coastal zone, such development is in conformity with the public access and public recreation policies of Chapter **3** of the Coastal Act commencing with section 30200.

The project site is located in the appealable area between the shoreline and the first through public road. Public access to the beach is located further **up** Beach Drive at the State Parks parking lot (about 600 feet northwest of the proposed dwelling). The project will not interfere with public access to the beach, ocean, or any other nearby body of water. The project site is not identified as a priority acquisition site in the County Local Coastal Program, and is not designated for public recreation or visitor serving facilities.

5. That the proposed development is in conformity with the certified local coastal program.

The proposed single-family dwelling is consistent with the County's certified Local Coastal Program in that a single family dwelling is a principal permitted use in the RB (Ocean Beach Residential) zone district with an approved Coastal Development Permit. General Plan policy 6.2.15 allows for development on existing lots of record in areas subject to storm wave inundation or beach or bluff erosion within existing developed neighborhoods and where technical reports demonstrate that the potential hazards can be mitigated over the 100-year lifetime of the structure. Mitigations can include, but are not limited to, building setbacks, elevation of the structure, friction pier or deep caisson foundation; and where mitigation of the potential hazard is not dependent on shoreline protection structures except on lots where both adjacent parcels are already similarly protected; and where a deed restriction indicating the potential hazards on the site and level of prior investigation conducted is recorded on the property deed with the County Recorder. ***An*** Engineering Geologic and Geotechnical report have been prepared for this project evaluating the hazards and mitigations. These reports have been reviewed and accepted by the County of Santa Cruz. The proposed structure will be engineered to withstand landslide impacts on a reinforced roof, retaining most **of** the landslide materials on the roof with any excess flowing over the structure. The project is specifically designed to accommodate natural coastal erosion processes of the bluff face. The dwelling must be constructed flush with the bluff as any exposed rear walls cannot be feasibly designed to withstand the impact **of** a catastrophic landslide event. Thus, the rear walls must be designed as retaining walls and anchored into the bluff to prevent landslide impacts from displacing the structure. The dwelling will be elevated with no habitable portions under 21 feet above mean sea level, in accordance with FEMA regulations, the County General Plan policies and Chapter 16.10 of the County Code for development within the 100-year wave hazard zone (V-zone). Thus, the proposed development is consistent with this General Plan policy.

General Plan policy 6.2.16 for Structural Shoreline Protection Measures states that such structures shall be limited to those which protect existing structures from a significant threat, vacant lots which through lack of protection threaten adjacent developed lots, public works, public beaches or coastal dependent uses. The proposed reinforced concrete dwelling is not specifically a structural shoreline protection measure, but does provide some stability to the toe of the cliff.

General Plan/LCP policy 5.10.7 allows structures, which would be visible from a public beach, where compatible with existing development. The subject lot is located on the bluff side of Beach Drive within a line of existing and proposed single-family dwellings of a similar height. The project is consistent with General Plan policies for residential infill development as the proposed dwelling

will integrate with the built environment along Beach Drive by retaining a similar height, bulk, mass, and scale to existing and recently approved development in the vicinity. The height of the dwelling does note exceed 25 feet in conformance with the height limit for the RB zone district, **and** consistent with most of the existing and proposed adjacent residences. The size of the structure is consistent with the lot coverage and Floor Area Ratio of the zone district. The bulk of the residence, though slightly larger than homes in the immediate vicinity, will be broken **up** by the central clearstory and the stepped design. Dwellings on the beach side of Beach Drive have different site standards and therefore cannot be used to determine compatibility. General Plan/LCP policies *8.6.5* and 8.6.6 require that development be complementary with the natural environment and that the colors and materials chosen blend with the natural landforms. The proposed dwelling will use wood siding and earth-tone colors to blend in with the bluff to the rear.

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would 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.

This finding can be made, as the proposed project complies with all development regulations applicable to the site with the exception of the limitation on the maximum number of stones, for which a Variance is being sought. The parcel is located within a coastal hazard area and is expected to be subject to wave inundation, landslides and seismic shaking hazards. Engineering Geologic and geotechnical reports have been completed for this project analyzing these hazards and recommending measures to mitigate them. The habitable portions of the dwelling will be constructed above 21 feet mean sea level (msl), which is the expected height of wave inundation predicted for a 100-year storm event. The garage will incorporate break away garage doors and non-structural walls on the lower level to minimize structural damage from wave action.

Construction will comply with prevailing building technology, the Uniform Building Code, the County Building ordinance, and the recommendations of the Engineering Geologic and Geotechnical report to insure the optimum in safety and the conservation of energy and resources. The structure will be engineered to withstand landslide impacts by incorporating a flat reinforced concrete roof, retaining most of the landslide materials on the roof with any excess flowing over the structure. The project is specifically designed to accommodate natural coastal erosion processes of the bluff face. The dwelling must be constructed flush with the bluff face and be anchored into the bluff to withstand the impact of a catastrophic landslide event and prevent it from displacing the structure. An engineered foundation is required in order to anchor the dwellings in the event of a landslide impact and to withstand seismic shaking. Adherence to the recommendations of the soils engineer and geologist in the house design and construction will provide an acceptable margin of safety for the occupants of the proposed home. The project design will not change the existing pattern debris flow and will not adversely affect the adjacent dwellings. The retaining walls incorporated into the design of both dwellings will provide some stability to the toe of the cliff, but will not affect the stability of the upper cliff. A drainage system will be constructed, which the upslope neighbors may use to control his/her drainage on the slope face. Thus, the project will provide a small benefit to the upslope property, although natural erosion of the upper bluff face is expected to continue.

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.

The project is located within the RB (Ocean Beach Residential) zone district. The proposed dwelling will be consistent with all pertinent County ordinances, site standards, and the purpose of the RB zone district, with the exception of the number of stones, for which a Variance is sought. The increase in the number of stones will not significantly increase the bulk of building mass and will allow adequate light, air and open space to adjacent neighbors, as the design of the proposed single-family dwelling is consistent with that of the surrounding neighborhood, as it is visually compatible

and integrated with the character of surrounding neighborhood (both existing and proposed dwellings), and meets the intent of County Code Section 13.10.130, "Design Criteria for Coastal Zone Developments" and Chapter 13.11 "Site, Architectural and Landscape Design Review." Homes in the area range from one story on the beach side of Beach Drive to three-stories on the bluff side, with a wood or stucco exteriors and large expanses of windows and decks. The majority of houses in the neighborhood have flat roofs. The proposed colors and materials and architecture will harmonize and blend with the other homes in this neighborhood. Thus, the design of the proposed single-family dwelling is consistent with that of the surrounding neighborhood. As discussed in Finding #1, Engineering Geologic and Geotechnical reports have been prepared evaluating the landslide and coastal flooding hazards, which will be mitigated in accordance with the regulations set forth in Chapter 16.10 (Geologic Hazards) of the County Code. As discussed in the Coastal Findings above, the project is consistent with the County's Coastal Regulations (Chapter 13.20).

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.

The project is located in the R-UL (Urban Low Residential) General Plan/Local Coastal Program land use designation. As discussed in Coastal Development Permit Finding 5, all General Plan/LCP policies have been met in the proposed location of the project, the hazard mitigations and with the required conditions of this permit. The design of the single-family dwelling is consistent with that of the surrounding neighborhood on the bluff side of Beach Drive, and is sited and designed to be visually compatible and integrated with the character of surrounding neighborhood and the coastal bluff. The dwelling will not block public vistas to the public beach and will blend with the built environment when viewed from the public beach. The house is designed to step down the slope, requiring minimal grading considering the limitations placed on the site with regards to slope and construction requirements to minimize geologic hazards. For this reason the project conforms with General Plan policies to minimize grading.

A specific plan has not been adopted for this portion of Rio Del Mar.

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, as the proposed single-family dwelling will not overload utilities and will not generate more than the acceptable level of traffic on the roads in the vicinity. Specifically, adequate water and sewer service is available to the property and there will be minimal increase in traffic resulting from the construction of one new single family dwelling on a legal lot of record designated for residential **use.** Traffic generated by construction will be limited to weekdays between the hours of 8 AM and 5 PM and any damage to Beach Drive resulting from heavy equipment will be required to be repaired (Condition of Approval III.H and IV.G).

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, as the home will not appear significantly different from the existing or proposed development on the bluff side of Beach Drive, which must be designed with the same constraints and limitations resulting in non-habitable lower floors and flat roofs. The proposed project will result in a home of a similar **size** and mass to other homes on the bluff side of Beach Drive, and will be designed to be visually compatible and integrated with the character of the surrounding neighborhood.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through **13.1**1.076), and any other applicable requirements of this chapter.

This finding can be made, in that the proposed single-family dwelling is consistent with the County's Design Review Ordinance as the site design, architectural style, materials, colors, flat roof, and three story design within the PR zone district height result in a structure that is compatible with the surrounding development along the bluff side of Beach Drive **(see** Urban Designer's comments in Exhibit D, Attachment 15).

Variance Findings

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

This finding can be made, as the subject parcel contains very steep slopes (slopes in excess of 70%) on an unstable coastal bluff, with the only suitable area for development near the base of the bluff within the coastal flood hazard area (Flood Zone-V). Due to the topography and location within a flood hazard area, the structure must be elevated above the expected 100-year coastal inundation level at 21 feet above mean sea level in accordance with the regulations set forth by the Federal Emergency Management Agency (FEMA) and Chapter 16.10 (Geologic Hazards Ordinance) of the County Code. The lower floor area cannot be used as habitable space due to potential flood hazards from wave run-up, so a variance has been requested to increase the maximum number of stories from two to three in order to construct a home comparable to existing and recently approved homes in the vicinity. The majority of homes along the bluff side of Beach Drive are three stories, so a variance to height requirements would not constitute the granting of a special privilege as existing dwellings in the neighborhood already have three stones. Due to the step-down design of the structure, the house will still meet the maximum 25 foot height limit for the RB zone district despite the increase in the number of stones.

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 the public health, safety, or welfare or injurious to property or improvements in the vicinity.

Compliance with the recommendations and construction methods required by the Engineering Geologic and Geotechnical reports accepted by the Planning Department will insure that granting the variance to construct the proposed three-story single family dwelling will not be matenally detrimental to the public health, safety and welfare or be materially injurious to property or improvements in the vicinity. The residence is required to be elevated above 21 feet mean sea level with no habitable features on the ground floor and constructed with a break-away garage door and walls (except those used as support structures). No mechanical, electrical or plumbing equipment shall be installed below the base flood elevation. The dwelling will be engineered to withstand landslide impacts upon the roof and to allow slide debris to accumulate upon it. This design allows for the natural pattern of debris flow and minimizes deflection onto the adjacent properties.

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.

The granting of variances to increase the maximum number of stones from two to three will not constitute a grant **of** special privilege, as similar variances have been granted for houses of similar construction on the bluff side **of** Beach Drive due to **FEMA** flood elevation requirements. The most recently approved variances, permits 04-0044, 05-0097, and 05-0098, encompass homes on the bluff side of Beach Drive downcoast from the project site.

Conditions of Approval

Exhibit A: Project plans, 8 sheets, drawn by Jim Mosgrove, Architect, dated 12/1/05. Engineered drawings, 5 sheets, drawn by Michael Beautz, and dated 1/24/06. Landscape plan, 1 sheet, drawn by Michael Arnone, Landscape Architect, and dated 11/29/05.

I. This permit authorizes the construction of a three-story single-family dwelling. Prior to exercising any rights granted by *this* permit including, without limitation, any construction or site disturbance, the applicant'owner shall:

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

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

C. Obtain a Grading Permit from the Santa Cruz County Building Official.

D. The owner shall execute the attached WAIVER, INDEMNIFICATION, BONDING, AND INSURANCE AGREEMENT with the County (see Attachment 1 to the conditions of approval) and meet all requirements therein. This agreement will require the applicant/owner to obtain and maintain Comprehensive Personal Liability (or equivalent) or Owner's Landlord and Tenant Liability Insurance coverage (as appropriate) of $1,000,000 plus an additional $1,000,000 of excess coverage per single-family dwelling. Proof of insurance shall be provided.

II. 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 a detailed construction plan following the recommendations of the project soils engineer. The plan shall indicate the shoring plan, the phases of excavation, five foot maximum height for temporarily unsupported cuts, plan to work from the top down, and requirements for the project geotechnical engineer to be on site during excavation. The construction plan shall not be submitted without an accompanying letter from the project geotechnical engineer approving the plan.

C. 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. Exterior elevations identifying fmish materials and colors. Colors shall be earth tone, subdued colors (not white). All windows facing the beach shall utilize low-reflective glazing materials.

3. The final plans shall include a specification that all windows, doors and other openings will be designed to resist and hold the force of a landslide as specified by the geotechnical engineer. No openings are allowed in the rear of the buildings, and all side windows must be approved by the County Geologist.

4. The structure shall be engineered to resist and hold the force of a landslide, as specified by the geotechnical engineer. **The** roof shall be engineered to support the static load of anticipated landslide debris in conformance with **the** soils engineering report recommendations.

5. Plans shall show details showing compliance with **the** following FEMA and County flood regulations:

a. The lowest habitable floor and the top of the highest horizontal structural members (joist or beam) which provides support directly to the lowest habitable floor **and** elements that function as a part of the structure such as furnace or hot water heater, etc. shall be elevated above the 100-year wave inundation level. Elevation at this site **is** a **minimum** of 21 feet above mean sea level. The building plans must indicate **the** elevation of the lowest habitable floor area relative to **mean** sea level and native grade. Locations for furnaces, hot water heaters shall be shown.

b. Show that the foundations shall be anchored and the structures attached thereto to prevent flotation, collapse and lateral movement of **the** structure due to **the** forces to which they may be subjected during the base flood and wave action.

c. **The** garage doors and non-bearing walls shall function as breakaway walls. The garage doors and front wall shall be certified by a registered civil engineer or architect and meet **the** following conditions:

i. Breakaway wall collapse shall result from a water load less than that which would occur during **the** base flood, and

ii. The elevated portion of the building shall not incur any structural damage due to **the** effects of wind and water loads acting simultaneously in the event of a base flood.

iii. Any walls on the ground floor not designated as breakaway shall be demonstrated to be needed for shear or structural support and approved by Environmental Planning.

6. Submit a grading plan.

7. A site plan showing the location of all site improvements, including, but not limited to, points of ingress and egress, parking areas, sewer laterals and drainage improvements. A standard driveway and conform is required.

8. A final landscape plan. This plan shall include the location, size, and species of all existing and proposed trees and plants within the front yard setback and shall meet the following criteria:

a. Plant Selection. At least **80** percent of the plant materials selected for non-turf areas (equivalent to **60** percent of the total landscaped area) shall be drought tolerant. Native plants are encouraged. Up to **20** percent of the plant materials in non-turf areas (equivalent to **15** percent of the total landscaped area), need not be drought tolerant, provided they are grouped together and can be irrigated separately.

b. Turf Limitation. Turf area shall not exceed **25** percent of the total landscaped area. Turf area shall be of low to moderate water-using varieties, such as tall fescue. Turf areas should not be used in areas less than 8 feet in width.

9. Final plans shall reference and incorporate all recommendations of the Engineering Geologic and Geotechnical reports prepared for this project, with respect to the construction and other improvements on the site. All pertinent Geotechnical report recommendations shall be included in the construction drawings submitted to the County for a Building Permit. Plan review letters from the soils engineer and geologist shall be submitted with the plans stating that the plans have been reviewed and found to be in compliance with the recommendations of the Geotechnical and Engineering Geologic reports.

10. Final plans shall conform with the conditions of the Soils and Geologic Reports Review dated October **5,2005** (Exhibit D, Attachment 8).

11. Final plans shall note that Soquel Creek Water District will provide water service and shall meet all requirements of the District including payment of any inspection fees. Final plans shall show the water connection and shall be reviewed and accepted by the District.

12. 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.

13. Details showing compliance with fire department requirements.

14. Final plans shall include an engineered drainage plan conforming with the requirements of the Drainage Section of the Department of Public Works. This drainage plan shall show an enclosed drainage system above the proposed residence of adequate ***size*** and capacity to carry the runoff from the upslope property and all proposed impervious areas within the parcel. All requirements of **the** Drainage Section of the Department of Public Works shall be met and the owner/applicant shall pay all fees for Zone 6 Santa Cruz County Flood Control and Water Conservation District, including plan check and permit processing fees.

15. Submit a detailed erosion control plan to be reviewed and accepted by Environmental Planning. **The** erosion control plan shall include interim measures to prevent during construction and after construction on the bluff face.

16. Any new electrical power, telephone, and cable television service connections shall be installed underground.

17. All improvements shall comply with applicable provisions of **the** Americans With Disabilities Act and/or Title **24** of the State Building Regulations.

18. Include in the plan set a Surveyor's Map showing areas contributing to off-site runoff to this parcel. This map can be the same as that submitted for the Preliminary Improvement Plan for the discretionary stage.

D. Meet all requirements of and pay Zone 6 drainage fees to the County Department of Public Works, Drainage. Drainage fees will be assessed on the net increase in impervious area.

E. 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.

F. Meet all requirements and pay any applicable plan check fee of the Aptos/La Selva Fire Protection District.

G. Pay the current fees for Parks and Child Care mitigation for five bedrooms Currently, these fees are, respectively, $1,000 and $109 per bedroom.

H. Pay the current fees for Roadside and Transportation improvements for one

single-family dwelling. Currently, these fees are $4,000 per unit (divided evenly between Roadside and Transportation fees).

I. Provide required off-street parking for four **(4)** cars. 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.

J. 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.

K. **The** owner shall record **a** Declaration of Geologic Hazards to be provided by Environmental Planning staff on the property deed. Proof of recordation shall be submitted to Environmental Planning. **YOU MAY NOT ALTER THE WORDING OF THIS DECLARATION.** Follow the instructions to record and return the form to the Planning Department.

L. A Deed Restriction shall be recorded which prohibits the **use** of the roof, side yards and rear yard except for the purpose of maintenance or repair.

M. Submit a plan review letter from the project structural engineer stating the plans comply with FEMA elevation requirements.

N. Submit an engineer's statement estimating construction costs including earthwork, drainage, all inspections (soils, structural, and civil engineers, etc.), and erosion control associated with the foundation, retaining walls, and drainage system for review and approval per the Waiver, Indemnification, Security, and Insurance Agreement. These estimates will be reviewed by the County Geologist and will be used for determining the appropriate amounts for each bond.

O. The two security bonds (one for 150% of **the** total construction cost released after completion of all slope stabilization construction, one for 50% released one year after final inspection) shall be in place prior to issuance of the building permit. Please submit proof indicating if Certificate of Deposits or Letters of Credit will be used to satisfy the bonding requirement.

P. Obtain a permit from the Monterey Bay Air Pollution District, if required. This permit may require a diesel health risk assessment depending on the equipment used, the timing and the distance of the construction from the nearest residence.

Q. Submit a signed, notarized, and recorded maintenance agreement for the silt & grease traps **prior** to permit issuance.

III. Prior to and during site disturbance and construction:

A. Prior to any disturbance on either property the applicant shall convene a pre-construction meeting on the site with the grading contractor supervisor,

construction supervisor, project geologist, project geotechnical engineer, Santa Cruz County grading inspector, and any other Environmental Planning staff involved in the review of the project.

B. All land clearing, grading and/or excavation shall take place between April 15 and October 15. Excavation and/or grading is prohibited before April 15 and after October 15. Excavation and/or grading may be required to start later than April 15 depending on site conditions, as determined by Environmental Planning staff. If grading/excavation is not started by August 1st, grading must not commence until after April **15"** the following year to allow for adequate time to complete grading prior to October 15''

C. Erosion shall be controlled at all **times.** Erosion control measures shall be monitored, maintained and replaced as needed. No turbid runoff shall be allowed to leave the immediate construction site.

D. Dust suppression techniques shall be included as part of the construction plans and implemented during construction. These techniques shall comply with the requirements of the Monterey Air Pollution Control District.

E. All earthwork and retaining wall construction shall be supervised by the project soils engineer and shall conform with the Geotechnical report recommendations.

F. All foundation and retaining wall excavations shall be observed and approved in writing by the project soils engineer prior to foundation pour. A copy of **the** letter shall be kept on file with the Planning Department.

G. Prior to sub-floor building inspection, compliance with the elevation requirement shall be certified by a registered professional engineer, architect or surveyor and submitted to the Environmental Planning section of the Planning Department. Construction shall comply with the FEMA flood elevation requirement of 21 feet above mean sea level for all habitable portions of the structure. Failure to submit the elevation certificate may be cause to issue a stop work notice for the project.

H. Construction shall only occur between the hours of 8 AM and ***5*** PM, Monday through Friday, with no construction activity allowed on weekends and holidays.

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 and grading permits shall be completed to the satisfaction of the County Building Official, the County Senior Civil Engineer,

and the County Geologist.

C. The soils engineer/geologist shall submit a letter to the Planning Department verifying that all construction has been performed according to the recommendations of the accepted geologic and soils report. **A** hold will be placed on the building permit until such a letter is submitted. **A** copy of the letter shall be kept in the project file for **future** reference.

D. Final erosion control and drainage measures shall be completed.

E. The project must comply with all recommendations of the approved soils reports.

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

V. Operational Conditions

A. Modifications to the architectural elements including but not limited to exterior finishes, window placement, roof design and exterior elevations are prohibited, unless an amendment to this permit is obtained.

B. All portions of either structure located below 21 feet mean sea level shall he maintained as non-habitable.

1. The ground floor shall not be mechanically heated, cooled, humidified or dehumidified.

2. The structure may be inspected for condition compliance twelve months after approval and at any time thereafter at the discretion of the Planning Director.

C. This permit prohibits the use of the roof, side yards and rear yard except for the purpose of maintenance and/or repair.

D. The homes must be maintained at all times. In the event of a significant slope failure, the owner must remove the debris from the roof within 48 hours under the direction of a civil engineer.

E. All landscaping shall be permanently maintained.

F. The residence shall maintain a subdued earth-tone coloration.

G. 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 actions, 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's fees and costs; and

2. COUNTY defends the action in good faith.

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

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

VII. Mitigation Monitoring. The mitigation measures listed under this heading have been incorporated into the conditions of approval for this project in order to mitigate or avoid significant effects on the environment. As required by Section 21081.6 of the California public Resources Code, a monitoring and reporting program for the above mitigations is hereby adopted as a condition of approval for this project. This monitoring program is specifically described following each mitigation measure listed below. The purpose of this

monitoring is to ensure compliance with the environmental mitigations during project implementation and operation. Failure to comply with the conditions of approval, including the terms of the adopted monitoring program, may result in permit revocation pursuant to Section **18.10.462** of the Santa Cruz County Code.

A. Pre-construction site meeting: Prior to any disturbance on the property, the applicant shall convene a pre-construction meeting on site with the applicant, grading contractor supervisor, project geologist, project geotechnical engineer, and the Santa Cruz County grading inspector (Condition III.A.). **NO** inspections by Environmental Planning staff shall occur until this meeting is convened, and failure to conduct this meeting prior to the start of construction will be in violation of this permit and will result in a Stop Work order from the Building Department.

B. Plan review letters: Prior to building permit approval by Environmental Planning, the applicant shall provide plan review letters from the project geologist and project geotechnical engineer indicating they have reviewed the site plans and preliminary improvement plans (M. Beautz, October 2004), and that the design meets the recommendations of their reports and the review letter from the County Geologist (J. Hanna, letter dated October 5, 2005). A plan review letter shall also be submitted from the project structural engineer that the FEMA elevation requirements for non-habitable and break away construction below 21 feet MSL has been met [Conditions of Approval II.C.9 and II.M).

C. Construction plan: Prior to approval of the building and/or grading permit by Environmental Planning, the applicant shall submit a detailed construction plan, prepared by a Civil Engineer, indicating how the earthwork will proceed. The plan shall indicate the shoring plan, the phases of excavation, five foot maximum height for temporarily unsupported cuts, plan to work from the top down, and requirements for the project geotechnical engineer to be on site during excavation. The construction plan shall not be submitted without an accompanying letter from the project geotechnical engineer approving the plan (Condition of Approval II.B.).

D. Restriction on winter grading: Grading shall not occur between October 15 and April 15. Further, if grading has not started before August 1st, it cannot start until April 15 of the following year (III.B.). Environmental Planning will not issue a winter grading permit, and any grading during this time period will be in violation of the conditions of this permit and will be referred to Code Compliance.

E. Declaration of Geologic Hazards: Prior to approval of the building permit application by Environmental Planning, a Declaration of Geologic Hazards must be recorded which identifies the hazards on the site, references the technical reports, and identifies the required mitigation measures and maintenance required to maintain the original level of risk (Condition **of** Approval II.K.).

F. Drainage plan: Prior to approval of the building permit application by both Environmental Planning and the Department of Public Works, Drainage, the applicant shall submit a drainage plan prepared by the project Civil Engineer, presented on an accurate topographic base, for review and approval by the Department of Public Works Drainage staff, the project geotechnical engineer, and the County Geologist **(II.C.14).**

G. Erosion control plan: Prior to approval of the building permit by Environmental Planning, the applicant shall submit an erosion control plan for review and approval. Plans shall indicate that the destination of excess fill is either the municipal landfill or a receiving site with a valid permit (II.C.15).

H. Visual impacts: Prior to approval of the building permit by Development Review, the applicant shall submit a color board (in an 8½" x 11" format, not to exceed ¼" in thickness) and indicate on the plans the exterior colors and materials. **These** colors and materials shall be earth tone within the brown to green range, trim and accent colors will be subdued, and exterior materials will blend in with the colors and forms of the coastal bluff (II.C.1, 2).

Minor variations lo 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 on the expiration date listed below unless **you** obtain the required permits and commence construction.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Cathy Graves
Principal Planner

David Keyon
Project Planner

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

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

NOTICE **OF** ENVIRONMENTAL REVIEW PERIOD

SANTA **CRUZ** COUNTY

APPLICANT: Jim Mosgrove, Architect, for Michael & Deborah Collins

APPLICATION NO.: **04-0255**

APN: **043-152-7'1** (formerly **043-152-56)**

The Environmental Coordinator has reviewed the Initial Study for your application and made the following preliminary determination:

XX Negative Declaration
(Your project will not have a significant impact on the environment.)

XX Mitigations will be attached to the Negative Declaration.

_____ No mitigations will be attached

_____ Environmental Impact Report
(Your project may have a significant effect on the environment. An EIR must be prepared to address the potential impacts.)

As part of the environmental review process required by the California Environmental Quality Act (CEQA), this is your opportunity to respond *to* the preliminary determination before it is finalized. Please contact Paia Levine, Environmental Coordinator at (831) 454-3178, if you wish to comment on the preliminary determination. Written comments will be received until 5:00 p.m. on the last day of the review period.

Review Period Ends: January **20,2006**

David Keyon
Staff Planner

Phone: **454-3561**

Date: December **14,2005**

EXHIBIT D

NAME: Mosgrove *for* Collins
APPLICATION: 04-0255
A.P.N: 043-152-71

NEGATIVE DECLARATION MITIGATIONS

A. In order to ensure that the mitigation measures B – F (below) are communicated to the various parties responsible for constructing the project, prior to any disturbance on the property the applicant shall convene a pre-construction meeting on the site. The following parties shall attend: applicant, grading contractor supervisor, construction supervisor, project geologist, project geotechnical engineer, Santa Cruz County grading inspector and /or other Environmental Planning staff. The permit conditions and work plan shall be reaffirmed by all parties and the destination for the excess fill shall be identified at that time.

B. In order to avoid impacts from potential geologic and geotechnical hazards on the property, specifically potential for landslide and liquefaction:

1. The project shall be fully engineered and designed for the site conditions in accordance with the approved geologic report (Nielsen and Associates, February 2004), the approved geotechnical report (Haro, Kasunich, Associates, dated March, 2004) and the review letter from the County Geologist detailing additional recommendations (J. Hanna, letter dated October 5, 2005).

   Prior to scheduling the public hearing the applicant shall provide a letter from the project geologist and project geotechnical engineer indicating that they have reviewed the site plans and preliminary improvement plans (M. Beautz, October 2004) that the design meets the recommendations of their reports and the review letter from the County Geologist cited above.

2. Prior to approval of a building or grading permit, the applicant shall submit a detailed construction plan, prepared by a Civil Engineer, indicating how the earthwork will proceed. The plan shall indicate the shoring plan, the phases of excavation, five foot maximum height for temporarily unsupported cuts, plan to work from the top down, project geotechnical engineer on site during excavation, etc. The construction plan shall not be submitted without an accompanying letter from the project geotechnical engineer approving the plan.

4. Grading shall not occur between October **15** and April 15. Further, if grading has not started before August 1 it cannot be started until April 15 of the following year;

5. Prior to approval of any building or grading permit, the applicant shall submit a plan check letter from the project geologist and project geotechnical engineer indicating that they have reviewed the plans and that they meet the recommendations of their reports, and from the project structural engineer that the FEMA elevation requirements and requirement for non habitable break away construction below 21 feet M.S.L. has been met;

6. Prior to approval of any building or grading permit, the applicant shall record *a*

EXHIBIT D

Declaration of Geologic Hazard onto the deed which identifies the hazards on the site, references the technical reports, and identifies the required mitigation measures and maintenance required to maintain the original level of mitigation.

C. Prior to scheduling the public hearing, the applicant shall submit a drainage plan prepared by the project Civil Engineer, presented on an accurate topographic base, for review and approval by the Department of Public Works drainage staff, the project geotechnical engineer and the County Geologist. The plan shall meet the requirements *of* the County Geologist and Department of Public Works, specifically: show control of all drainage and the drainage path through the outlet point onto the beach; detail pipes, inlets and outlets: show control *of* drainage originating upslope, indicate five foot drainage easement on both side property lines to accommodate drainage originating upslope, and calculations and sizing for all pipes.

D. In order to avoid impacts from flooding and wave run up, prior to public hearing applicant shall revise the plans to clearly indicate that the elevation of the bottom of the lowest structural member of the lowest finished floor is above 21 feet MSL and that enclosed areas below that level are designed to "breakaway" under pressure, pursuant to FEMA regulations.

E. In order to minimize impacts from accelerated erosion, winter grading shall not be approved. In addition, prior to issuing building or grading permits the applicant shall submit a detailed erosion control plan for review and approval of Environmental Planning Staff. Plans shall indicate that the destination of excess fill is either the municipal landfill or a receiving site with valid permit.

F. To mitigate the visual impacts of the ***new*** home to the public beach the applicant shall revise the plans to indicate that exterior colors of the structure shall be earth tones in the brown-green range, trim and accent colors shall be subdued, and exterior materials shall **be** chosen to blend with the colors and form of the coastal bluff.

EXHIBIT D

Environmental Review
Initial Study

Application Number: 04-0255

Date: 8/22/05
Staff Planner: David Keyon

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Jim Mosgrove, Architect

APN: 043-152-71 (formerly 043-152-56)

OWNER: Michael and Deborah Collins

SUPERVISORAL DISTRICT: 2nd District

LOCATION: Northeast side of Beach Drive, about one mile southeast of Rio del Mar Boulevard on the bluff side, 650 feet past the entry gate to the private road.

SUMMARY PROJECT DESCRIPTION:

The proposed project consists of the construction of a three-story, five bedroom single-family dwelling, requiring about 1,250 cubic yards of grading within a Coastal Scenic Area. The proposal requires a Coastal Development Permit, Preliminary Grading Approval, A Variance to increase the number of stories to three, Design Review, Soils Report Review, and a Geologic Report Review.

ALL OF THE FOLLOWING POTENTIAL ENVIRONMENTAL IMPACTS ARE EVALUATED IN THIS INITIAL STUDY. CATEGORIES THAT ARE MARKED HAVE BEEN ANALYZED IN GREATER DETAIL BASED ON PROJECT SPECIFIC INFORMATION.

_X_	Geology/Soils	____	Noise
	Hydrology/Water Supply/Water Quality	____	Air Quality
	Energy & Natural Resources	____	Public Services & Utilities
X	Visual Resources & Aesthetics	____	Land Use, Population & Housing
____	Cultural Resources		Cumulative Impacts
	Hazards & Hazardous Materials		Growth Inducement
	Transportation/Traffic	____	Mandatory Findings of Significance

DISCRETIONARY APPROVAL(S) BEING CONSIDERED

____ General Plan Amendment	____ Use Permit
____ Land Division	__X__ Grading Permit
____ Rezoning	____ Riparian Exception
____ Development Permit	__X__ Other: Variance
__X__ Coastal Development Permit	

NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations: Project is appealable to the California Coastal Commission.

ENVIRONMENTAL REVIEW ACTION

On the basis **of** this Initial Study and supporting documents:

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

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

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

Paia Levine

12/16/05
Date

For: Ken Hart
Environmental Coordinator

EXHIBIT D

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS
Parcel Size: About 12,888 square feet
Existing Land Use: Vacant
Vegetation: Coastal shrubs
Slope in area affected by project: ___ 0 - 30% __X__ 31 – 100%
Nearby Watercourse: Pacific Ocean
Distance To: About 300 feet

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Groundwater Supply: N/A
Water Supply Watershed: N/A
Groundwater Recharge: NIA

Timber or Mineral: N/A
Agricultural Resource: N/A
Biologically Sensitive Habitat: N/A
Fire Hazard: N/A
Floodplain: Property subject to Coastal Flooding and wave action
Erosion: Coastal erosion & landsliding
Landslide: Landslide hazard area

Liquefaction: High probability
Fault Zone: N/A
Scenic Corridor: Coastal scenic area

Historic: N/A
Archaeology: N/A
Noise Constraint: None
Electric Power Lines: None
Solar Access: Adequate

Solar Orientation: South
Hazardous Materials: None

SERVICES

Fire Protection: Aptos/La Selva
School District: Pajaro Valley Unified
Sewage Disposal: SC County Sanitation

Drainage District: Zone 6
Project Access: Beach Drive (private)
Water Supply: Soquel Creek Water Dist.

PLANNING POLICIES

Zone District: RB (Ocean Beach Res.)
General Plan: R-UL (Urban Low Res.)

Special Designation: None

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

PROJECT SETTING AND BACKGROUND:

The project site is located on the bluff side of the private section of Beach Drive in Aptos, between existing residences at 544 Beach Drive and 615 Beach Drive. The property is steeply sloped, with the entire site in excess of *50%* slope. A line of mostly one-story homes already exists on the coast side of Beach Drive, between the project site and the beach.

The project site is located within a Federal Emergency Management Act (FEMA) designated Coastal Hazard Zone due to potential storm surges and wave action. This

designation requires all habitable space to be located at least one foot above the 100-year flood line, which in this case is 21 feet above sea level.

Previous Coastal Development Permits have been approved for the construction of a single-family dwelling on site (notably Coastal Development Permits 96-0159 and 98-0161, but none have been exercised.

DETAILED PROJECT DESCRIPTION:

The proposed single-family will be constructed along the face and toe of the coastal bluff on Beach Drive. The proposed house consists of three stories, with the lowest level being non-habitable due to Federal Emergency Management Agency (FEMA) regulations applying to wave run up areas (Flood Zone-V), which require all habitable space to be raised above the 100-year wave run up zone. The house is about 5,800 square feet in size, including five bedrooms and three and a half bathrooms, with a five-car garage on the 1st level. The house is larger than recently approved homes of similar construction on Beach Drive due to the size of the parcel, which is about twice the size of most parcels down coast from the project site. Despite the size, the amount of grading will be comparable or less than that done for recently approved homes of similr construction due to the angle of the slope on site. Visibility of the house from the beach will be minimal, due to the existing line of houses on the coast side of Beach Drive, and the incorporation of earth-tone colors accented by teak veneer to better complement the surrounding environment. Finally, the height of the house will match the existing and proposed development on the bluff side of Beach Drive.

The construction will be of a "bunker" style design as recommended in the Soils and Engineering Geologic Report prepared for the site. Due to landslide hazards on site, the house is specially designed to withstand the impact of landslide debris on and around the structure and to withstand the weight of the debris on the roof. The house will be excavated into the bluff, with the rear and side walls functioning as retaining structures. Construction will be of reinforced concrete, specially designed glass fo withstand impact by debris, and a foundation of drilled concrete piers founded in bedrock. To protect occupants from landslide debris, the third-story deck will be entirely covered, and the second-story deck will be covered for the first three feet to comply with the recommendations of the project's geotechnical report.

A lot line adjustment (permit 04-0037 approved in 2004), resulted in the transfer of about 4,500 square feet from the subject parcel to the adjacent up coast parcel, resulting in a change in parcel numbers from APN 043-152-56 to APN 043-152-71.

EXHIBIT D

Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

III. ENVIRONMENTAL REVIEW CHECKLIST

A. Geology and Soils

Does the project have the potential to:

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

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

   B Seismic ground shaking? — X

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

A geologic investigation for the project was prepared by Nielsen and Associates, dated February, 2004 (Attachment 9), and a geotechnical investigation was prepared by Haro, Kasunich, and Associates, dated March 17, 2004 (Attachment 10). These reports have been reviewed and accepted by the Environmental Planning Section of the Planning Department (Attachment 8). The reports conclude that fault rupture will not be a potential threat to the proposed development, and that seismic shaking can be managed by following the recommendations in the geologic and geofechnical reports referenced above.

   D. Landslides? — X

A structure on the base of the coastal bluff will be vulnerable to damage or destruction from the landsliding and slope failure characteristic of coastal bluffs. Consequently, the Engineering Geologic and Geotechnical Reports (Attachments 9 and 10) prepared for the proposed residence address these hazards and propose mitigations to reduce the risk posed by landslides. The project soils engineer and geologist recommend constructing the dwelling as a reinforced concrete structure and flat roof designed to withstand the impact and resultant dead loads of any expected landslides. To comply with these recommendations, a "bunker" style design is proposed with the roof constructed of reinforced concrete and the sides of the structure designed as retaining walls to prevent damage by landslide flows along the side

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

yards. The flat roof and location of the house in the center of a wide lot will prevent landslide debris from being deflected into neighboring residences. Moreover, the home will be built flush with the face of the slope with minimal projection above the slope to minimize impact to the rear of the dwelling. Finally, the foundation is designed to withstand slope failure and to mitigate for unconsolidated soils. The soils engineer recommends that all decks and exterior stairways be covered with a **3** *foot roof extension and that all side windows be designed to withstand landslide impacts and dead loads to minimize landslide hazards to occupants (see Geotechnical Plan Review Letter from Haro, Kasunich, and Associates dated, Attachment 6).*

2. Subject people or improvements to damage from soil instability as a result of on- or off-site landslide, lateral spreading, to subsidence, liquefaction, or structural collapse? — X

The project site is located in an area subject to soil instability due to landsliding and coastal erosion processes. The design of the structure along the recommendations of the Geotechnical and Engineering Geologic Reports requires the use of reinforced concrete, a flat roof, covered decks, and impact resistant side windows to minimize harm to inhabitants in the event of a landslide by allowing landslide debris to flow on top of and over the house without sustaining significant structural damage (As discussed in A.1.d).

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

The proposed project site will be located on slopes of 70% and greater. However, the design of the structure will mitigate potential hazards resulting from slope instability and landslides (See responses 1. and 2., above).

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

A detailed erosion control plan will be required to be submitted with the grading plans. Implementation of this plan, once approved, combined with only dry season grading (April 15 to October 15), will minimize the erosion impacts to a less than significant level.

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

The geofechnical report for the project did not identify any elevated risk associated with expansive soils.

6. Place sewage disposal systems in X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or Na Impact	Not Applicable
areas dependent upon soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems?				

No septic systems are proposed. The project will connect to the Santa Cruz County Sanitation District, and the applicant will be required to pay standard sewer connection and service fees that fund sanitation improvements within the district as a Condition of Approval for the project.

7. Result in coastal cliff erosion?			X	

The proposed single-family dwelling will be required to be constructed in a manner that does not de-stabilize the coastal bluff by excavating from the top down, limiting the area of unsupported face to 5' at a time, and excavating only uuring the dry season (April 15 to October 15), all pursuant to the recommendations of the Geotechnical and Engineering Geologic reports.

B. Hydrology, Water Supply and Water Quality

Does the project have the potential to:

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

The house will be located on a parcel within Flood Zone-V, the Coastal High Hazard zone. Federal Emergency Management Agency (FEMA) flood hazard zone maps (attachment 14) indicate that the expected wave height during a 100 year storm could be up to 21 feet above mean sea level. The area of a structure below this height must be non-habitable and constructed of break-away parfitions that will collapse during a storm event without damage to the rest of the structure. Prior to issuance of a building permit, certification from an licensed architect or civil engineer stating compliance with all applicable FEMA regulations for dwellings subject to wave inundation. Prior to subfloor inspection, certification by a registered professional engineer, architect, or surveyor will be required to verify that the elevation requirement is met. Prior to building permit final, an Elevation Certificate must be completed to ensure compliance with flood elevation requirements.

2. Place development within the floodway resulting in impedance or redirection of flood flows?				X
3. Be inundated by a seiche or tsunami?			X	

The location of the proposed dwelling on a beach leaves little protection from a seiche or tsunami. However, the reinforced concrete construction and elevation above the FEMA 100-

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

year wave run up level will minimize potential hazards for small-scale events. The house will be subject to the same risk as existing beach development in a larger event.

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

The project will obtain water from the Soquel Creek Water District and will not rely on private well wafer. Although the project will incrementally increase water demand, the Soquel Creek Water District has indicated that adequate supplies are available to serve the project (Attachment 12). The project is not located in a mapped groundwater recharge area.

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

Runoff from this project may contain small amounts of chemicals and other household contaminants. No commercial or industrial activities are proposed that would contribute a significant amount of contaminants fo a public or private water supply. Potential siltation from the proposed project will be mitigated through implementation of erosion control measures.

6. Degrade septic system functioning? ____ ____ ____ X

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

Construction of a new dwelling on an exposed bluff face will alter existing drainage patterns. To handle runoff from the top of the bluff, the Geofechnical Report recommends construction of a concrete V-ditch on top of the uppermost retaining wall to collect runoff and direct it to the proposed drainage system. This system will direct both the runoff from the bluff above and the dwelling onto the beach. Prior to approval of the building permit, the Project Engineering Geologist, the Project Geotechnical Engineer, Environmental Planning, and the Department of Public Works, Drainage Division, must approve the final drainage plan. Control of uphill

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

drainage will reduce existing erosion problems on the bluff face from uphill development. A plan for maintenance of the drainage system will be required as part of the "Declaration of Geologic Hazards" to be recorded on the property deed.

8.	Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems, or create additional source(s) of polluted runoff?		X	
9.	Contribute to flood levels or erosion in natural water courses by discharges of newly collected runoff?		X	
10.	Otherwise substantially degrade water supply or quality?		X	

C. Biological Resources

Does the project have the potential to:

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

According to the California Natural Diversity Data Base (CNDDB), maintained by the California Department of Fish and Game, there are no known special status plant or animal species in the site vicinity, and there were no special status species observed in the project area.

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

There are no mapped or designated sensitive biotic communities on or adjacent to the project site.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less thin Significeant Or No Impact	Not Applicable
3. Interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native or migratory wildlife nursery sites?			X	

The proposed project does not involve any activities that would interfere with the movements or migrations of fish or wildlife, or impede use of a known wildlife nursery site.

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

There are no sensitive animal habitats within or adjacent to the project site

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

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

No trees in excess of 6 inches in diameter will be removed as part of this project.

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

D. Energy and Natural Resources

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
Does the project have the potential to:				
1. Affect or be affected by land designated as "Timber Resources" by the General Plan?				X
2. Affect or be affected by lands currently utilized for agriculture, or designated in the General Plan for agricultural use?				X
3. Encourage activities that result in the use of large amounts of fuel, water, or energy, or use of these in a wasteful manner?			X	
4. Have a substantial effect on the potential use, extraction, or depletion of a natural resource (i.e., minerals or energy resources)?				X

E. Visual Resources and Aesthetics

Does the project have the potential to:

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

The proposed house will be visible from the public beach. However, the public viewshed is not pristine at this location, as it includes development on Beach Drive in the foreground, the coastal bluff above, and development along the top of the bluff on Bay View Drive. Rows of single-family dwellings already exist along the toe of the bluff 140 feet upcoast and 60 feet downcoast of the project site, and the proposed dwelling will be of similar height to this existing development (See attachment 76 for a photo-simulation of the project).

The visual impact of the house on the beach will be limited as houses along the coast side of Beach Drive partially block views of the proposed house from the public beach, except during very low tides when the upper floors of the residence become visible to beach goers, When visible, the subdued coloration, use of teak veneer, and limitations in building height will

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

integrate the dwelling into the surrounding built and natural environment and break up the mass of the structure.

The applicant submitted a photo-simulation, showing how the proposed dwelling will appear on *the site (attachment 16). The proposed colors and materials will not degrade the public viewshed as they will blend with the natural colors of the site, using earth-tone colors and teak siding that will blend in with the natural elements of the site, A color version of attachment 16 is on file with the Planning Department. A project condition will require Planning Department approval of future changes to the exterior, including changes in materials and colors.*

2.	Substantially damage scenic resources, within a designated scenic corridor or public view shed area including, but not limited to, trees, rock outcroppings, and historic buildings?		X	

***As** discussed in E.1. above, the proposed dwelling will be built into a coastal bluff that is visible from a beach. However, the visual impact* of *the project will be minimized through the usage of gray concrete and teak veneer to integrate with the surrounding natural and built environment.*

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

The proposed single-family dwelling will use teak veneer and earth-toned concrete to minimize the visual impact on the beach (as discussed in E.1., above), and will not alter the coastal bluff surrounding the construction site. No cuts will be visible from the beach, as the structure is required to be flush with the slope.

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

***A** condition of approval for the Coastal Permit will require no exterior illumination of the beach and the use of non-glare windows. **A** lighting plan will be required prior to approval of the building permit, which must be reviewed and approved by the Planning Department prior to building permit issuance.*

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

The proposed residence will be notched into a coastal bluff, but will only cover a small portion

Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or NO Impact	Not Applicable

of the existing blufface.

F. Cultural Resources

Does the project have the potential to:

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

The existing structure(s) on the property is not designated as a historic resource on any federal, State or local inventory.

2. Cause an adverse change in the significance of an archaeological resource pursuant to **CEQA** Guidelines 15064.5? X

No archeological resources have been identified in the projectarea. Pursuant to County Code Section 16.40.040, if at any time in the preparation for or process of excavating or otherwise disturbing the ground, any human remains of any age, or any artifact or other evidence of a Native American cultural site which reasonably appears to exceed 100 years of age are discovered, the responsible persons shall immediately cease and desist from all further site excavation and comply with the notification procedures given in County Code Chapter 16.40.040.

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

Pursuant to Section 16.40.040 of the Santa Cruz County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this project, human remains are discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the sheriff-coroner and the Planning Director. If the coroner determines that the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established.

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

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

G. Haz a s a nc Ha z ir(lo t erial

Does the project have the p al to:

1. 1 a significant hazard t the public or the environment as a result of the routine ., storage, s *or* isp of hazardous t not ıcluding gasoline or ıth motor fuels? ____ ____ X

No hazardous materials beyond household chemicals and materials will be used, posing no significant hazard to the environment

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

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

4. Expose people to electro-magnetic fields associated with electrical transmission lines? X

5. Create a potential fire hazard? ____ X

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

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
6. Release bio-engineered organisms or chemicals into the air outside of project buildings?			X	

H. Transportation/Traffic

Does the project have the potential to:

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

The new five-bedroom dwelling will result in a minimal increase in traffic, which can be accommodated by Beach Drive and the road system in the vicinity. Construction traffic will be limited to the hours of 8am to 5pm Monday through Friday (excluding National holidays) as a Condition of Approval to minimize traffic impacts for residents and beachgoers.

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

The project meets the code requirements for the required number of off-street parking spaces for a five-bedroom single-family dwelling

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

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

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

The level of traffic generated by one single-family dwelling (about 10 trip-ends) will not present

EXHIBIT n

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

a significant impact

I. Noise

Does the project have the potential to:

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

Any noise generated on site will be consistent with ambient noise levels from surrounding residential uses.

2.	Expose people to noise levels in excess of standards established in the General Plan, or applicable standards of other agencies?			X
3.	Generate a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X	

During construction, neighboring properties will be subjected to temporary increases in noise. Construction will be confined to the hours of 8am to 5pm Monday through Friday (except National holidays) so the impact to residents and weekend beachgoers will not be significant.

J. Air Quality

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

1.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X	
2.	Conflict with or obstruct implementation of an adopted air quality plan?		X	

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
3. Expose sensitive receptors to substantial pollutant concentrations?			X	
4. Create objectionable odors affecting a substantial number of people?			X	

K. Public **Services and Utilities**

Does the project have the potential to:

1. Result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?			X	
b. Police protection?			X	
c. Schools?			X	
d. Parks or other recreational activities?			X	
e. Other public facilities; including the maintenance of roads?			X	

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation incorporation	Less than Significant Or No Impact	Not Applicable

While the project represents an incremental contribution to the need for services, the increase will be minimal. Moreover, the project meets all of the standards and requirements identified by the local fire agency or California Department of Forestry, as applicable, and school, park, and transportation fees to be paid by the applicant will be used to offset the incremental increase in demand for school and recreational facilities and public roads.

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

Prior to project approval, a drainage plan prepared by the project Civil Engineer shall be approved by the Department of Public Works drainage staff, the project geotechnical engineer, and the County Geologist (see mitigation measure C).

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

The project will connect to an existing municipal water supply. The Soquel Creek Water District has determined that adequate supplies are available to serve the project with appropriate mitigation measures (Attachment 12).

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

The project's wastewater flows will not violate any wastewater treatment standards.

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

The water mains serving the project site provide adequate flows and pressure for fire suppression. Additionally, Aptos/La Selva Fire Protection District, has reviewed and approved the project plans, assuring conformity with fire protection standards that include minimum requirements for water supply for fire protection.

6. Result in inadequate access for fire protection? X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

The project's road access meets County standards and has been approved by the Aptos/La Selva Fire Protection District. Construction of a house in a hazard prone area will result in an incremental increase in the need for all emergency services. During and after a catastrophe, emergency crews may not be able to access the area due to debris and/or landslide material. To offset this, the applicants shall consult with the County Office of Emergency Services and the Aptos-La Selva Fire District to establish a contingency plan for emergency response after a catastrophe.

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

The project will make an incremental contribution to the reduced capacity of regional landfills. However, this contribution will be relatively small and will be of similar magnitude to that created by existing land uses around the project. Erosion control plans submitted for the grading and building permit which shall indicate the destination of excess fill (mitigation measure E).

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

L. Land Use, Population, and Housing

Does the project have the potential to:

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

General Plan/LCP policy 6.2.15(a) requires that for all properties subject to storm wave inundation or beach or bluff erosion, technical reports must demonstrate that the hazards can be mitigated over the expected 100 year lifespan of the building. The project meets this policy (see discussion under 8.1, above).

General Plan/LCP policy 6.3.9 requires that site grading be minimized by requiring foundations to be designed to minimize cuts and fills and requiring avoidance of particularly erodible areas, and General Plan/LCP policy 8.2.2 requires new development to *be sited and designed to minimize grading, avoid or provide mitigations for geologic hazards and conform to the physical constraints and topography of the site. The project meets this policy in that the design is a "bunker" style structure that fully considers the physical hazards on the site.*

The "bunker" style construction recommended by the Geotechnical Report requires the rear of the house to be flush with the coastal bluff to serve as a retaining wall. This requires excavation info the bluff. The proposed 1,250 cubic yards of grading is not excessive for a house constructed in this style, as the amour - 58 - ading is similar to recently approved homes

EXHIBIT D

Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less thra Significant Or No Impact	Not Applicable

of a similar design at the southern end of Beach Drive. furthermore, the proposed residence steps up the bluff to minimize excavation.

The County Geologist has determined that the cumulative effects of a number of excavations into the bluff on overall stability of that bluff will be insignificant as long as each operation is carried out per the guidelines of Geologic and Geotechnical reports as well as under the supervision of the report's authors, as outlined in the Geotechnical Report Review Letter, Attachment 8.

General Plan/LCP policies 5.10.2 & 5.10.3 require that development in scenic areas be evaluated against the context of their environment, utilize natural materials, blend with the area and integrate with the landform and that significant public vistas be protected from inappropriate structure design. The County's Urban Designer evaluated the proposed house for conformance with the County's Coastal Zone Design Criteria (County Code Section 13.20.130) and for compliance with the County's Design Review Ordinance (County Code Section 13.11). The proposed location and design of the dwelling has been determined by the Urban Designer to comply with all applicable provisions of fhese ordinances (attachment 15).

*General Plan/LCP policy **5.10.** 7 allows structures which would be visible from a public beach, where compatible with existing development. Subsequent to Design Review the proposed dwelling has been determined to be compatible with the existing development along Beach Drive in terms of bulk, mass, scale, color, and materials. furthermore, the visual impact of the proposed house on the beach will be minimized by the presence of existing development on the coast side of Beach Drive, with only the fop story visible from the beach during low tides.*

General Plan/LCP policies 8.6.5 and 8.6.6 require that development be complementary with the natural environment and that the colors and materials chosen blend with the natural landforms. The proposed dwelling complies with this policy by incorporating eartb-tone colored concrete and teak wood siding to blend in with the colors of the bluff to the rear (attachment 16, color versions of this photosimulation are on file).

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

*Development on the subject parcel could potentially conflict with County Code Section 13.20.130(d)2ii, requiring that the design of permitted structures shall minimize visual intrusion, and shall incorporate materials and finishes which harmonize with the character of the area. To minimize potential conflicts, the architect proposes earth-tone colored stucco to match the bluff, subdued window and door trim, and horizontal wood siding with **a** nafural finish as an accent. Furthermore, the height, bulk, and scale of the house will be consistent with the existing house at 641 Beach Drive and the two proposed bluff-toe residences approved under 99-0354.*

3.	Physically divide an established			X	

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
community'				

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

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

The proposed project is designed at the density and intensity of development allowed by the General Plan and zoning designations for the parcel. Additionally, the project does not involve extensions of utilities (e.g., water, sewer, or new road systems) into areas previously not served. Consequently, it is not expected to have a significant growth-inducing effect.

5.	Displace substantial numbers of people, or amount of existing housing, necessitating the construction of replacement housing elsewhere?			X

The proposed project will occur on a *vacant parcel*

EXHIBIT D

M. Non-Local Approvals

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

This project is located within *the* appealjurisdiction of the California Coastal Commission, and if approved *is* subject to the Coastal Commission's appeal process.

N. Mandatorv **Findings** of Significance

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

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

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

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

EXHIBIT D

TECHNICAL REVIEW CHECKLIST

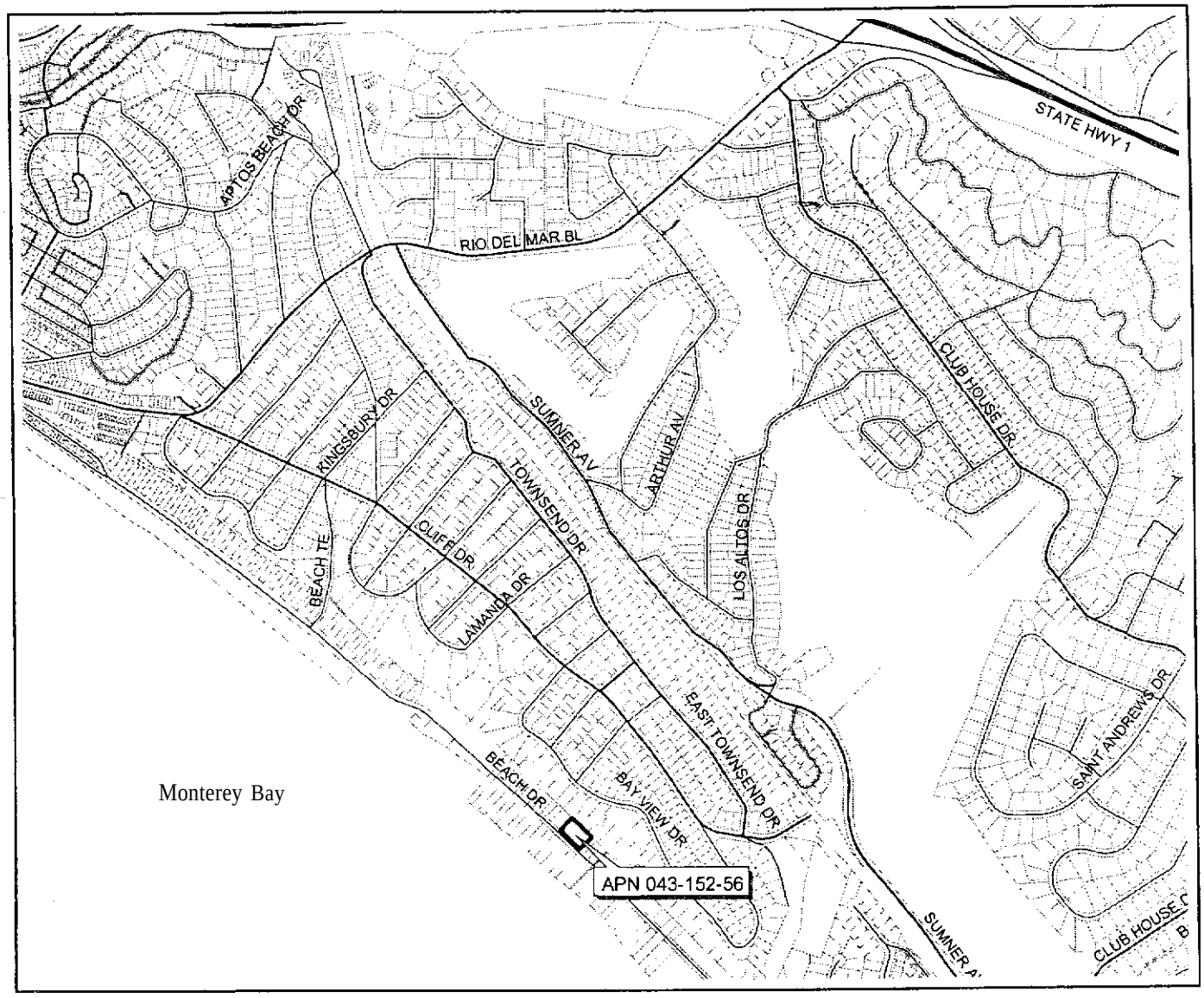
	REQUIRED	COMPLETED*	N/A
Agricultural Policy Advisory Commission (APAC) Review			X
Archaeological Review			X
Biotic Report/Assessment			X
Geologic Hazards Assessment (GHA)			
Geologic Report		2/04	
Geotechnical (Soils) Report		2/04	
Riparian Pre-Site			X
Septic Lot Check			X
Other:			

Attachments:

1. Vicinity Map
2. Map of Zoning Districts
3. Map of General Plan Designations
4. Project Plans (reduced)
5. Assessors Parcel Map
6. Geotechnical Review Letter prepared by Haro, Kasunich, and Associates, dated May 26, 2005.
7. Geologic Review Letter, prepared by Joe Hanna, County geologist, dated August 9, 2004
8. Engineering Geologic and Geotechnical Report Acceptence Letter, prepared by Joe Hanna, County geologist, dated October 5, 2005.
9. Engineering Geologic Investigation (Report Summary, Conclusions, Recommendations, Map & Cross Sections) prepared by Nielsen and Associates, dated February 2004.
10. Geotechnical Investigation (Conclusions and Recommendations) prepared by Haro, Kasunich, and Associates, dated February 2004.
11. Discretionary Application Comments, dated September 2, 2005.
12. Letter from Soquel Creek Water District, dated June 11, 2004
13. Memo from Department of Public Works, Sanitation.
14. FEMA Flood Plain Map
15. Urban Designer's Comments, dated November 22, 2004
16. Photo-simulations of proposed project.

EXHIBIT D

Location Map



Map created by Santa Cruz County Planning Department: June 2004

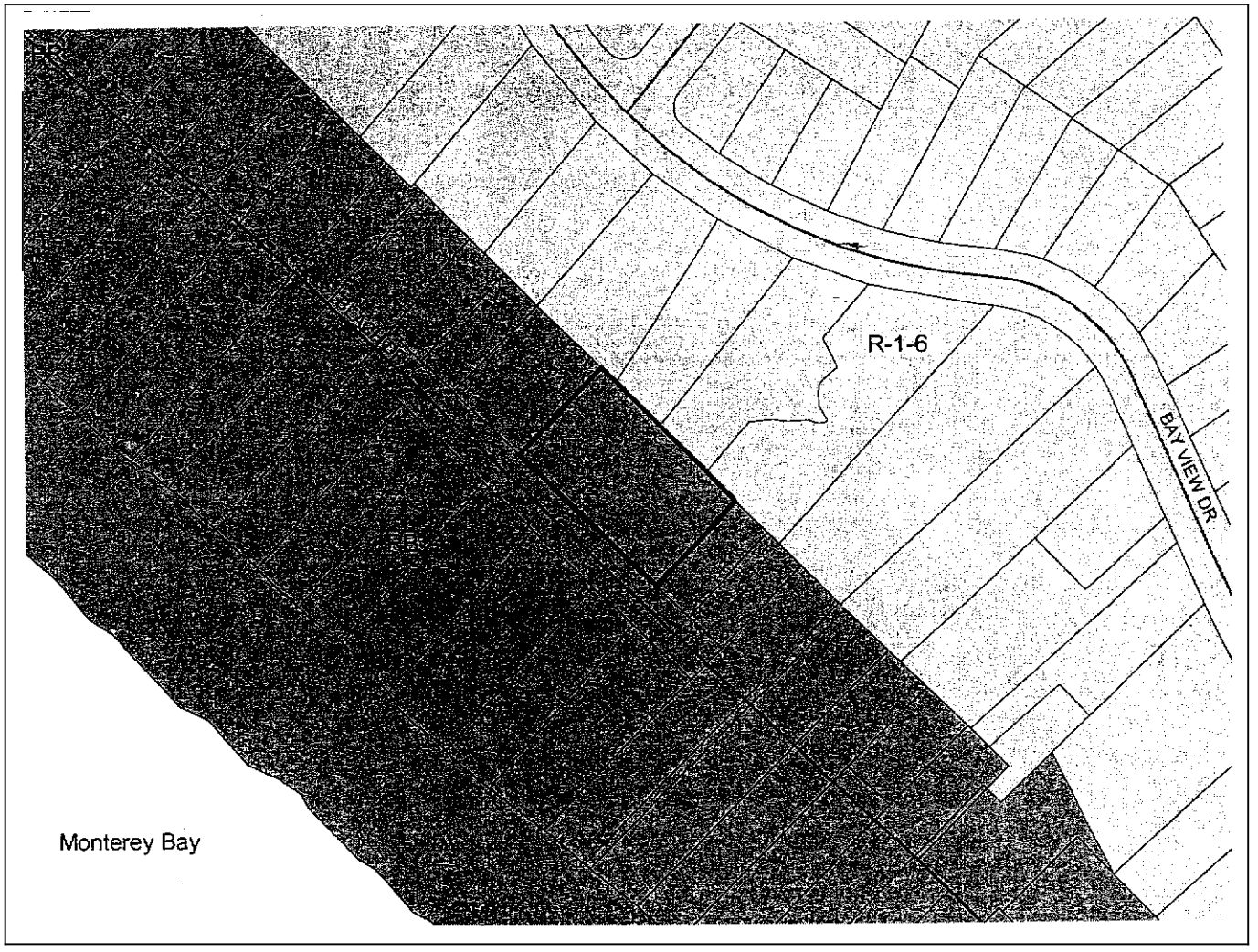
Environmental Review Inital Study

ATTACHMENT 1

APPLICATION 04-0255

EXHIBIT D

Zoning Map



200 0 200 400 600 Feet

N

Legend

- APN 043-152-56
- Streets
- RB
- R-1-X

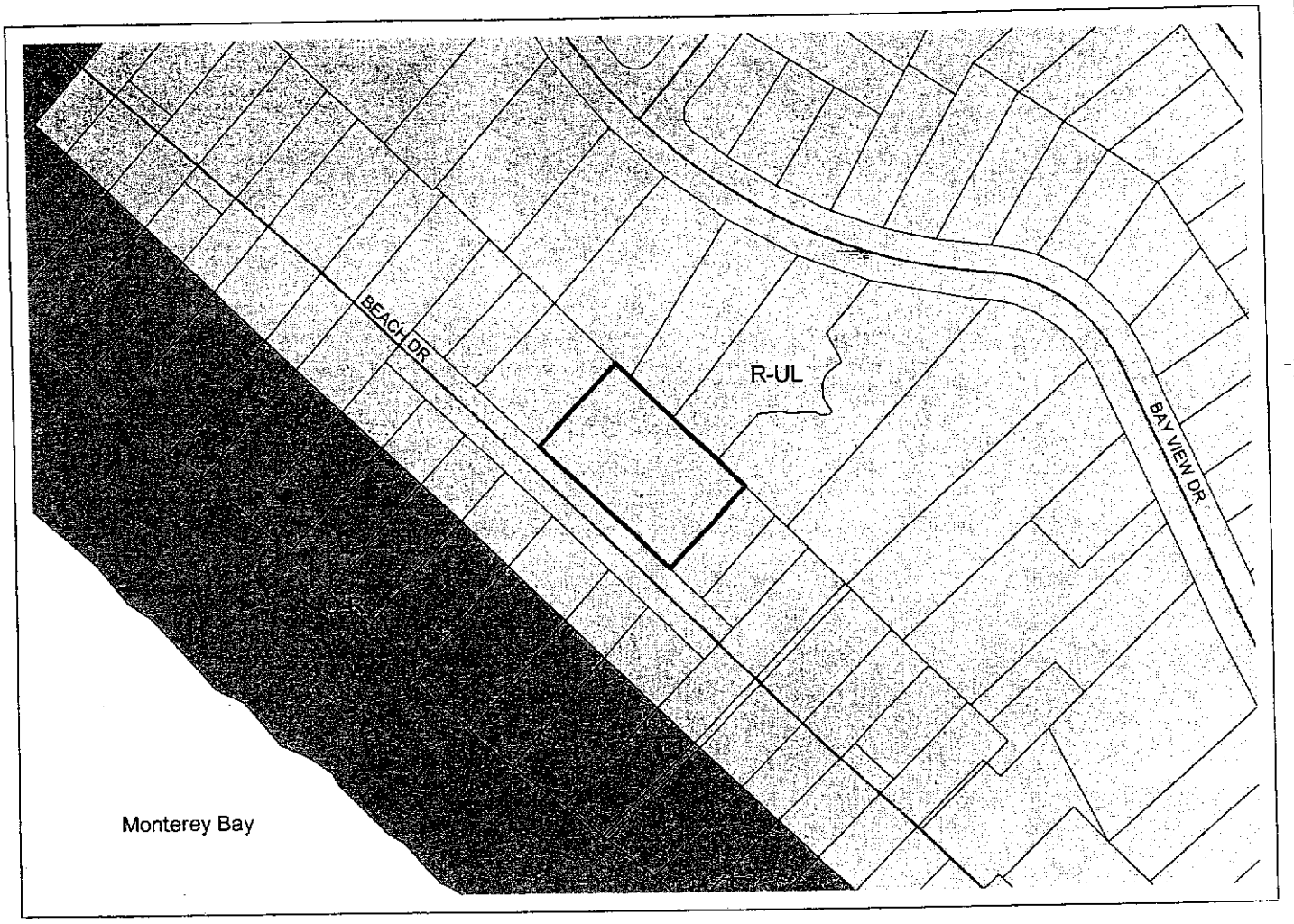
Map created by Santa Cruz County Planning Department:
June 2004

Environmental Review Inital Study

ATTACHMENT 2
APPLICATION 04-0255

EXHIBIT D

General Plan Map



200 0 200 400 600 Feet

N

Legend

- APN 043-152-56
- Streets
- Parks and Recreation
- Residential - Urban Low Density

Map created by Santa Cruz County Planning Department: June 2004

Environmental Review Inital Study

ATTACHMENT 3
APPLICATION 04-0255

EXHIBIT n

PROPOSED EROSION CONTROL MEASURES

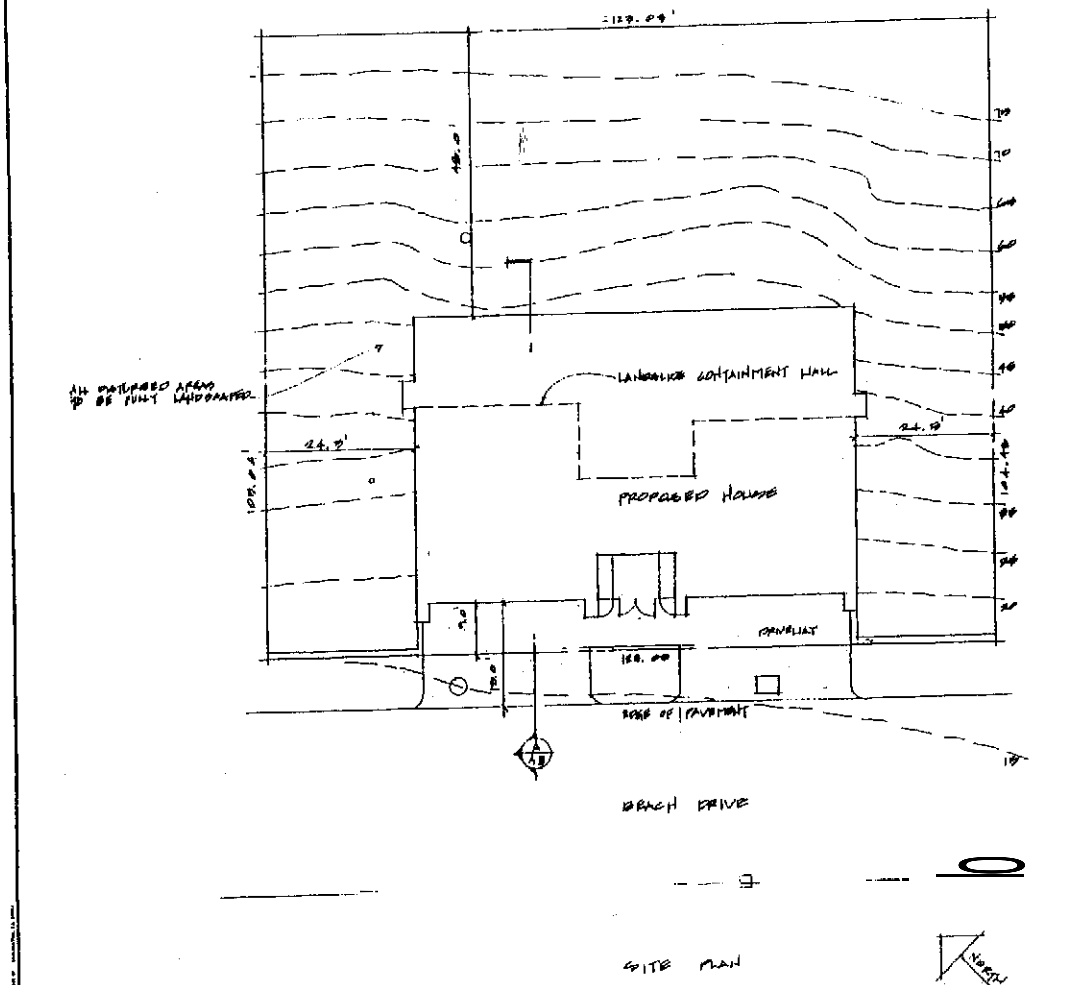
The following erosion control work will be undertaken prior to October 15 during each year construction occurs, and will be maintained through April 15.

1) Straw bales will be placed at toes of fills to retain sediment from graded areas. Maintenance will occur as needed.

2) All disturbed areas not actively used for construction, including any stockpiled material, will be seeded with erosion control seed mix to Blando Brome, Zorro annual fescue and Rose clover at a rate of 35 pounds per acre.

3) Ammonium phosphate fertilizer, 16-20-0, will be applied at a rate of 300 pounds per acre.

4) Straw mulch will be applied in 2-inch layers after seeding on slopes over 20%.



1"=1'-0"

(1) SITE PLAN

The following floor area calculations help staff to process your application with more speed and efficiency. Please include the index on the cover sheet of your plans and submit a separate set of calculations for each proposed and existing building.

BUILDING AREA CALC REV (indicate which building on the plot plan.)
EXISTING ___ PROPOSED X (check one.)

LOT COVERAGE CALCULATIONS

1. Zone District: RR
2. Parcel Area: 10,000 sq. ft. ______ acres
3. Area of Rights-of-Way: ______ sq. ft.
4. Net Parcel Area (2 - 3): 10,000 sq. ft.
5. Coverage by Structures: 2,110 sq. ft. (Total footprint of all structures over 18" in height.)
6. Percentage of Parcel Coverage (5 ÷ 4 X 100): 21.1 %

HEATED SPACE CALCULATION

1. Total Heated Space: 4,037 sq. ft.
2. Total Unheated Space: 1,494 sq. ft.

FLOOR AREA CALCULATIONS BY TYPE OF SPACE

NOTES: (e) = existing square footage
(p) = proposed square footage
See accompanying definitions for an explanation of each of the following categories. INCLUDE ONLY THOSE CATEGORIES THAT APPLY TO THE BUILDING.

1. BASEMENT/UNDERFLOOR
If any part of the basement or underfloor is 7'6" or higher (& for underfloor, there is an interior stair & flooring):
a. TOTAL BASEMENT/UNDERFLOOR AREA GREATER THAN 5' IN HEIGHT .... 0 EXISTING SQ. FT. 0 PROPOSED SQ. FT. 0 TOTAL SQ. FT.

2. FIRST FLOOR
a. Area w/ ceilings less than 16' in height (e) 0 (p) 1,820
b. Area w/ ceilings 16' - 24' (X 2) (e) 0 (p) 0
c. Area w/ ceilings >24' (X3) (e) 0 (p) 0
d. TOTAL FIRST FLOOR AREA (a + b + c) .... 0 EXISTING SQ. FT. PROPOSED SQ. FT. 1,820 TOTAL SQ. FT.

21 FOYER (E) 0 (P) 217 217 TOTAL

3. SECOND FLOOR
a. Area w/ ceilings less than 16' in height (e) 0 (p) 1,990
b. Area w/ceilings 16' - 24' (X 2) (e) 0 (p) 0
c. Area w/ceilings >24' (X3) (e) 0 (p) 0
d. TOTAL SECOND FLOOR AREA (a + b + c) .... 0 EXISTING SQ. FT. 1,990 PROPOSED SQ. FT. 1,990 TOTAL SQ. FT.

4. MEZZANINE
a. TOTAL MEZZANINE AREA .... 0 EXISTING SQ. FT. 0 PROPOSED SQ. FT. 0 TOTAL SQ. FT.

5. ATTIC
If any part of the attic is 7'6" or higher:
a. TOTAL ATTIC AREA GREATER THAN 5' IN HEIGHT .... 0 EXISTING SQ. FT. 0 PROPOSED SQ. FT. 0 TOTAL SQ. FT.

6. GARAGE
a. Total Garage Area (e) 0 (p) 1,490
b. Credit (e) -225 (p) -225
c. TOTAL GARAGE AREA (a - b) .... 0 EXISTING SQ. FT. 1,270 PROPOSED SQ. FT. 1,270 TOTAL SQ. FT.

7. TRELLIS AND ARBOR
If the top of the trellis or arbor is solid:
a. TOTAL AREA UNDERNEATH TRELLIS OR ARBOR .... 0 EXISTING SQ. FT. 0 PROPOSED SQ. FT. 0 TOTAL SQ. FT.

8. UNENCLOSED, COVERED AREAS
If there are covered areas on more than one side of the building, submit items a - d for each side on a separate sheet. The first 3' does not count.
a. Total area below eave, overhang, projection, or deck more than 7'6" in height (e) 0 (p) 1,196.9
b. Area of first 3' of eave or 140 sq. ft. whichever is larger (e) 0 (p) 250
c. Remaining area (a - b) (e) 0 (p) 946.9
d. TOTAL COVERED AREA OF SIDE
1) Use one of the following:
a) If length of covered area exceeds 1/3 of the building length on that side: TOTAL COVERED AREA OF SIDE (enter c) .... 0 EXISTING SQ. FT. 926.9 PROPOSED SQ. FT. 926.9 TOTAL SQ. FT.
OR,
b) If length of covered area is less than 1/3 of the building length on that side: TOTAL COVERED AREA OF SIDE (enter 0.50 X c) .... 0 EXISTING SQ. FT. 0 PROPOSED SQ. FT. 0 TOTAL SQ. FT.

e. TOTAL COVERED AREA OF ALL SIDES (enter sum of all sides) .... 0 EXISTING SQ. FT. 926.9 PROPOSED SQ. FT. 926.9 TOTAL SQ. FT.

9. TOTAL FLOOR AREA OF THE BUILDING (Sum all of the categories above.) .... 0 EXISTING SQ. FT. [illegible] PROPOSED SQ. FT. [illegible] TOTAL SQ. FT.

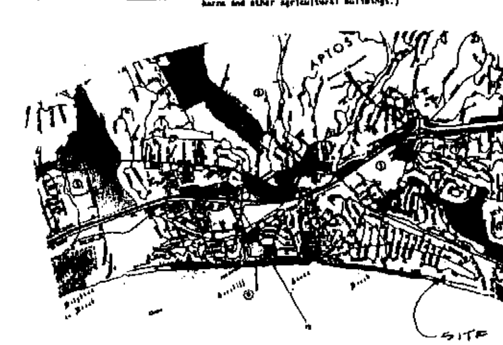
10. TOTAL FLOOR AREA OF ALL BUILDINGS (Sum of the floor area of all buildings.) .... 0 EXISTING SQ. FT. [illegible] PROPOSED SQ. FT. [illegible] TOTAL SQ. FT.

11. FLOOR AREA RATIO CALCULATIONS:
Proposed FAR: 48 % (net parcel area/proposed floor area from #10 X 100)

12. LARGE DWELLING CALCULATIONS:
Total Proposed Floor Area: 0 sq. ft. (Proposed floor area from #10, minus barns and other agricultural buildings.)

SHEET INDEX

A-1	SITE PLAN, AREA CALC.
A-2	GARAGE LEVEL FLOOR PLAN
A-3	BEDROOM LEVEL FLOOR PLAN
A-4	LIVING " " "
A-5	SOUTH ELEVATION
A-6	WEST "
A-7	EAST "
A-8	NORTH "
C-1	SITE IMPROVEMENT PLANS
L-1	LANDSCAPE PLANS



(2) AREA CALCULATIONS / VICINITY MAP

NO SCALE

Environmental Review Initial Study
ATTACHMENT 4, 1 of 9
APPLICATION 04-0255

COLLINS / WENGER RESIDENCE

New Construction, 548 Beach Drive, Aptos, Ca.

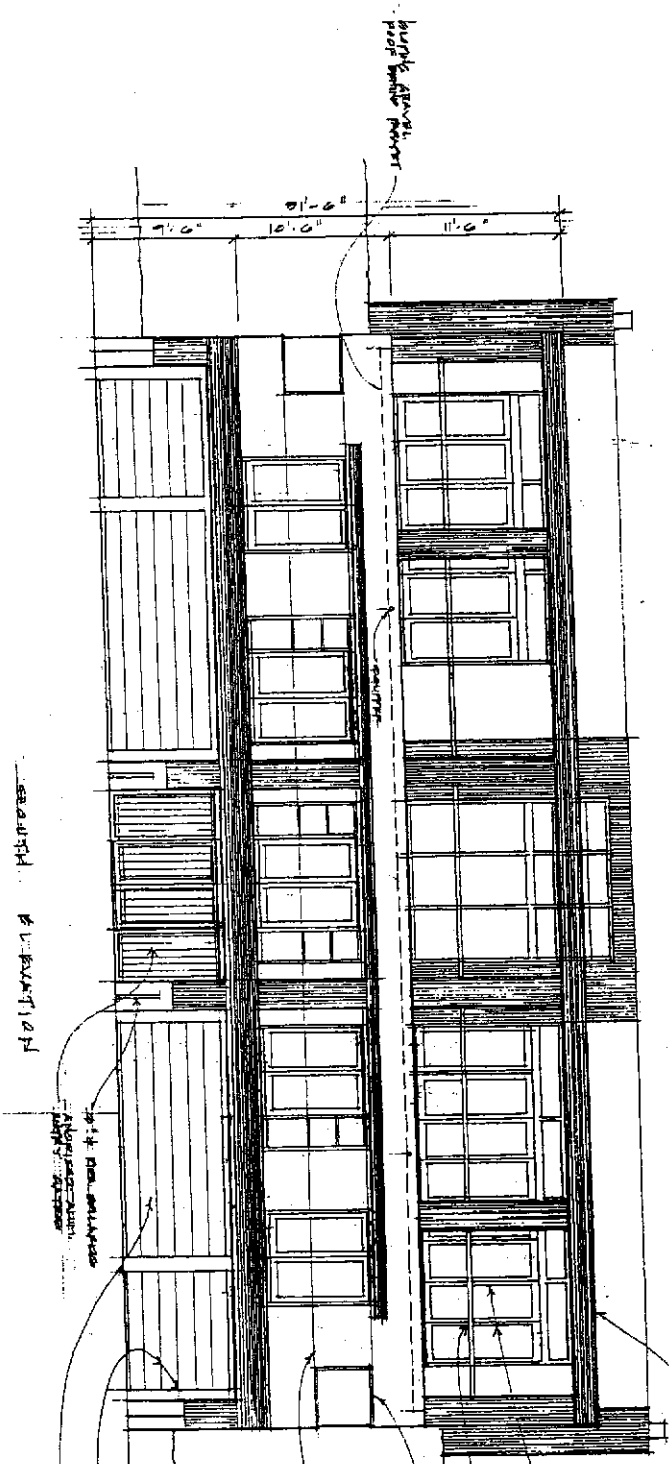
JIM MOSGROVE, ARCHITECT

117 Little Creek Road, Soquel, CA 95073

REVISIONS BY

DATE OCT. 1, 04
SCALE AS NOTED
DRAWN JM
SHEET A-1

EXHIBIT D



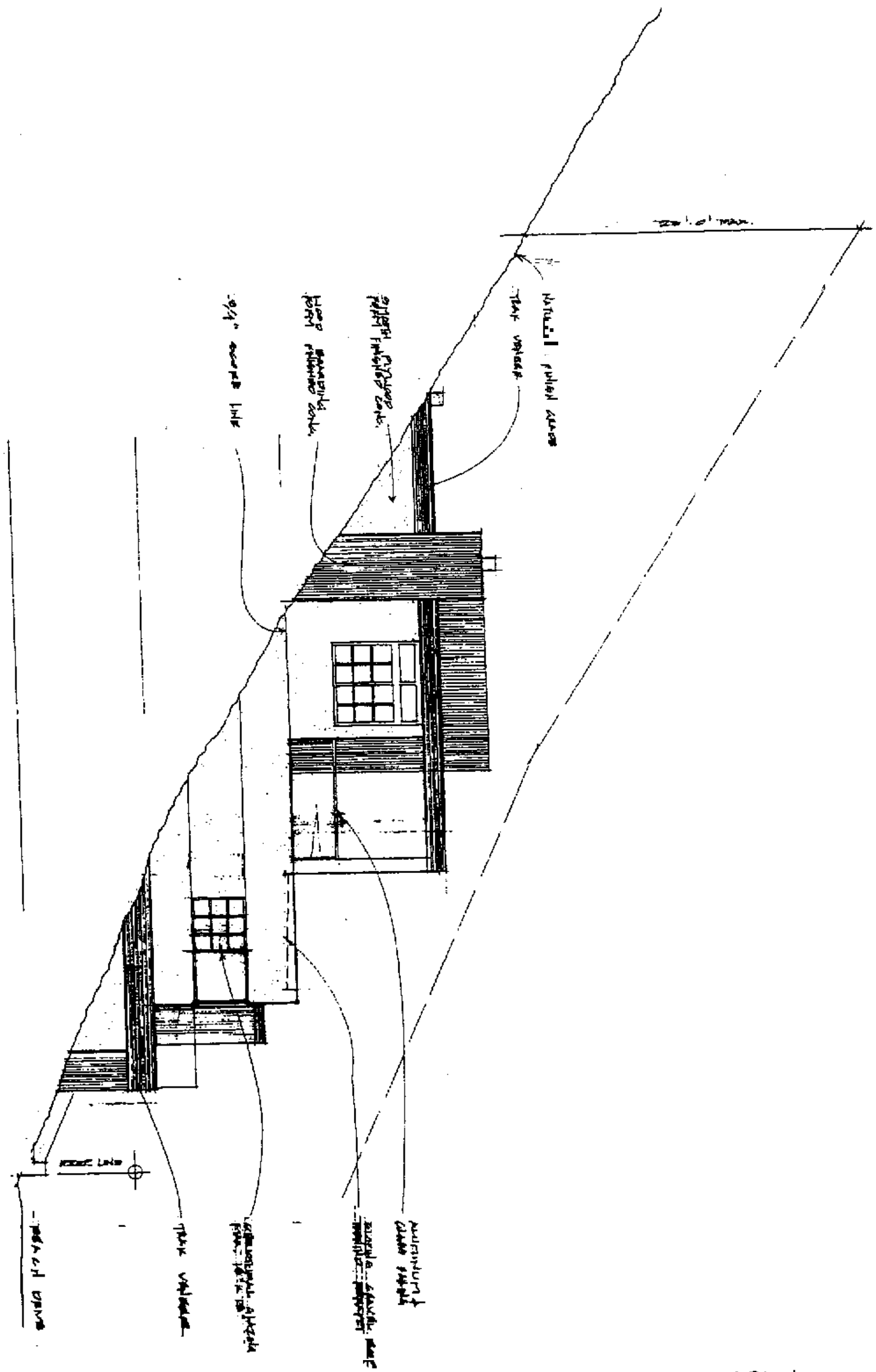
Environmental Review Inital Study
ATTACHMENT 4, 2 of 9
APPLICATION 04-0255

COLLINS / WENGER RESIDENCE
New Construction, 540 Beach Drive,

JIM MOSGROVE, ARCHITECT
117 Little Creek Road, Soquel, CA 95073

A-5

EXHIBIT



Environmental Review Inital Study

ATTACHMENT 4, 3 of 9

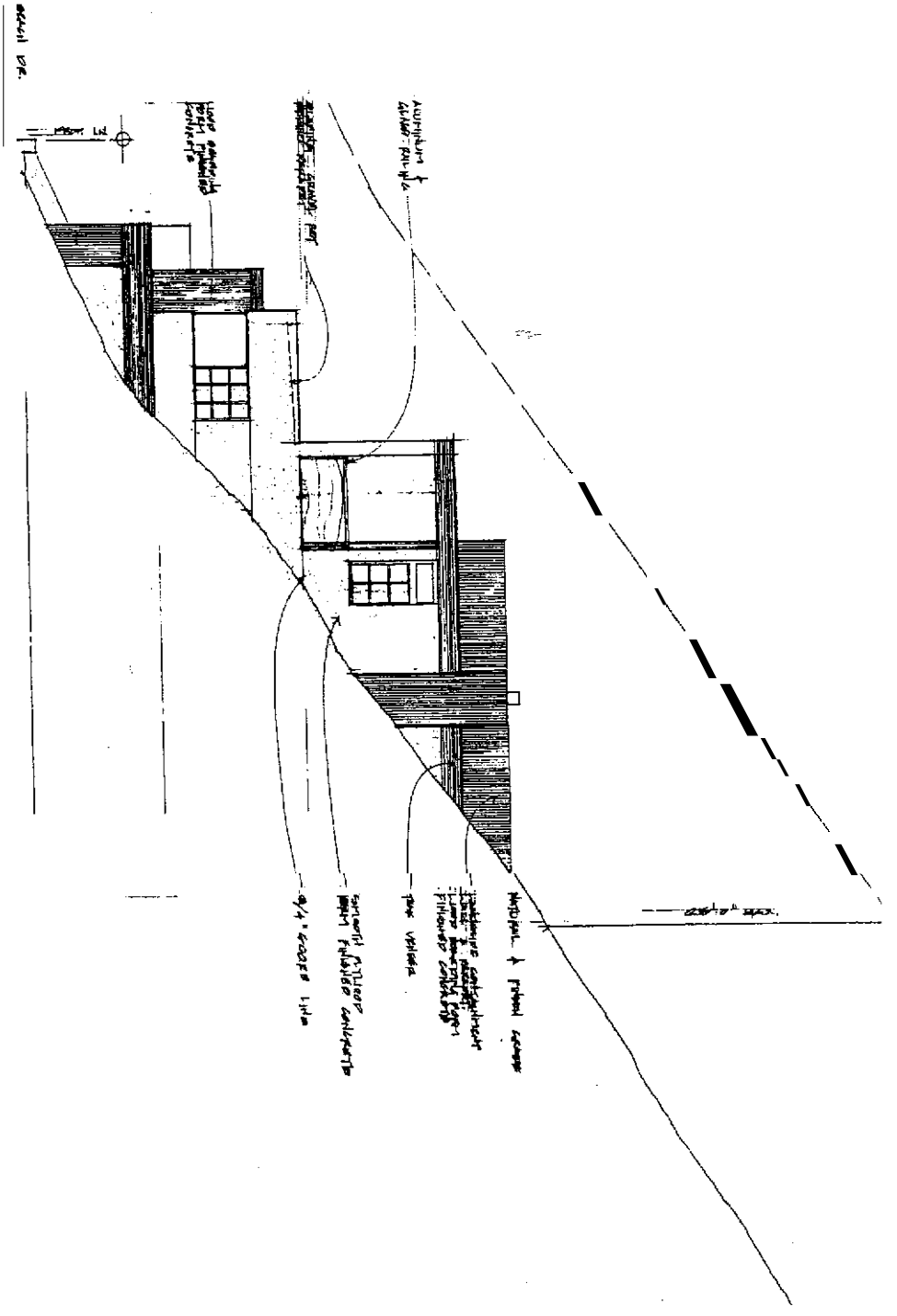
APPLICATION 04-0255

A.6

COLLINS / WENGER RESIDENC

JIM MOSGROVE, ARCHITECT

EXHIBIT D

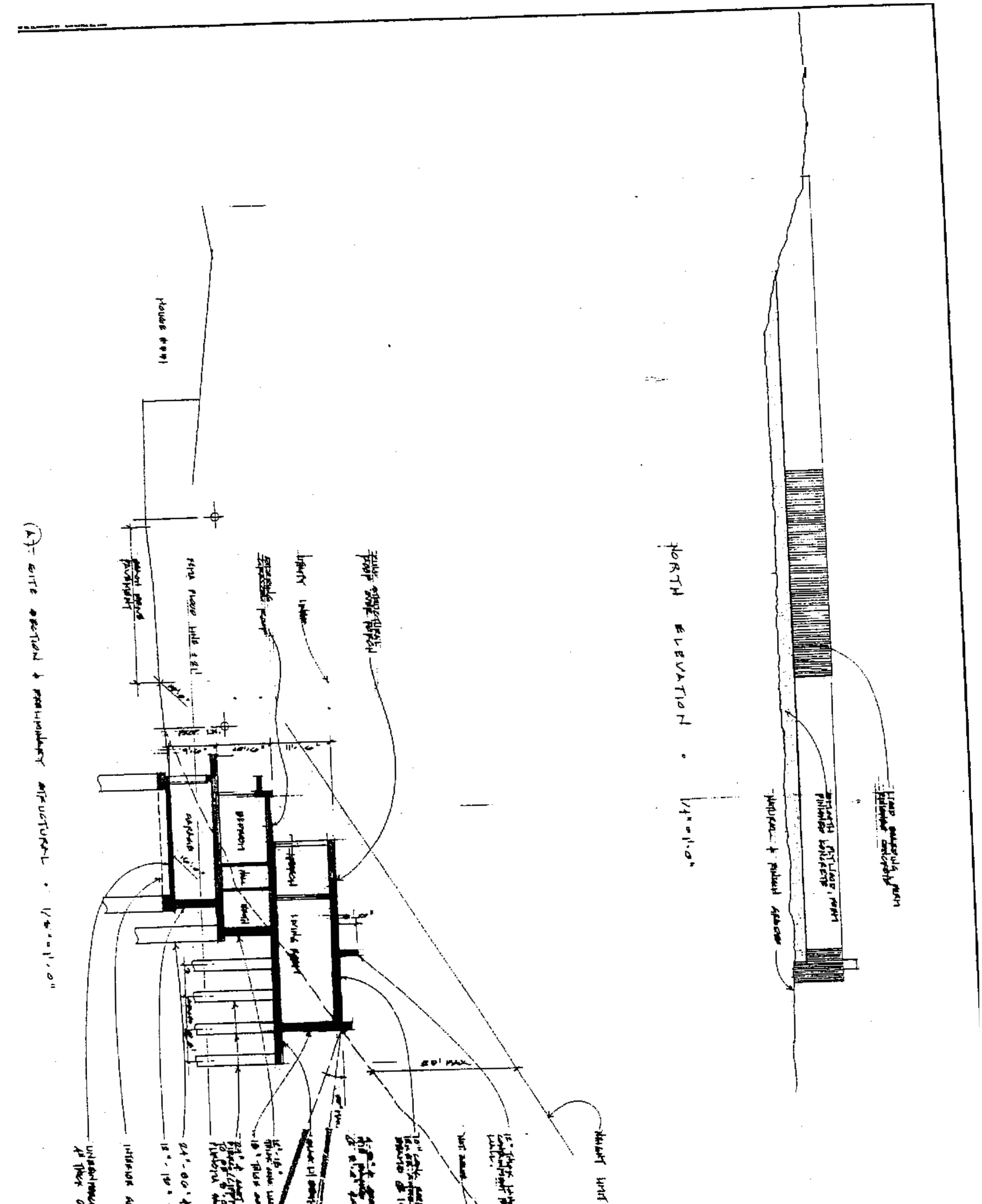


EAST ELEVATION

Environmental Review Inital Study
ATTACHMENT 4, 4 of 9
APPLICATION 04-0255

A-1	COLLINS / WENGER RESIDENCE New Construction, 560 Beach Drive, Aptos, Ca. 95003	JIM MOSGROVE, ARCHITECT 117 Little Creek Road, Soquel, CA 95073	REVISIONS

EXHIBIT



Environmental Review Inital Study
ATTACHMENT 4, 5 of 9
APPLICATION 04-0255

A.0

COLLINS / WENGER RESIDENC

New Construction

JIM MOSGROVE, ARCHITECT

EXHIBIT D

EXHIBIT D

Environmental Review Inital Study
ATTACHMENT 4 of 9
APPLICATION 04-0255

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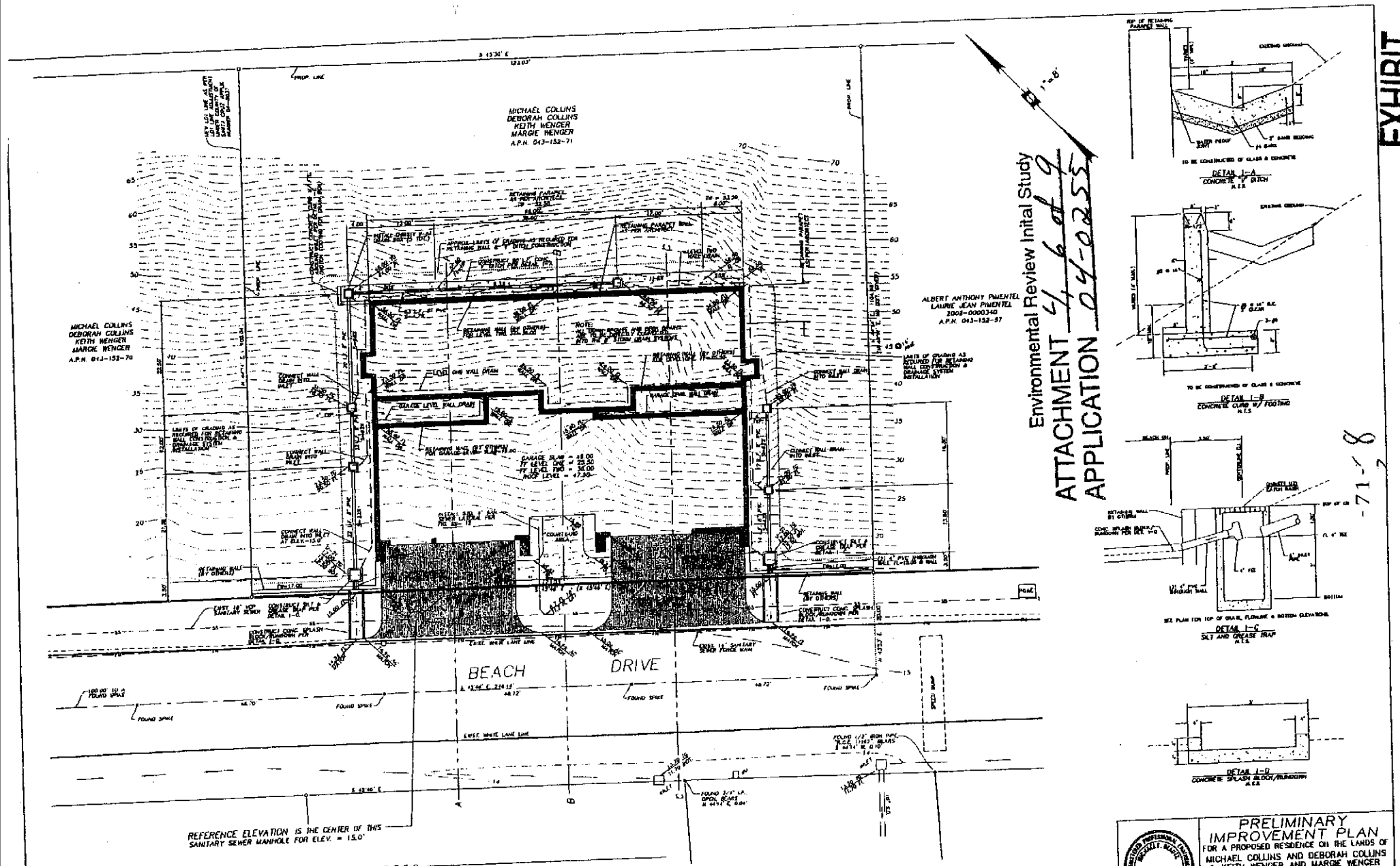


GENERAL NOTES

1. All construction shall comply with applicable requirements in the current edition of the Santa Cruz County Design Criteria.
2. No changes in the approved plans shall be made without prior approval by the Santa Cruz County Planning Department.
3. The Director of Planning, or his authorized respresentative, shall have the authority to stop work if the work is not being done in accordance with the approved Improvement Plans.
4. The contractor shall notify the Santa Cruz County Planning Department (454-2580 or 454-2077) at least 24 hours prior to the start of construction.
5. All construction shall comply with the recommendations of the geotechnical investigation prepared by Haro, Kasunich & Associates, Inc., dated March 17, 2004, Project No. SCB462.
6. All construction shall comply with the recommendations of the geologic investigation prepared by Nielsen and Associates, dated February 2004, Job No. SCr-1058-G.

EARTHWORK

90 C.Y. EXCAVATION FOR DRIVEWAY AND COURTYARD AREA.
1,150 C.Y. EXCAVATION FOR FOUNDATION & STRUCTURE.

GRAPHIC SCALE 0 8 16 24 32

REGISTERED PROFESSIONAL ENGINEER MICHAEL F. BEAUTZ No. 20355 EXP. 12-31-05 CIVIL STATE OF CALIFORNIA

M. F. Beautz 12-XII-05

PRELIMINARY IMPROVEMENT PLAN

FOR A PROPOSED RESIDENCE ON THE LANDS OF MICHAEL COLLINS AND DEBORAH COLLINS & KEITH WENGER AND MARGIE WENGER FOLLOWING A LOT LINE ADJUSTMENT BETWEEN A.P.N.'s 043-152-55 & 56 UNDER COUNTY OF SANTA CRUZ APPLICATION No. 04-0037

SANTA CRUZ COUNTY, CALIFORNIA

DECEMBER 2005

SCALE: 1" = 8'

BY: MICHAEL F. BEAUTZ, C.E.

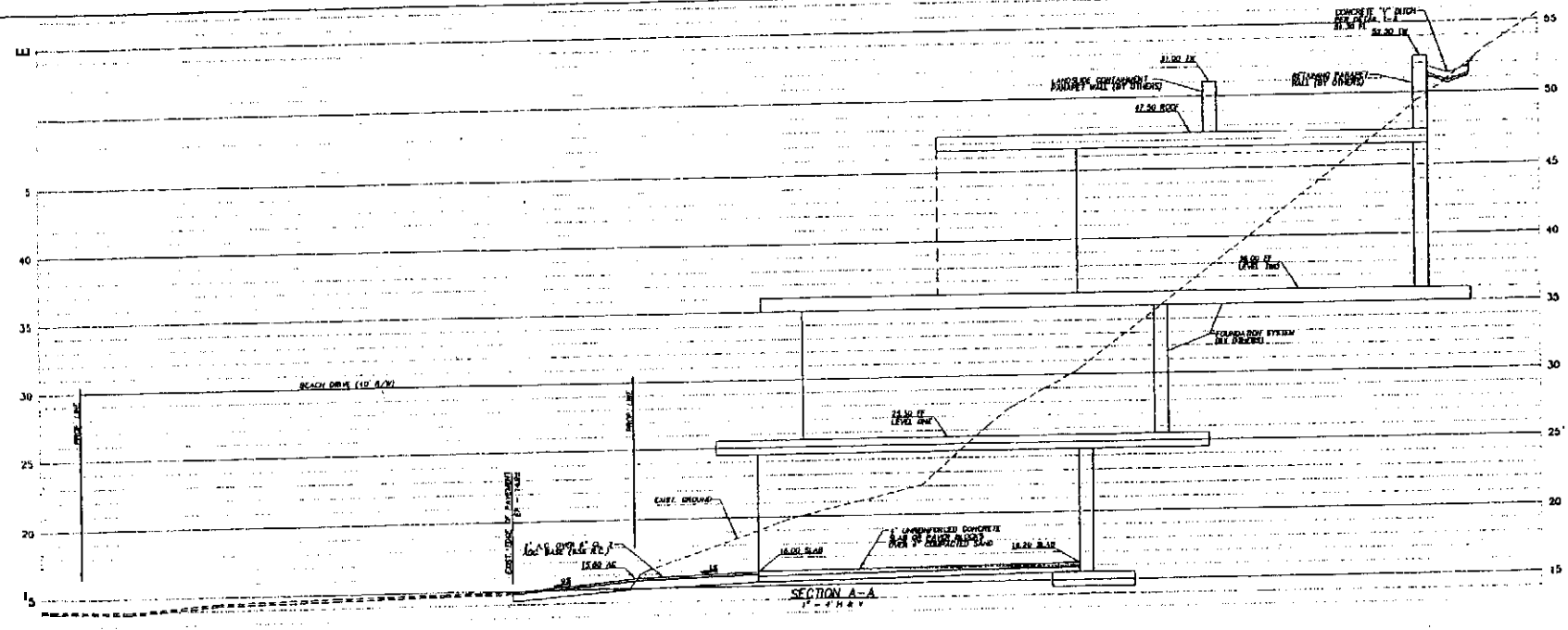
A.P.N. 043-152-71

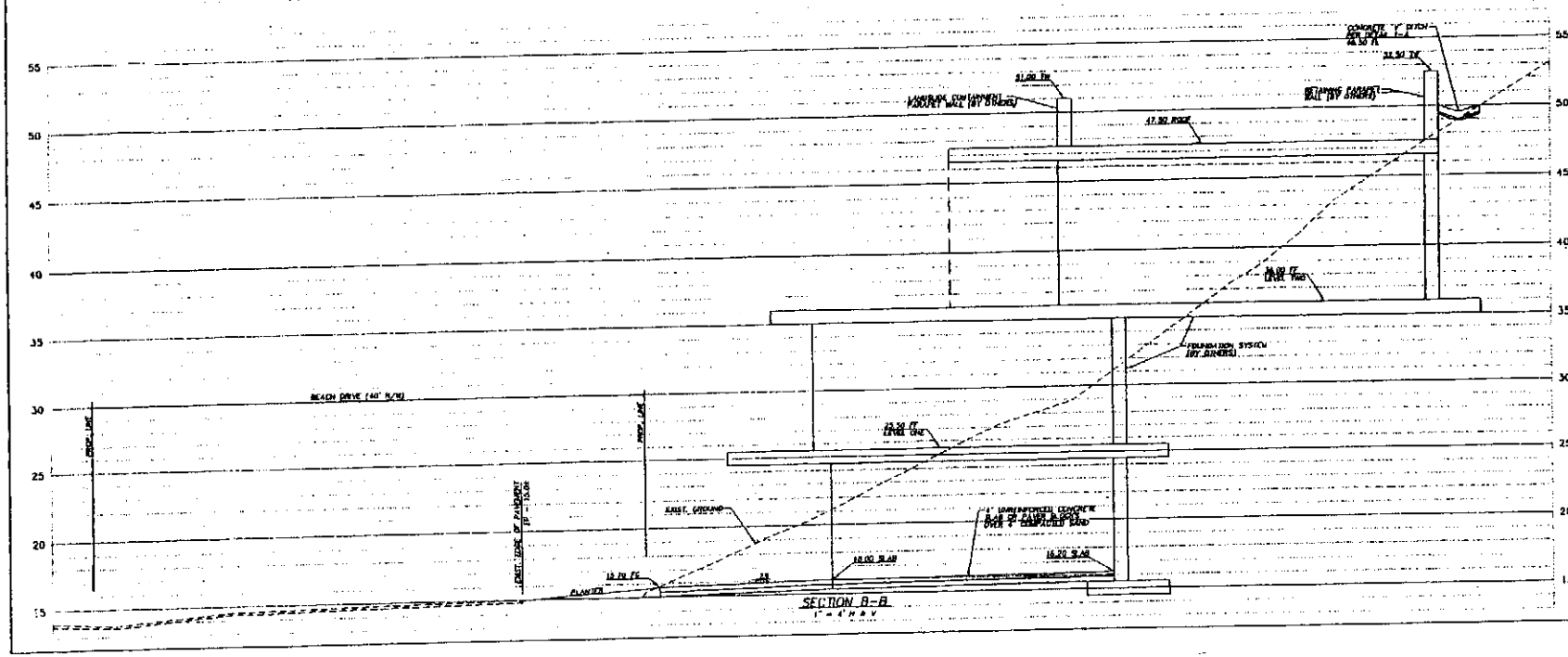
SHEET 1 OF 3

EXHIBIT D

Environmental Review Initial Study
ATTACHMENT 4 Page 2 of 9
APPLICATION 04-0255

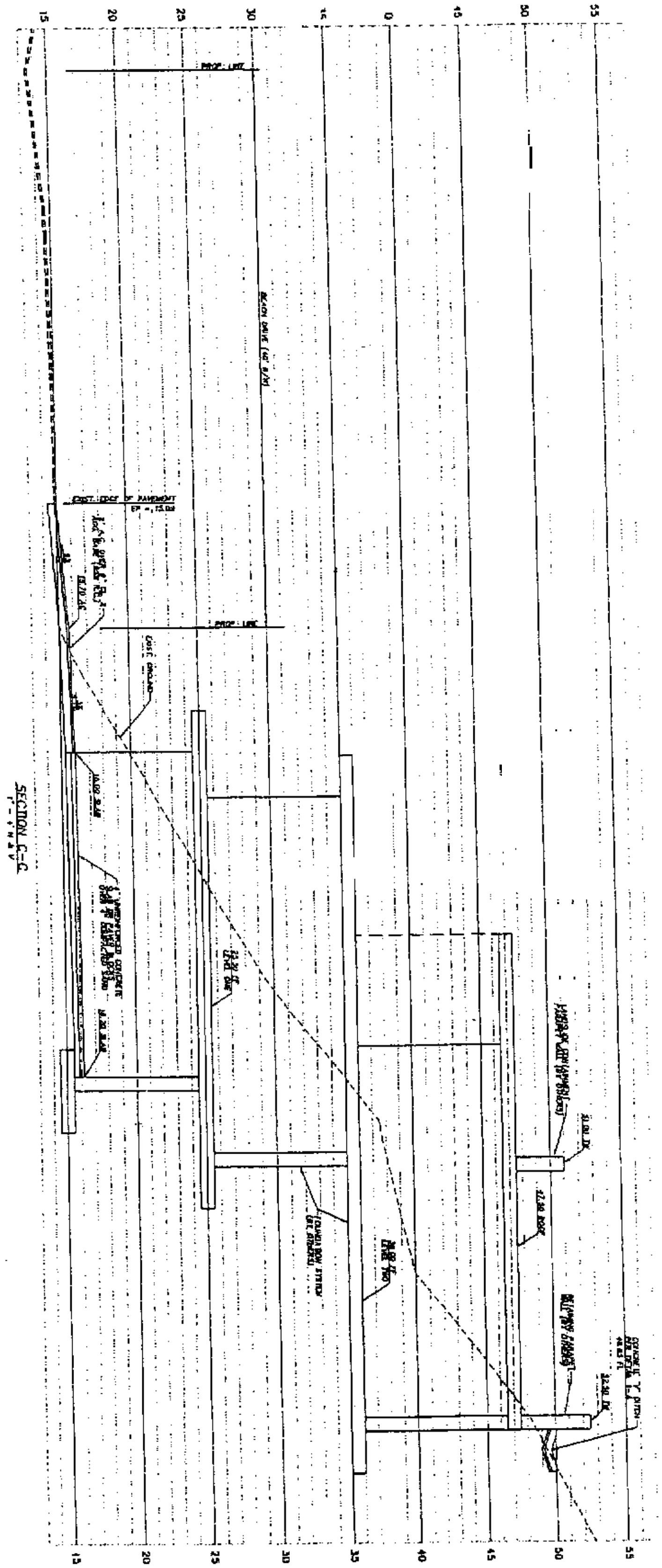
-72-





PRELIMINARY
IMPROVEMENT PLAN
FOR A PROPOSED RESIDENCE ON THE LANDS OF
MICHAEL COLLINS AND DEBORAH COLLINS
& KEITH WENGER AND MARGIE WENGER
FOLLOWING A LOT LINE ADJUSTMENT BETWEEN
A.P.N.'s 043-152-55 & 56 UNDER COUNTY OF
SANTA CRUZ APPLICATION No. 04-0037

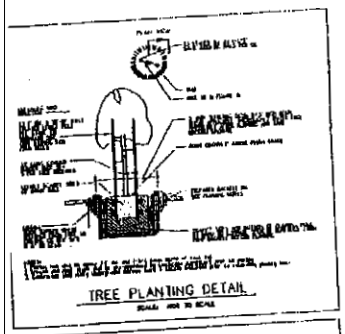
SANTA CRUZ COUNTY, CALIFORNIA
SCALE: 1" = 4' DECEMBER 2005
BY: MICHAEL F. BEAUTZ, C.E.
A.P.N. 043-152-71 SHEET 2 OF 3

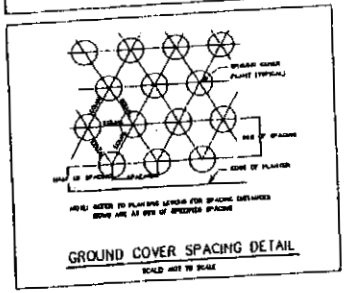


PRELIMINARY
IMPROVEMENT PLAN
FOR A PROPOSED RESIDENCE ON THE LANDS OF
MICHAEL COLLINS AND DEBORAH COLLINS
& KEITH WENGER AND MARGIE WENGER
FOLLOWING A LOT LINE ADJUSTMENT BETWEEN
A.P.N.'s 043-152-55 & 56 UNDER COUNTY OF
SANTA CRUZ APPLICATION No. 04-0037
SANTA CRUZ COUNTY, CALIFORNIA
SCALE: 1" = 4' DECEMBER 2005
BY: MICHAEL F. BEAUTZ, C.E.
A.P.N. 043-152-71 SHEET 3 OF 3

Environmental Review Inital Study
ATTACHMENT 4, 8 of 9
APPLICATION 04-0255

EXHIBIT D



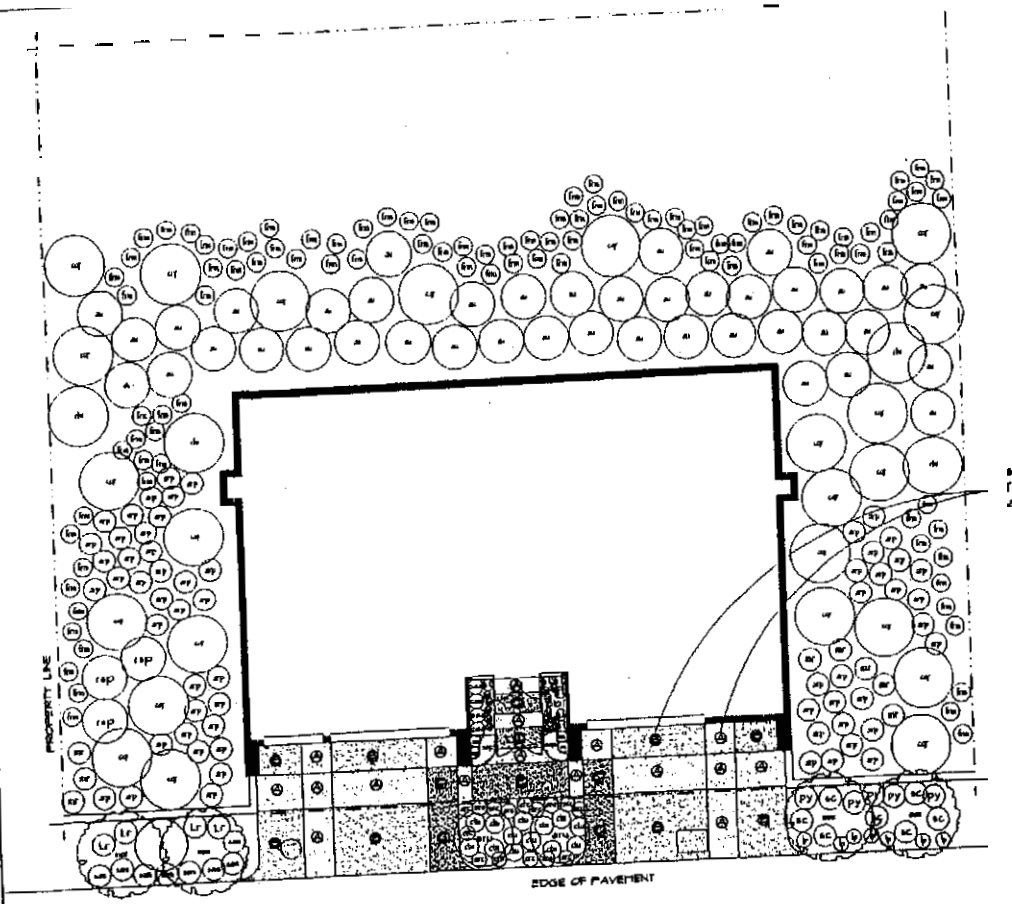


Plant List

Key	Quan.	Size	Botanical Name	Common Name

Paving Key

- A — Concrete bands: Brickform Color Hardener #310 'Golden Bandstone' with salt finish
- B — Concrete fields: Brickform Color Hardener #135 'Cappucino' with salt finish
- C — Concrete bands: Brickform Color Hardener #055 'Pecos Sand' with heavy broom finish



Environmental Review Inital Study
ATTACHMENT 4
APPLICATION 04-0255

PLANTING NOTES:

RECOMMENDED IRRIGATION EQUIPMENT

Emitter Schedule

IRRIGATION NOTES

Erosion Control Notes

DISCLAIMER

MICHAEL ARNOLD
LANDSCAPE ARCHITECT
California license # 3547
3570 Samuel Place
Santa Cruz, CA 95062
831.462.4988

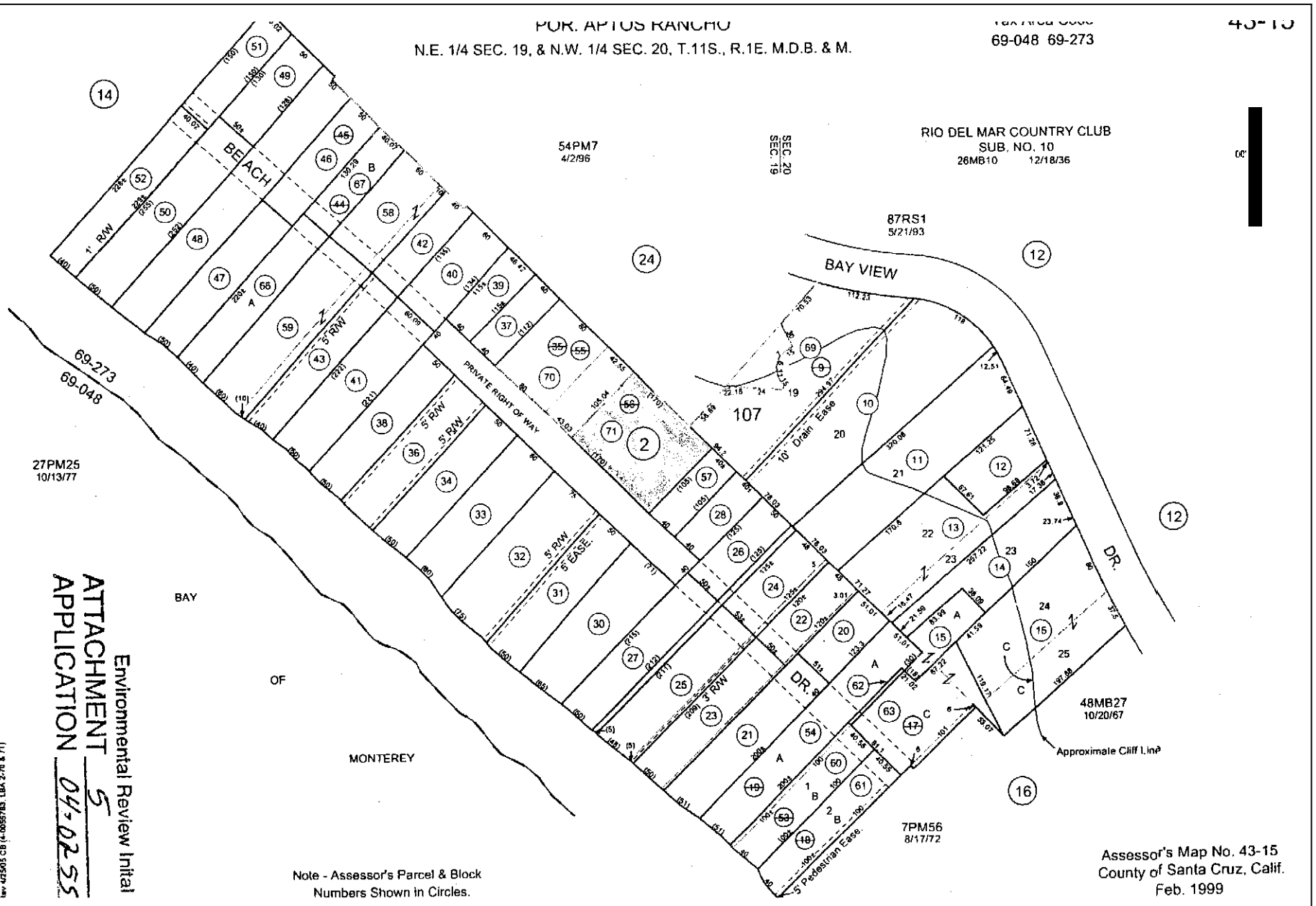
Collins / Wenger Residence
54-74 Beach Dr.
Aptos, Ca

DATE	PURPOSE
6.1.2004	review
8/19/04	revised

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

sheet title: Landscape P

sheet number: L-1



Environmental Review Initial
ATTACHMENT 5
APPLICATION 04-0255

EXHIBIT D

HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING GEOTECHNICAL & COASTAL ENGINEERS

Project No. SC8462
26 May 2004

MIKE AND DEBBIE COLLINS
13 South California Street
Lodi, California 95240

Subject: Geotechnical Plan Review of Architectural Layout

Reference: Droposed Blufftoe Residence
APN 043-152- 56
548 Seach Drive, Aptos
Santa Cruz County, California

Dear Mr. & Mrs. Collins:

This letter outlines our review, from a geotechnical perspective, of the conceptual plan or architectural layout for your proposed blufftoe residence. Our Geotechnical Investigation for the referenced project is dated 17 March 2004. The conceptual drawings for the proposed residence were prepared by Jim Mosgrove, Architect and are dated 15 May 2004. The structural engineering preliminary plan sheet were prepared in conjunction with Buchanan Engineering.

Specifically we reviewed the following plan sheets:

a) Sheet A-1 - Site Plan showing sideyard setbacks and rooftop landslide containment wall;
b) Sheet 1 of 1 - Preliminary Improvement Plan dated May 2004 by Michael Beautz. C.E. showing upslope and sideyard drainage as well as structure drainage;
c) Sheets A6 8, A7 - West and East Elevations, showing slope/building cross-sections with deck overhangs of at least three feet;
d) Sheet A-8 - North .Elevation. Site Section & Preliminary Structural, we have discussed the preliminary structural system with the project structural engineer, Mr. John Buchanan, S.E., including the requirement of all temporary cuts greater than 5 vertical feet be restrained. This plan sheet also shows the FEMA Base Flood Elevation of 21 feet NGVD well below the lowest horizontal structural element of the lowest living floor. A frangible garage floor is also shown.

The remaining plan sheets, contained no geotechnical engineering elements in our opinion.

Environmental Review Inital Study
ATTACHMENT 6.112
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EXHIBIT D

116 EAST LAKE AVENUE • WATSONVILLE, CALIFORNIA 95076 • (831) 722-4175 • Fu (831) 725 3202

We are working with the project architect, Mr. Jim Mosgrove and the project structural engineer, Mr. John Buchanan, to design appropriate foundation, window, retaining wall and roof structural systems to resist potential landslide debris impact forces from the slope above.

The project plans show a bunker style structural system with deck overhangs of at least 3 feet to provide refuge for deck occupants during a landslide event.

The understory parking area consists of a frangible, unreinforced parking slab per FEMA guidelines providing an "open" foundaticn system supported by drilled piers.

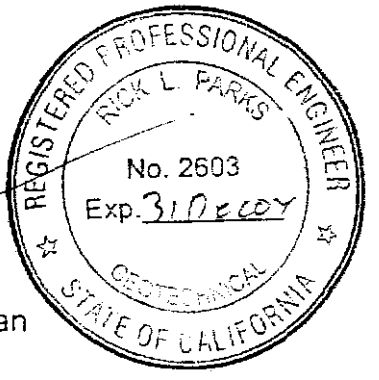
Based upon our review of the aforementioned pian sheets. it is our opinion that the residential layout in general adheres to the recommendations presented in our geotechnical report.

If you have any questions, please call our office.

Very truly yours,

HARO, KASUNICH AND ASSOCIATES, INC.

Rick L. Parks
G.E. 2603



RLP/dk

Copies: 1 to Aodressee
1 *to* Hans Nielsen, C.E.G.
1 to Buchanan Engineering; Attn: Mr. John Buchanan
4 to Jim Mosgrove, Architect

Environmental Review Inital Study
ATTACHMENT 6 2 of 2
APPLICATION 04-0255

EXHIBIT D

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET, SUITE 410, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
TOM BURNS, DIRECTOR

Monday, August 09,2004

Michael and Deborah Collins
13 South California St.
Lodi. CA 95240

And,

Jim Mosgrove
117 Little Creek Road
Soquel, CA 95073

Subject: **Application 04-0255; APN 043-152-56**
Engineering Geologic Report and Geotechnical Report Reviews
Geotechnical Report by Haro, Kasunich. and Associates, dated March 17, 2004: Project SC8462, and,
Engineering Geology Report by Nielsen and Associates. date February 2004;

Dear Michael and Deborah Collins and Jim Mosgrove:

We have reviewed the Engineering Geology Report by Nielsen and Associates, dated February 2004, and the Geotechnical Report by Haro, Kasunich, and Associates, dated March 17, 2004. These two reports investigate the geologic and geotechnical aspects of the coastal bluff adjacent to Beach Drive where the Collins proposes to build a new home . As part of this review, the County's technical staff has also examined the preliminary building design by Jim Mosgrove Architect for safety issues that could affect the Collins property. We have completed this preliminary plan review because we are aware that the property is located in an area subject to several geologic hazards and because the home's design incorporates innovative architectural features to protect the home from these hazards. This letter will identify specific areas where the County requests additional information from the consultants before the reports can be determined to be complete. The letter will also requests clarification and empirical support that documents that the homes design will protect the home and its occupants from the identified geologic hazards.

REPORT'S COMPLIANCE WITH COUNTY AND STATE STANDARDS

The Consultants identify several geologic issues that affect the property including shallow landslides and larger deeper landslides.

Environmental Review Inital Study
ATTACHMENT 7 1 of 3
APPLICATION 04-0255
EXHIBIT D

The analysis and conditions proposed by both the engineering geologist and geotechnical engineer appear to be reasonable. The new reports' recommendations abandon the aggressive slope repair proposed in the previous Engineering Geology and Geotechnical Reports, and instead propose strengthening of the rear and side walls, and roof to resist the impact of landsliding. The following are areas that require additional analysis and comment before report acceptance.

1. The Geologic Report's mapping is incomplete because it does not include the bluff top and does not show the improvements along the bluff. Prior to report acceptance the geologic mapping must be extended to include the bluff top and improvements along the bluff. Bluff top improvements including retaining walls and bluff top grading must be considered in the evaluation by both the geologist and the geotechnical engineer.
2. The Geotechnical Engineer must indicate if the design of the building and roof considered possible point impact loads from concrete debris entrained within the landslides.
3. The Engineering Geologist and Geotechnical Engineer must review the plan and must indicate that the plan complies with their recommendations.
4. The Geotechnical Engineer must evaluate if drainage control could reduce the potential impact from slope instability.

PROTECTION OF HOME AND OCCUPANTS FROM DEBRIS FLOWS

The proposed Collins home has design elements that are different from those in other homes recently constructed along the base of Costal Bluffs in Santa Cruz County. Differences include large windows, a parapet along the roof, uncovered decks. and other similar changes. Before accepting the building design, the consultants must investigate and provide evidence that the following design issues will not increase the threat to life, or property.

1) WIDE WINDOWS ON THE SIDES OF THE BUILDING: The windows are large enough that a significant amount of landslide debris could enter the home should landslide debris accumulate against the sides of the building enter the home through the windows. Please specify how these windows will be designed to resist these forces, or alternatively, detail what other measures will be taken to prevent landslide debris from entering the home.

2) RETENTION OF THE LANDSLIDE DEBRIS ON THE ROOF: The current proposal uses a parapet as an impact wall to prevent future landslide debris from flowing over the roof and on to a deck area. Please show that this parapet will adequately resist the impact of a landslide flowing on to decks and indicate how the debris on the home's roof will be removed after landsliding.

3) DECKS THAT ARE NOT PROTECTED BY OVERHANGS: Provide clear documentation that the decks are protected from landsliding including an engineer's evaluation of the potential for landslide material to reach these decks.

2/-79-

In your response to these items, your consultants should use language that is compatible with their audience which includes the Planning Commission, County staff, and the public. Nevertheless, the Commission is your most important audience. as they are ultimately responsible for determining that this design complies with Code and the General Plan.

PROTECTION OF ADJACENT HOMES DURING CONSTRUCTION

The proposed home will be constructed into the slope resulting in three cuts: one seventeen feet high, another eleven feet high and the other thirteen feet high, all of which will have an affect on slope stability. Consequently, the engineer must provide a quantitative stability analysis that confirms that the cuts can be completed with out decreasing slope stability.

If you have any questions please feel free *to* call Joe Hanna at 831-454-3175 or email him at pln829@co.santa-cruz.ca.us. A copy of this letter will be forwarded to your project planner, David Kenyon, and the information requested in this letter will be identified as incompleteness items that will need to be addressed before the completeness determination.

Very truly yours.

Joe Hanna
/County Geologist CEG 1313

Cc David Kenyon, Planner
Michael and Deborah Collins, owner
HKA
Nielson & Associates

Environmental Review Inital Study
ATTACHMENT 7, 3 of 3
APPLICATION 04-0255

EXHIBIT D

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

October 5,2005

Micheal and Debroach Collins
13 South California Street
Lodi, CA 95240

Subject: Review of Engineering Geology Report, by Nielsen and Associates, SRr-1058-G, dated February 2004, and Geotechnical Report by Haro, Kasunich and Associates Dated March 2004
Project #: SC.8462, **APN** ***043-152-56, Application #: 04-0255***

Dear Micheal and Debroah Collins,

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 reports

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

3. Before building permit issuance, ***plan-review*** letters shall be submitted to Environmental Planning from both the geotechnical engineer and engineering geologist. The authors of the reports shall write the *plan review* letters. Each letter shall state that the project plans conform to the report's recommendations.

4. No windows or other openings are allowed on the roof, and windows along the sides of the building must be less than 18 inches in width, and design to resist the impact of a debris flow,

5. **A** structural roof must cover all decking (and flat roof areas) and access routes to the home. These covers must fully support any debris from a landslide without allowing any of the material to reach the decks.

6. No tiebacks shall be exposed to debris flows.

7. Structural features, such as the vertical face of the roof exposed in Detail 1-A, sheet 1-1, the Concrete Curb Detail 1-B of the Michael Beautz preliminary improvement plans, the projection on the Southeastern side of the building, the stair case, the fireplace flue, and landslide containment parapet shall be designed to stop the extreme force of the debris flows and the impact from the concrete foundations of the retaining wall on the slope above the property.

8. A five-foot wide drainage easement must be dedicated along the property boundaries. The easement must allow the properties immediately above the project site to drain through the easement to Beach Drive

Environmental Review Inital Study
ATTACHMENT 8, 1 of 2
APPLICATION 04-0255

(over)

EXHIBIT H

9.

10.

11.

12. Before building permit issuance the engineering geologist, geotechnical engineer, and proj ct civil engineers must all render a finding that the home is safe for occupancy.

13. The development must comply with **all** of the provisions of Code Section 16.10 specifically with the subsection 16.10.070 (f) entitled Floodplains.

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

Our acceptance of the report 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, email pln829@co.santa-cruz.ca.us if we can be of any further assistance.

Sincerely,

Joseph L. Hanna CEG 1313
County Geologist
Cc: David Keyon, County Planner
Haro, Kasunich and Associates, 116 East Lake Avenue, Watsonville, CA 95076
Nielsen and Associates, 501 Mission Street, Suite 8, Santa Cruz, CA 95060

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APPLICATION 04-0255

EXHIBIT D

CONCLUSIONS + RECOMENDATIONS
NIELSEN + ASSOC.) 2/04

significant amount of sediment could erode from the hill and fill or block subsurface drain pipes or inlets.

All areas on the slope that are stripped of vegetation during construction of the retaining wall must be revegetated prior to the onset of the next rainfall season.

CONCLUSIONS

1. The subject properties occupies a steep hillside that rises above the beach at the south end of Beach Drive. The toe of the hillside is at about 14 feet MSL and the crest at abou; 120 feet MSL. Two single family homes are proposed on the lower portion of the hillside.

2. Four different earth materials occur at the subject properties. These are: 1) terrace deposits, 2) Purisima Formation "bedrock", 3) colluvium/landslide deposits, and **4)** beach sand. Terrace deposits comprise the top **25** feet of the coastal bluff The homesite is underlain by a combination of colluvium/landslide deposits which overlie either Purisima sand or beach sand. The beach sand occurs in the lowermost portion of the homesite area and rests on top of the Purisima. The relationship of these deposits is shown on our geologic cross sections, Plates 2 and 3.

3. The steep hillside at the properties and along the entire length of Beach Drive has experienced numerous landslides in historic time, particularly during the past 17 years. Landslides will occur on the hillside above the home in the future, most likely during rainstorms but may also be also as a result of strong ground shaking caused by strong ground shaking from large magnitude earthquakes.

4. **A** slope stability analysis shall be conducted for this properties to evaluate the degrees of potential slope failure or landsliding to design for. We understand that the project geotechnical engineers are conducting this analysis.

5. There is a potential flood hazard on the lowermost portion of the properties. The 100-year flood elevation has been determined by FEMA as 21 feet above mean sea level based on the 1929 national geodetic vertical datum (NGVD).

6. Moderate to severe ground shaking is likely at the subject properties if a large magnitude earthquake occurs on a nearby fault. Refer to the body of the report for specific seismic criteria and fault information.

7. The beach sand under the lowermost part of the properties are typically saturated, at least below a depth of about 10 feet below Beach Drive. However, the groundwater level probably rises and falls with the tide level, and it is probably elevated during winter rainfall periods.

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ATTACHMENT 9, 1 of 4
APPLICATION 04-0255
EXHIBIT D

8 The proposed homes are feasible if the recommendations presented in this report and those in the accompanying geotechnical and structural engineering reports being prepared for these properties. Those reports shall accompany this report in all future phases of the development of the properties All recommendations in all reports must be adhered to during design, implemented during construction, and maintained for the lifetime of the dwelling In this event, the occupants within the dwelling should not be subject to risks beyond an ordinary level of risk as defmed in the Scales of Acceptable **Risk** presented in Appendix C of this report.

RECOMMENDATIONS

1. The following landslide mitigation measures (or approved equivalent) must be implemented into the design of the homesite:

   A. The homes should be constructed into the hillside so that landslide masses flow over them. This requires that the homes be excavated into the hillside such that the rear walls and portions of the side walls act as engineered retaining walls.

   B. Every effort should be extended to minimize the effect of the temporary cutslopes in the homesite excavations on the adjacent properties to the northwest and the hillside upslope of the excavation. It is anticipated that temporary shoring will be needed to support the cutslopes during construction of engineering retaining walls, but this will be decision ofthe project geotechnical engineers.

   C. The rear wall of the dwellings and the rear roof eaves should closely coincide with the slope at the rear of the house so that there is very minimal potential for landslides originating above the home to impact the rear wall of the dwelling. In concept, landslide debris will flow onto and over the home, and seismically generated failures are thought to be very large masses of earth. **A** smaller failure such as a saturation generated landslide has a moderate to perhaps high probability of occurring on the bluff face above the proposed home. Either of these landslides could deposit earth and debris on the roof of the proposed home. We anticipate that landslide masses may travel at velocities on the order of **32** feet-per-second based on empirical comparisons to observed landslide velocities. However, the project engineers should verify this velocity and use values that they develop. The loads on the roof from the potential slide masses will probably require concrete and steel frame building methods.

   D. The foundation of the homes shall be designed against slope failure on the sides of the home since it is assumed that the side yard will not be protected by retaining walls.

F. The existing retaining walls at the top of the hillside may become entrained in a massive slope failure, so we recommend that the project engineers consider the effects of these walls on the proposed home in the event that it completely fails and travels downslope.

G. Exposed deck area should be kept to a minimum, and any deck should include a partially covered area where occupants can take refuge in the event that landslide debris cascades over the home.

2. The homes should be designed and constructed to County Building requirements regarding floor level elevations relative to 100-year flood levels. The designated 100-year flood elevation is 21 feet above sea level based on the National Geodetic Vertical Datum of 1929.

3. The homes should be designed to withstand moderate to severe seismic shaking. Refer to the body of the report for seismic criteria.

4. The project geotechnical engineer should evaluate the liquefaction potential of the beach sand underlying the homesites or develop mitigation measures for liquefaction hazards if the analysis indicates **a** susceptibility This applies to the homes and particularly the driveways because the latter will be located over a thick deposit of beach sand. We anticipate the use of pier and grade beam foundations that penetrate below the beach sand and colluvium/landslide deposits into the more competent Purisima Formation sands and gravels, not **only** to mitigate the effects of liquefaction potential but for potential instability in the colluvium/landslide deposits and beach sand deposits.

5. **A** surface drain system shall be developed for the properties which accommodates potential surface flow off the steep hillsides above the properties. It is best to accommodate this potential flow in a shallow surface depression such as a shallow drain trough because of the possibility that a significant amount of sediment could erode from the hill and fill or block subsurface drain pipes or inlets. All roof and driveway runoff should be conveyed to Beach Drive where there is a storm drain system.

6. All areas where vegetation is stripped during construction should be revegetated with appropriate erosion resistant vegetation prior to the next rainfall season.

7. This report should be reviewed in conjunction with the forthcoming soils report by Haro, Kasunich and Associates. The recommendations of the soils engineer should be closely followed.

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8 We shall be afforded an opportunity to review the final design plans *to* ensure that our recommendations have been incorporated If we are not afforded this opportunity, we will assume no responsibility for the misinterpretation of our recommendations

Environmental Review Inital Study
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APPLICATION 04-0255

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

FLOM : HANO ; KASUNICH ASSOC 3/04

The residential structures are to be supported by drilled piers embedded into undisturbed sandstone bedrock. The Purisima Formation is described by geologic maps (Brabb, 1989) as a siltstone/sandstone. The Purisima formation along the base of the Beach Drive bluff consists of very dense, silty sand with very little cementation. Pier drilling below the average groundwater elevation, about +2 feet NGVD, is problematic. At a minimum, we anticipate full length casing will be needed to maintain pier excavation integrity. Weighted drilling fluid may also need to be used with the casing *to* mitigate the potential for saturated sands flowing into the casing as the auger is withdrawn. Large diameter pier excavations, 3 to 5 feet in diameter, may be drilled with weighted drilling fluid and a surface conductor casing.

The residential structures will be elevated above the FEMA Base Flood Elevation, 21 feet NGVD. The driveways and the seaward portions of the understories for the proposed residences will be situated upon about 16 feet of beach sand, talus deposits, and roadway fill. During a severe seismic event the soil materials within the wave cut platform underlying the aforementioned area may settle due *to* either dry seismic consolidation and/or liquefaction. The vertical bearing of the proposed residence will not be effected by either liquefaction or lateral spreading provided the piers are designed per our geotechnical recommendations. During severe seismic shaking, we do expect the driveways and

possibly the understory parking areas to be damaged and need *to* be repaired or replaced. To minimize settlement and minimize maintenance from normal usage, we recommend the driveway areas plus 3 feet horizontally in all directions on property be redensified *to* a depth of 3 feet to at least 90 percent relative compaction. The top 12 inches of the redensified soils should be compacted *to* at least 95 percent relative compaction. As per FEMA guidelines the understory slabs on grade will be displaced during a design storm event, allowing flood waters to flow through the foundation systems with minimal obstruction and wave deflection. The driveway and parking platform at each residence is expected to be undermined, lost and replaced during the design life of the structure.

We recommend the residences be constructed to withstand impact and debris loads from the inevitable future slope failures. It is our opinion concrete roofs supported by a steel and concrete frames will be necessary to protect the residences. In order to prevent landslide debris from being deflected onto the adjacent upcoast and downcoast parcels, the roofs should be flat.

Due to the transition from infilled wave cut platform to undisturbed, dense native soil at the seaward perimeter of the building envelopes, and to comply with the FEMA requirement the residences be supported by open foundation systems, it will be necessary to support the structures on drilled pier foundation systems. The seaward piers will penetrate the beach sand and fill materials. Drilled piers should be embedded such that the bases are

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EXHIBIT D

at least 10 feet horizontally from the surface of the undisturbed sandstone bluff face. The geologic cross sections can be utilized to estimate the minimum pier depths.

During construction of the residences, it will be necessary to temporarily shore the excavated backslopes as well as portions of the side yard talus slopes during construction. The talus deposits above the residences can be expected to slough off the slope during construction. We will work with the project earthwork contractor and engineering geologist during construction to evaluate the upslope talus deposit wedge and remove the loose soils if necessary prior to excavation of the building envelopes.

If all recommendations in the geologic and geotechnical reports are closely followed and properly implemented during design and construction, and maintained for the lifetime of the proposed residence, then in our opinion, the occupants within the residence should not be subject to risks from geologic hazards beyond the "Ordinary Risks Level," in the "Scale of Acceptable Risks" contained in the Appendix of this report.

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

EXHIBIT D

Site Grading

1. The geotechnical engineer should be notified at least four (4) working days prior to any site clearing or grading so that the work in the field can be coordinated with the grading contractor, and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the geotechnical engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557-78.

3. Areas to be graded should be cleared of all obstructions including loose fill, building foundations, trees not designated to remain, or other unsuitable material. Existing depressions or voids created during site clearing should be backfilled with engineered fill.

4. Cleared areas should then be stripped of organic-laden topsoil. Stripping depth should be from 2 to 4 inches. Actual depth of stripping should be determined in the field by the geotechnical engineer. Strippings should be wasted off-site or stockpiled for use in landscaped areas if desired.

EXHIBIT D

5. Areas to receive engineered fill should be scarified to a depth of 6 inches, moisture conditioned, and compacted *to* at least 90 percent relative compaction, Portions of the site may need to be moisture conditioned to achieve a suitable moisture content for compaction. These areas may then be brought to design grade with engineered fill.

6. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness, moisture conditioned, and compacted to at least 90 percent relative compaction. The driveway areas plus 3 feet horizontally in all on property directions should be supported by at least 3 feet *of* engineered fill compacted to at least 90 percent relative compaction. The upper 12 inches of driveway pavement and exterior slab subgrades should be compacted to at least 95 percent relative compaction, If engineered fill is utilized upslope *of* the residences to fill voids between the structures and the hillside, engineered fill requirements will be prepared on a specific basis during the final structural engineering design process.

The aggregate base below asphaltic pavement sections should likewise be compacted to at least 95 percent relative compaction,

7. The on-site soils generally appear suitable for use as engineered fill. Materials used for engineered fill should be free *of* organic material, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than **4** inches.

8. We estimate shrinkage factors of about 20 percent for the on-site materials when used in engineered fills

9. We recommend a maximum vertical height of five (5) feet for temporary cut slopes. We recommend top down construction for the bluff face retaining wall system.

10. Following grading, all exposed slopes should be planted as soon as possible with erosion-resistant vegetation.

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

Foundations

12. The proposed residential structures may be supported on a drilled pier foundation system. Drilled piers should penetrate talus deposits and beach sand and be embedded into undisturbed native soil.

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EXHIBIT D

Drilled Piers

13. Drilled piers should be at least 18 inches in diameter and be embedded at least 8 feet into undisturbed Purisima sandstone. Drilled piers should be embedded such that the bases are at least 10 feet horizontally from the surface of the undisturbed native soils as delineated on the Nielsen & Associates Geologic Cross-Sections.

14. Piers constructed in accordance with the above may be designed for an allowable end bearing capacity of 20 ksf for a minimum piers spacing of three (3) pier diameters or greater. This value may be increased by one third for short term seismic and wind loading. The bottom of the excavation should be clear of debris. Due to the loose nature of the talus deposits and groundwater at about +2 feet, NGVD, we anticipate the pier holes will need to be cased, shielded or maintained with weighted drilling mud. If drilled piers are to be greater in diameter than two (2) feet, a settlement analysis should be performed.

15. For passive lateral resistance, all fill materials, beach sand and the top 1 foot of the cut Purisima Formation should be neglected in pier design. A horizontal setback of 5 feet between the top of the passive zone and the surface of the engineering geologist's undisturbed native slope boundary should also be maintained. From -1 foot to -4 feet below the aforementioned horizontal setback, a lateral passive lateral resistance of 500 pcf (efw) times *2* pier diameters may be used. Below -4 feet, a passive lateral resistance of 600 pcf (efw) times 3 pier diameters may be used for structural design.

16. To resist uplift forces, an allowable skin friction value of 315 psf of pier sidewall may be used within the Purisima formation. The uplift skin friction requires a horizontal setback of at least 5 feet from the face of the Purisima sandstone delineated on the Geologic Cross-Sections.

Retaining Walls and Lateral Pressures

17. Retaining walls should be designed to resist both lateral earth pressures and any additional surcharge loads. Cantilever or unrestrained walls up to 30 feet high should be designed to resist an active equivalent fluid pressure of 70 pcf for sloping backfills inclined up to 1:1 (horizontal to vertical). Restrained walls should be designed to resist uniformly applied rectangular wall pressures of 45H psf where H is the height of the wall. The configuration of the landward portion of the residence can have a dramatic effect on active and seismic surcharge loading. A stepped floor system at 1:1 (H:V) or less steep up the hillside will significantly reduce surcharge loading from above structure levels as well as break up the total height of the active zone into smaller components versus a 30 foot height active zone. We will work with the project architect and structural engineer to evaluate specific design scenarios in order to produce an efficient design.

18. Within the active zone, a seismic surcharge of 16H/ft should be utilized in design of the retaining walls. The resultant of the seismic loading should act at 0.6H, where H is the height of the wall.

19. In addition, the walls should be designed for any adjacent live or dead loads which will exert a force on them.

20. Retaining walls that act as interior house walls should be thoroughly waterproofed.

21. For fully drained conditions as delineated above, we recommend a geotextile drainage blanket equivalent to Miradrain 6000 be used.

22. If engineered fill is utilized upslope of the residence to fill voids between the structure and the hillside, engineered fill requirements will be prepared on a specific basis during the final structural engineering design process.

Tieback Anchors

23. For design of the tieback anchors, the pressure grouted anchor bulb (bonded zone) should be at least 20 feet from the face of the retaining wall.

24. Tieback loading is dependent upon anchor tendon strength. The small diameter anchor shafts should be designed for tension in the direction of the axis of the anchor.

25. Grouted tieback anchors should have a minimum overburden cover of at least 25 feet.

26. A working shaft bond friction of 2,500 psf between soil and non-pressure grouted anchor diameters may be considered for design of small diameter (4 to 8 inch) tieback anchors where building envelope/property boundaries allow the use of a longer bonded zone tieback.

27. The maximum bond strength/design load should not exceed 100,000 pounds.

28. The tieback anchors may be installed up to a maximum angle of 20 degrees from horizontal.

29. Upon completion of the backfill behind the walls, all tiebacks should permanently stressed to 60 percent of their design load or as directed by the project structural engineer. In addition, all tiebacks must be tested by the contractor in the presence of the geotechnical engineer to 100 percent of their design load. Any tiebacks that fail during testing must he replaced and re-tested by the contractor.

30. **All** tiedback anchor systems must be corrosion protected and reviewed by the geotechnical engineer before the contractor purchases and installs them.

-96-B

EXHIBIT D

Landslide Debris - Dead Loads

31. Landslide debris may pile up on the flat roof with the pile having slopes on the sides and front of about 1.5:1 (horizontal to vertical).

32. We recommend designing the sidewalls and windows to accommodate static active earth pressures of 30 pcf for a non-restrained condition or 19.5 **H** psf/ft if the floor and roof between the sidewalls act to restrain the walls. During the design process, we will work with the project design team to specify sidewall debris loading relative to a working design.

Lateral **Spreading** Active Force

33. The seaward perimeter (only) foundation systems of the two proposed residences should be designed to withstand an active lateral force of 30 pcf (efw) to accommodate any future lateral spreading *of* the beach sediments above the historic sour line. The potential lateral spreading will extend from the historic scour line at 0 feet NGVD up to an elevation of +6 feet NGVD.

Parking Slab on Grade

34. As outlined in the FEMA Coastal Construction Manual, see Figures 22 to 24, parking may be facilitated by use of a unreinforced slab, supported directly on the soil present at the site.

35. It is our opinion paving stones or asphaltic pavement may be used as an alternative to the unreinforced frangible concrete driveway section outlined by FEMA.

36. For design of the driveway parking areas, we recommend the proposed pavement section, unreinforced frangible concrete slab or paving blocks be supported by at least 3 feet of redensified soils compacted to at least 90 percent relative compaction. The top 12 inches of the redensified soils should be compacted to at least 95 percent relative compaction. As per FEMA guidelines, the understory slabs on grade will be displaced during a design storm event, allowing flood waters to flow through the foundation system with minimal obstruction and wave deflection. The parking platforms are expected to be undermined, lost and replaced during the design life of the structure.

Site **Drainage**

37. An erosion control and drainage plan should be prepared for the project. The plan should be reviewed and approved by the project geotechnical engineer and engineering geologist. Because of the potential slope instability at the site, erosion control and drainage systems will need to be maintained, repaired and replaced in the future after instability occurs.

Environmental Review Inital Study
ATTACHMENT 10, 12 of 13
APPLICATION - 55

-98-

EXHIBIT D

38. We recommend a concrete v-ditch be constructed at the top of the uppermost retaining walls that will collect surface water which flows downslope as a result of direct rainfall or surface water spilling onto the top of the bluff from above.

Plan Review. Construction Observation and Testing

39. Our firm should be provided the opportunity for a general review of the final project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. The recommendations presented in this report require our review of final plans and specifications prior to construction and upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

EXHIBIT D

COUNTY OF SANTA CRUZ
DISCRETIONARY APPLICATION COMMENTS

Project Planner: David Keyon
Application No.: 04-0255
APN: 043-152-56

Date: September 2, 2005
Time: 13:54:36
Page: 1

Environmental Planning Completeness Comments

======== REVIEW ON JUNE 25. 2004 BY ROBIN M BOLSTER ========

1. A preliminary grading plan, and drainage plan, prepared by a registered civil engineer, are required. The drainage plan must capture drainage from the slope above and convey it to the base of the slope.The grading plan must address proposed excavation beneath the house in addition to driveway and courtyard. and must show limits of grading. existing and proposed contours, and cross sections through all pads with cuts and fills delineated

2. The soils and geology reports are currently under review by the County

Geologist. Additional comments may be forthcoming as a result of that review

Environmental Planning Miscellaneous Comments

======== REVIEW ON JUNE 25. 2004 BY ROBIN M BOLSTER ========

The following items can be addressed at the tine of building application submittal:

1) Detailed grading plans must be submitted, which conform to the Countyminimum grading plan standards. Plans must indicate the proposed destination for excavated material.

2) Please provide plan review letters from both the project soils engineer and engineering geologist that state that the final set of building, grading and drainage plans are in conformance with the recommendations made in the technical reports prepared for this site.

3) Please provide a detailed erosion control plan, which indicates the location and construction details for all proposed erosionisediment devices. Plan must include provisions for the construction entranceiexit to prevent tracking of sediment onto right-of-way.

4) Please complete. record and submit a copy of a declaration of Geologic Hazard

5) Prior to permit final, a letter must be submitted from the engineer or architect that prepared the grading plans, stating that all grading was performed in accordance with the approved grading plans.

Environmental Review Inital Study
ATTACHMENT 11, Lot 3
APPLICATION 55

EXHIBIT D

Dpw Drainage Completeness Comments

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

========== REVIEW ON JUNE 30. 2004 BY CARISA REGALADO ==========
Not enough drainage information has been shown to consider acceptance of this application. To be approved by this division at the discretionary application stage, proposed projects must conclusively demonstrate that (see drainage guidelines):

The site is being adequately drained

- Site runoff will be conveyed to the existing downstream drainage conveyance system or other safe point(s) of release.

The project will not adversely impact roads and adjacent or downslope properties

Please clarify the following items:

1) It is not clear where runoff leaving splash blocks will go. Will runoff travel along the east side of the road and then empty into a drainage system? Will runoff eventually cross over the road to the west side? If so. is there a drainage system capturing this runoff or will it go through adjacent parcels?

2) Two inlets are shown on the plans. If these are part of the proposed drainage plan, one inlet is shown with no other facilities for directing runoff. Are there pipes or other facilities directing runoff further from this structure?

3) A note is shown on the plans that all downspouts and deck drains will be directed into an 8-inch storm drain system. A 6-inch PVC layout is proposed on the plans but no 8-inch. Should this be an 8-inch PVC?

4) It is assumed that this runoff will eventually reach the beach. Please show that areas along the flow path will not be impacted or erosion caused by this development

For increases in impervious area. a drainage fee will be assessed. The fees are currently $0.85 per square foot. (See 2003/04 Santa Cruz County Department of Public Works Service & Capital Improvement Fees.)

If needed. further drainage plan guidance may be obtained from the County of Santa Cruz Planning website: http://sccounty01.co.santa-cruz.ca.us/planning/brochures/drain.htm

Please call or visit the Dept. of Public Works, Stormwater Management Division. from 8:00 am to 12:00 pm if you have any questions. ========== UPDATED ON DECEMBER 28, 2004 BY CARISA REGALADO ==========
*** 2nd ROUTING ***

Items from the first' routing have not been addressed. Please clarify these along with further information needed for the following items from routing #1:

Item #1 - Describe the off-site runoff path upon leaving the development. Show that the existing off-site drainage system to be used is of adequate capacity to accept the increase in runoff.

Item #3 - Submit on-site drainage system calculations sizing for runoff from this development and for the parcel above, APN 043-243-09.

Item #4 - Describe outlet condition

All subsequent submittals for this application must be done through the Planning Department. Submittals made directly to Public Works will result in delays.

Dpw Drainage Miscellaneous Comments

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

========== REVIEW ON JUNE 30. 2004 BY CARISA REGALADO ==========
No comment. ========== UPDATED ON DECEMBER 28, 2004 BY CARISA REGALADO ==========
No comment.

Dpw Driveway/Encroachment Completeness Comments

========== REVIEW ON JUNE 10, 2004 BY RUTH L ZADESKY ==========

Dpw Driveway/Encroachment Miscellaneous Comments

========== REVIEW ON JUNE 10, 2004 BY RUTH L ZADESKY ==========
Driveway to conform to County Design Criteria Standards.
Encroachment permit required for all off-site work in the County road right-of-way

Environmental Review Initial Study
ATTACHMENT 4 3 of 3
APPLICATION 04-55

EXHIBIT D

SOQUEL CREEK WATER DISTRICT
P.O. Box 158
Mail to: 5180 Soquel Drive
Soquel, CA 95073-0158
PHONE (831) 475-8500 FAX (831) 475-4291

PROJECT COMMENT SHEET

Date of Review: **06/11/04**
Reviewed By: **Carol Carr**

Returned Project **Comments** to: David Keyon
County of Santa Cruz
Planning Department
701 Ocean St., *Ste.* **400**
Santa Cruz, CA 95060-4073

Owner: **Deborah** & Michael Collins
13 **South California** St.
Lodi, CA 95240

Applicant: Jim **Mosgrove**
117 **Little** Creek Rd.
Soquel, CA 96073

Type of Permit: Development Permit
County Application #: **04-0266**

Subject APN: 043-152-66
Location: Property is located on the north **side** of Beach Drive **about** 1 mile southeast of Rio Del Mar **Blvd.** (at **648 Beach** Dr., a **vacant** parcel).

Project Description: Proposal to construct a **3-story,** six bedroom, **single-family dwelling and grade** more *than* 1,000 cubic **yards** within **the Coastal Scenic Area.**

Notice

Notice is hereby **given** that the **Board of Directors of the Soquel Creek Water District** is considering adopting policies to **mitigate** the impact *of* **development** on **the local groundwater basins.** The **proposed project would be subject to these and any other conditions** of service that the District may adopt prior to **granting water service.**

It should not **be taken** as a *guarantee* that service **will** be available to the project in the future or that additional conditions **will not** be *imposed* **by the** District prior to granting water service.

Requirements

The developer/applicant, without **cost** to the District, shall:

1) **Destroy any** wells on the property **in** accordance with **State** Bulletin No. 74;
2) **Satisfy all** conditions **imposed by** the District to assure necessary water pressure, flow and **quality;**
3) Satisfy all conditions for water conservation required by the Dietrict at the time of application for service, including **the** following:
   a) All applicants for **new water** service **from Soquel Creek Water District shall** *be* **required** *tu* **offset expected water use** of their respective development by *s* 1.2 *to* **1 ratio** by retrofitting **existing** developed **property within tbe Soquel Greek** Water **District service area** eo that **any new** development **has a** "zero **impact" on the** District's **groundwater** supply. Applicants for **new service** shall bear those **costs** associated **with the** retrofit **as deemed** appropriate **by** the District up to a **maximum set by the District and** pay **any** associated **fees aet by the District to reimburse administrative and inspection costs** in accordance with *District* **procedures** far implementing this program.
   b) Plane for **a water efficient** landscape **and irrigation** *system* **shall** be **submitted to District Conservation Staff for** approval;

Environmental Review Initial Study
ATTACHMENT 12 of 2
APPLICATION 04-0255

EXHIBIT D

SOQUEL CREEK WATER DISTRICT
P.O. Box 168
Mail to: 6160 Soquel Drive
Soquel, CA 95073-0158
PHONE (831) 475-8500 FAX (831) 475-4291

PROJECT COMMENT SHEET

c) All interior plumbing fixtures shall be low-flow *end have* the EPA Energy Star label;

District Staff shall inspect the completed project for compliance with all conservation requirements prior to commencing water service;

4) Complete LAFCO annexation requirements, if applicable;

5) All units shall be individually metered with a minimum size of 5/8-inch by ¾-inch standard domestic water meters;

A memorandum of the terms of this letter shall be recorded with the County Recorder of the County of Santa Cruz to ineure that any future property owners are notified of the conditions set forth herein.

Soquel Creek Water District Project Review Comments:

1. SCWD has reviewed plans prepared by Jim Mosgrove. Architect and hae made comments. 1) A New Water Service Application *Request* will need to be completed and submitted to the SCWD Board of Directors; however, please be advised that additional conditione may be imposed as per the above Notice. 2) The applicant shall be required to offset the expected water use of their respective development by a 1.2 to 1 ratio by retrofitting existing developed property within the Soquel Creek Water District service area. Applicants for new *service* shall baa? those costs associated with the retrofit. Calculations for the expected water demand of this project have been provided. These calculations are based on the preliminary plans. and are subject to change. Final calculations are pending finalization of the project plans. 3) All interior plumbing fixtures shall be low flow and have the EPA Energy Star label. *4)* A landscape-planting plan will need to be reviewed and approved by District Conservation Staff. 6) A Fire Protection Requirements Form will need to be completed and reviewed by the appropriate Fire District. 6) The nearest fire hydrant may be more than 250 feet away. 7) Water pressure in this area is high. A *Water Waiver for Pressure and/or Flow* will need to be recorded.

Attachments:

- ☐ Soquel Creek Water District Procedures for Processing Minor Land Divisions (MLD) dated November 9,1992
- ☐ Soquel Creek Water District Procedures for *Processing* Water Service Requests for Subdivisions and Multiple Unit Developments
- ☐ Resolution 79-7, Resolution of the Board of Directors of the Soquel Creek County Water District Establishing Landscape Design and Irrigation Water Use Policy
- ☒ Water Demand Offiet Policy Facr Sheet
- ☒ Soquel Creek Water Dietrict New Water Service Application Request.
- ☐ Soquel Creek Water District Variance Application
- Soquel Creek Water District Water Waiver For Pressure and/or Flow
- ☒ Fire Protection Requirements Form

Environmental Review Inital Study
ATTACHMENT 12, 2 of 2
APPLICATION 04-0255

EXHIBIT D

SANTA CRUZ COUNTY SANITATION DISTRICT

INTER-OFFICE CORRESPONDENCE

DATE:

TO: Planning Department, ATTENTION: DAVID KEYON

FROM: Santa Cmz County Sanitation District

SUBJECT. SEWER AVAILABILITY AND DISTRICT'S CONDITIONS OF SERVICE FOR THE FOLLOWING PROPOSED DEVELOPMENT:

AFN: 043-152-56 APPLICATION NO.: 04-0255

PARCEL ADDRESS: 548 BEACH DRIVE, APTOS

PROJECT DESCRIPTION: SINGLE FAMILY DWELLING

Sewer service is available for the subject development upon completion of the following conditions. This notice is effective for one year from the issuance date to allow the applicant the time to receive tentative map, development or other discretionary permit approval. If after this time frame this project has not received approval from the Planning Department, a new sewer service availability letter must be obtained by the applicant. Once a tentative map is approved this letter shall apply until the tentative map approval expires.

Proposed location of on-site sewer lateral(s), clean-out(s), and connection(s) to existing public sewer must be shown on the plot plan of the building permit application.

The plan shall show all existing and proposed plumbing fixtures on floor plans of building application. Completely describe all plumbing fixtures according to table 7-3 of the uniform plumbing code.

Drew Byrne
Sanitation Engineering

DB:abc/181

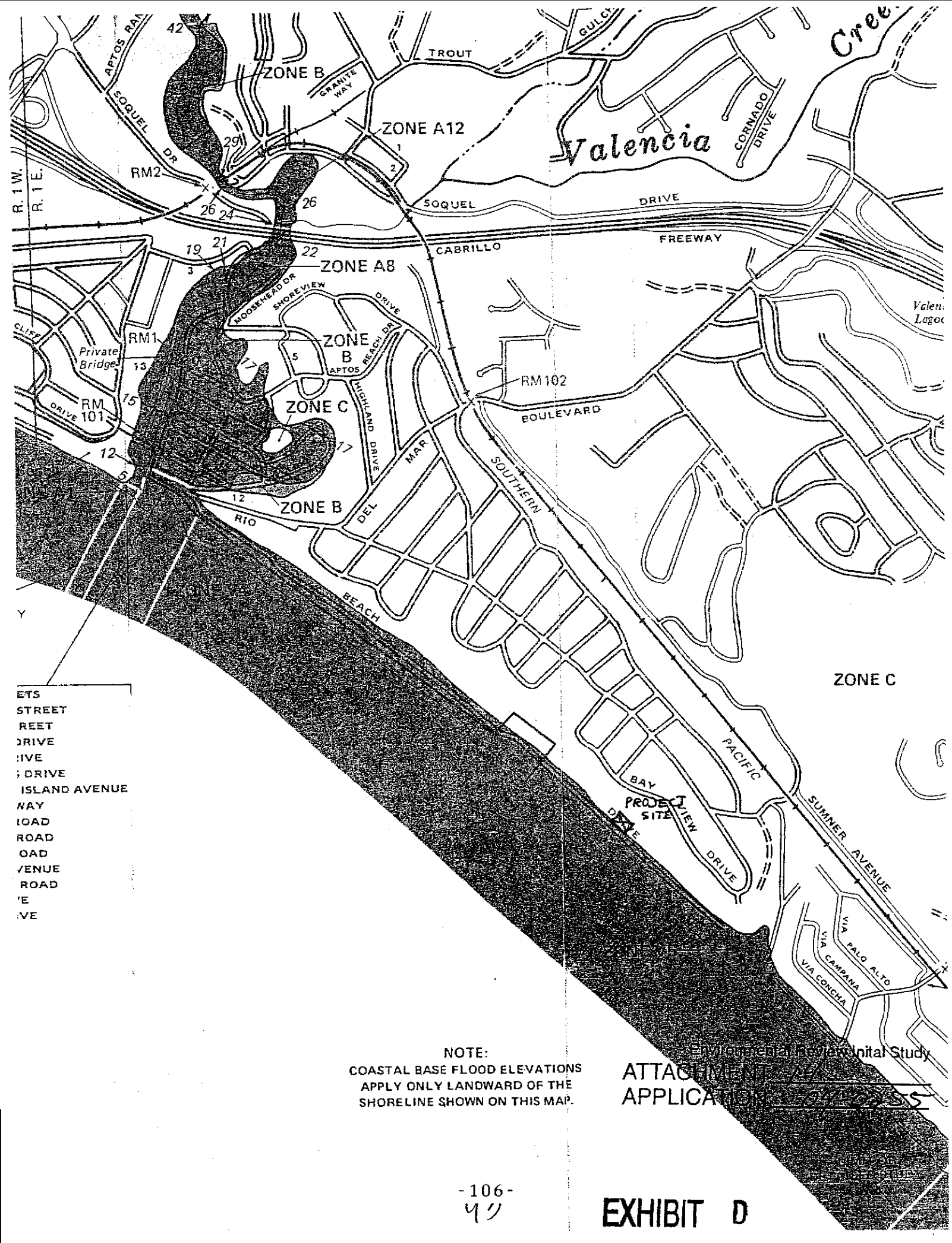
c: Applicant:: JIM MOSGROVE
117 LITTLE CREEK ROAD
SOQUEL CA 95073

Property Owner: MICHAEL & DEBORAH COLLINS
13 SOUTH CALIFORNIA STREET
LODI CA 95240

Environmental Review Inital Study
ATTACHMENT 13
APPLICATION 04-0255

(Rev. 3-96)

EXHIBIT D



NOTE:
COASTAL BASE FLOOD ELEVATIONS APPLY ONLY LANDWARD OF THE SHORELINE SHOWN ON THIS MAP.

Environmental Review Initial Study
ATTACHMENT 2A
APPLICATION 1-94-0255

EXHIBIT D

COUNTY OF SANTA CRUZ | Planning Department

INTEROFFICE MEMO

APPLICATION **NO: 04-0255**

Date: November 22,2004

To: David Keyon, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: Design Review for a single family residence at 548 Beach Drive, Aptos (Collins / owner, Mosgrove / applicant)

GENERAL PLAN/ ZONING CODE ISSUES

Design Review Authority

13.20.130 The Coastal Zone Design Criteria are applicable to any development requiring a Coastal Zone Approval.

Design Review Standards

13.20.130 Design criteria for coastal zone developments

Evaluation Criteria	Meets criteria In code (✔)	Does not meet criteria(✔)	Urban Designer's Evaluation
Visual Compatibility			
All new development shall be sited, designed and landscaped to be visually compatible and integrated with the character of surrounding neighborhoods or areas	✔		
Minimum Site Disturbance			
Grading, earth moving, and removal of major vegetation shall be minimized.	✔		
Developers shall be encouraged to maintain all maiure trees over 6 inches in diameter except where circumstances require their removal, such as obstruction of the building site, dead or diseased trees, or nuisance species.	✔		
Special landscape features (rock outcroppings, prominent natural landforms, tree groupings) shall be retained	✔		

Environmental Review Inital Study
ATTACHMENT 15, 1 of 6
APPLICATION 04-0255

EXHIBIT D

Ridgeline Development			
Structures located near ridges shall be sited and designed not to project above the ridgeline or tree canopy at the ridgeline			N/A
Land divisions which would create parcels whose only building site would be exposed on a ridgetop shall not be permitted			N/A
Landscaping			
New or replacement vegetation shall be compatible with surrounding vegetation and shall be suitable to the climate, soil, and ecological characteristics of the area	✔		
Rural Scenic Resources			
Location of development			
Development shall be located, if possible, on parts of the site not visible or least visible from the public view.			N/A
Development shall not block views of the shoreline from scenic road turnouts, rest stops or vista points			N/A
Site Planning			
Development shall be sited and designed to fit the physical setting carefully so that its presence is subordinate to the natural character of the site, maintaining the natural features (streams, major drainage, mature trees, dominant vegetative communities)			N/A
Screening and landscaping suitable to the site shall be used to soften the visual impact of develoomentin the viewshed			N/A
Buildingdesign			
Structures shall be designed to fit the topography of the site with minimal cutting, grading, or filling for construction			N/A
Pitched, rather than flat roofs, which are surfaced with non-reflective materials except for solar energy devices shall be encouraged			N/A
Natural materials and colors which blend with the vegetative cover of the site shall be used, or if the structure is located in an existing cluster of buildings, colors and materials shall repeat or harmonize with those in the cluster			N/A

Environmental Review Inital Study
ATTACHMENT 15, 2 of 6
APPLICATION 04-0255

EXHIBIT D

The visual impact of large agricultural structures shall be minimized by locating the structure within or near an existing group of buildings			NIA
The visual impact of large agricultural structures shall be minimized by using materials and colors which blend with the building cluster or the natural vegetative cover of the site (except for greenhouses).			NIA
The visual impact of large agricultural structures shall be minimized by using landscaping to screen or soften the appearance of the structure			NIA
Restoration			
Feasible elimination or mitigation of unsightly, visually disruptive or degrading elements such as junk heaps, unnatural obstructions, grading scars, or structures incompatible with the area shall be included in site development			N/A
The requirement for restoration of visually Mighted areas shall be in scale with the size of the proposed project			N/A
Materials, scale, location and orientation of signs shall harmonize with surrounding elements			N/A
Directly lighted, brightly colored, rotating, reflective, blinking, flashing or moving signs are prohibited			N/A
Illumination of signs shall be permitted only for state and county directional and informational signs, except in designated commercial and visitor serving zone districts			NIA
In the Highway 1 viewshed, except within the Davenport commercial area, only CALTRANS standard signs and public parks, or parking lot identification signs, shall be permitted to be visible from the highway. These signs shall be of natural unobtrusive materials and colors			NIA
Beach Viewsheds			

Environmental Review Inital Study
ATTACHMENT 15, 3 of 6
APPLICATION 04 0255

EXHIBIT D

Design Review Authority

13.11.040 Projects requiring design review.

(a) Single home construction, and associated additions involving 500 square feet or more, within coastal special communities and sensitive sites as defined in this Chapter.

13.11.030 Definitions

(u) 'Sensitive Site" shall mean any properly located adjacent to a scenic road or within the viewshed of a scenic road as recognized in the General Plan; or ***located*** OR a coastal ***bluff*** or on a ridgeline.

Evaluation Criteria	Meets criteria In code (✔)	Does not meet criteria (✔)	Urban Designer's Evaluation
Compatible Site Design			
Location and type of access to the site	✔		
Building siting in terms of its location and orientation	✔		
Building bulk, massing and scale	✔		
Parking location and layout	✔		
Relationship to natural site features and environmental influences	✔		
Landscaping	✔		
Streetscape relationship	✔		
Street design and transit facilities			N/A
Relationship to existing structures	✔		
Natural Site Amenities and Features			
Relate to surrounding topography	✔		
Retention of natural amenities			N/A
Siting and orientation which takes advantage of natural amenities	✔		
Ridgeline protection			N/A
Views			
Protection of public viewshed	✔		
Minimize impact on private views	✔		
Safe and Functional Circulation			
Accessible to the disabled, pedestrians, bicycles and vehicles			N/A

Environmental Review Initial Study

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EXHIBIT D

Solar Design and Access			
Reasonable protection for adjacent properties	✔		
Reasonable protection for currently occupied buildings using a solar energy system	✔		
Noise			
Reasonable protection for adjacent properties	✔		

Evaluation Criteria	Meets criteria In code (✔)	Does not meet criteria (✔)	Urban Designer's Evaluation
Building silhouette	✔		
Spacing between buildings	✔		
Street face setbacks	✔		
Character of architecture	✔		
Building scale	✔		
Proportion and composition of projections and recesses, doors and window, and other features	✔		
Location and treatment of entryways	✔		
Finish material, texture and color	✔		
Scale			
Scale is addressed on appropriate levels	✔		
Design elements create a sense of human scale and pedestrian interest	✔		
Building Articulation			
Variation in wall plane, roof line, detailing, materials and siting	✔		
Solar Design			
Building design provides solar access that is reasonably protected for adjacent properties	✔		
Building walls and major window areas are oriented for passive solar and natural lighting		✔	

Environmental Review Inital Study
ATTACHMENT 15, 5 of 6
APPLICATION 04-0255

EXHIBIT D

URBAN DESIGNER COMMENTS:.

- *Variation in the concrete color could help the massing (different color treatment on the lower two floors).*
- *It would be helpful for the decision makers w visualize this design if the architect provided shadows on the Front Elevation and lightened the wpfloor (io show the setback visually).*

Environmental Review Inital Study
ATTACHMENT 15, 6 of 6
APPLICATION 04-0225

EXHIBIT a

Visual Simulation
View from South West

Environmental Review Inital Study
ATTACHMENT 16, 1 of 2
APPLICATION 04-0255

COLLINS / WENGER RESIDENCE
548 Beach Drive, Aptos CA
Jim Mosgrove, Architect
Rendering: ArchiGraphics

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EXHIBIT D

Visual Simulation
View from Southeast

Environmental Review Inital Study
ATTACHMENT 16, 2 of 2
APPLICATION 04-0255

COLLINS / WENGER RESIDENCE
548 Beach Drive, Aptos CA
Jim Mosgrove, Architect
Rendering: ArchiGraphics

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EXHIBIT D

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

January 19,2006

Paia Levine
Santa Cruz county
701 Ocean Sweet
Santa Cruz, CA 95060

Subject: Collins Bunker House
SCH#: 2005122082

Dear Paia Levine:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. The review period closed on January 18,2006, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

1400 TENTH STREET P.O. **BOX** 3044 SACRAMENTO, **CALIFORNIA** 95812-3044
TEL (916) **445-0613** [illegible] **323-3018** www.opr.ca.gov

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EXHIBIT E

Document Details Report
State Clearinghouse Data Base

SCH#	2005122082
Project Title	Collins Bunker House
Lead Agency	Santa Cruz County

Type	Neg Negative Declaration
Description	The proposed project consists of the construction of a three-story, five bedroom single-family dwelling, requiring about 1,250 cubic yards of grading within a Coastal Scenic Area. The proposal requires a Coastal Development Permit, Preliminary Grading Approval, a Variance to increase the number of stones to three, Design Review, Soils Report Review, and a Geotechnical Report Review.

Lead Agency Contact

Name	Paia Levine		
Agency	Santa Cruz County		
Phone	(831) 454-3178	Fax	
email			
Address	701 Ocean Street		
City	Santa Cruz	State CA	Zip 95060

Project Location

County	Santa Cruz		
City			
Region			
Cross Streets	Beach Drive / Aptos Beach Drive		
Parcel No.	43-152-71		
Township	Range	Section	Base

Proximity to:

Highways	1
Airports	
Railways	SPRR
Waterways	Borregas Gulch, Aptos & Valencia Creeks, Pacific Ocean
Schools	Valencia School, Aptos JH
Land Use	Vacant / RB (Residential- Beach) / R-VL

Project Issues	Aesthetic/Visual; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Soil Erosion/Compaction/Grading
Reviewing Agencies	Resources Agency; Regional Water Quality Control Board, Region 3; Department of Parks and Recreation; Native American Heritage Commissicn; Public Utilities Commission; Department of Health Services; Department of Fish and Game, Region 3; Department of Water Resources: Department of Conservation; California Coastal Commission: California Highway Patrol; Caltrans. District 5

Date Received	12/20/2005	Start of Review	12/20/2005	End of Review	01/18/2006

Note: Blanks in data fields result from insufficient information provided by lead agency.

EXHIBIT E

pls keep in file

AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

January 13,2006

Ms. Paia Levine
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Re: **MCH# 120510-** Notice **of** Mitigated Negative Declaration
Collins Bunker House

Dear Ms. Paia Levine:

AMBAG's Regional Clearinghouse circulated a *summary* of notice of your environmental document to our member agencies and interested parties for review and comment.

The AMBAG Board of Directors considered the project on January **11,2006** and has no comments at this time.

Thank you for complying with the Clearinghouse process.

Sincerely,

Nicolas Papadakis
Executive Director

MONTEREY BAY
Unified Air Pollution Control District
serving Monterey, San Benito, and Santa Cruz counties

AIR POLLUTION CONTROL OFFICER
Douglas Quetin

24580 Silver Cloud *Court* • Monierey, California *93940* • *831/647-9411* • *FAX 831/647-8501*

January 10,2006

Mr. David Kenyon, Staff Planner
County of Santa Cruz Planning Dept.
701 Ocean Street
4th Floor
Santa Cruz, CA 95060

SUBJECT MND FOR COLLINS RESIDENCE ON BEACH DRIVE

Dear Mr. Kenyon

The District has the following comments on the Mitigated Negative Declaration for the proposed construction of the Collins residence:

Fugitive Dust during Construction

Given the project location adjacent to existing residences, please consider the following:

*Water graded / excavated areas at least twice daily. Frequency should be based on the type of operations, soil and wind exposure.

*Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)

• Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, and hydro-seed area.

*Haul trucks shall maintain at least 2'0" of freeboard.

*Cover all trucks hauling dirt, sand, or loose materials.

*Plant vegetative ground cover in disturbed areas as soon as possible.

*Install wheel washers at the entrance to construction sites for all exiting trucks.

Impacts of Diesel Exhaust to Residents Adjacent to the Proiect

Please contact the District to discuss the construction schedule (dates of operation and hours per day), the equipment to be used, and the distance from the construction to the nearest residence. A diesel health risk assessment may be necessary.

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EXHIBIT F

Thank you for the opportunity to comment on the document.

Yours truly,

Jean Getchell
Supervising Planner
Planning and **Air** Monitoring

EXHIBIT E

Project No. SC8462.56
1 March 2006

MIKE AND DEBBIE COLLINS
13 South California Street
Lodi, California 95240

Subject: Addendum Design Criteria and Project Plan Review

Reference: Proposed Bluffloe Residence
APN 043-152-56
548 Beach Drive
Santa Cruz County, California

Dear Mr. and Mrs. Collins:

Our firm prepared the Geotechnical Investigation for Two Proposed Bluffloe Residence dated 17 March 2004 for the proposed residence at the referenced site.

This letter is written to present addendum geotechnical design criteria regarding project design specific debris impact forces and temporary shoring loads. Attached to this letter is a revised Page 15 of our March 2004 Geotechnical Investigation with the table titled Debris Impact Loads and the supporting debris force impact calculations.

The proposed residence will be cut into the blufftoe. All cut slopes greater than 5 feet in height should be retained. All permanent retaining walls should be designed for both active earth pressures and a seismic surcharge as outlined in our March 2004 Geotechnical Investigation. For the design of the temporary shoring system supporting the cut sandstone bluff face, we recommend an active earth pressure of 35 pcf for cantilever conditions and 23H psf/ft for restrained conditions be used. We recommend construction of all temporary shoring systems be started prior to **1** August. We recommend the permanent walls supporting the bluff face be designed for the active pressures outlined in our report as well as a seismic surcharge and be completed prior to 15 October.

An alternative to the aforementioned construction timeline would be to design the temporary walls supporting the cut bluff face for the active earth pressures outlined in our report as well as a seismic surcharge and have these temporary walls completed prior to 15 October. Construction of the permanent bluff face retaining walls could then extend beyond 15 October.

EXHIBIT G

116 EAST LAKE AVENUE • WATSONVILLE, CALIFORNIA 95076 • (831) 722-4175 • FAX (831) 722-3202

This letter is also written to outline our review of the geotechnical aspects of the architectural plans and the preliminary structural details of the bluff face retaining wall system. Architectural plans were prepared by Jim Mosgrove and are dated 1 December 2005. Preliminary structural engineering plans were prepared by Buchanan Engineering, dated 23 February 2006. Specifically we reviewed the following plan sheets:

1) Sheet A1- Site Plan;
2) Sheet A-4- Living Level with Covered Deck & Landslide Containment Wall;
3) Sheet A6- West Elevation;
4) Sheet A7- East Elevation;
5) Sheet A8- Site Section with Preliminary Structural System and FEMA BFE;
6) Sheet 1- Michael Beautz, C.E.- Drainage Plan dated January 2006;
7) Sheet 2- Michael Beautz, C.E.- Sections dated January 2004;
8) Sheet L-1- Erosion Control Notes by Michael Arnone dated 29 November 2005;
9) Sheet SH1- Shoring Specifications;
10) Sheet SH2- Shoring Plan;
11) Sheet SH3- Shoring Sections
12) Sheet SH4- Shoring Elevations; and
13) Sheet SH5- Shoring Details.

The proposed improvement plans by Michael Beautz, C.E. show a continuous drain along the upslope perimeter of the structure. The parcel above the proposed Collins residence, specifically APN 043-243-09/610 Bayview has two blufftop pipes discharging upon the upper bluff face. We recommend the Collins work with the upslope neighbor to extend the pipes to the base of the bluff by means of a drainage easement or other acceptable method. The improvement plans show a frangible lower level slab on grade in conformance with FEMA criteria. The improvement plans also show the lowest living story being elevated above the FEMA Base Flood Elevation of 21 feet NGVD.

The Erosion Control Notes outlines the use of an irrigation system for slope planting. We recommend irrigation be temporary and water cut off after planting is established.

It is our opinion the aforementioned plan sheets were prepared in general conformance to our geotechnical recommendations.

If you have any questions, please call our office.

Very truly yours,

HARO, KASUNICH AND ASSOCIATES, INC.

Rick L. Parks
G.E. 2603

RLP/dk

Attachments: Revised Page 15
Debris Load Calcs

Copies: 1 to Addressee
4 to Jim Mosgrove
1 to John Buchanan
1 to Hans Nielsen

EXHIBIT G

Project No. SC8462
13 December 2005

Debris Impact Loads - Rooftop at 47 Feet NGVD

548 Beach Drive
APN 043-152-56
Santa Cruz County, California

Landslide Mode	Blufftop Failure	20' Thick Planar Failure Seismic	10' Thick Planar Failure Saturated
Drop Height (ft)	58	15	NA
Velocity at Impact (fps)	36	18	32
Area of Soil at Impact Length X Width $(ft)_1$	10 x width	20 x Width	10 x width
Coverage Area after Soil Stops Moving $(ft^2)_1$	30 x width	30 x Width	>50 x width
Peak Force in X-Direction at Impact $(psf)_{2,3}$	570	170	230
Peak Force in Y-Direction at Impact $(psf)_2$	1625	475	660

EXHIBIT G

JOB Collins 1

DATE 9 Dec 05

Blufftop Failure - Debris Impact Loads

J. Mosgrove Nov 05 - roof @ 47 ft NGVD
θ = incident angle = 45° / 135°

Impact velocity:

~,.cyMe, ht = 58 ft = S_t = g cas θ t^2

$58\ ft = 32.2\ \frac{ft}{sec^2} \cdot \cos 45° \cdot t^2$

$t^2 = 58 / (\cos 45°)(32.2\ ft/sec^2)$

$t = 1.6\ sec$

$V_t = V_0 + at = 0 + \frac{}{sec^2} \cos 45° \cdot 1.6\ sec$

V_t @ impact = 36 ft sec

Force per unit area on structure:

$F_y = \rho V_1 \sin\theta (V_1 - V_2) \sin\theta$

$F_x = \rho V_1 \cos\theta (V_1 - V_2) \cos\theta$

Bluff top soil unit weight = 121 pcf

Exit Velocity / Soil Compression: V_2 = 12 ft/sec

Coefficient of Friction - flat concrete roof = 0.35

continued

EXHIBIT G

HARO, KASUNICH
& ASSOCIATES, INC.
116 East Lake Avenue
WATSONVILLE, CALIFORNIA 95076
(831) 722-4175 FAX 722-3202

JOB Collins/Wenger SC8462
SHEET NO. 2 OF 6
CALCULATED BY DeL Parks DATE 9 Dec 05
CHECKED BY DATE
SCALE Rock Drive - 5'/8

Blow Flap Failure cont.

Vertical Loading = F_y

$F_y = \rho V_1 \sin\theta (V_1 - V_2) \sin\theta$

$= 121 \frac{\#}{ft^3} \cdot \frac{sec^2}{32.2 ft} \cdot 36 \frac{ft}{sec} \cdot \sin 45° \cdot$

$\cdot (36-12) \frac{ft}{sec} \cdot \sin 45°$

$= 1,623 \#/ft^2 \Rightarrow$ use 1,625 psf

Horizontal loading = F_x

Flat roof (level) w/ coef. friction 0.35

$F_x = \rho V_1 \cos\theta (V_1 - V_2) \cos\theta \cdot 0.35$

$= 121 \frac{\#}{ft^3} \cdot \frac{sec^2}{32.2 ft} \cdot 36 \frac{ft}{sec} \cdot \cos 45°$

$\cdot (36-12) \frac{ft}{sec} \cdot \cos 45° \cdot 0.35$

$F_x = 568 \#/ft^2 = 570$ psf

EXHIBIT G

NIELSEN and ASSOCIATES

ENGINEERING GEOLOGY AND COASTAL CONSULTING

27 February 2006

Job No. SCr-1058-G

Mike and Debbie Collins
13 South California Street
Lodi. California 95240

SUBJECT: Review of Structural Plans for a proposed retaining wall.

REFERENCE: 548 Beach Drive, Santa Cruz County, California, APN 43-152-56

Dear Mr. and Mrs. Collins:

At the request of your architect, Jim Mosgrove, we have reviewed a set of structural plans for a proposed retaining wall behind your proposed home on Beach Drive in Rio del Mar. The plans were reviewed for general conformance with the recommendations in our geologic report and for construction sequencing details developed from experience with similar recent building styles and sites on Beach Drive. The plans were prepared by John Buchanan; structural engineer, and were **dated** 23 February 2006. The plans consisted *of* the **following:**

a) Sheet SH1 - SPECIFICATIONS
b) Sheet SH2 - SHORING PLAN
c) Sheet SH3 - SHORING SECTIONS
d) Sheet SH4 - SHORING ELEVATIONS
e) Sheet SH5 - SHORING DETAILS

There were issues pertinent to our geologic report and recommendations on Sheets SH3 and SH5, so these were the **only** *two* sheets that we reviewed.

Sheet SH3, SHORING SECTIONS, shows that there will be two separate 20-foot tall retaining walls, one situated above the other with the upper wall set back about 17 feet from the lower. The plans indicate **that** the piers for the retaining wall will extend "**8** feet into competent soil as determined **by** the project geotechnical engineer". **Our** study revealed that the base of both the walls will be founded in Purisima Formation sand which is the bedrock in the vicinity. This earth material is typically competent, so we anticipate that the piers will extend about eight feet below the base of the walls, but we leave final determination of the pier depths to the project geotechnical engineer. The plan also shows that the walls will be additionally supported with four rows of tie backs which extend 40 feet into the hillside behind the walls. According to plan sheets **AI** and **AS** *of* the Jim Mosgrove architectural plans, that we recently reviewed and approved, the tie backs will not extend beyond the rear property lie.

1070 W. Antelope Creek Way • Oro Valley, Arizona 85737 • (831) 295-2081

EXHIBIT G

Sheet SH5, SHORING DETAILS, contains notes on the Installation Procedure. These details came about as the result of experience on two recent similar projects on Beach Drive. In order to reduce the affects on potential slope instability that the cutslopes for the retaining walls may impart on the hillside, construction sequencing is designed to reduce the height of the cutslope prior to it being supported with a temporary retaining wall. Construction is stipulated to proceed from the top down. Wood lagging is to be installed in one-foot increments with no more than three pieces of lagging installed before the wall is backfilled with lean concrete. The concrete is to provide a connection between the cut face and the lagging in order to provide support for the earth materials in the cut. Due to the highly permeable nature of the earth materials in the hillside, it is our opinion that this construction technique will not result in excessive hydrostatic forces behind the wall. These details meet the intent of our recommendation to the structural engineer.

The Installation Procedure notes on Sheet SH5 also state that the contractor shall submit a plan for "sidewall shoring" which speaks to the lateral cuts in the excavation for the homesite. Experience with similar sites indicates a need support the sidewalls of the excavation to minimize sloughing and failure of the sidewall cuts that could, amongst other things, endanger construction personnel working within the excavation.

In general, the plans meet the intent of ow recommendations. Nielsen and Associates has reviewed the geologic aspects of these plans only. We are not the geotechnical, civil, or structural engineers of record on this project. We provide no warranties: either express or implied, concerning the dimensions or accuracy of the plans and analysis. This review of the plans is performed solely for the purpose of assisting our client in quality control. Because quality control is subject to interpretation, our opinions do no represent warranties, either express or implied, of the adequacy of the plans for their intended purpose or for any other purpose whatsoever. If you have any questions, please call ow office.

Sincerely,

REGISTERED GEOLOGIST
HANS NIELSEN
No. 1390
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Hans Nielsen
C.E.G. 1390

Copies: 1 to addressee
1 to Rick Parks at Haro. Kasunich and Associates
1 to John Buchanan Engineering. attn: John Buchanan
4 to Jim Mosgrove, Architect

EXHIBIT G

NIELSEN and ASSOCIATES

ENGINEERING GEOLOGY AND COASTAL CONSULTING

19 February 2006

Job No. SCr-1058-G

Mike and Debbie Collins
13 South California Street
Lodi, California 95240

SUBJECT: Review of Revised Plans for a proposed new single family home

REFERENCE: 548 Beach Drive, Santa Cruz County, California, APN 43-152-56

Dear Mr. and Mrs. Collins:

At the request of your architect, Jim Mosgrove, we have reviewed a new set of plans for your new home on Beach Drive in Rio del Mar. The plans were reviewed for general conformance with the recommendations in our geologic report dated February 2004 for the property. We specifically reviewed the following sheets:

a) Sheet A1 - SITE PLAN by Jim Mosgrove dated 1 December 2005.
b) Sheet A6 - WEST ELEVATION by Jim Mosgrove dated 1 December 2005.
c) Sheet A7 - EAST ELEVATION by Jim Mosgrove dated 1 December 2005.
d) Sheet A8 - SITE SECTION AND PRELIMINARY STRUCTURAL by Jim Mosgrove dated 1 December 2005.
e) Sheet 1 of 1 - PRELIMINARY IMPROVEMENT PLAN dated January 2006 by Michael Beautz, C.E. showing proposed drainage

The plans show the home in the general location recommended in our report. The home will be constructed as a bunker style home such that it will be built into the hillside allowing potential landslide masses to flow over and around the home. The home is situated on the property so that landslide debris, that may be diverted laterally because of the home, will not affect adjacent properties.

The plans show a 10-foot wide completely covered porch on the upper Living Level. There is a seaward sloping roof seaward of this deck. The covered nature of the deck will protect occupants of the deck from exposure to landslide debris that may cascade over the home.

The lowest living level of the home is elevated above the FEMA flood elevation of 21 feet as shown on Sheet A8.

The home is to be supported on a cast-in-place pier and grade beam foundation system that will be embedded sandstone bedrock.

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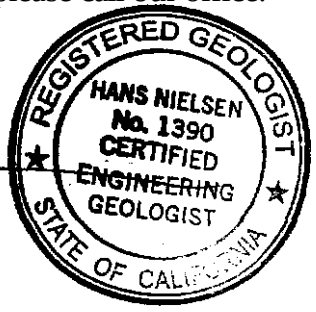
EXHIBIT G

All runoff from impermeable surfaces is to be .controlled and conveyed to Beach Drive as per our recommendations.

Evaluation of the foundation engineering and **structural** engineering is beyond our expertise, so we defer review of these elements to appropriate engineers.

In general, the plans meet the intent of the recommendations. Nielsen and Associates has reviewed the geologic aspects of these plans only. We are not the geotechnical, civil, **or** structural **engineers** of record on **this project.** We provide no warranties, either express **or** implied, concerning the dimensions **or** accuracy of the plans and analysis. This review of the plans is performed solely for the purpose of assisting our client in quality control. Because quality control is subject to interpretation, our opinions do no represent warranties, either express or implied, of the adequacy of the plans for their intended purpose or for any other purpose whatsoever. If you have any questions, please call our office.

Sincerely,



Hans Nielsen
C.E.G. 1390

Copies: 1 to addressee
1 to Rick **Parks** at Haro, Kasunich and Associates
1 to ~~Tim~~ John **Buchanan** Engineering, attn: John **Buchanan**
4 to Jim Mosgrove, Architect

116

EXHIBIT G