

 California Coastal Commission

LOCATION MAP



County of Santa Cruz

CCC Exhibit 1
 (page 1 of 1 pages)

NOTICE OF FINAL LOCAL ACTION ON COASTAL PERMIT

County of Santa Cruz

RECEIVED

Date of Notice: September 27, 2006

OCT 02 2006

Notice Sent to (via certified mail):

California Coastal Commission
 Central Coast Area Office
 725 Front Street, Ste. 300
 Santa Cruz, CA 95060

CALIFORNIA
 COASTAL COMMISSION
 CENTRAL COAST AREA

FINAL LOCAL ACTION NOTICE
 REFERENCE # 3-SC0-06-411
 APPEAL PERIOD 10/3-10/10/06

(17)

Please note the following **Final Santa Cruz County Action** on a coastal permit, coastal permit amendment or coastal permit extension application (all local appeals have been exhausted for this matter):

Project Information

Application No.: 04-0255
 Project Applicant: Michael & Deborah Collins
 Applicant's Rep: Jim Mosgrove, Architect
 Project 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).

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.

Final Action Information

Final Local Action: Approved with Conditions on **September 26, 2006**

Final Action Body:

- Zoning Administrator
- Planning Commission
- Board of Supervisors**

Required Materials Supporting the Final Action	Enclosed	Previously sent (date)
Staff Report	X	
Adopted Findings	X	
Adopted Conditions	X	
Site Plans	X	
Elevations	X	

Additional Materials Supporting the Final Action	Enclosed	Previously sent (date)
CEQA Document	X	
Geotechnical & Geology Reports	X	
Biotic Reports	N/A	
Other: Correspondence & Public Comments	X	
Other:		

Coastal Commission Appeal Information

This Final Action is:

- NOT** appealable to the California Coastal Commission. The Final County of Santa Cruz Action is now Effective.
- Appealable** to the California Coastal Commission. The Coastal Commission's 10-working day appeal period begins the first working day after the Coastal Commission receives adequate notice of this Final Action. The Final Action is not effective until after the Coastal Commission's appeal period has expired and no appeal has been filed. Any such appeal must be made directly to the California Coastal Commission Central Coast Area Office in Santa Cruz; there is no fee for such an appeal. Should you have any questions regarding the Coastal Commission appeal period or process, please contact the Central Coast Area Office at the address listed above, or by phone at (831) 427-4863.

CCC Exhibit 2
(page 1 of 18 pages)



0000155

David J. K.

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

August 30, 2006

AGENDA DATE: SEPTEMBER 19, 2006

Board of Supervisors
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

SUBJECT: PUBLIC HEARING TO CONSIDER APPLICATION NO. 04-0255 (MOSGROVE FOR COLLINS) - A COASTAL DEVELOPMENT PERMIT, VARIANCE, DESIGN REVIEW AND GRADING PERMIT TO CONSTRUCT A THREE STORY SINGLE-FAMILY DWELLING AND GRADE APPROXIMATELY 1,250 CUBIC YARDS WITHIN THE COASTAL SCENIC AREA.

Members of the Board:

At your August 22nd meeting, your Board voted to accept the applicant's appeal of the Planning Commission's denial of application 04-0255 and to take jurisdiction. Per Section 18.10.340 of the County Code, this matter is now before your Board as a de novo public hearing.

PROJECT DESCRIPTION AND LOCATION

The property owner proposes to construct a 3-story house of about 5,800 square feet at the toe of the coastal bluff on Beach Drive. The house will be constructed into the toe of the bluff with reinforced concrete construction, a flat roof, and a non-habitable first floor in compliance with FEMA flood elevation requirements. The project requires about 1,250 cubic yards of grading within a Coastal Scenic area, and therefore required detailed geologic and geotechnical investigations, Environmental Review and approval by the Planning Commission.

The project is located on the north side of Beach Drive about one mile southeast of Rio Del Mar Boulevard (at 548 Beach Drive, a vacant parcel between existing residences at 544 and 615 Beach Drive).

CCC Exhibit 2
(page 2 of 18 pages)

PLANNING COMMISSION HISTORY

The Planning Commission heard the project first on April 12, 2006, and continued the project to the May 10th agenda to allow the applicant to conduct a neighborhood meeting and to ensure that representatives of the DPW Storm Water Management Section and the applicant's engineer would be present. After hearing the results of the neighborhood meeting and other technical information, the Commission voted to deny the application and directed staff to prepare findings for denial for Commission approval on the May 24th consent agenda. Because the Commission's action was made with only a 4-member Commission, the applicant requested final consideration by the full Commission. This was granted and a public hearing before the full Commission was held on June 28th. Following this public hearing, the Commission voted to deny the application. The Commission based the denial on health and safety concerns due to the location of the residence in an area subject to landslide

hazards at the toe of a coastal bluff (Findings for denial in Attachment 7). On July 11, 2006, the applicant appealed this decision to your Board (Letter of Appeal, Attachment 6). On August 22nd, 2006, your Board voted to take jurisdiction and to schedule this public hearing.

PROJECT ANALYSIS

SITE STANDARDS

The subject parcel is zoned RB (Ocean Beach Residential), a zone district where the principal permitted use is one single-family dwelling. The proposed development is consistent with the purposes of the RB zone district, and complies with all applicable site standards, as follows:

	RB Zone District Standard	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'

* No front yard setback requirements for RB zoned parcels with slopes greater than 25% within 30 feet of the right-of-way per Section 13.10.323(d)(5)(B) of the County Code. The subject property meets this exception.

GENERAL PLAN/ LOCAL COASTAL PROGRAM CONSISTENCY

Land Use Designation

The subject parcel retains a General Plan/Local Coastal Program Land Use Designation of R-UL (Urban Low Density Residential), implemented by the RB (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 the Initial Study, Attachment 10 Exhibit D). 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. The foundation will be 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 landslide. Furthermore, the design of the house will minimize landside hazards to neighboring properties as landslides will not be deflected by the structure onto neighboring properties due to the 25 foot side yard setbacks and the flat roof, which will contain rather than deflect slide debris.

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 wave run-up 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. 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 not exceeding a five foot cut will 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

CCC Exhibit 2
(page 4 of 18 pages)

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 Attachment 12, Condition 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 (See Attachment 12, Condition II.O).

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. 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 proportional 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 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). 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 STORIES

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 stories 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 (Attachment 10, 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) (Attachment 10, Exhibit E).

PAST APPROVALS

Since 1993, eight homes of similar construction have been approved, including three currently under construction and three already built. Houses on the bluff side of Beach Drive constructed before 1993 were not designed to mitigate for landslide and coastal flood hazards (no less than 75 houses), and will be required to be re-constructed to the same standards as the proposed project if they are severely damaged or destroyed. All houses on Beach Drive, including most homes on the beach, require Variances to the RB zone district to comply with the FEMA flood elevation requirements.

NEIGHBORHOOD CONCERNS

During the Planning Commission hearings and the jurisdictional hearing before your Board, the neighbors expressed their concerns regarding the project. These concerns primarily focus on the adequacy of the design with regard to the geology of the site and are presented in a packet of material that was presented to your Board at the August 22nd jurisdictional hearing (Attachment 3). To substantiate their concerns, the neighbors hired a Geotechnical Engineer to review the proposed project and geologic reviews prepared for the applicant (Attachment 3). Subsequently, the project Geologist and the project Geotechnical Engineers reviewed the material from the neighbors, including the memorandum from the neighbor's Geotechnical Engineer. While the project Geologist and Geotechnical Engineer acknowledge the hazards at the site, they conclude that the proposed residence will be designed to minimize these hazards to the greatest extent feasible (Attachment 4 and 5). The County Geologist, Joe Hanna, concurs with the conclusions in these letters and continues to support the proposed design (Attachment 2).

CCC Exhibit 2
(page 6 of 18 pages)

37

CONCLUSION

Based on the information submitted by the project Geologist and Geotechnical Engineer, approval of the design by the County Geologist, and recent approval of houses with similar construction on the bluff side of Beach Drive, staff believes that the project, as proposed, complies with all applicable code sections and the County's General Plan/Local Coastal Program. Findings for approval, along with the conditions of approval, are included in Attachments 11 and 12, respectively.

RECOMMENDATION

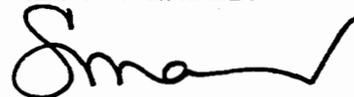
It is therefore RECOMMENDED that your Board take the following actions:

1. Approve application 04-0255 based on the findings and conditions found in the Staff Report to the Planning Commission for the April 12, 2006 hearing (Attachments 11 and 12, respectively); and
2. Certify the Mitigated Negative Declaration to the California Environmental Quality Act (Exhibit D of Attachment 10).

Sincerely,


 Tom Burns
 Planning Director

RECOMMENDED:



 SUSAN A. MAURIELLO
 County Administrative Officer

TB:CG:dk\S:\Draft Board Letters\2006\September 19

Attachments:

1. Letter of Tom Burns, Planning Director, dated August 8, 2006.
2. Memorandum from Joe Hanna, County Geologist, dated August 31, 2006
3. Letter of Brit Haselton, dated August 3, 2006, with the following material attached:
 - a. Letter of Brit Haselton, dated June 23, 2006
 - b. Memorandum of John Wallace, CEG, dated August 10, 2006 (with photos)
4. Letter from Rick Parks, G.E., dated August 21, 2006.
5. Letter from Hans Nielsen, Certified Engineering Geologist, dated August 21, 2006.
6. Letter of appeal from Gerald Bowden, Esq., dated July 10, 2006.
7. Letter to the Planning Commission for the June 28, 2006 hearing (with denial findings)
8. Letter from Rick Parks, Geotechnical Engineer, dated June 21, 2006.
9. Letter from Hans Nielsen, Certified Engineering Geologist, dated June 6, 2006
10. Staff report for the April 12, 2006 Planning Commission hearing (on file with Clerk)
11. Findings for approval
12. Conditions of approval
13. Location Map
14. Project Plans

cc: Jim Mosgrove
 Michael and Deborah Collins

CCC Exhibit 21
 (page 7 of 18 pages)

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 finish 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 *or roof* of the building, 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 15th the following year to allow for adequate time to complete grading prior to October 15th.
- 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.
 - I. *Applicant/Owner shall keep Beach Drive in a passable condition during construction of the residence and regularly maintain the road without potholes over 6 inches deep on a daily basis and smaller potholes on a weekly basis.*
 - J. *No parking of construction vehicles which obstruct passage on Beach Drive shall be allowed.*
- 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 be 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, its 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 8 ½" 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).

Jim Mosgrove, Architect



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

2/20/07

Dave Potter, Supervisor
County of Monterey, District 5
1200 Aguajito Road, Suite 001
Monterey, Ca 93940

R.E. Appeal number: A-3-SCO-06-059, A.P.N. 043-152-71, 548 Beach Dr., Aptos, Ca.
Meeting Date: March 14, 15

Dear Mr. Potter: Thank you for meeting with myself and Jerry Bowden Esq. on Jan. 26. As you may recall we discussed the bunker style home that Mr. and Mrs. Collins hope to build at 548 Beach Dr. They have complied with every requirement, regulation and request put forth by the County of Santa Cruz.

What they are asking for is nothing more than the opportunity to exercise their property rights. They are not attempting to chart new territory nor are they asking for anything that has not already been granted to other property owners along Beach Dr. This project will be similar in construction and design to the other approved bunker style homes at: 383, 385, 639 Beach Dr. and the Greg Howell and DeMettei residences now under construction.

The CCC approved the Howell / McNeil bunker home in 2005. The construction type, phasing and geology of this home are almost exactly the same. Minor upgrades and newer codes have been incorporated. We are using the same structural, geologist and geotechnical engineers. The home has been designed to be compatible with the many other three story homes along Beach Dr. Massing, scale, neighborhood context and safety during and after construction are incorporated into the design extensively.

Sincerely
Jim Mosgrove, Architect

C.c. Bowden, Collins, CCC

RECEIVED

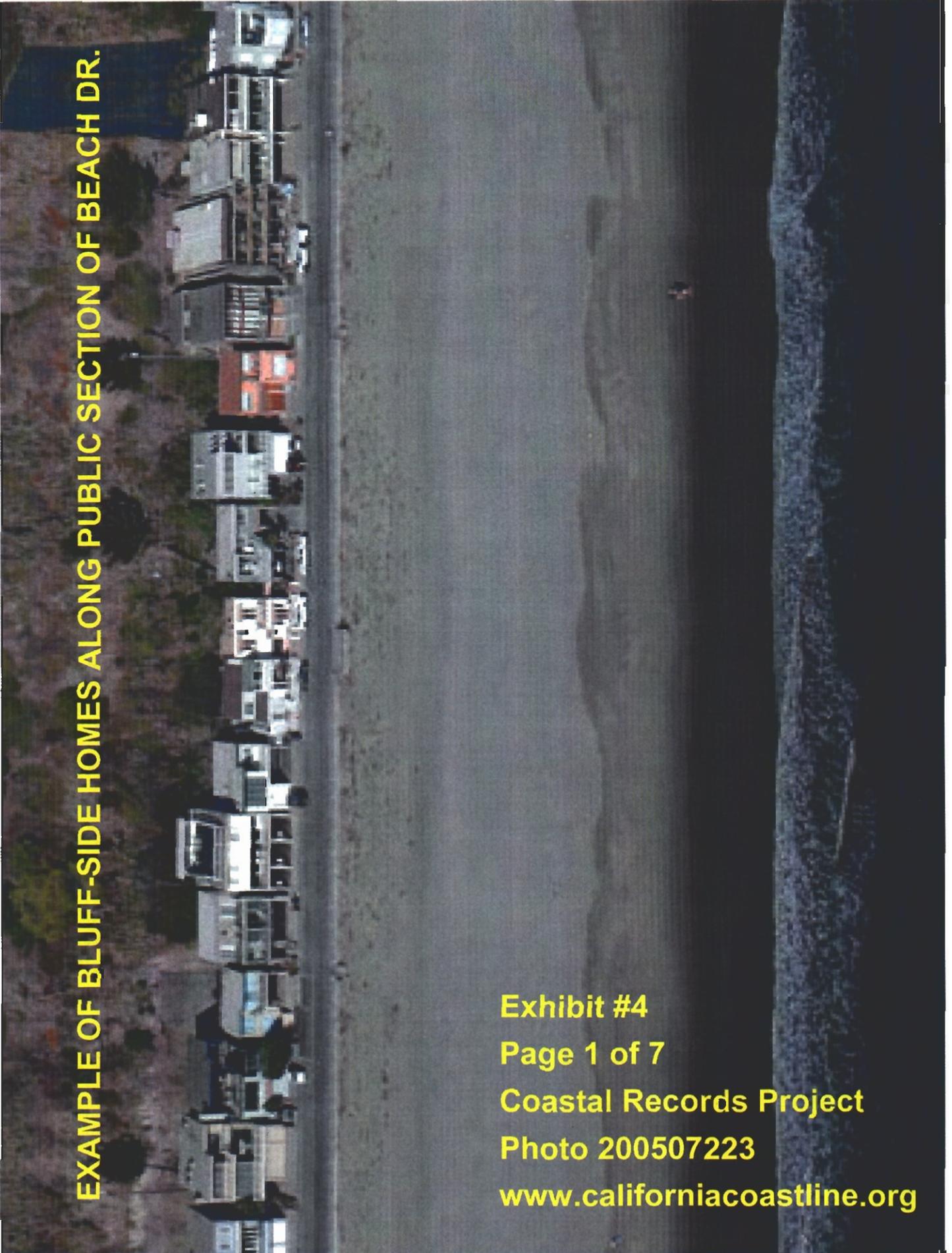
FEB 20 2007

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

CCC Exhibit 3
(page 1 of 1 pages)

EXAMPLE OF BLUFF-SIDE HOMES ALONG PUBLIC SECTION OF BEACH DR.

**Exhibit #4
Page 1 of 7
Coastal Records Project
Photo 200507223
www.californiacoastline.org**



BEGINNING OF PRIVATE SECTION OF BEACH DRIVE

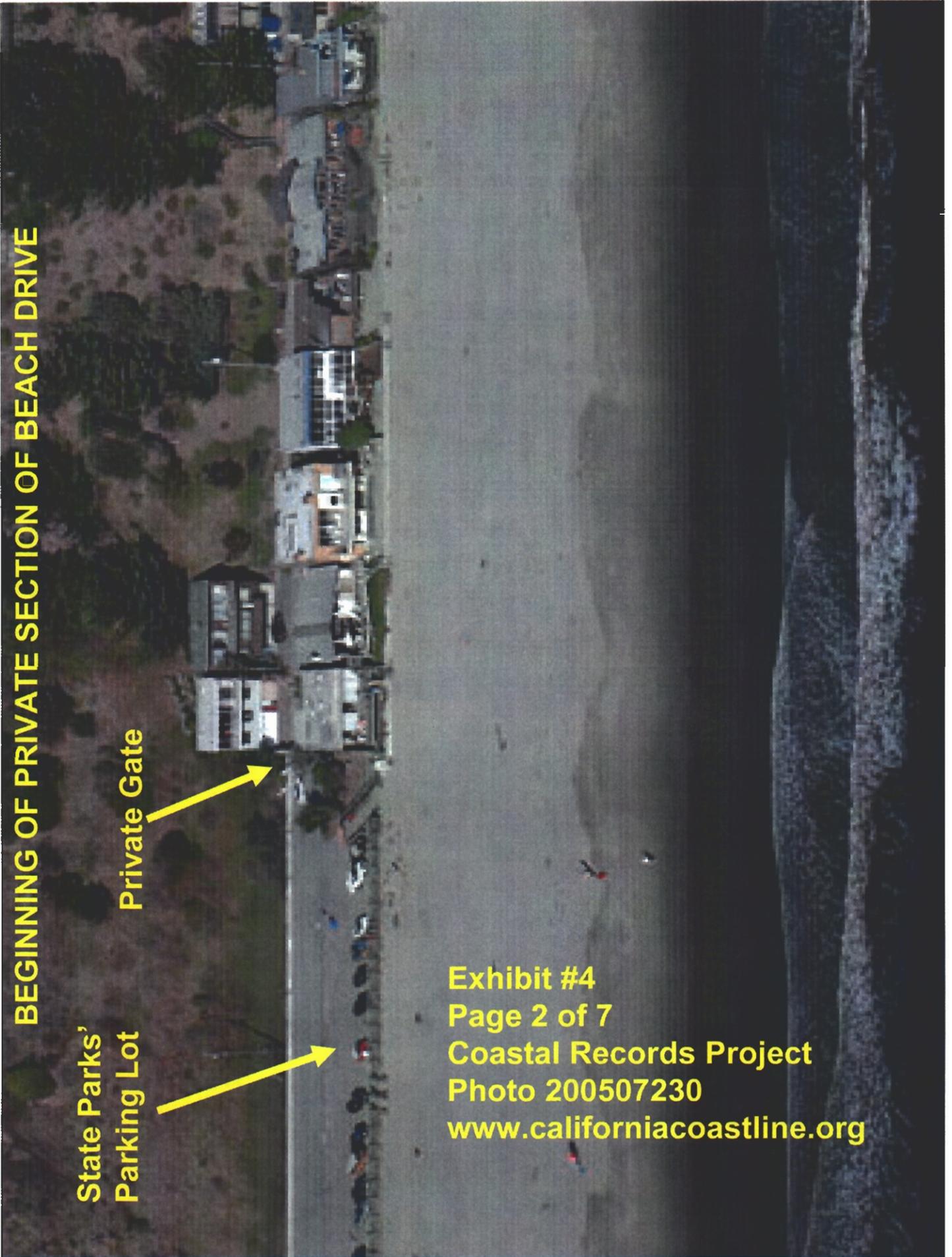
**State Parks'
Parking Lot**



Private Gate

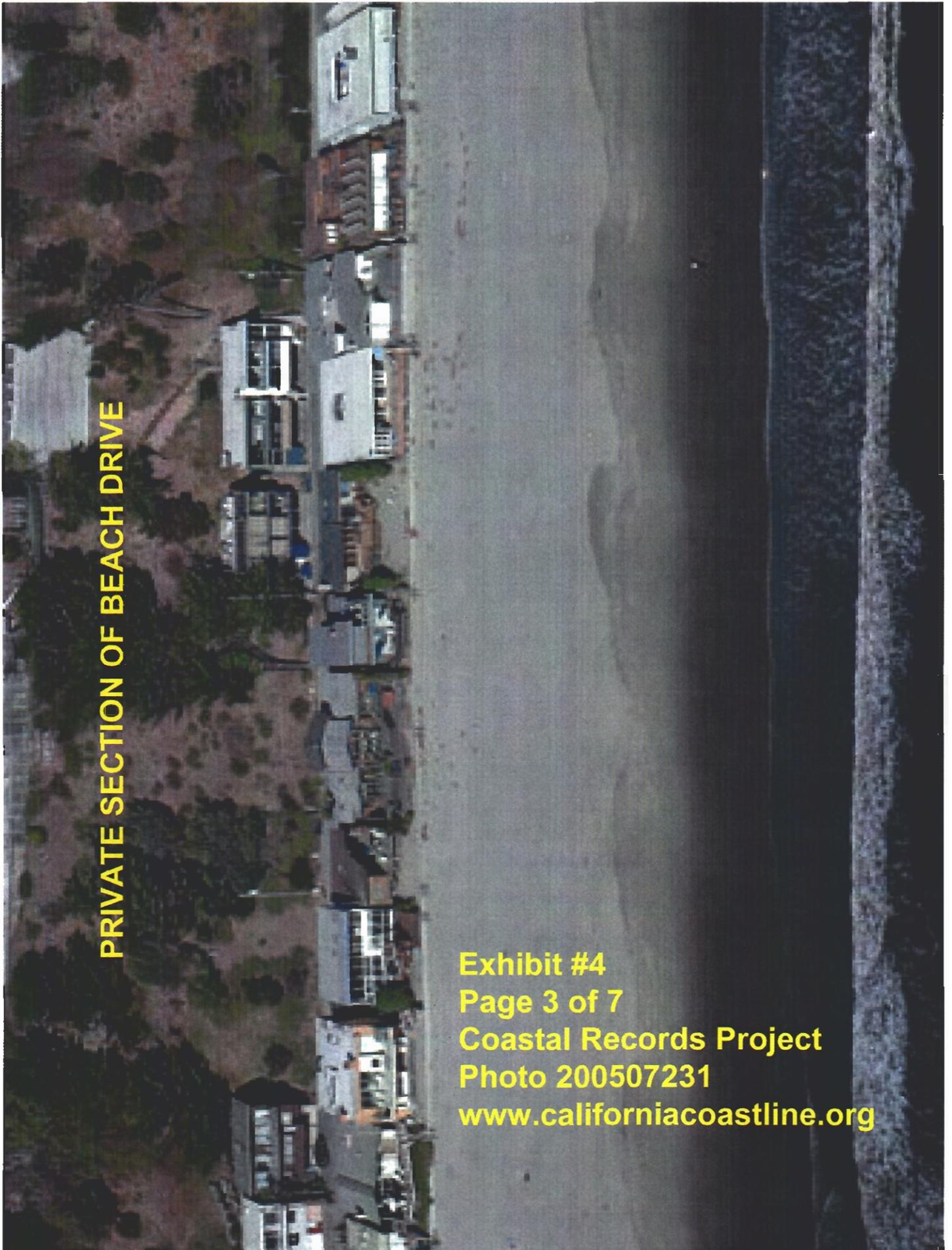


**Exhibit #4
Page 2 of 7
Coastal Records Project
Photo 200507230
www.californiacoastline.org**



PRIVATE SECTION OF BEACH DRIVE

**Exhibit #4
Page 3 of 7
Coastal Records Project
Photo 200507231
www.californiacoastline.org**

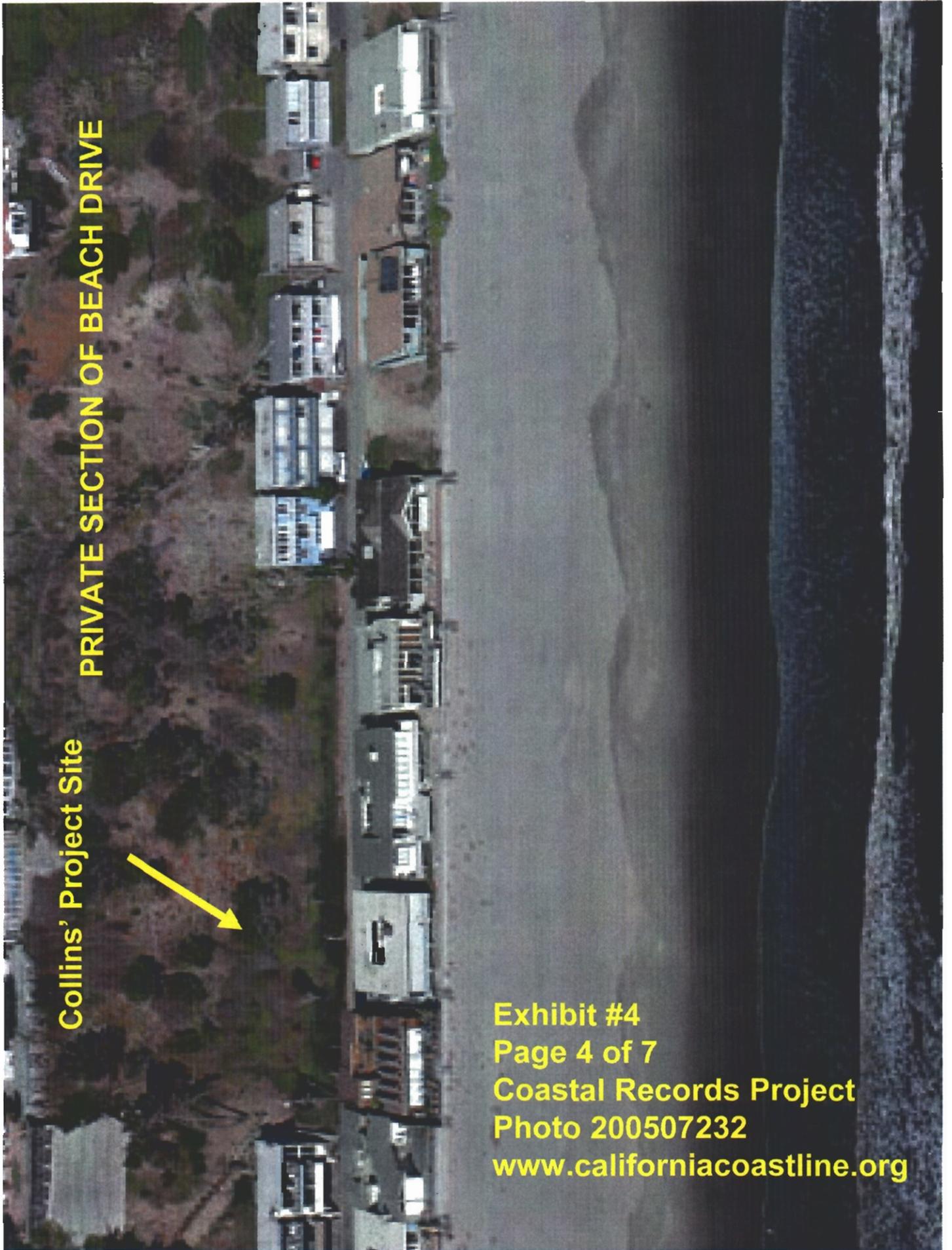


Collins' Project Site



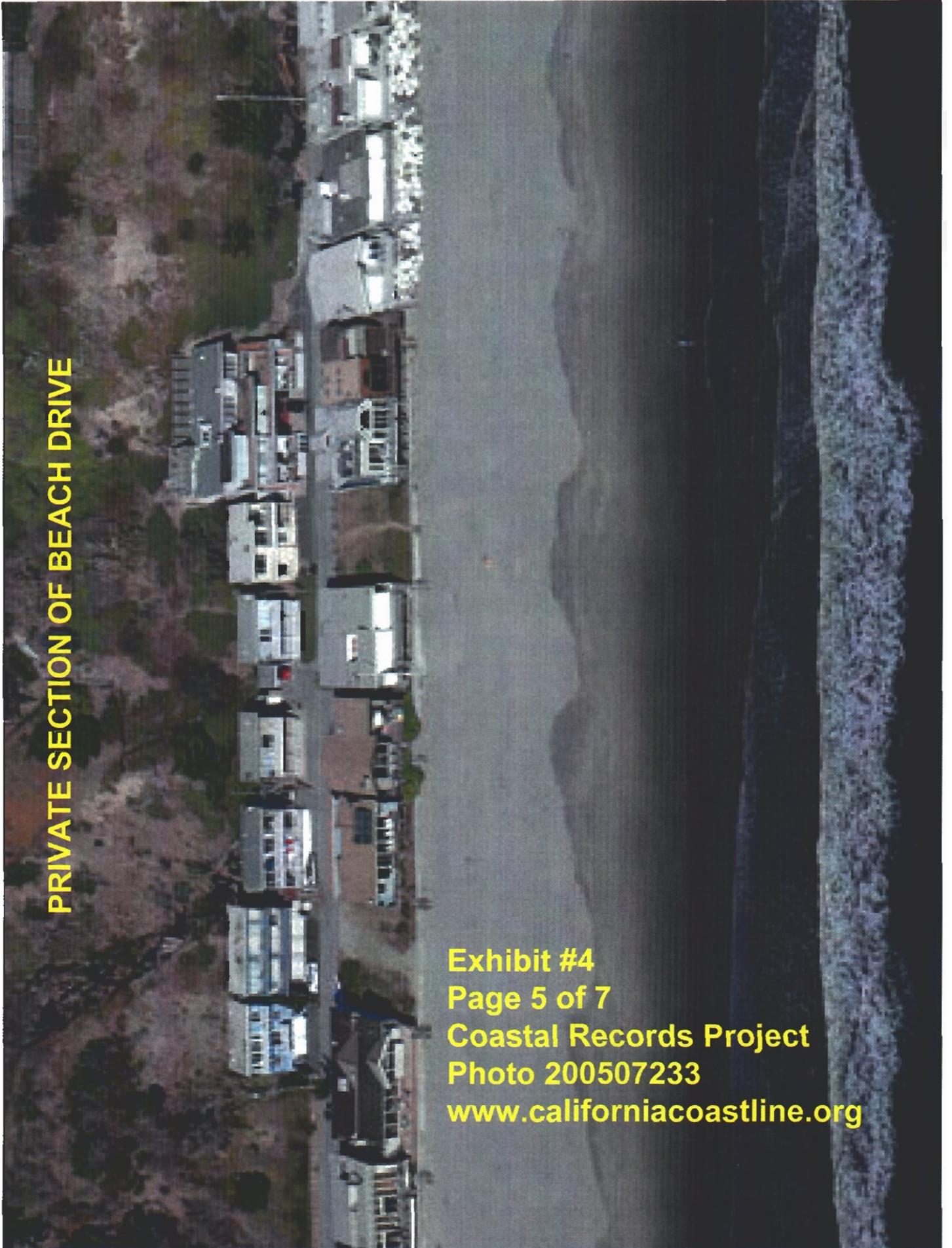
PRIVATE SECTION OF BEACH DRIVE

**Exhibit #4
Page 4 of 7
Coastal Records Project
Photo 200507232
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PRIVATE SECTION OF BEACH DRIVE

**Exhibit #4
Page 5 of 7
Coastal Records Project
Photo 200507233
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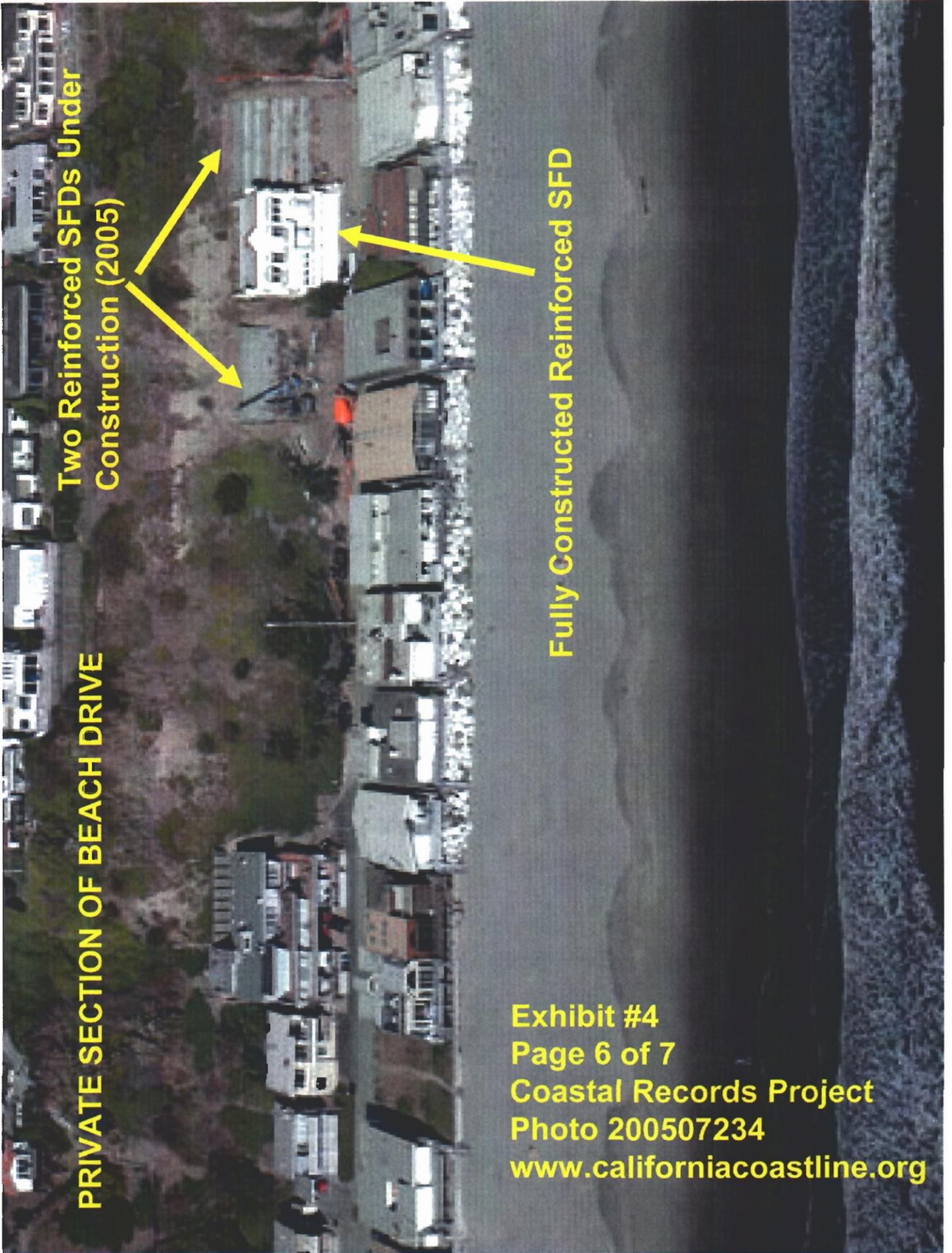


PRIVATE SECTION OF BEACH DRIVE

Two Reinforced SFDs Under Construction (2005)

Fully Constructed Reinforced SFD

**Exhibit #4
Page 6 of 7
Coastal Records Project
Photo 200507234
www.californiacoastline.org**



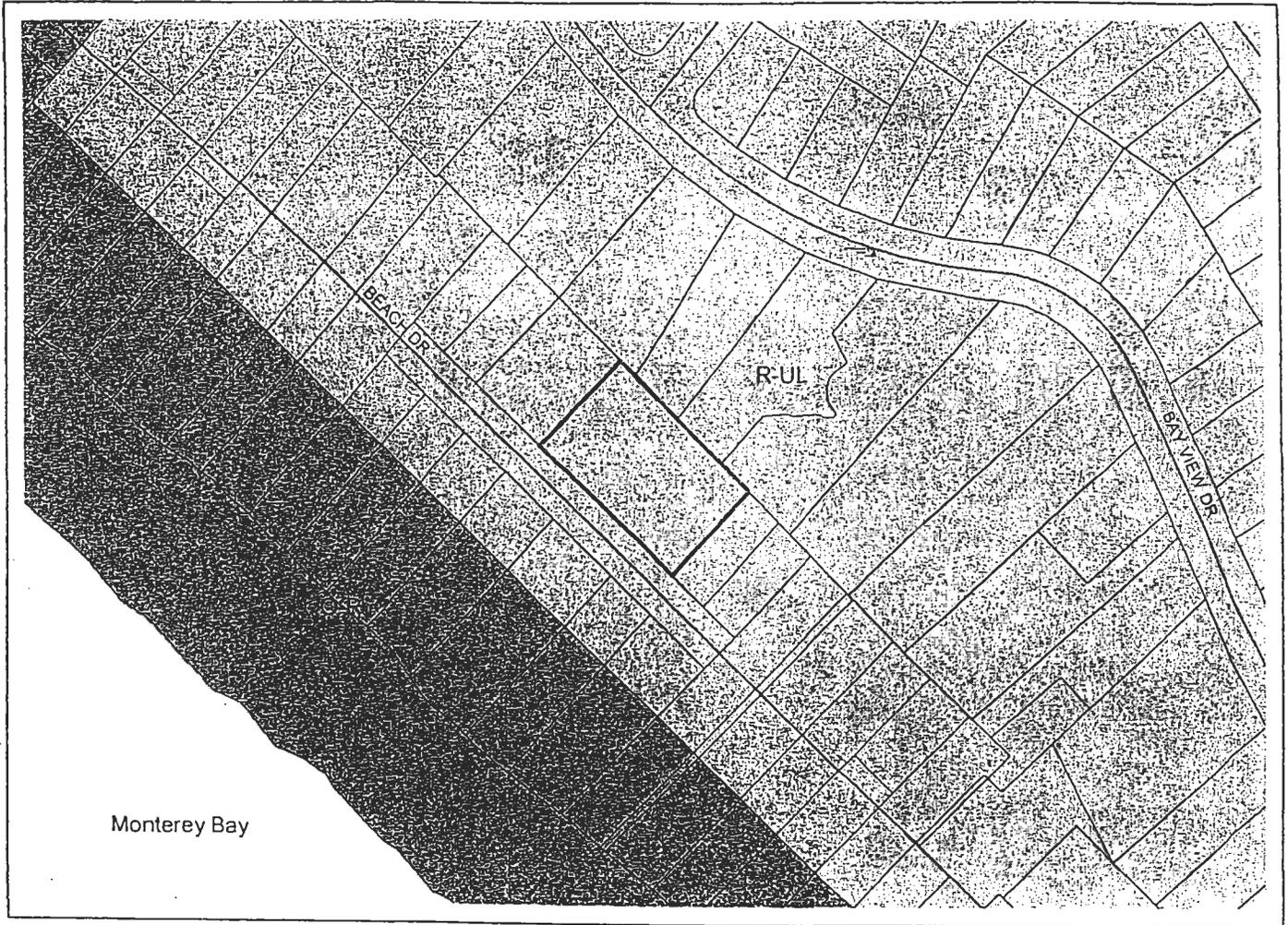
END OF BEACH DRIVE

A Reinforced SFD is Currently Under Construction at this Site (2007)



**Exhibit #4
Page 7 of 7
Coastal Records Project
Photo 200507235
www.californiacoastline.org**

General Plan Map



Monterey Bay



CCC Exhibit 6
 (page ~~1~~ of ~~1~~ pages)



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 Initial Study
 ATTACHMENT 3
 APPLICATION 04-0255

CALIFORNIA COASTAL COMMISSION

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



20 November 2006

GEOTECHNICAL REVIEW MEMORANDUM

To: Susan Craig, Coastal Program Analyst
From: Mark Johnson, Staff Geologist
Re: Appeal A-3-SCO-06-059 (Collins)

In regard to the above-referenced appeal, I have reviewed the following documents:

- 1) Nielson and Associates 2004, "Geologic investigation for two proposed single family homesites, 546 and 548 Beach Drive, Rio Del Mar, Assessors Parcel Numbers 043-152-55 and 56, Santa Cruz County, California", 34 p. Geologic report dated 20 February 2004 and signed by H. Nielsen (CEG 1390).
- 2) Haro, Kasunich and Associates 2004, "Geotechnical investigation, two proposed blufftoe residences for APN 043-152-55 & 56, 546 & 548 Beach Drive, Santa Cruz County, California", 58 p. geotechnical report prepared for Mike and Debbie Collins dated 17 March 2004 and signed by R. L. Parks (GE 2603).
- 3) Buchanan Engineering 2004, "Plan review, Collins/Wenger residence, 548 Beach Drive, Aptos, CA 95003, APN 043-152-56", 1 p. review letter dated 25 May 2004 and signed by J. Buchanan (CE 41841), Jr.
- 4) Haro, Kasunich and Associates 2004, "Geotechnical plan review of architectural layout, proposed blufftoe residence, APN 043-152-56, 548 Beach Drive, Santa Cruz County, California", 2 p. review letter dated 26 May 2004 and signed by R. L. Parks (GE 2603).
- 5) Nielson and Associates 2004, "Plan review for a proposed new single family house, 548 Beach Drive, Santa Cruz County, California, APN 43-152-56", 2 p. review letter dated 14 June 2004 and signed by H. Nielsen (CEG 1390).
- 6) County of Santa Cruz Planning Department 2004, "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", 2 p. geotechnical review letter dated 9 August 2004 and signed by J. Hanna (CEG 1313).
- 7) Jim Mosgrove, Architect 2004, "Application No. 04-0255m A.P.N. 043-152-56, Engineering geologic report and geotechnical report reviews", 2 p. response letter dated 29 October 2004 and signed by J. Mosgrove.
- 8) Nielson and Associates 2004, "Response to County Geologist's comments in a letter dates 9 August 2004 regarding our geologic report for the property, and our comments regarding our review of a set of plans for a new single family home for parcel 56, 548

Exhibit #7
A-3-SCO-06-059
Page 1 of 6

- Beach Drive, Santa Cruz County, California, APN 43-152-56", 4 p. response letter dated 31 October 2004 and signed by H. Nielsen (CEG 1390).
- 9) Buchanan Engineering 2004, "Response to County of Santa Cruz geologist letter, Application 04-0255, APN 043-152-56", 2 p. letter dated 5 November 2004 and signed by J. Buchanan (CE 41841), Jr.
 - 10) Nielson and Associates 2006, "Response to findings of denial by the Santa Cruz County Planning Department at the request of the Planning Commission, 548 Beach Drive, Santa Cruz County, California, APN 43-152-71", 2 p. response letter dated 6 June 2006 and signed by H. Nielsen (CEG 1390).
 - 11) Haro, Kasunich and Associates 2006, "Geotechnical response to denial findings, proposed blufftoe residence, APN 043-152-56, 548 Beach Drive, Santa Cruz County, California", 2 p. response letter dated 21 June 2006 and signed by R. L. Parks (GE 2603).
 - 12) Cotton, Shires and Associates 2006, "Proposed Beach Drive residential development, Aptos, California", 6 p. memorandum dated 22 June 2006, dated 10 August 2006 and signed by J. Wallace (CEG 1923).
 - 13) Nielson and Associates 2006, "Comments and response to a letter prepared by John Wallace of Cotton, Shires and Associates dated 10 August 2006, 548 Beach Drive, Santa Cruz County, California, APN 43-152-71", 4 p. response letter dated 21 August 2006 and signed by H. Nielsen (CEG 1390).
 - 14) Haro, Kasunich and Associates 2006, "Geotechnical summary of proposed residential development, proposed Collins residence, 548 Beach Drive, APN 043-152-56, Santa Cruz County, California, Application number: 04-0255", 6 p. geotechnical letter report dated 21 August 2006 and signed by R. L. Parks (GE 2603).
 - 15) County of Santa Cruz Planning Department 2006, "Application 04-0255; APN 043-152-71 [sic]", 2 p. geotechnical review Memorandum dated 31 August 2006 and signed by J. Hanna (CEG 1313)

In addition, I met with the project architect, Jim Mosgrove, and geotechnical engineer, Rick Parks, at the site on 16 November 2006.

The site consists almost entirely of a steeply sloping coastal bluff some 107 feet high consisting of poorly consolidated marine terrace deposits and poorly consolidated sandy materials mapped as the Purisima Formation. This bluff, and its off-site extension upcoast and downcoast from the subject site, have a long history of landsliding and debris flows. Reference (2) contains quantitative slope stability analyses evaluating the static and seismic stability of the slope at the subject site for a variety of conditions. These analyses suggest that three types of slope failures are likely in the future: 1) circular failures confined to the terrace deposits at the top of the slope, 2) relatively deep-seated translational failures during a seismic event, and 3) a somewhat thinner translational failure resulting from saturation of the bluff materials during rainfall events. These analyses make use of soil strength parameters from relatively undisturbed samples collected at nearby sites with similar geologic conditions to the subject site. Assuming that these types of landslides are inevitable, reference (2) provides peak impact forces and debris volumes associated with each type of failure. It is my understanding that the structural engineer will use these peak impact forces and volumes to design a structure that will be able to

both sustain the expected impact forces (with a suitable factor of safety) as well as be able to store and sustain landslide debris on its roof. I concur that the failure mechanisms and volumes are supported by the geologic evidence, that the seismic design parameters are conservative, and that if the structure is adequately designed to resist these forces that it will assure the safety and security of the inhabitants. References (3), (4), and (5), indicate that the design provided by the architect is consistent with the recommendations of the geologist, geotechnical engineer, and structural engineer.

The Commission's staff engineer is best suited to evaluate the adequacy of the structural design of this "bunker-style" residence. I note, however, that the design makes use of a caisson foundation system drilled a minimum 10 feet into undisturbed bedrock, and cantilevered and tied-back retaining walls to support the back- and side-slopes of the residence. I concur with the contention, made in references (2), (11), and (14), that when construction is complete, the tied-back retaining walls that are part of the design of the structure will serve to strengthen the slope and will actually tend to reduce the risk of deep-seated landslides at the site.

The County's staff geologist had several relatively minor questions and concerns, expressed in reference (6). These issues were addressed, in my opinion satisfactorily, in references (7), (8), and (9).

The opponents to the project raised several objections to the proposed project on geologic grounds, leading to the Planning Commission's denial of the project. These objections were later formalized in reference (12); the applicants' response to these issues can be found in references (10), (11), (13), and (14). The County's staff geologist also responded to these issues in reference (15), recommending approval of the project on appeal. I will now summarize the salient objections raised by the opponents, the applicants' and County geologist's response, and my evaluation of the merit of the objections raised in reference (12).

Contention 1: Road closures caused by flooding and/or landslides, lack of secondary access, and high density housing combine to place increasing numbers of people at risk from flooding, tsunami, landslide, debris flow, and fire hazards.

There is no question that the development along Beach Drive is subject to an unusually high number of geologic and other hazards, and is a challenging place to establish safe development. The applicants' geologist and engineers have, in my opinion, mitigated these hazards by proposing a design that places the finished grade of the first inhabited floor above the FEMA-defined 100-year flood elevation, and is designed to survive impact and burial by debris flows and landslides. I concur that a large tsunami may have greater impact than the 100-year flood, but it is difficult to justify designing a single family residence for such rare, albeit high-impact, events as major tsunamis. Likewise, clustering of development may tend to increase fire risk, but at the same time is generally preferable to allowing sprawl with its attendant land-use impacts. Finally, despite its hazardous location, the site is a privately-owned parcel that can be developed in a manner to mitigate the natural and artificial hazards to which it is subject. The development will in no way increase the risk of road closure, and may to some degree help prevent road closures caused by landslides due to the increased

stability that the project will lend to the hillside once complete, and the storage capacity of the roof for retaining debris from a large landslide (one sufficient to overtop the debris wall).

Contention 2a: The proposed development is exposed to an unacceptable level of risk due to potential slope failures, including the presence of a fissure directly upslope opened by the 1989 Loma Prieta Earthquake.

Again, there is no doubt that the slope on the site is unstable or only marginally stable and will undoubtedly suffer slope failures in the future. The proposed structure is designed to accommodate slope failure.

Contention 2b: The project geologist misidentified the formational materials making up the bluff and the slope stability analyses based on this information therefore are suspect.

The appellants' geologist contends that the lower portion of the bluff is made up of the Aromas Formation, whereas the project geologist identifies this material as the Purisima Formation (as identified on published geologic maps). The project geologist responded to the appellants' contention by stating, in reference (13) that "research geologists in the 1970's" determined on fossil evidence that these rocks are marine and too old to be the Aromas Formation. No references or data are provided, however, and I have been unable to confirm this assertion. I also was unable to locate any outcrops in the field, and did not have access to boring materials. I do note, however, that the boring logs in reference (1) generally characterize this material as loose sand, silty sand, with occasional gravel and clay. Although this description is more typical of the Aromas Formation than the Purisima Formation, it is quite possible that, as the project geologist contends, this is an unusual portion of the Purisima Formation that is much less cemented than is typical.

The appellants' geologist contends that the identification of the formation is important because the Aromas Formation tends to be composed of unconsolidated or weakly cemented sand, whereas the Purisima Formation generally is much stronger. Although this is generally true, the identification of the correct geologic unit is unimportant from an engineering geologic viewpoint. What is important is adequately characterizing its strength. It is my opinion that reference (2) makes use of appropriate strength parameters for the materials described in the geologic borings.

Contention 2c: It is highly unusual to see this 'duck-and-cover' approach to mitigation.

I concur that hazard avoidance is generally preferable to hazard mitigation, and that such "bunker" construction is rarely employed to mitigate for slope instability. This is at least partly because of the great expense with engineering this type of solution. However, I concur with the applicants that, although unusual, this engineering solution does indeed mitigate the hazard. It has been applied elsewhere on Beach Drive and is, in

fact, required by the County for any new construction on the landward side of Beach Drive. It is true that this engineering approach has substantial environmental impacts, especially the level of alteration of natural landforms along bluffs and cliffs. However, the hazards that this privately-owned parcel are subject to can safely be mitigated in a manner consistent with the LCP.

Contention 3: The proposed project is exposed to an unacceptable level of risk.

I concur that the development will be subject to considerable risk, and that unacknowledged errors in defining the geologic conditions, in engineering, or in construction will certainly place the inhabitants at greater risk than they may realize. However, it is my opinion that the hazards have been identified, characterized and mitigated to an adequate degree. In addition, the County conditioned its approval to require the owners to record a Declaration of Geologic Hazards on the property deed (Condition of Approval II.K.).

Contention 4: The proposed project places others at risk by deflecting landslide debris to the sides

The applicants' geologist states that since the landslide hazard is not mitigated, slope failures can run out around the structure and impact other structures or persons on the road below. A corollary to this contention is found in the Planning Commission's denial findings, which state, in part, that "the 'landslide containment wall' on the roof of the proposed residence may result in increased potential for structural damage and debris deflection during large slide vents. 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." I, however, concur with the applicants' geologist and engineers in that this wall mostly will be effective only in smaller debris flow and slide events, and will prevent material from covering the roof during such small events. Material will, indeed, be deflected to the sides, but the 25 foot minimum side-yard setback should be adequate to keep this material from impacting adjacent houses. In larger landslide events, the wall will be overtopped and the roof of the structure will serve as a storage area for the slide debris.

Contention 5: The proposed project places an undue burden on the governing body due to maintenance requirements, emergency response, and risk of litigation.

This contention does not deal directly with Coastal Act issues. The primary governing body, the County of Santa Cruz, has accepted any burden placed on it by the project by granting the permit. As stated above, the County required that the owners record a Declaration of Geologic Hazards on the property deed.

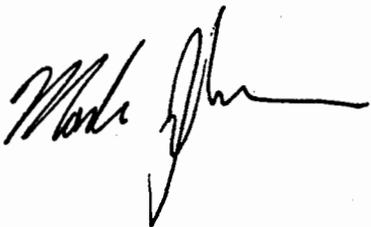
Exhibit #7 A-3-SCO-06-059 Page 5 of 6

Additional contention from Planning Commission's findings of denial: The project will result in slope instability during excavation due to the length of the cut into the coastal bluff for construction of the shoring and rear wall.

I agree that the excavation of the backcut into the marginally stable coastal bluff for the retaining wall(s) and for the sidecuts will be a dangerous operation. I agree with reference (11), however, that the length of the backcut is less important than the extent of the mass removed at any one time. The removal of material at the base of the slope will remove resisting forces from the bluff, and could result in slope failure if those resisting forces are not replaced in some way. That is the purpose of the tied-back retaining wall. In fact, once complete, the resisting forces will be greater than they are in the natural condition. However, the process of excavation has the potential to destabilize the slope. This is a common situation for construction on steep slopes, and appropriate precautions have become standard practice in the industry. As described in reference (11), these include excavating the backcut from the top down, under dry weather conditions, in 5-foot increments, and ensuring that tiebacks are installed and tensioned prior to excavating the next 5-foot increment.

In summary, it is my opinion that this site can only be safely developed by extensive mitigation, including the use of a design to both support the slope and bear the impact and weight of the worst conceivable landslide event. Further, the habitable space must be elevated above the 100-year flood level, and great care must be taken during construction so as not to destabilize the slope. Clearly, hazard avoidance would be preferable to mitigating the hazard by landform alteration and engineering efforts. However, this parcel can be developed safely within the parameters of the LCP.

Sincerely,



Mark Johnsson, Ph.D., CEG, CHG
Staff Geologist

Exhibit #7
A-3-SCO-06-059
Page 6 of 6

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
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FAX (415) 904-5400



20 February 2007

GEOTECHNICAL REVIEW MEMORANDUM

To: Susan Craig, Coastal Program Analyst
From: Mark Johnsson, Staff Geologist
Re: Appeal A-3-SCO-06-059 (Collins)

In regard to the above referenced appeal, I have reviewed my memo of 20 November 2006. I have received no additional information since I prepared that memo, and have no reason to believe that conditions on the ground have changed. Accordingly my review and recommendations of 20 November 2006 remain valid.

You have asked if, in my opinion, reducing the size of the residence from three stories to two would lower the risk of landslide or debris flow, either during construction, or in the built-out condition. Although it is true that a lower backcut at the base of an unstable slope normally would afford greater stability, in this case the backcut is to be excavated incrementally in five foot intervals, concomitantly with the construction of tied-back retaining walls. In my opinion, little if any additional security would be attained by limiting the finished extent of the backcut given this construction sequence. Furthermore, once constructed, a higher retaining wall will actually afford *greater* stability than a lower one. Finally, part of the security that adjacent residences are afforded against deflected smaller debris flows comes from the relatively wide sideyard setbacks in the proposed development. If these sideyard setbacks are reduced in an effort to regain living space lost from a reduction in height, the security afforded by the sideyard setbacks would be reduced.

I hope that this review is helpful. Please do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Johnsson".

Mark Johnsson, Ph.D., CEG, CHG
Staff Geologist

Exhibit #8
A-3-SCO-06-059
Page 1 of 1

CALIFORNIA COASTAL COMMISSION

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20 November 2006

To: Susan Craig, Coastal Program Analyst
From: Lesley Ewing, Sr. Coastal Engineer
Re: Appeal A-3-SCO-06-059 (Collins)

In regard to the above-referenced project, Dr. Johnsson and I were provided with the same materials. In the interest of time, I have reproduced below the document list provided by Dr. Johnsson in a separate memo relating to his Geotechnical review. I have not had the opportunity to do a site visit, but have examined photos of this site from the California Coastal Records Project and Google Earth. While these do not substitute for a site visit, they do provide a visual context for the provided site material.

- 1) Nielson and Associates 2004, "Geologic investigation for two proposed single family homesites, 546 and 548 Beach Drive, Rio Del Mar, Assessors Parcel Numbers 043-152-55 and 56, Santa Cruz County, California", 34 p. Geologic report dated 20 February 2004 and signed by H. Nielsen (CEG 1390).
- 2) Haro, Kasunich and Associates 2004, "Geotechnical investigation, two proposed blufftoe residences for APN 043-152-55 & 56, 546 & 548 Beach Drive, Santa Cruz County, California", 58 p. geotechnical report prepared for Mike and Debbie Collins dated 17 March 2004 and signed by R. L. Parks (GE 2603).
- 3) Buchanan Engineering 2004, "Plan review, Collins/Wenger residence, 548 Beach Drive, Aptos, CA 95003, APN 043-152-56", 1 p. review letter dated 25 May 2004 and signed by J. Buchanan (CE 41841), Jr.
- 4) Haro, Kasunich and Associates 2004, "Geotechnical plan review of architectural layout, proposed blufftoe residence, APN 043-152-56, 548 Beach Drive, Santa Cruz County, California", 2 p. review letter dated 26 May 2004 and signed by R. L. Parks (GE 2603).
- 5) Nielson and Associates 2004, "Plan review for a proposed new single family house, 548 Beach Drive, Santa Cruz County, California, APN 43-152-56", 2 p. review letter dated 14 June 2004 and signed by H. Nielsen (CEG 1390).

Exhibit #9
A-3-SCO-06-059
Page 1 of 3

- 6) County of Santa Cruz Planning Department 2004, "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", 2 p. geotechnical review letter dated 9 August 2004 and signed by J. Hanna (CEG 1313).
- 7) Jim Mosgrove, Architect 2004, "Application No. 04-0255m A.P.N. 043-152-56, Engineering geologic report and geotechnical report reviews", 2 p. response letter dated 29 October 2004 and signed by J. Mosgrove.
- 8) Nielson and Associates 2004, "Response to County Geologist's comments in a letter dates 9 August 2004 regarding our geologic report for the property, and our comments regarding our review of a set of plans for a new single family home for parcel 56, 548 Beach Drive, Santa Cruz County, California, APN 43-152-56", 4 p. response letter dated 31 October 2004 and signed by H. Nielsen (CEG 1390).
- 9) Buchanan Engineering 2004, "Response to County of Santa Cruz geologist letter, Application 04-0255, APN 043-152-56", 2 p. letter dated 5 November 2004 and signed by J. Buchanan (CE 41841), Jr.
- 10) Nielson and Associates 2006, "Response to findings of denial by the Santa Cruz County Planning Department at the request of the Planning Commission, 548 Beach Drive, Santa Cruz County, California, APN 43-152-71", 2 p. response letter dated 6 June 2006 and signed by H. Nielsen (CEG 1390).
- 11) Haro, Kasunich and Associates 2006, "Geotechnical response to denial findings, proposed blufftoe residence, APN 043-152-56, 548 Beach Drive, Santa Cruz County, California", 2 p. response letter dated 21 June 2006 and signed by R. L. Parks (GE 2603).
- 12) Cotton, Shires and Associates 2006, "Proposed Beach Drive residential development, Aptos, California", 6 p. memorandum dated 22 June 2006, redated 10 August 2006 and signed by J. Wallace (CEG 1923).
- 13) Nielson and Associates 2006, "Comments and response to a letter prepared by John Wallace of Cotton, Shires and Associates dated 10 August 2006, 548 Beach Drive, Santa Cruz County, California, APN 43-152-71", 4 p. response letter dated 21 August 2006 and signed by H. Nielsen (CEG 1390).
- 14) Haro, Kasunich and Associates 2006, "Geotechnical summary of proposed residential development, proposed Collins residence, 548 Beach Drive, APN 043-152-56, Santa Cruz County, California, Application

number: 04-0255", 6 p. geotechnical letter report dated 21 August 2006 and signed by R. L. Parks (GE 2603).

- 15) County of Santa Cruz Planning Department 2006, "Application 04-0255; APN 043-152-71 [sic]", 2 p. geotechnical review Memorandum dated 31 August 2006 and signed by J. Hanna (CEG 1313)

The proposed development site is an area of high hazard. Concerns have been raised for both flooding and landslide concerns. The Geotechnical Investigation (Haro, Kasunich and Associates, Inc. March 2004) outlines the major issues related to the safe development of this site, provides appropriate impact loads for use in the design of the small debris wall as well as the structural elements of the residence. In addition the Geotechnical Report provides 39 recommendations for preparing the project plans and specifications.

The Geotechnical Report notes that 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 to this [i.e. the Geotechnical Investigation] report. This is a somewhat misleading since the project design necessitates attention to significant landslide hazards and those hazards have a high probability of occurrence during the time the structures are occupied. The design of the structures is based upon the need to withstand and survive a landslide event – not something that is part of most ordinary risk for single family homes.

The level of risk posed by the site is reflected in the 39 recommendations that are included in the Geotechnical Report and the 8 recommendations that are included in the Geologic Investigation (February 2004) by Nielsen and Associates. These recommendations, *in toto*, are important for the safe construction and occupation of the proposed development. The County Permit was conditioned to require that the final plans reference and incorporate all these recommendations. Only with these recommendations is it possible to find that these proposed new developments can be generally safe and able to meet the requirements of Section 30253 of the California Coastal Act. The proposed development will not be safe from all hazards, but the development should be able to withstand the foreseeable threats from landslides, earthquakes and flooding without collapse or structural failure. Even with the inclusion of all the recommendations, an assumption of risk condition would be an appropriate condition for this development, given the hazardous nature of the sites and the general environment.

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13 February 2007

TO: Susan Craig, Coastal Program Analyst
FROM: Lesley Ewing, Coastal Engineer
SUBJECT: Collins House (Appeal A-3-SCO-06-059)

The main issues with respect to this development revolve around the dual concerns of flooding and landslide risk. Those issues were raised by the Commission during the Appeal hearing and since that hearing, you have asked whether a smaller home would provide a more safe development. As I noted in my earlier memo:

The level of risk posed by the site is reflected in the 39 recommendations that are included in the Geotechnical Report and the 8 recommendations that are included in the Geologic Investigation (February 2004) by Nielsen and Associates. These recommendations, *in toto*, are important for the safe construction and occupation of the proposed development. The County Permit was conditioned to require that the final plans reference and incorporate all of these recommendations. Only with these recommendations is it possible to find that the proposed new development can be generally safe and able to meet the requirements of Section 30253 of the California Coastal Act. The proposed development will not be safe from all hazards, but the development should be able to withstand the foreseeable threats from landslides, earthquakes and flooding without collapse or structural failure. Even with the inclusion of all the recommendations, an assumption of risk condition would be an appropriate condition for this development, given the hazardous nature of the sites and the general environment.

The Commission has now taken this permit on appeal. Separate and apart from the issue of whether a different sized house would be safer, if homes on these sites are approved, it will be important that the Commission require all the conditions that were part of the County's permit effort.

With respect to safety, there are two separate concerns – making the slope more stable so there will be lesser threat of landsliding for the property owners and the neighbors, and making the proposed home safe. For the first issue, the more of the slide material that can be removed safely during construction, the safer the site will be later. There are safety issues with the landslide remediation and there are risks of triggering a landslide while removing the slide material. Dr. Johnsson addressed that concern in his 20 November 2006 memo, stating:

I agree that the excavation of the backcut into the marginally stable coastal bluff for the retaining wall(s) and for the sidecuts will be a dangerous operation. I agree

Exhibit #10
A-3-SCO-06-059
Page 1 of 2

with reference (11), however, that the length of the backcut is less important than the extent of the mass removed at any one time. The removal of material at the base of the slope will remove resisting forces from the bluff, and could result in slope failure if those resisting forces are not replaced in some way. That is the purpose of the tied-back retaining wall. In fact, once complete, the resisting forces will be greater than they are in the natural condition. However, the process of excavation has the potential to destabilize the slope. This is a common situation for construction on steep slopes, and appropriate precautions have become standard practice in the industry. As described in reference (11), these include excavating the backcut from the top down, under dry weather conditions, in 5-foot increments, and ensuring that tiebacks are installed and tensioned prior to excavating the next 5-foot increment.

The second safety issue is for the Collins family -- that they will survive in their home if there is a slide of whatever material remains. That is the reason for the bunker fortification and massive roof and walls. We've seen only the concept plans and we normally do not get anything but concept plans at this stage. It is possible to build either a two story or three story home (with the first story elevated above the flood elevation) that will be safe during the slide and that will not collapse. Also, the safe buildability does not change greatly if the house is two or three stories.