Staff Report to the Zoning Administrator

Application Number: 07-0449

Applicant: Matson Britton Architects
Owner: Stephen & Cheryl Maruyama
APN: 043-152-25

Agenda Date: May 2, 2008
Agenda Item #: 1
Time: After 10:00 a.m.

Project Description: Proposal to demolish an existing single family residence and construct a replacement 2-story single family residence. Requires a Coastal Development Permit, a Variance to increase the height limit from 17 feet to 21 feet, a Variance for two stories on the beach side of Beach Drive (RB zone district limits the number of stories to one on the beach side), and a Residential Development Permit for a wall between 3 and 6 feet in height within the required ten foot front yard setback.

Location: Property located on the beach side of Beach Drive past the entry gate at 620 Beach Drive in the Aptos.

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

Permits Required: Coastal Development Permit; Variance to increase from one story to two stories in the RB zone district; Variance to increase the allowed height limit from 17 feet to 21 feet in the RB zone district; Residential Development Permit for a wall over three feet within the required front yard setback.
Technical Reviews: Geotechnical Investigation and Engineering Geology Report Reviews

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 07-0449, based on the attached findings and conditions.

Exhibits

A.	Project plans	I.	Printout of discretionary application comments including email, dated 3/04/08 and 9/17/07 respectively
B.	Findings		
C.	Conditions		
D.	Categorical Exemption (CEQA determination)	J.	Urban Designer comments, dated 9/18/07
E.	Assessor's parcel map	K.	Geotechnical and Engineering Geology Report review letter, dated 8/29/07
F.	Zoning & General Plan map		
G.	Location Map		
H.	Photo-simulations by ArchiGraphics	L.	Excerpt of Recommendations from

Engineering Geology Report prepared by Zinn Geology, dated 8/09/07 (report on file).

M. Excerpt of Discussions, Conclusions and Recommendations from Geotech. Report prepared by Pacific Crest Engineers, dated 8/16/07 (report on file).

N. Comments & Correspondence

Parcel Information

Parcel Size:	11,812 square feet (does not include 5'easement)
Existing Land Use - Parcel:	Residential-Single Family Dwelling
Existing Land Use - Surrounding:	Residential-Single Family Dwelling
Project Access:	Beach Drive
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 VE (Wave run-up hazard zone)
Soils:	109 Beach sand (soils map index number 109)
Fire Hazard:	Not a mapped constraint
Slopes:	N/A
Env. Sen. Habitat:	Not mapped/no physical evidence on site
Grading:	No grading proposed
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

History

The subject parcel contains a one story single family residence that was constructed in 1966. The property has received two reroof building permits, one in 1993 and the other in 1996.

Project Setting

The subject property is located on the beach along Beach Drive at 620 Beach Drive. The portion of Beach Drive where the parcel is located contains homes on the beach side of Beach Drive that consist of single and two story homes. Due to the location of the site on the beach across from the coastal bluff, the site is subject to landslide and coastal flood hazards. The lot is essentially level with an approximately 5 foot high seawall separating the site from the open beach. A three foot right-of-way exists immediately downcoast of the project and a five foot easement exists immediately upcoast of the project.

Zoning & General Plan Consistency

The subject property is an 11,812 square foot lot, located in the RB (Ocean Beach Residential) zone district, a designation that allows residential uses. The proposed Single Family Dwelling is a principal permitted use within the zone district and the project is consistent with the site's (R-UL) Urban Low Density Residential General Plan designation.

The site is located in the Federal Emergency Management Agency (FEMA) flood zone-V due to coastal flood hazards from wave run-up. Structures in this area are required to be elevated above the base flood elevation of 21 feet mean sea level. These flood elevation requirements conflict with the height requirements and number of stories of the RB zone district, which limit the maximum height of structures to only 17 feet in height and one story. Therefore, all new construction must obtain a variance to the 17 foot height limit and number of stories, as a habitable floor can not be constructed to meet FEMA elevation requirements and be under 17 feet in height. Homes granted the variance to meet FEMA regulations are two stories, but only one habitable story. Most houses on the beach side of Beach Drive were constructed prior to the implementation of FEMA flood elevation requirements and are one-story, including the existing house. If and when the existing one-story houses are re-constructed or replaced, they will also be required to comply with FEMA flood elevation requirements and will be two stories like the neighboring property upcoast that is currently under construction.

Zoning Issues

The project site is zoned RB (Ocean Beach Residential), and a single-family residence is a principal permitted use subject to the coastal regulations and the issuance of a Coastal Development Permit. The RB zone district has unique site standards, as outlined in the following table:

	RB Zone District Standard	Proposed
Front yard setback	10'	20'
Side yard setbacks	0' & 5'	5' & 5'
Rear yard setback	10'	About 100'
Maximum height	17' on beach side	21'*
Maximum % lot coverage	40%	22.9%
Maximum % Floor Area Ratio	50%	36.5%
Number of stories	One	Two*

* Variance requested to increase the maximum height to 21 feet and two stories due to FEMA flood elevation requirements, see Variance Issues, below.

The project complies with all RB site standards with the exception of the maximum height limit, and number of stories, for which a variance is requested due to FEMA flood elevation requirements. The floor area ratio will be at 22.9%, mainly due to the elevation requirements that mandate a non-habitable first floor of more than 7 ½ feet in height.

The house is a three-bedroom residence, requiring three off-street parking spaces. The proposed garage is sufficient for two and the driveway apron can accommodate two additional parking spaces. The County's off street parking standards (Section 13.10.554) requires that parking areas, aisles and access drives together shall not occupy more than 50% of the required front yard setback area for any residential use. The proposal complies with these standards in that less than 50% of the front yard will be devoted to parking areas, aisles and access drives.

Residential Development Permit

The proposal includes a five foot six inch concrete wall and wood gate within the required ten (10) foot front yard setback. This requires a Residential Development Permit for a fence/wall over three feet high within the required front yard setback. The Department of Public Works, Road Engineering does not recommend over height walls and gates within the front yard setback (Exhibit I). The adjacent homes in the vicinity do not have walls or fences over three feet within the front yard setback, nor are they common on Beach Drive. In addition, there are no circumstances such as a busy street in front of the home that support the need for this wall. A condition of approval requires revising plans to lower the wall to three feet or move it back, outside the front yard setback.

Local Coastal Program Consistency

The General Plan Designation for this parcel is Urban Low Residential (R-UL), a designation that permits residential uses. The RB zone district implements this General Plan/Local Coastal Program land use designation.

The property is located within a mapped scenic area. The purpose of General Plan Objective 5.10b New Development within Visual Resource Areas 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. General Plan/LCP policy 5.10.7 allows structures, which would be visible from a public beach, where compatible with existing development. In this case, the subject lot is located within a row of developed residential beach properties, and is consistent with General Plan policies for residential infill development. The proposed dwelling structure will integrate with the built environment along Beach Drive by incorporating the use of two shades of yellow stucco, cherry stained wood, and slate tile. The height of the dwelling is proposed at about 21 feet, more than the 17-foot height limit for the RB zone district on the beach, but of a comparable height to the adjacent 22 foot dwelling at 618 Beach Drive currently under construction. As the area is redeveloped, other new and replacements houses will be required to comply with the FEMA flood elevation requirements, and will be of a similar height to the proposed residence.

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 residence is proposes to use stucco, wood, and slate tile.

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, potential 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 beach or coastal bluff erosion within existing developed neighborhoods where a technical report demonstrates that the potential hazards can be mitigated over the 100-year lifetime of the structure. Coastal hazards at this property are mitigated in part by an existing seawall, which extends the entire length of the private section of Beach Drive. The project incorporates flood elevation and break-away walls, which are expected to provide protection from landslide hazards and storm events within the 100-year life span of the structure. The project is located on the beach side of the property, which is subject to less significant landslide hazards than locating directly at the base of the coastal bluff.

Design Review

The site is a sensitive site as defined in the Design Review Ordinance (Chapter 13.11) due to its location on an open beach, and therefore, is subject to Design Review. The proposed single family dwelling has been designed to be compatible with the existing development in the area, including the adjacent upcoast single family dwelling that is currently under construction. The architecture along this section of Beach Drive is generally boxy, one to three story designs, using wood siding or stucco exterior finishes. Most homes have rear yard decks and large windows facing the beach. These homes predate the FEMA flood regulations and many predate zoning regulations. Nearly all of the homes in the neighborhood have flat roofs. As proposed, the exterior of the home will be stucco, similar to newer homes, including the adjacent home under construction upcoast. The proposed yellow color scheme for the stucco is not similar to other homes in the neighborhood. In general, the proposed materials reflect those of the newer homes in this neighborhood. The proposed structure is appropriately sized to the size of the parcel given the flood elevation constraints. The design has been reviewed by the County Urban Designer and has received a positive design review, as it is compatible with the goals of the County's Design Review regulations.

Conclusion

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

Staff Recommendation

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

- **APPROVAL** of Application Number **07-0449,** based on the attached findings and conditions.

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

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

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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, in that a single-family dwelling is a principal permitted use in the "RB" (Single Family Residential Beach) zone district according to a density of one dwelling per parcel and one dwelling is proposed. The "RB" 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. The parcel contains two easements, however, the development will not conflict with five-foot easement upcoast or the three foot right of way downcoast. At this time, it is not clear whether the three-foot right of way immediately downcoast is a pedestrian easement. This question is being clarified by the title company. There is a condition of approval that clarification must be completed prior to a building permit being issued should it be found that it is a pedestrian easement, all obstructions, including the gate and wall, will not be constructed. The Beach Drive right-of-way crosses the front of the subject parcel, but will not be blocked. With this condition, the proposed dwelling will not affect public access, as public access is available just outside of the Beach Drive gate.

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.

This finding can be made, in that the 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 structure is proposing minimal grading, is visually compatible with the character of the surrounding urban residential neighborhood with the exception of the proposed colors for the stucco, and includes mitigations for the geologic and coastal hazards which may occur within its' expected 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. There are no existing special landscape features on the site. The architecture is complementary to the existing pattern of boxy, two story development with large windows and will blend with the built environment and future development. The structure is flood elevated, two stories and will not exceed 21 feet in height. This height is consistent with some of the existing older development while conforming to flood elevation requirements.

While it is located on the beach, the proposed dwelling is located between two existing dwellings and, therefore, does not extend development into a currently undeveloped area of the beach.

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.

This finding can be made, in that the public access to the beach is located northwest of the parcel on Beach Drive at the State Parks parking lot located before the gate for the private section of Beach Drive. The proposed dwelling will not interfere with public access to the beach, ocean, or any nearby body of water, as it will not encroach into any existing coastal access easements, including the 5 foot and 3 foot easements immediately adjacent to the site for use by Beach Drive residents. 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.

This finding can be made, in that a single family dwelling is a principal permitted use in the RB (Single Family Residential) zone district, with the issuance of a coastal zone permit. 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. Any structure placed in proximity to the cliff face would be vulnerable to damage or destruction from the expected landsliding, requiring extraordinary engineering and structural design measures to mitigate these hazards. Sufficient distance between the base of the bluff and the proposed residence exists to result in significantly lower debris volumes and velocity at the building site. 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. A Geologic report and a geotechnical report have been prepared for this project evaluating the hazards and mitigations (Exhibit L and M). These reports have been reviewed and accepted by the County Geologist (Exhibit K). The proposed structure will be engineered to withstand landslide impacts on the structural elements of the lower floor. The lower floor will utilize materials, which will function as break-away walls in a storm surge or landslide event. There is an existing seawall on the subject parcel, which extends to the parcels on either side and for the entire length of the private section of Beach Drive. The dwelling will be elevated with no habitable portions under 21 feet above mean sea level, in accordance with FEMA, the County General Plan policies and Chapter 16.10 of the County Code for development within the 100-year wave hazard or V-zone. Thus, the proposed development is consistent with this General Plan policy.

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 within a row of developed residential beach properties. As discussed above, the proposed beach building site minimizes potential geologic hazards. This location is consistent with coastal design and viewshed protection policies, in that the beach site is located between existing structures and does not extend the built environment into an undisturbed stretch of beach. Thus, the project is also consistent with General Plan policies for residential infill development. The proposed dwelling will integrate with the built environment along Beach Drive. The height of the dwelling will be 21 feet, which exceeds the 17-foot height limit for the RB zone district on the beach. However, as discussed in the Variance Findings, it is not possible to construct a single family dwelling at this site meeting both the zone

district height and story requirements and the FEMA flood elevation requirements. The height, as conditioned, is consistent with most of the existing two-story beach residences, including the immediately adjacent home currently under construction home of a similar design at 618 Beach Drive (approved under Coastal Development Permit and Variance 06-0083). General Plan/LCP policies 8.6.5 and 8.6.6 require that development be complementary with the natural environment, which the proposal does by using materials such as stucco, chosen to blend with the natural landforms.

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 and under identical zoning classification.

This finding can be made, in that the building site is within the coastal flood hazard area. Due to coastal flood hazards and debris flows associated with the coastal bluff across Beach Drive, the structure must be elevated above the expected 100-year coastal inundation level of 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 hazards associated with wave impact, flooding and landslides. Due to the elevation of the existing grade at approximately 14.8 feet, the FEMA flood elevation requirements mean that the entire ground floor cannot function as a residence, and any habitable space must be located on a second story. The zone district requirement allowing a maximum one-story dwelling would essentially preclude a residential use on this lot.

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

This finding can be made, in that compliance with the recommendations and construction methods required by the geologic and geotechnical studies, which require the granting of the variances, are intended to ensure public health, safety and welfare, and they will not 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 walls and garage doors. No mechanical, electrical or plumbing equipment shall be installed below the base flood elevation. The dwelling will be engineered to withstand debris impacts from landslides on the structural members of the lower floor. Furthermore, the proposed dwelling is an infill project located between existing residences and will not extend development into an undeveloped stretch of beach.

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

This finding can be made, in that recently approved and constructed homes on Beach Drive have

all obtained variances to increase the maximum number of stories and, in the case of the new adjacent house at 618 Beach Drive (constructed under permit and variance 06-0083), to increase the maximum height limit and number of stories on the beach side of Beach Drive. Any new residence on a beach side RB zoned lot would need Variances to the height and one-story requirements in order to meet FEMA flood elevation requirements. Due to the FEMA flood elevation requirements unique to this property's location on a beach and subject to coastal inundation, the strict application of the 17-foot height and one-story requirements would deprive the property owner of privileges enjoyed by other properties in the area, specifically a single family dwelling on lot of record.

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 can be made, in that the proposed project complies with all development regulation applicable to the site with the exception of the maximum height (17 feet) and maximum number of stories (1), for which Variances are being sought. Geologic and geotechnical reports have been completed for this project analyzing coastal flood and landslide 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 lower story will utilize break-away doors to minimize structural damage from wave action and landslide debris impacts.

Construction will comply with prevailing building technology, the Uniform Building Code, and the County Building ordinance, the geologic and soils engineering reports and recommendations to insure the optimum in safety and the conservation of energy and resources. An engineered foundation is required in order to anchor the dwelling in the event of a landslide impact, to found the structure in an appropriate substrate and 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.

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

This finding can be made, in that the proposed dwelling and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the RB zone district, in that the project will result in the construction of one single-family dwelling. The project will comply with all RB zone district site standards, with the exception of the one-story limitation and the 17 foot height limit, for which Variance findings can be made. As conditioned, the dwelling will be constructed subject to an acceptable level of risk for public health and safety, and will allow adequate light, air and open space to adjacent neighbors. The design of the proposed single-family dwelling is consistent with that of the

surrounding neighborhood, and is sited and designed to be visually compatible and integrated with the character of surrounding neighborhoods, and by that 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 to three-stories, with a wood or stucco exteriors, large expanses of windows and mostly flat roofs. The proposed materials and architecture will harmonize 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 Development Permit Finding #1, geologic and soils reports have been prepared evaluating the coastal hazards and the landslide and coastal flooding hazards 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, the project is consistent with the County's Coastal Regulations (Chapter 13.20).

This finding can not be made, in that the location of the proposed fence will not be compatible with the visual neighborhood character of the surrounding neighborhood in which there are no other fences greater than three feet in height front along the roadside in the vicinity. The fence is an allowed ancillary use in the RB zone district as the primary use of the property will be residential, however, it must be no more than three feet tall within the front yard setback or up to six feet tall outside of the front yard setback. A condition of approval has been included that requires the plans be revised to lower the wall to three feet within the front yard setback or move it back, outside of the front yard setback

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

This finding can be made, in that there will be no increase in traffic and utility usage, as the project is a replacement single-family dwelling in an urbanized neighborhood with adequate utilities and a road network capable of accommodating the traffic from a replacement unit. The dwelling will have four bedrooms and adequate off-street parking will be provided.

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

This finding can be made, in that all General Plan/LCP policies have been met in the proposed location of the project, the hazard mitigations, and the required conditions of this permit, as addressed in Coastal Development Permit Finding 5, above. The design of the single-family dwelling is consistent with that of the surrounding neighborhood, and is sited and designed to be visually compatible and integrated with the character of surrounding neighborhoods and to minimize exposure to geologic hazards. The dwelling will not block public vistas to the public beach. Although the dwelling is visible from the public beach, it is infill development that will blend with the built environment. General Plan/LCP policies 8.6.5 and 8.6.6 require that development be complementary with the natural environment, which the proposal does by using materials such as stucco and wood to blend with the natural landforms.

There is no specific plan for this area of Rio del Mar/Aptos.

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

This finding can be made for the home, in that the proposed project will result in a home of a similar size and mass to other homes in the neighborhood, and will be sited and designed to be visually compatible and integrated with the character of the surrounding neighborhood along the beach. The bulk, mass, and scale of the residence will be similar to the adjacent home on the beach at 618 Beach Drive, currently under construction, which was designed to comply with FEMA flood elevation requirements.

This finding can not be made for the proposed fence and gate, in that the proposed fence will not be compatible with the visual character of the neighborhood due to its height, design, and location as fences or walls over three feet within the front yard setback are not common on Beach Drive. A condition has been included to revise the plans to include a fence of similar height and design outside of the ten foot front yard setback, or one of no more than three feet in height within the front yard setback.

Conditions of Approval

Exhibit A: Project plans, eight sheets, prepared by Mattson Britton Architects, dated 2/6/08.
Project plans, one sheet, prepared by Dunbar & Craig Surveyors, dated 4/2007.

I. This permit authorizes the construction of a three bedroom 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 Demolition Permit from the Santa Cruz County Building Official.

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

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 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 and color of exterior materials and roof covering as approved by the Zoning Administrator. This color board must be in 8.5" x 11" format.

2. Exterior elevations identifying finish materials and colors. All windows facing the beach shall utilize non-reflective glazing materials.

3. Submit a title report or grant deed for approval by staff, which clearly indicates if the three foot right-of-way is a pedestrian easement. No obstructions are allowed including the gate and wall if found to be a pedestrian easement.

4. Revise plans to lower the wall to three feet within the front yard setback or move it back, outside of the front yard setback.

4. Provide an engineered grading plan. The plan must show all drainage improvements including the existing direction of surface drainage. The plan must be approved by the engineering geologist, geotechnical engineer and architect before submittal to County.

5. 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. Maximum height is 21-feet.

6. The space below the lowest habitable floor shall either be free of obstructions or constructed with non-supporting breakaway walls intended to collapse under wind and water loads without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system.

7. The use of fill for structural support of buildings, including the parking slab, is prohibited. Plans shall show no fill to be placed beneath the slab per Coastal Construction Manual section 6.4.3.3 and County Code section 16.10.070(h)5(vii).

8. Site grading shall not result in ponding or diversion of drainage toward other homes.

9. Utilities shall not be located within breakaway walls. All utilities below the base flood elevation shall be mounted on structural components only.

10. The parking slab shall be a maximum of 4 inches thick and shall be non-structural. Concrete slab shall be designed to break apart upon impact from storm surges.

11. The lowest structural member of the lowest floor and all elements that function as part as part of the structure must be elevated above base flood elevation.

12. The foundation and structure attached thereto shall be anchored to prevent flotation, collapse and lateral movement due to the effect of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have one percent chance of being equaled or exceeded in any given year.

13. The project engineer or architect must indicate on the plans that the project will comply with all FEMA regulations.

14. All windows shall be made of non-reflective glass.

15. Please note that if the three foot right-of-way is found to be a pedestrian easement, you may be required to remove the gate and wall along the three foot easement if the fence and walls are approved.

C. 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.

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

F. Provide required off-street parking for three 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.

G. 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.

H. 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.

I. The project architect or engineer shall sign a certification prepared by the County Planning Department that indicates that the plans comply with all FEMA regulations.

J. Plan review letters shall be required from the soils engineer and project geologist stating that the plans conform to the recommendations in the accepted reports.

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

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

B. All inspections required by the building permit shall be completed to the

satisfaction of the County Building Official.

C. Final letters shall be submitted from the soils engineer and project geologist stating that the completed project conforms to their recommendations.

D. The architect or engineer shall sign a certification form prepared by the County Planning Department stating that the completed project meets all requirements of FEMA for development within the V zone.

E. 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.

IV. Prior to Site Disturbance and during construction:

A. 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.

B. Dust suppression techniques shall be included as part of the construction plans and implemented during construction.

C. 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.

D. Prior to subfloor 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.**

F. The applicant shall designate a disturbance coordinator and a 24-hour contact number shall be conspicuously posted on the job site. The disturbance coordinator shall record the name, phone number, and nature of all complaints received regarding the construction site. The disturbance coordinator shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

G. Limit all construction to the time between 8:00 am and 5:00 pm weekdays unless

a temporary exception to this time restriction is approved in advance by County Planning to address and emergency situation; and

V. Operational Conditions

A. 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.

IV. 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.

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

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

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Don Bussey	Maria Perez
Deputy Zoning Administrator	Project Planner

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

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

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

Application Number: 07-0449
Assessor Parcel Number: 043-152-25
Project Location: 620 Beach Drive

Project Description: Proposal to demolish an existing single family residence and construct a replacement 2-story single family residence. Requires a Coastal Development Permit, a Variance to increase the height limit from 17 feet to about 21 feet, a Variance for two stories (one story limit on the beach side of RB zone district) and a Residential Development Permit for a wall over three feet in height within the required front yard setback.

Person or Agency Proposing Project: Matton Britton Architects

Contact Phone Number: (831) 475-5334

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

Specify type:

E. __X__ **Categorical Exemption**

Specify type: Class 3 – New Construction or Conversion of Small Structures (Section 15303a)

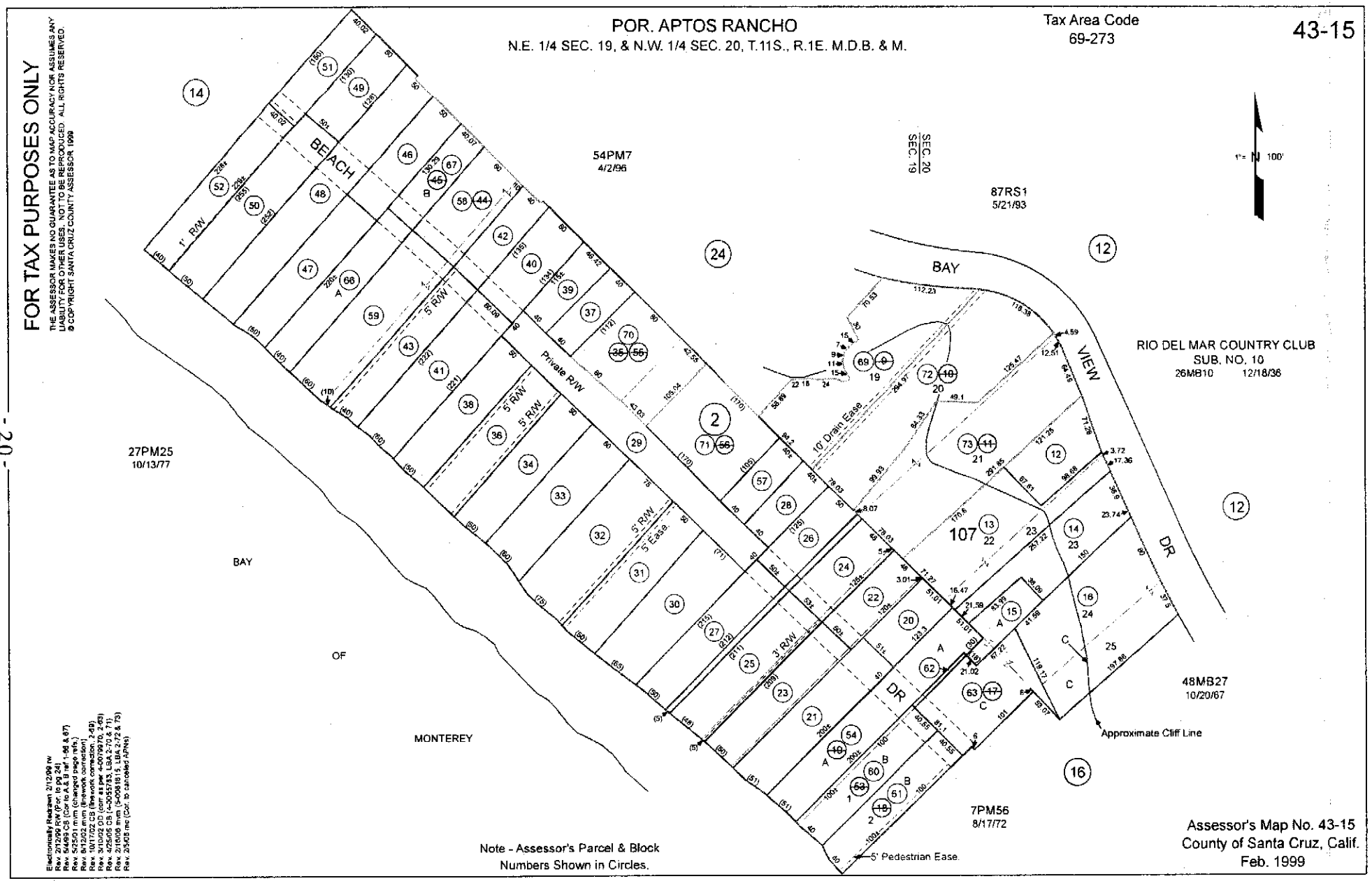
F. Reasons why the project is exempt:

Proposal to construct one single family dwelling.

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

_____ Date: 4/18/08
Maria Perez, Project Planner

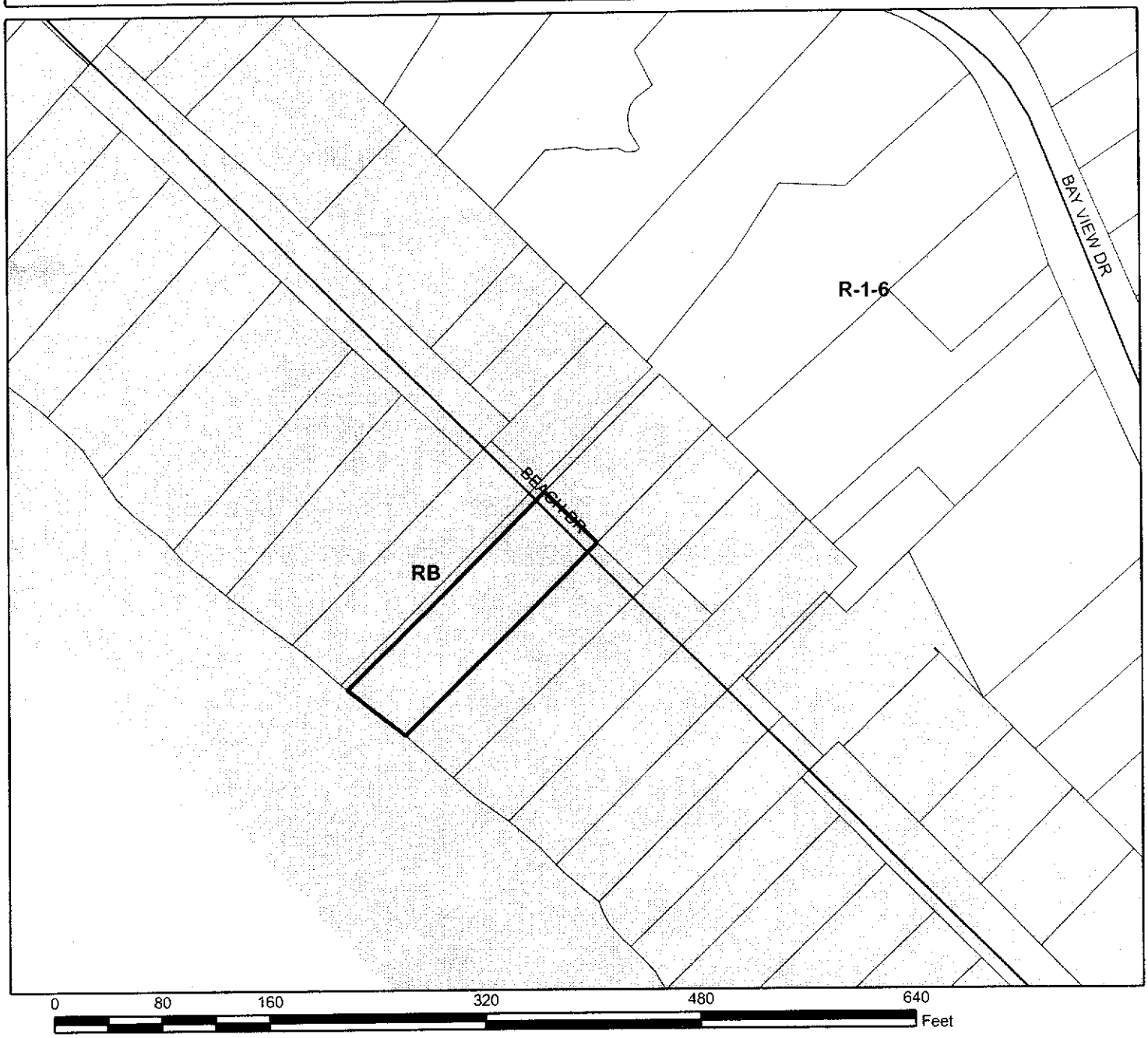
EXHIBIT D


POR. APTOS RANCHO
N.E. 1/4 SEC. 19, & N.W. 1/4 SEC. 20, T.11S., R.1E. M.D.B. & M.
Tax Area Code
69-273
43-15
FOR TAX PURPOSES ONLY
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
© COPYRIGHT SANTA CRUZ COUNTY ASSESSOR 1999
54PM7
4/2/96
87RS1
5/21/93
SEC. 19
SEC. 20
27PM25
10/13/77
BEACH
BAY
OF
MONTEREY
BAY
VIEW
DR
RIO DEL MAR COUNTRY CLUB
SUB. NO. 10
26MB10 12/18/36
48MB27
10/20/67
7PM56
8/17/72
Approximate Cliff Line
5' Pedestrian Ease.
10' Drain Ease.
Private R/W
5' R/W
3' R/W
5' Ease.
1" R/W
Note - Assessor's Parcel & Block Numbers Shown in Circles.
Assessor's Map No. 43-15
County of Santa Cruz, Calif.
Feb. 1999

- 20 -

EXHIBIT E

Zoning Map



LEGEND

- APN: 043-152-25
- Assessors Parcels
- Streets
- RESIDENTIAL-OCEAN BEACH
- RESIDENTIAL-SINGLE FAMILY

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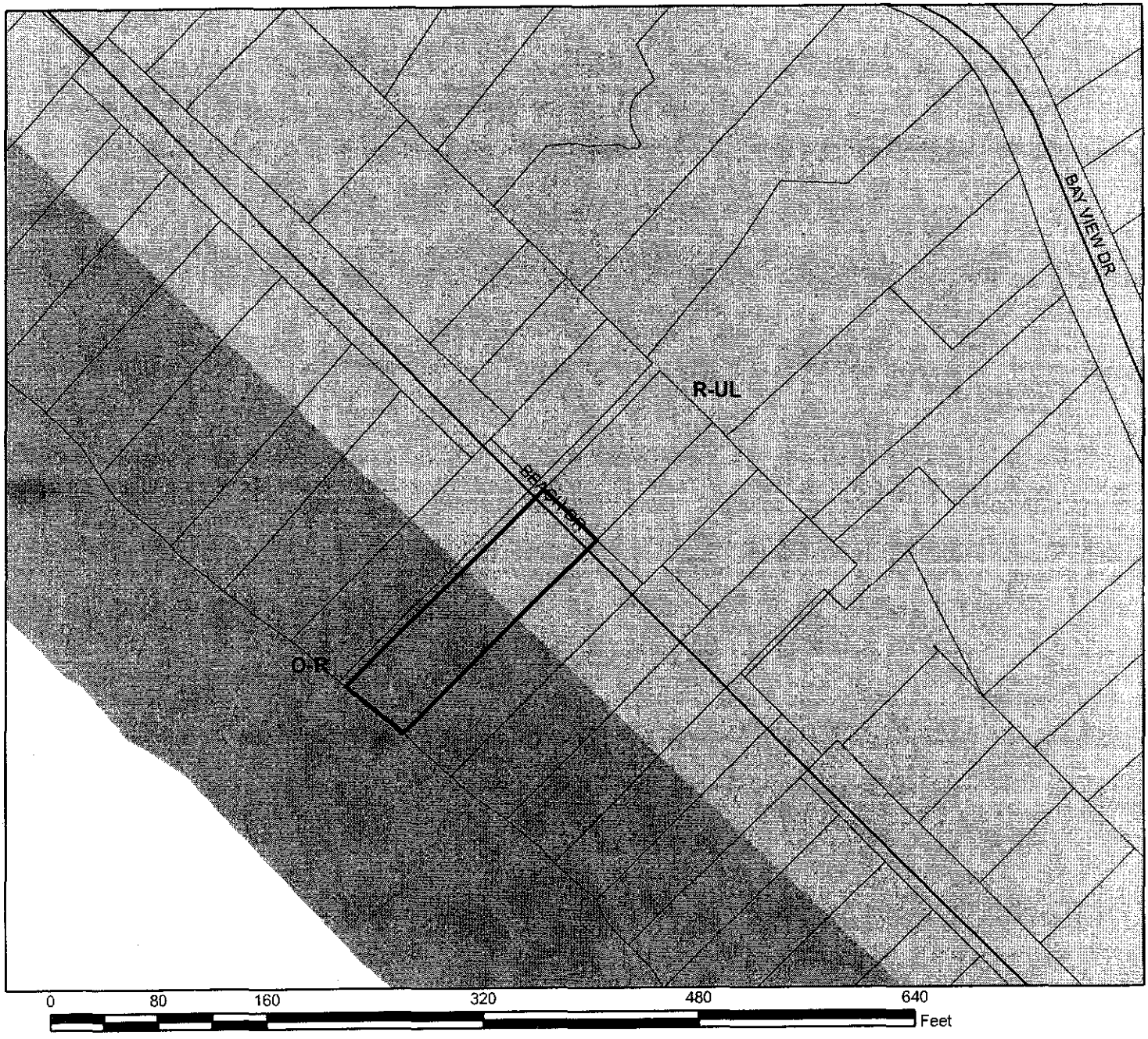
W E
S

Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT

General Plan Designation Map



LEGEND

- APN: 043-152-25
- Assessors Parcels
- Streets
- Residential - Urban Low Density
- Parks and Recreation

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Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT

Location Map

LEGEND

- APN: 043-152-25
- Assessors Parcels
- Streets
- County Boundary

N
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Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT G

MARUYAMA RESIDENCE

View from Beach Drive
(Includes massing model of approved neighboring residence under construction)

Matson Britton Architects
Rendering: ArchiGraphics

EXHIBIT H

MARUYAMA RESIDENCE

View from Ocean
(Includes massing model of approved neighboring residence under construction)

Matson Britton Architects
Rendering: ArchiGraphics

EXHIBIT H

Environmental Planning Completeness Comments

========= REVIEW ON SEPTEMBER 4, 2007 BY JOSEPH L HANNA =========
Geotechnical engineering and engineering geology reports accepted August 30, 2007.
========= UPDATED ON SEPTEMBER 17, 2007 BY ANTONELLA GENTILE =========
1. Revise sheets P5 and P6 and include foundation plans to meet criteria oulined in sections 16.10.070(h)5. (iii), (iv), and (vi) of the County Code.

2. Submit a letter from the civil engineer or architect stating that the plans are in conformance with FEMA regulations for development in the Coastal High Hazard Area.

3. Show cross-sections for the house, including existing and proposed grades.

4. All walls below the base flood elevation (BFE), including the proposed fence wall, must meet the requirements in section 16.10.070(h)5.(vi) of the County Code.

5. Submit an engineered grading plan showing all drainage improvements and proposed grading. Demonstrate that the new grading will not block the flow of existing drainage.

6. The proposed dwelling, including deck and stairs, cannot be located seaward of the existing home, unless an addendum to the geology report from the geologist is submitted for formal review that conforms with section 16.10.070(h)5.(i) of the County Code.

7. Per item 6 in the technical report acceptance letter from Joe Hanna dated 8/29/07, submit a short description of the tsunami hazards that may affect the property, prepared by the project geologist. Please refer to the letter for specific requirements.

8. Plan review letters will be required from the soils engineer and the project geologist, once the final plans have been approved. ========= UPDATED ON DECEMBER 10, 2007 BY ANTONELLA GENTILE =========
The following comments reference the above item numbers and applicant's responses to those items:

1. Foundation plans are required at this time. The plans must show whether or not construction of the slab for the storage area and garage will require additional grading or redirect or block the flow of existing drainage. See comment 1 above for more information.

2. A letter is required at this time from the architect stating that the preliminary plans are in conformance with FEMA regulations. See comment 2 above for more information.

3. Show existing and proposed (if applicable) grades and foundation improvements on cross-sections.

4. Requirement noted on plans. See miscellaneous comments.

EXHIBIT I

5. Engineered grading plan is required at this time to show any grading that will be required and ensure that existing drainage patterns will not be affected. See comment 5 above for more information.

6. Comment addressed.

7. Comment addressed.

8. Plan review letters will be required during building permit application phase.See miscellaneous comments. ========= UPDATED ON MARCH 3, 2008 BY ANTONELLA GENTILE =========
Project is complete per Environmental Planning requirements.

Environmental Planning Miscellaneous Comments

========= REVIEW ON SEPTEMBER 4, 2007 BY JOSEPH L HANNA ========= Condition: Provide engineered grading plan with building permit. The plan must show all drainage improvements including the existing direction of surface drainage. Plan must be approved by engineering geologist, geotechnical engineer, and architect before submittal to County.
========= UPDATED ON SEPTEMBER 17, 2007 BY ANTONELLA GENTILE =========
Conditions: A Declaration of Geologic Hazards will be required to be recorded by the County Recorder's Office prior to building permit final.

An elevation certificate by a licensed surveyor or architect will be required prior to building permit final.

Plan review letters will be required from the geotechnical engineer and the geologist prior to building permit issuance.

Submit an erosion control plan with the building application. ========= UPDATED ON DECEMBER 10, 2007 BY ANTONELLA GENTILE =========
Miscellaneous comments:

If the lower breakaway walls are found to not meet FEMA regulations upon submittal of building plans or upon site inspection, additional discretionary review(s) may be required to meet Zoning requirements.

Changes made after the approval of this permit as required by the soils engineer or project geologist may require additional discretionary review(s) to meet Zoning requirements. ========= UPDATED ON MARCH 3, 2008 BY ANTONELLA GENTILE =========
Conditions:

Building plans must reflect the following requirements:

The lowest structural member of the lowest floor and all elements that function as part of the structure must be elevated above the base flood elevation.

The foundation and structure attached thereto shall be anchored to prevent flotation, collapse and lateral movement due to the effect of wind and water loads acting simutaneously on all building components. Wind and water loading values shall each

have a one percent chance of being equalled or exceeded in any given year.

The project engineer or architect must indicate on the plans that the project will comply with all FEMA regulations.

The space below the lowest floor shall either be free of obstructions or constructed with non-supporting breakaway walls intended to collapse under wind and water loads without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system.

The use of fill for structural support of buildings, including the parking slab, is prohibited. Plans shall show no fill to be placed beneath the slab per Coastal Construction Manual section 6.4.3.3 and County Code section 16.10.070(h)5.(vii).

Site grading shall not result in ponding or diversion of drainage toward other homes.

Provide an engineered grading plan with the building permit application. The plan must show all drainage improvements including the existing direction of surface drainage. The plan must be approved by the engineering geologist, geotechnical engineer, and architect before submittal to County.

Utilities shall not be located within breakaway walls. All utilities below the base flood elevation shall be mounted on structural components only.

The parking slab shall be a maximum of 4 inches thick and shall be non-structural. Concrete slab shall be designed to break apart upon impact from storm surges.

Prior to building permit issuance:

The project architect or engineer shall sign a certification prepared by the County Planning Department that indicates that the plans comply with all FEMA regulations.

Plan review letters shall be required from the soils engineer and project geologist stating that the plans conform to the recommendations in the accepted reports.

A Declaration of Geologic Hazards shall be recorded, and a copy of the recorded *document shall be submitted to Environmental Planning.*

Prior to building permit final:

Final letters shall be submitted from the soils engineer and project geologist stating that the completed project conforms to their recommendations.

The architect or engineer shall sign a certification form prepared by the County Planning Department stating that the completed project meets all requirements of FEMA for development within the V zone.

A completed Elevation Certificate shall be prepared by the architect or engineer and submitted to Environmental Planning.

Dpw Drainage Completeness Comments

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

========= REVIEW ON SEPTEMBER 12, 2007 BY TRAVIS RIEBER ========= Application is complete for the discretionary application stage, see miscellaneous comments for issues to be addressed in the building application.

Dpw Drainage Miscellaneous Comments

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

========= REVIEW ON SEPTEMBER 12, 2007 BY TRAVIS RIEBER =========
1. Show the existing site drainage pattern and any changes as a result of this project.

2. In order for the reviewer to know the storm runoff flow path or direction it is necessary for the applicant to represent on the plans flow directions by the use of lined arrows, contour lines with elev., or spot elevations.

3. All drainage features must be shown on the plans.

4. Please provide a cross section construction detail of the proposed permeable walkways and patio.

5. Does this site currently receive offsite runoff from Beach Drive and upslope areas.

6. What is the 5 foot wide easement along the property line for? Is it a drainage easement? If so show the drainage facilities associated with the easement and show how the proposed project will not adversely impact these facilities.

Note: A drainage fee will be assessed on the net increase in impervious area.

Please call the Dept. of Public Works, Storm Water Management Section, from 8:00 am to 12:00 noon if you have questions.

Dpw Driveway/Encroachment Completeness Comments

========= REVIEW ON NOVEMBER 26, 2007 BY DAVID GARIBOTTI =========
No Comment, project adjacent to a non-County maintained road.

Dpw Driveway/Encroachment Miscellaneous Comments

========= REVIEW ON NOVEMBER 26, 2007 BY DAVID GARIBOTTI =========
No comment.

Dpw Road Engineering Completeness Comments

========= REVIEW ON SEPTEMBER 10, 2007 BY ANWARBEG MIRZA =========

EXHIBIT 1

Completeness Comments:

1. Show the edge of pavement of Beach Drive and its connection with the driveway. The portion of the driveway within the right-of- way shall be paved with 2 inches of asphalt concrete over 6 inches of aggregate base. Please reference the correct figure in the design criteria and show in plan view.

2. The county standard for a concrete driveway is 4 inches of concrete over four inches of sand. Please show this on the plans.

Compliance Comments:

1. An over height fences and gates are not recommended in the front setback.
========= UPDATED ON DECEMBER 4, 2007 BY ANWARBEG MIRZA =========
NO COMMENT

Dpw Road Engineering Miscellaneous Comments

========= REVIEW ON SEPTEMBER 10, 2007 BY ANWARBEG MIRZA =========
1. We do not recommend direct pedestrian access to Beach Dr since there are no pedestrian facilities along Beach Drive. ========= UPDATED ON DECEMBER 4, 2007 BY ANWARBEG MIRZA =========
NO COMMENT

Dpw Sanitation Completeness Comments

========= REVIEW ON SEPTEMBER 5, 2007 BY CARMEN M LOCATELLI =========
Sewer service is currently available.

Dpw Sanitation Miscellaneous Comments

========= REVIEW ON SEPTEMBER 5, 2007 BY CARMEN M LOCATELLI =========
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
Water use data (actual and/or projected), and other information as may be required for this project, must be submitted to the District for review and use in fee determination and waste pretreatment requirements before sewer connection permits can be approved.
Show all existing and proposed plumbing fixtures on floor plans of building application.
Existing lateral(s) must be properly abandoned (including inspection by District) prior to issuance of demolition permit or relocation or disconnection of structure. An abandonment permit for disconnection work must be obtained from the District.

Aptos-La Selva Beach Fire Prot Dist Completeness C

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

========= REVIEW ON OCTOBER 5, 2007 BY ERIN K STOW =========
DEPARTMENT NAME:Aptos/La Selva Fire Dept. APPROVED

EXHIBIT I 4

All Fire Department building requirements and fees will be addressed in the Building Permit phase.
Plan check is based upon plans submitted to this office. Any changes or alterations shall be re-submitted for review prior to construction.

Aptos-La Selva Beach Fire Prot Dist Miscellaneous

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

========== REVIEW ON OCTOBER 5, 2007 BY ERIN K STOW =========
NO COMMENT

EXHIBIT I 4

Maria Perez

From: Debra Locatelli
Sent: Monday, September 17, 2007 4:54 PM
To: Maria Perez
Subject: RE: 07-0449 apn043-152-25

Hi Maria, I'm sorry, I was working on discretionary permits last Friday and realized I passed the deadline on this application, so I didn't comment. I feel very comfortable with Traffic Engineer's comments on this application; no further comment is necessary. If you need for me to but something into the comment screen to that effect, let me know. Thanks, Debbie

P.S. Have a good vacation!

-----Original Message-----
From: Maria Perez
Sent: Monday, September 17, 2007 8:38 AM
To: Debra Locatelli
Subject: 07-0449 apn043-152-25

HI Debbie,

I believe you are reviewing this application. If so, could I please get the comments as soon as possible. I will be on vacation starting on wednesday.
thanks.
x5321

Porcila Perez
Project Planner, Development Review
County of Santa Cruz

EXHIBIT I

COUNTY OF SANTA CRUZ | Planning Department

INTEROFFICE MEMO

APPLICATION NO: 07-0449

Date: September 18, 2007

To: Porcilla Perez, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: Review of new single family residence at 620 Beach Drive, Aptos

COMPLETENESSS ISSUES

- *A photomontage from the beach should be prepared.*

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 mature 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.	✔		

EXHIBIT J

Special landscape features (rock outcroppings, prominent natural landforms, tree groupings) shall be retained.	✔		

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			N/A

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 development in the viewshed			N/A
Building design			
Structures shall be designed to fit the topography of the site with minimal cutting, grading, or filling for construction			N/A

EXHIBIT

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
Large agricultural structures			
The visual impact of large agricultural structures shall be minimized by locating the structure within or near an existing group of buildings			N/A
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).			N/A
The visual impact of large agricultural structures shall be minimized by using landscaping to screen or soften the appearance of the structure			N/A
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 blighted areas shall be in scale with the size of the proposed project			N/A
Signs			
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			N/A

EXHIBIT J 1

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			N/A

Beach Viewsheds			
Blufftop development and landscaping (e.g., decks, patios, structures, trees, shrubs, etc.) in rural areas shall be set back from the bluff edge a sufficient distance to be out of sight from the shoreline, or if infeasible, not visually intrusive			N/A
No new permanent structures on open beaches shall be allowed, except where permitted pursuant to Chapter 16.10 (Geologic Hazards) or Chapter 16.20 (Grading Regulations)	✔		
The design of permitted structures shall minimize visual intrusion, and shall incorporate materials and finishes which harmonize with the character of the area. Natural materials are preferred.	✔		

EXHIBIT J

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 29, 2007

Maston Britton Architects
728 N. Branciforte Avenue
Santa Cruz, CA 95062

Subject: Review of **Geotechnical Investigation** by Pacific Crest Engineers, Dated August 16, 2007; Project No. 0740-SZ70-D58, and, Review of **Engineering Geology Report** by Zinn Geology, Dated August 9, 2007; Project No. 2007008-G-SC

Reference: **APN** **043-152-25**

APPL# **07-0449**

Dear Applicant:

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

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

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

3. Before final inspection, the geotechnical engineer and engineering geologist must confirm in writing that all of the construction complies with the recommendations of the approved reports.

4. An engineering grading plan must be submitted to the County for review and approval along with the Building Permit. The plan must show all drainage improvements, and grading. Demonstrate that the new grading will not block the flow of existing drainage.

5. Before final inspection the project architect, or civil engineering designated by the owner, must confirm in writing that all of the construction complies with the approved plans and the FEMA provisions of the California Building Code as adopted by the County of Santa Cruz as well as the flooding provision of the County Geologic Hazards Code.

EXHIBIT K

6. Before the Public Hearing, the Engineering Geologist must write a short description of the Tsunami Hazards that may affect the property. This description should reference the roles of the Pacific Tsunami Warning Center, the State, County, and property owners in mitigating Tsunami Hazards. The description must provide the owner, the project planner, and the decision makers with an accuarte description of the hazard and current methods of mitigating the hazard.

7. Before building permit issuance *plan review letters* shall be submitted to Environmental Planning. The authors of the reports shall write the *plan review letters*. The letters shall state that the project plans conform to the report's recommendations.

8. A declaration of Geologic Hazard must be recorded before the issuance of the Building Permit.

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

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

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

Sincerely,

Joe Hanna
County Geologist

Kent Edler
Civil Engineer

Cc: Pacific Crest Engineering
Zinn Geology
Stephen and Cheryl Maruyama, 180 Meadow Court, Aptos, CA 95003

Attachment: Declaration of Geologic Hazard

EXHIBIT K

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

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

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

2. **Prior to placing concrete for foundations**, letters from the soils engineer and engineering geologist must be submitted to the building inspector and to Environmental Planning stating that the soils engineer and engineering geology have observed the foundation excavation and that it meets the recommendations of the soils engineering report and engineering geology reports.

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

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

EXHIBIT K

RECORDED AT REQUEST OF:
County of Santa Cruz

WHEN RECORDED MAIL TO:

Santa Cruz County Planning
701 Ocean St.
Santa Cruz, CA 95060

(Space above this line for Recorder's use only)

Note to County Recorder:

Please return to the staff geologist in the Planning Department when completed.

DECLARATION REGARDING THE ISSUANCE OF A DEVELOPMENT PERMIT IN AN AREA SUBJECT TO GEOLOGIC HAZARDS

The undersigned _____ (names of property owners) (does)(do) hereby certify to be the owner(s) of the real property located in the County of Santa Cruz, State of California, commonly known as (street address); legally described in that certain deed recorded in Book _____ on Page _____ of the official records of the Santa Cruz County Recorder on _____ (deed recordation date); Assessor's Parcel Numbers _____.

And, acknowledge that records and reports, filed with the Santa Cruz County Planning Department, indicates that the above described property is located within an area that is subject to geologic hazards, to wit:

The subject property is located on a beach and is subject to coastal erosion, liquefaction, flooding, tsunami, and other related hazards. To mitigate these hazards the engineering geology firm Zinn Geology in their report dated August 9, 2007, and the Geotechnical Engineering firm of Pacific Crest Engineering Inc. in their report dated August 16, 2007, recommend the raising of home to above the FEMA base flood elevation among other mitigations. Please consult their reports for the specific recommendations. These reports are on file with the application 07-0449.

The proposed home will be subject to intense ground shaking.

In addition, having full understanding of said hazards, and the proposed mitigations of these hazards, (I) (We) elect to pursue development activities in an area subject to geologic hazards, and do hereby agree to release the County from any liability, consequences arising from the issuance of the development permit, and will continue to maintain the mitigations to assure the protection of the home.

EXHIBIT K

This Declaration shall run with the land and shall be binding upon the undersigned, any future owners, encumbrances, their successors, heirs or assignees. This document must be disclosed to the foregoing individuals. This Declaration may not be altered or removed from the records of the County Recorder without the prior consent of the Planning Director of the County of Santa Cruz.

OWNER: _____ OWNER: _____
Signature Signature

OWNER: _____ OWNER: _____
Signature Signature

ALL SIGNATURES ARE TO BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC. IF A CORPORATION, THE CORPORATE FORM OF ACKNOWLEDGEMENT SHALL BE USED.

STATE OF CALIFORNIA, COUNTY OF SANTA CRUZ ss

On _____ before me _____, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____
Notary Public in and for said County and State

EXHIBIT K

damaged during the construction of deep foundations such as piers. There is no reliable method of which we aware that can be used to forecast the exact geometry of the anchors in advance of drawing the plans, particularly because they are concealed by the rip-rap revetment and the existing residence.

RECOMMENDATIONS

1. A wave force analysis should be performed by the project geotechnical engineer for the subject property in order to evaluate the effect of coastal flooding on the proposed developments and the results should be used to establish design criteria for wave action.

2. Structural elements of the habitable portion of the proposed residence shall be placed above +21.0 feet NGVD, which is the base flood elevation for the 100-year flood as determined by FEMA (1986).

3. The structural elements below the habitable portion of the residence should be designed to withstand the impact of coastal waves, as well as the impact of battering objects caught up in the waves, such as large logs. The lower structural elements should also be designed for uplift forces from wave action in the event that sand accumulates under the residence.

   The foundation should also be designed to resist the forces generated by liquefaction and lateral spreading, unless a more robust quantitative analysis by the project geotechnical engineer indicates that this is unnecessary. It may also turn out that designing the foundation and lower structural elements for the recommended coastal flooding and erosion hazards may result in a foundation that is also resistant to any forces that might be generated by liquefaction or lateral spreading. The project geotechnical engineer may want to consider simply demonstrating that the forces resulting from coastal waves and erosion are greater than the forces that might be generated by liquefaction and lateral spreading.

4. All structures for the proposed development should be designed for a scour depth of -12 feet NGVD (below mean sea level), as portrayed upon Plate 2.

5. The project engineers and designer should review our seismic shaking parameters and choose a value appropriate for their particular analyses.

6. The owners or occupants of the residence should be prepared to accept the loss of all items stored on the ground floor and parked in the driveway, including vehicles. Additionally, they should be prepared to pay for replacement of the break-away walls on the lower story, since our analysis indicates that the property will be inundated by coastal waves and possibly by debris flows.

7. We recommend that our firm be provided the opportunity to review the final design and specifications in order that our recommendations may be properly interpreted and implemented in the design and specification. If our firm is not accorded the privilege of

EXHIBIT L-1

making the recommended review we can assume no responsibility for misinterpretation of our recommendations.

8. The developer, project architect, project geotechnical engineer and contractor should carefully review our portrayal of the distribution of rip-rap on the property. Additionally, it should be noted that smaller sections and boulders of rip-rap may have washed under the existing residence during past storm wave events, and this rip-rap may be encountered during excavation or drilling of the foundation for the new residence. This may present an expensive logistical problem at the time of construction, necessitating the complete removal of all rip-rap in the development area.

   As previously noted, the anchors may be encountered and possibly damaged during the construction of deep foundations such as piers, and there is no reliable method that we aware of that can be used to forecast the exact geometry of the anchors in advance of drawing the plans, particularly because they are concealed by the rip-rap revetment and the existing residence. The project architect, geotechnical engineer and structural engineer may want to anticipate this condition in advance and add a provision to the foundation plans that will allow for changes to be made to the foundation plans during construction if a tie back anchor is encountered during drilling or excavation.

9. For further information about what you can do to protect yourself from earthquakes and their associated hazards, read *Peace of Mind in Earthquake Country*, by P. Yanev (1991).

INVESTIGATIVE LIMITATIONS

1. Our services consist of professional opinions and recommendations made in accordance with generally accepted engineering geology principles and practices. No warranty, expressed or implied including any implied warranty of merchantability or fitness for the purpose is made or intended in connection with our services or by the proposal for consulting or other services, or by the furnishing of oral or written reports or findings.

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

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

4. This report is issued with the understanding that it is the duty and responsibility of the owner or his representative or agent to ensure that the recommendations contained in this report are brought to the attention of the architect and engineer for the project,

EXHIBIT L 1
ZINN GEOLOGY

incorporated into the plans and specifications, and that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

5. The findings of this report are valid as of the present date. However, changes in the conditions of property and its environs can occur with the passage of time, whether they be due to natural processes or to the works of man. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, the conclusions and recommendations contained in this report cannot be considered valid beyond a period of two years from the date of this report without review by a representative of this firm.

EXHIBIT L 1

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

GENERAL

1. The results of our investigation indicate that from a geotechnical engineering standpoint the property may be developed as proposed, provided these recommendations and those of the Zinn Geology report are included in the design and construction.

2. At the time we prepared this report, the grading plans had not been completed and the structure foundation details had not been finalized. We request an opportunity to review these items during the design stages to determine if supplemental recommendations will be required.

3. The structural design for the residence should include the guidelines outlined in the 2005 FEMA Coastal Construction Manual.

4. Pacific Crest Engineering Inc. should be notified at least four (4) working days prior to any site clearing and grading operations on the property in order to observe the stripping and disposal of unsuitable materials, and to coordinate this work with the grading contractor. *We strongly recommend a pre-construction conference with at least the Client or their representative, the grading contractor, a county representative and one of our engineers present.* At this meeting, the project specifications and the testing and inspection responsibilities will be outlined and discussed.

5. Field observation and testing must be provided by a representative of Pacific Crest Engineering Inc., to enable them to form an opinion as to the degree of conformance of the exposed site conditions to those foreseen in this report, the adequacy of the site preparation, the acceptability of fill materials, and the extent to which the earthwork construction and the degree of compaction comply with the specification requirements.

6. Any work related to grading or foundation excavation/drilling performed without the full knowledge and direct observation of Pacific Crest Engineering Inc., the Geotechnical Engineer, will render the recommendations of this report invalid, unless the Client hires a new Geotechnical Engineer of Record who agrees to take over complete responsibility for this report's findings, conclusions and recommendations. The new Geotechnical Engineer must agree to prepare a Transfer of Responsibility letter (per CBC Section 3317.8). This may require additional test borings and laboratory analysis if the new Geotechnical Engineer does not completely agree with our prior findings, conclusions and recommendations.

7. The new residential structure will be supported by a wharf-type foundation system with drilled piers bearing into competent sandstone bedrock. The beach sand stratum overlying the bedrock between the ground surface and the historic scour line at elevation -12 feet NGVD should be neglected in the design of the pier foundation system. The number of vertical piers and the extent of horizontal bracing should be minimized to avoid occluding the projected coastal flooding below the residence.

EXHIBIT M

8. The habitable portion of the residence will be elevated above the FEMA BFE of 21 feet NGVD. The lower portion of the residence below the BFE will be enclosed by breakaway walls and used only for parking and storage. The area of the property below the BFE can be expected to be inundated by coastal flooding and/or earth flow impacts and the contents therein will be lost, damaged or destroyed. Future occupants of the property should be informed of the coastal flooding hazard and the potential for loss of items below the BFE, including parked vehicles. Damage to surrounding patios, decks, etc. should also be anticipated.

9. Seismically-induced settlements within the beach sand layer above the historic scour elevation can be expected to occur during the design life of the structure. Provided our recommendations are incorporated into the design and construction of the residence the affects of such settlement is expected to be limited to exterior improvements or ground floor slabs which may require repair or replacement following a seismic event.

10. The existing seawall system is, in our opinion, not sufficient to provide adequate protection to the residence from wave action. We anticipate that the seawall and surrounding rip rap will eventually get washed away as the supporting beach sand is scoured by storm waves.

11. Portions of the residence located below the BFE could be subject to impacts from earth flows issuing from the coastal bluff located to the northeast of the property. In our opinion there is a low probability of a debris flow impact occurring simultaneously with the design wave forces; therefore the wave impact forces will govern the pier design.

SITE PREPARATION

12. We anticipate that grading will consist primarily of subgrade processing for new or replacement concrete slabs-on-grade or pavement areas.

13. With the exception of the upper 8 inches of subgrade in paved areas and driveways, the soil on the project should be compacted to a minimum of 95% of its maximum dry density. The upper 8 inches of subgrade in pavement areas and all aggregate subbase and aggregate base should likewise be compacted to a minimum of 95% of its maximum dry density.

14. The maximum dry density will be obtained from a laboratory compaction curve run in accordance with ASTM Procedure #D1557. This test will also establish the optimum moisture content of the material. Field density testing will be in accordance with ASTM Test #D2922.

15. Although not anticipated, should the use of imported fill be necessary on this project, the fill material should be:

EXHIBIT M

a. free of organics, debris, and other deleterious materials,
b. granular in nature, well graded, and contain sufficient binder to allow utility trenches to stand open,
c. free of rocks in excess of 2 inches in size,
d. have a Plasticity Index between 4 and 12, and
e. have a minimum Resistance "R" Value of 30, and be non-expansive.

16. Samples of any proposed imported fill planned for use on this project should be submitted to Pacific Crest Engineering Inc. for appropriate testing and approval not less than 4 working days before the anticipated jobsite delivery. Imported fill material delivered to the project site without prior submittal of samples for appropriate testing and approval must be removed from the project site.

FOUNDATIONS – DRILLED PIERS

General

17. At the time we prepared this report, the grading plans had not been completed and the structure location and foundation details had not been finalized. We request an opportunity to review these items during the design stages to determine if supplemental recommendations will be required.

18. The residence will be supported by a wharf-type foundation system, consisting of drilled piers that will penetrate the overlying beach sand stratum and extend a minimum depth of 10 feet into dense sandstone bedrock. The piers should be designed to develop their load carrying capacity through end bearing resistance between the pier bottom and the underlying bedrock. The bedrock is very dense and will require specialized equipment to ensure that the piers extend to the full depth as outlined in the geotechnical report and the project plans and specifications.

19. The structural engineer will need to situate the piers away from the seawall tiebacks, to avoid damaging the tiebacks during pier drilling.

20. Because the final pier depths are dependent upon the historic scour elevation of -12 feet NGVD, we recommend establishing a benchmark elevation at the site prior to pier drilling. Pier depths will be determined from the benchmark elevation rather than depth below existing grades.

21. The number of vertical piers and horizontal structural bracing should be minimized to allow maximum flood flow area. Horizontal bracing should be oriented parallel to the flow direction where possible to reduce flow obstructions.

22. We anticipate that that the pier excavations will most likely need to be completely cased to keep the pier excavations from caving before the concrete can be poured. We also anticipate that the pier excavations will need to be cleaned out and pumped of water prior to placing concrete.

EXHIBIT M 1

23. If the casing is pulled during the concrete pour, it must be pulled slowly with a minimum of 4 feet of casing remaining embedded within the concrete at all times.

24. If concrete is placed via a tremie, the end of the tube must remain embedded a minimum of 4 feet into the concrete at all times.

25. All piers must be constructed within ½ percent of a vertically plumb condition.

26. The drilling contractor should be experienced with drilling in coastal conditions with flowing sands. The contractor must assume responsibility for his work procedures, and therefore, needs to be proficient in performing the work he is contracted to do. Pier drilling is expected to be cumbersome for this project and the drilling contractor should be experienced with construction of end-bearing piers in a flowing sand condition.

27. All pier construction must be observed by a Pacific Crest Engineering Inc. Any piers constructed without the full knowledge and continuous observation of a representative from Pacific Crest Engineering Inc., will render the recommendations of this report invalid.

Geotechnical Design Criteria

28. The end-bearing piers should be designed with the following geotechnical criteria:

Vertical Bearing Capacity

29. Minimum pier embedment should be 10 feet below the historic scour elevation; this will necessitate a *minimum* pier bottom elevation of -22 feet NGVD. Minimum pier depths are expected to be on the order of at least 37 feet from existing grades. Actual depths could depend upon a lateral force analysis performed by your structural engineer.

30. The piers should be a minimum of 24 inches in diameter. All pier holes must be free of loose material on the bottom.

31. Piers constructed to the above criteria may be designed for an allowable end bearing capacity of 12 kips per square foot. The allowable bearing capacity may be increased by 1/3rd for short-term wind or seismic loading.

32. An allowable skin friction due to the bedrock stratum of 500 psf per square foot of surface area may be used to resist uplift forces. Neglect skin friction from the ground surface to -13 feet NGVD.

Lateral/Wave Forces

33. Passive resistance due to competent bedrock of 500 pcf (EFW) may be used. Passive resistance should be neglected from the ground surface to -13 feet NGVD (approximately the upper 28 feet of pier depth).

EXHIBIT M

34. The foundation system should be designed to resist an active lateral force of 30 pcf (EFW) due to lateral spreading of beach sand above the historic scour line.

35. We recommend a breaking wave load (F_{brkp}) on the pier of 13.6 kips per foot of pier diameter. The wave force should be assumed to act at a point 20 feet above the historic scour line (elevation +8 NGVD).

36. Hydrodynamic loads (F_{dyn}) imposed by moving flood waters of 15.4 kips per foot of pile diameter, acting at -2 NGVD (halfway between the historic scour elevation and the design stillwater level)

37. Wave-borne debris can be expected to impact the foundation system during its 100-year design life. Storm waves commonly carry large logs and other debris toward shore, it is recommended that the flood velocity of 25.4 feet per second be used when calculating debris impact loads (F_i). The force can be assumed to act at the design stillwater elevation (8.0 feet NGVD).

38. The structural engineer should refer to Chapter 11 of the 2005 FEMA Coastal Construction Manual for guidance in determining the flood load combinations for this particular project.

39. Although not suggested by FEMA, in our opinion the potential exists for wave uplift forces to exert pressure upon horizontal structural members at or below the BFE. We recommend an uplift pressure of 500 psf be considered.

SLAB-ON-GRADE CONSTRUCTION

40. Concrete slab-on-grade may be used for ground level construction on native soil or engineered fill. It should be clearly understood that slab floors and/or patios and walkways will need to be replaced following severe coastal flooding or debris flow impacts.

41. In accordance with FEMA's recommendations as outlined in the Coastal Construction Manual, Chapter 11, concrete slabs should be limited to flatwork, sidewalks, and parking pads. The concrete slabs should be unreinforced and should contain contraction joints to allow the slab to be easily broken into 4 x 4 foot sections when subjected to flood forces. Slabs should **not** be structurally integrated with the footings.

42. The slabs should be placed directly upon the existing soil. We recommend compaction of the upper 8 inches of subgrade to 95% relative compactive effort to establish a uniform bearing surface.

SURFACE DRAINAGE

43. All roof eaves should be guttered, with the outlets from the downspouts provided with adequate capacity to carry the storm water from the structures to reduce the possibility of soil

EXHIBIT M

saturation and erosion. The connection should be in a closed conduit which discharges at an approved location away from the structures and the graded area. We would recommend a discharge point which is at least 10 feet down slope of any foundation or fill areas.

PLAN REVIEW

44. We respectfully request an opportunity to review the plans during preparation and before bidding to insure that the recommendations of this report have been included and to provide additional recommendations, if needed. Misinterpretation of our recommendations or omission of our requirements from the project plans and specifications may result in changes to the project design during the construction phase, with the potential for additional costs and delays in order to bring the project into conformance with the requirements outlined within this report.

EXHIBIT M 1