CALIFORNIA COASTAL COMMISSION
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SFS

Th 6a

August 29, 1997

TO: COASTAL COMMISSIONERS AND INTERESTED PARTIES

FROM: Peter M. Douglas, Executive Director
Steven F. Scholl, Deputy Director
James Muth, Coastal Planner

SUBJECT: Addendum to staff report for Coastal Permit Application No. **A-1-HUM-96-70 (Moser & Hunt)** for the Sand Pointe Development, Public Hearing Item Th 6a.

Below are additional information and recommended findings to supplement the recommendation contained in the staff report that is dated August 22, 1997. The additional information pertains to: (I) geologic hazards and the adequacy of bluff top setbacks, (II) community character and whether the proposed development is visually compatible with the character of the surrounding area, and (III) the appropriateness of a 20 percent bonus density under the Planned Development designation.

Comment letters received after the initial staff report was prepared are also attached to this addendum.

I. Geologic Hazards and Bluff Top Setbacks.

The proposed project raises the issue of whether the recommended bluff top setback distances are adequate. The staff asked the applicant's agent for additional information to clarify certain aspects of the geologic report that was prepared for the project and property. The 22-page geologic report that was used to determine bluff top setbacks was prepared by SHN. The geologic report is found in Exhibit No. 15 of the staff report. The two letters from staff requesting clarification and/or additional information on this issue are found in Exhibits No. 42 and 43 of the staff report. The two letters of response by SHN are found in Exhibits No. 46 and 47.

As analyzed below, there are a number of facts and circumstances that create uncertainty as to whether the recommended bluff top setback distances can be carried out without having to redesign the subdivision. More importantly, the applicants have not provided sufficient information to allow the Commission to conclude that the proposed development will minimize risks to life and property in an area of high geologic hazard, will assure stability and structural integrity for the life of the project, and will not create or contribute to geologic instability for the life of the project, as required by the hazards policies of the McKinleyville Area Land Use Plan (MAP) and the applicable development standards in the Humboldt County Coastal Zoning Code (HCC).

As previously mentioned, a line of 50-foot-high, vegetated coastal bluffs are located along the westerly side of the property. The stability of the bluffs is not affected by ocean waves due to an intervening sand bar that is located between the ocean and the Mad River, although there is some evidence showing that the sand bar has been temporarily breached in recent history due to winter storms per recent monitoring reports by CALTRANS on the impact of the rip rap at the mouth of the Mad River. The stability of the bluffs is not affected by tidal action and the erosive force of the Mad River due to a low lying sandy terrace consisting of riverine floodplain 70+ feet wide located between the east bank of the Mad River and the base of the coastal bluffs. This low lying terrace or floodplain has some ability to absorb river bank erosion over the life of the project. However, the stability of the bluffs is affected by a number of other factors at the site, including but not limited to: (1) surface water runoff, (2) groundwater conditions, (3) the inherent structure and cohesiveness of the marine sediments that comprise the coastal bluffs, and (4) the close proximity of the bluffs to the surface trace of an active fault, where even a modest amount of movement on the fault can cause the bluffs to slump.

With respect to the last factor, there is an area along the bluffs several hundred feet north of the subject property where the bluffs have slumped into the Mad River. These bluffs have no stabilizing vegetation on them, and the factor causing bluff failure may be the close proximity of the fault to the coastal bluffs.

A. Applicable LCP Policies and Standards.

The applicable LCP policies regarding the contents of geotechnical reports, bluff top setback distances, and required findings for consistency are provided below.

MAP Policy 3.28 specifically incorporates Section 30253 of the Coastal Act. Section 30253 of the Coastal Act states in applicable part:

> New development shall...minimize risks to life and property in areas of high geologic, flood, and fire hazard,...assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas or in any way require the construction of protective devices....

MAP Policy 3.28 A also states in applicable part:

> New development shall be consistent with the adopted Humboldt County Safety and Seismic Safety Element of the General Plan.

MAP Policy 3.28(C) states in applicable part:

> The developments permitted in the hazard areas shall be sited and designed to assure stability and structural integrity for their expected

> economic lifespans.... Bluff and cliff developments...shall not create or contribute significantly to problems of erosion or geologic instability on the site or on surrounding geologically hazardous areas.

Section A314-16F of the HCC applies to geologic hazard regulations and the contents of geotechnical reports. Section A314-16F states in applicable part:

> (3) ... Specifically, within the coastal zone, the reports should give particular treatment and analyze the following, as applicable:
>
> (a) Historic, current and foreseeable cliff erosion....; and
>
> (f) Professional conclusions as to whether the project can be designed so that it will neither be subject to nor contribute to significant geologic instability throughout the lifespan of the project.

Section A314-16G of the HCC applies to geologic hazard regulations and development standards. Section A314-16G states in applicable part:

> (1) The applicant shall either provide additional information as recommended by the preliminary geologic and/or soils report, or modify the proposed development to avoid identified area of potential instability. <u>The proposed development shall be sited, designed, and constructed in accordance with the recommendations of the reports(s) in order to minimize risk to life and property on the project site</u> (emphasis added)...; and
>
> (3) Within the coastal zone, the following shall also apply:
>
> (a) Developments shall be sited and designed to assure stability and structural integrity for their expected economic lifespans....

MAP Policies 3.28(A) and 3.28(C) require that a geotechnical report consider, describe and analyze a variety of specific information about the project site and the proposed development to minimize geologic hazard impacts that are associated with new development. Section A314-16F specifically requires that geotechnical reports analyze "historic, current, and foreseeable cliff erosion". This analysis cannot be done without discussing rates of erosion or rates of bluff retreat. The primary approach set forth above for minimizing erosion hazards on coastal bluffs is to require an adequate setback for any new development. By maintaining a sufficient setback, natural erosion can continue without the need for protective devices and the development will remain safe. The setback will vary from location to location, depending on the rate of erosion, and the expected lifetime of the proposed structures.

B. <u>Analysis of Bluff Top Setback Issue</u>.

There are several aspects of this issue which msut be examined. First, it is not clear whether the geologic report prepared for the applicant (see Exhibit

No. 15) actually establishes a minimum, bluff top setback distance of 25 to 40 feet as so stated in the final EIR that was prepared for the project by Oscar Larson & Associates and incorporated by the County into the tract map approval. Second, the geologic report does not establish a connection between estimated bluff retreat rate(s) and recommended bluff top setbacks for the proposed residential development. Third, the geologic report apparently used a 50-year period as the "economic lifespan" for a new single-family residence, instead of a longer, more conservative 75-year period. Fourth, it is not clear how bluff top setback distances recommended in the final EIR (i.e. 25 feet) and conditionally approved by the County (i.e. 25 feet) are reflected in project plans. Fifth, there is a difference of professional opinion as to the adequacy of the recommended bluff top setbacks.

1. Not clear whether geologic report establishes a minimum bluff top setback of 25 to 40 feet.

It is not clear whether the geologic report actually establishes a minimum, bluff top setback distance of 25 to 40 feet as so stated in the final EIR that was prepared for the project by Oscar Larson & Associates and incorporated by the County into the tract map approval. A close inspection of the text in geologic report in Exhibit No. 15 reveals that a setback distance of 25 to 40 feet is not mentioned anywhere in the report. Similarly, a 25 to 40 foot setback distance is not mentioned anywhere in the two letters of clarification by SHN in Exhibits No. 46 and 47.

The geologic report concludes that the proposed development is located within a "low" bluff slope failure hazard area. The report defines what is meant by "low, moderate, and high" bluff slope failure hazard areas. These three hazard areas are shown in very small letters as "LO, MD, and HI" along the bluffs on a black and white copy of an 8 1/2 by 11-inch site plan of the property that appears on page 18 of Exhibit No. 15. However, the hazard area information shown on the site plan is so small that is it impossible to determine what is the recommended bluff top setback distance for any of the 18 bluff top lots proposed for development. No larger scale map has been submitted to the Commission in conjunction with this project.

By comparison, the final EIR prepared by the applicant's agent, Oscar Larson & Associates, states on pages F-1-7 and F-1-8 of the EIR that:

> The R-1 Report established setbacks along the bluff margin of the project site.... The width of the setback...ranges between 25 and 40 feet from the current bluff margin. (emphasis added)

However, despite the EIR reference identified above, and given the lack of specificity in the R-1 report itself, it is not clear whether the project plans reflect appropriate bluff top setbacks to ensure safety of proposed dwellings to be located on the bluff top.

2. The geologic report does not establish a nexus between estimated bluff retreat rate(s) and recommended bluff top setbacks for the proposed development.

The text of the geologic report does not establish a specific rate or rates of bluff retreat and does not recommend a specific bluff top setback distance. Consequently, there is no connection between estimated bluff retreat rate(s) and recommended bluff top setbacks for the proposed development. Without this information, it is difficult for the Commission to judge whether the proposed bluff top setbacks are adequate.

The Commission notes that the geologic report has a discussion about "Bluff Retreat Hazards" on page 10 of Exhibit No. 15. This section states in applicable part that: "Minor variations of a few 10's of feet should be expected during the economic lifespan of the project." The response by SHN to staff requests for clarification is on page 3 of Exhibit No. 46, and it states in applicable part: "This statement is in reference to the amount of river bank erosion that should be anticipated, and does not relate directly to retreat at the bluff top." Consequently, because this statement actually refers to river bank erosion and not erosion of the bluffs, and because no other rates of bluff top erosion or setback distances are mentioned in the geologic report, the Commission concludes that the geologic report does not establish any particular rate of bluff retreat or any particular setback distance.

SHN's letter of clarification in Exhibit No. 46, pages 2 and 3, doe provide some information about bluff retreat. The letter goes on to explain that the bluffs had a "worse case" retreat of 10 feet during the 40-year period between 1941 to 1981 and a "worse case" retreat of 2 feet during the 14-year period between 1981 to 1995. Consequently, there is evidence to suggest that the bluffs have retreated up to a distance of 12 feet in 54 years. Notwithstanding this additional bit of information, the Commission finds that there is nothing in either the report or SHN's two letters of clarification that provides a connection between this retreat rate and the recommended setback distances of 25 to 40 feet.

3. The geologic report used a 50-year period as the "economic lifspan" for a new single-family residence, instead of a more realistic 75-year period.

The response by SHN to a request for clarification of the economic lifespan used by the project sponsors is in Exhibit No. 46. Among other things, this response states on pages 1 and 3:

> You should be aware that the issues identified were considered when the SHN report was prepared and therefore, were included in the data base that was the foundation for recommendations. On this basis, there will be no changes of the recommendations in the SHN report.

> On the basis of recent observations, we conclude that the extra caution was not warranted. Therefore, extending the reference from 50 to 75 years results in 7 1/2 feet of setback due to "chronic erosion" processes and another 2 1/2 feet to maintain a level of conservatism. Therefore, no change in the recommended 10 foot setback due to extending the economic lifespan from 50 to 75 years is warranted.

The Commission finds that this explanation is not satisfactory. If a project has a certain bluff top setback based on a 50-year economic lifespan, and if that time period is extended by 50 percent for a 75-year economic lifespan, then it would be logical to expect at least some additional setback as a result of the additional 25 years.

The Commission notes that the LCP does not provide a specific period of years as the "economic lifespan" for a typical new single-family home. Nevertheless, the Commission's concern about the adequacy of the bluff top setbacks is only heightened by the fact that the geologic report used a 50-year economic lifespan instead of a 75-year lifespan to determine bluff top setback distances.

4. <u>The project plans submitted by the applicant do not clearly reflect the minimum bluff top setback distances recommended in the final EIR (i.e. 25 feet) and incorporated by the County into the tract map approval (i.e. 25 feet)</u>.

With the exception of one bluff top lot designated as a park for the project residents, the project's concept plan or tentative map shows that all 18 residential lots fronting the bluffs have designated building sites with setbacks that range between 10 to 43 feet from the edge of the bluffs. This concept plan was prepared after the geologic reports were prepared. The plans show the location of the bluff edge setback "markers" set by the geologist. However, the final EIR indicates that the designated building sites have setbacks that range between 25 to 40 feet from the edge of the bluffs, and that the County approved the tract map with the same bluff top setback distances of 25 to 40 feet. Even if the Commission were to accept as adequate the setbacks of 25 to 40 feet, it is unclear whether or how these setbacks are reflected in the project plans.

SHN's response to requests by staff to clarify the project plans appears in Exhibit No. 47. Among other things, SHN states:

> The issues raised in Coastal Commission letters of May 13, 1997 and July 11, 1997 have not influenced us to change any of the conclusions and recommendations presented in over various geologic reports. ... Frankly, we do not believe it is appropriate for Coastal Commission planners to expect that we will discuss proprietary methods of how we formulate our solutions to the complex problem of determining how natural and man influenced geologic processes influence a particular coastal bluff project. Even though we have reservations about the

intent of Coastal Commission "follow-up or clarifying questions" we will provide summary comments in the following narrative.

The SHN letter also states the following with respect to clarification of bluff top setbacks:

> When SHN conducted our bluff top retreat hazards studies, we installed a series of stakes in the ground to indicate the precise location of the "setback" line. The line was then surveyed to record it permanently. We have no comment about the various maps that relate this "setback" line to the edge of the bluff top.

The applicant's agent also responded to staff's request for clarification regarding the bluff top setbacks. The agent's response is found on pages 1 and 2 of Exhibit No. 48, and it states in applicable part:

> Item 2 - "Discrepancy" in Bluff Top Setback. Prior to the preparation of the tentative map, we first had our surveyors identify the location of the bluff top edge. This was done by taking approximately a dozen spot locations and plotting the result. We did not identify every location along the entire length of the bluff because it would have required substantial vegetation removal, and was in any event unnecessary for mapping the edge.
>
> The project geologist was subsequently asked to identify the location of his recommended bluff setback line "on the ground." This was done through the placement of metal fence posts at various locations along the setback line. The line of posts was subsequently surveyed with the results plotted and shown on the tentative map. Various references to the width of the setback reflect various estimates of the distances between this line and the bluff edge line above. All of the descriptions, however, have referred to this same project setback feature, regardless of how it was described.

The information submitted by the applicant does not clearly indicate how blufftop setbacks are applied to the project as approved by the County and as proposed to the Commission. For example, if the line of posts was subsequently surveyed on the ground and the results plotted and shown on the tentative map as stated above, it is unclear how the tentative map can show a setback as little as 10 feet and still purport to incorporate the recommended setbacks of 25 to 40 feet. Nine of the 18 residential blufftop lots shown on the tentative map have a minimum setback distance of less than 25 feet. Thus, the bluff top setback line shown on the tentative map would need to be moved landward for at least nine of the 18 lots. However, the minimum bluff top setback distance is more than 25 feet for some lots as the setback distance extends to 40 feet on some lots. The Commission does not know which lots these may be as the bluff top setback is not a set distance from the edge of the bluffs, but rather a variable distance of between 25 to 40 feet. Consequently, the Commission finds that the bluff top setback problem is not necessarily limited to nine of the 18 lots.

The County has conditioned the project to incorporate the recommendations of the geologic report. However, these County conditions are meaningless if the geologic report does not provide and show an accurate bluff top setback line. For example, as approved by the County, Condition No. 1 of the local coastal development permit requires that:

> All recommendations set forth in the "R-1" geotechnical and geologic evaluation (SHN, 1994) shall be implemented as a condition to the issuance of permits or other grants of approval for the development or improvement of the site(s).

As approved by the County, Condition No. 9D 11 of the tentative map approval requires that:

> The recommendations set forth in the fault evaluation report and preliminary "R-1" geologic and geotechnical report (SHN, 1994) for the residential structural improvements on parcels to be created shall be implemented as a condition to the issuance of permits or other grants of approval for the development or improvement of the site(s). <u>The referenced parcels shall not be created unless the report concludes that each individual parcel is suitable for conventional residential purposes</u>. (emphasis added).

The Commission notes in regard to the last sentence in the above referenced County condition that it cannot approve creation of lots if it is unclear whether each parcel to be created is suitable for development, including the provision of a designated building area for each lot.

5. <u>There is a difference of professional opinion as to the adequacy of the recommended bluff top setbacks</u>.

The geotechnical report prepared by SHN in November of 1994 regarding bluff stability concludes:

> Based on the results of our field investigation, it is our opinion that the project area is suitable for the development as proposed, and that the development will not contribute to, or be subject to, substantial geologic or soils engineering hazards, if our recommendations are implemented.

The SHN report and data were reviewed by LACO Associates, a group of consulting engineers and geologists. LACO Associates were hired by one of the groups of appellants to obtain a second opinion. The LACO comment letter is found in Exhibit No. 17 of the staff report. Among other things, LACO states:

> The R-1 has recommended what we consider insufficient setbacks from the top of the bluff. ... It is our opinion that there already exists a significant risk of slope failure at the site, without oversteepened slopes, a reduction in vegetational cover, and an increase in soil

water. The setbacks from the top of the bluff should be reconsidered and should be increased, in our opinion.

The LACO report also disagrees with the EIR's conclusion that the mouth of the Mad River has been "stabilized" by the rip rap installed by CALTRANS. When the mouth of the Mad River was opposite the subject property around 1974 and 1975, the easterly bank of the Mad River and the narrow floodplain area between the river and the foot of the bluffs were subject to direct wave attack from the ocean, as well as the erosive force of tidal waters and winter flood waters. There is disagreement as to the probability that the mouth of the river will migrate back to a position opposite the property sometime during the economic lifespan of the project. In light of this and the other risks mentioned above by LACO Assoicates, they conclude that: "...the bluff setbacks for structures in this proposed subdivision should be reviewed and probably should be increased to adequately protect the anticipated homes."

Given all these facts and circumstances; namely: (1) that it is not clear that the geologic report establishes a minimum bluff top setback distance of 25 to 40 feet, (2) that the geologic report does not establish a connection betwen estimated bluff retreat rate(s) and recommended bluff top setbacks for the proposed development, (3) that apparently only a 50-year economic lifespan was used instead of a 75-year lifespan to determine bluff top setback distances, (4) that there is an unresolved discrepancy about the location of the minimum bluff top setbacks on the project plans, and (5) that there is a difference of professional opinion as to the adequacy of the bluff top setbacks, the Commission finds that the project is inconsistent with Sections A314-16F and G of the HCC as the proposed development cannot be sited in accordance with the recommendations of the geologic reports if those recommendations are missing or not clear. The Commission finds that there is significant uncertainty as to whether the recommended bluff top setback distances can be carried out without having to redesign the subdivision. The Commission further finds that the applicants have not sufficiently demonstrated that the proposed development will minimize risks to life and property in an area of high geologic hazard, will assure stability and structural integrity for the life of the project, and will not create or contribute to geologic instability for the life of the project, as required by Section 30253 of the Coastal Act (incorporated by reference into the LCP), and by MAP Policy 3.28.

II. Community Character.

The issue of whether the proposed project is consistent with the visual and scenic resource policies of the County's LCP must also be examined.

A. Applicable LCP Policies.

The visual resource section of the McKinleyville Area Land Use Plan (MAP) incorporates Section 30251 of the Coastal Act, which states in applicable part:

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas...(and) be visually compatible with the character of surrounding areas.

MAP Policy 3.42 A states in applicable part:

> No development shall be approved that is not consistent with the physical scale of development as designated in the Area Plan and zoning for the subject parcel.

B. Analysis of Community Character.

As previously mentioned in the project setting and description portion of the staff report, the areas to the west and to the north of the subject property are primarily undeveloped and provide recreational opportunities due to their proximity to the Hammond Trail, the Mad River, the Pacific Ocean, and White Widow Creek. Much of this area is designated and zoned in the County LCP as NR (Natural Resources). Consequently, these areas are not comparable to the subject property.

However, the areas to the east and to the south consist of fully developed or developing subdivisions. With the exception of the southeast corner of the Pacific Sunset Subdivision (which is designated and zoned in the County LCP as Commercial Recreation due to its proximity to the Murray Road entrance and exit ramps onto Highway 101), the balance of the area is designated in the LCP as RE (Residential Estates), 0 to 2 units per acre, and is zoned as RS-20, Residential Single-Family, minimum lot size of 20,000 square feet. Thus, even at full buildout under the present LCP densities, the surrounding area will not exceed a density of 2 units per acre. On the other hand, the proposed project would have a density of 2.4 units per acre.

The proposed project has an average lot size of 12,525 feet. Lots within the Pacific Sunset Subdivision to the east of the subject property and lots to the south of the subject property are zoned RS-20, Residential Single-Family, 20,000 square foot minimum lot size. The Coastal Commission approved an LCP amendment (Hartman) that would allow some of the lots within the Pacific Sunset Subdivision to be further subdivided. However, it is important to note that the approved amendment does not apply to the westerly row of lots that are located under the County's AP (Airport Protection) combining zone, so those lots will continue to have a lot size of 20,000± square feet. In comparison, the average size of the lots within the proposed subdivision would be smaller than the size of the surrounding lots in the Airport Protection combining zone.

The Pacific Sunset Subdivision is also notable for its absence of fences, its lack of high hedges and other screening elements, and it's feeling of open space in and around the homes. By contrast, the proposed subdivision will be

surrounded with a 5 to 6-foot-high fence with a security gate, closely spaced homes, and no public access through the subdivision. The Commission thus finds that the overall appearance of the subdivision would be at odds with the character of the surrounding area.

The proposed project would have one and two-story homes. Only the lots within the approximate center of the subdivision will have one-story homes. The lots on the edge of the subdivision, including all of the bluff top lots, will have two-story homes up to 35 feet in height. This 35 foot height limit is significantly higher than the 18 foot height limit imposed on the westerly lots in the Pacific Sunset Subdivision. Building heights of up to 35 feet will be very visible on all four sides of the subdivision, including along Murray Road, which is the primary route to the Hammond Trail and access to the Mad River in this area. The buildings will be higher than the vegetation growing along the bluff top and will be visible from the ocean beach to the west of the property. The new homes will also be visible from the Hammond Trail on the west and north sides of the property, due to the height of the homes and short setbacks from the edge of the bluffs.

Lastly, in addition to the creation of the subdivision, the project also includes the construction of 63 new single-family residences. No house plans have been submitted. Consequently, the Commission cannot determine with any degree of cetainty precisely what these homes will look like or how they will be sited on each lot. This lack of information makes it difficult for the Commission to determine whether the proposed homes are of a size, scale, and appearance that is compatible with existing development in the surrounding area.

Therefore, given the differences in density, height, and relative open space between the proposed project and the other subdivisions in the surrounding area, and given the uncertainty as to what these future homes will look like and how they will be sited on each lot, the Commission finds that the project is not consistent with the visual resource policies of the Local Coastal Program as the development cannot be found to be visually compatible with the character of the surrounding area.

III. Bonus Density and Planned Unit Development.

The proposed project also raises the twin issues of whether: (a) the project provides "extraordinary public benefits" to justify a 20 percent bonus density increase under the property's PD (Planned Unit Development) combining zone, and (b) a 20 percent bonus density is appropriate for the property, given the density limitations of the property's AP (Airport Protection) combining zone, which limits density to 1 unit per 3 acres under an airport approach zone.

A. Applicable LCP Policies.

MAP Policy 3.28 G applies to the Arcata-Eureka Special Study Area and it states in applicable part that:

3. The clustering of new development or planned unit development technique shall be encouraged for new development proposed in these zones to mitigate health and safety concerns.

The "zones" referred to above are the airport approach and transitional zones.

Map Policy 3.25 B applies to housing, and it states in applicable part:

> It shall be the policy of the County to encourage the Planned Unit Development (PUD) concept. Where such utilization would provide extraordinary benefits to the community and to the County, such as: dedications of open space and public access, protection of visual resources and sensitive habitats beyond that already required in Sections 3.41 and 3.42, incentives may include increases of up to 20% over planned densities. (Amended by Res. No. 83-58, 3/15/83)

Section A314-62 A of the H.C.C. applies to the P (Planned Unit Development) combining zone. Its Purpose section states:

> Purpose. The purpose of these provisions is to encourage planned developments, and to allow flexibility in the administration of the development standards in this Division for the purpose of:
>
> (1) Permitting more flexibility to cope with difficulties due to topography and other natural or man made features;
>
> (2) Provide for clustered development in concert with the provision of residential amenities such as open space, recreation areas, and neighborhood commercial services;
>
> (3) Encourage a more creative approach to land development through waiver of development standards and application of less rigid development criteria where such flexibility can better provide for the protection and enhancement of designated sensitive habitats and cultural resources.

Section A314-62 F of the H.C.C. applies to the P (Planned Unit Development) combining zone. Its Design Guidelines Section states that Planned Unit Developments shall be designed in accordance with the following guidelines:

> (1) Site Adaptation. To the maximum extent possible, the plan and design of the development shall assure that natural features of the land and environment are preserved.
>
> (2) Lot Arrangement. All lots within the development shall be designed and arranged to provide maximum feasible access to or frontage on open space or recreational areas, and to provide maximum south orientation as required by Cahpter 2.5, Division 2, Title III of the Humboldt County Code.

B. Analysis of Bonus Density and Planned Unit Development Issue.

1. "Extraordinary Public Benefits" to justify a 20 percent bonus density increase.

The applicant's list of "extraordinary public benefits" provided with the project is shown on page 7 of the staff report and in Exhibit No. 6 of the staff report. The most valuable feature of the extraordinary public benefits proposed by the applicants is the fee simple dedication of a 67-acre parcel (APN 511-011-05) located west of the project site, between the Hammond Trail and the Pacific Ocean. The usable area of this dedication is limited somewhat by the fact that part of the bed of the Mad River is included in this 67-acre parcel. Recent and comparable appraisals submitted by the applicant's agent at the request of staff show that the 67-acre property is worth around $100,000 dollars.

Map Policy 3.25 B specifically allows a bonus density of 20 percent over planned densities if the developer provides "extraordinary benefits" to the community and to the County. However, implementation of Map Policy 3.25 B is discretionary. For example, the LCP does not define what is meant by "extraordinary benefits" or "extraordinary public benefits." The LCP does not provide any sort of proportionality test, such as the larger and more expensive the project, the greater the extraordinary public benefits should be. In short, no criteria are in the LCP which tells the reviewing agency how to apply this LUP Policy 3.25 B.

The Commission finds that a locked-gate community which does not allow public access through it and whose internal parks are only for the residents of that subdivision, is not in itself a public benefit. As for whether the 67-acre parcel to be turned over to the public, the Commission finds that whether this dedication would constitute an "extraordinary" benefit must be evaluated in view of its present "Natural Resource" zoning designation and other limitations. The Commission therefore concludes that, given the project's inconsistency with other applicable LCP policies as identified herein, a 20 percent bonus density into the project (i.e. approximately 12 to 13 lots of the 63-lot subdivision) is not warranted by the benefits which are proposed.

2. Appropriateness of bonus density increase to site.

The applicants have used the PD (Planned Unit Development) combining zone to design a 63-lot subdivision which incorporates a bonus density of 20 percent over base zoning density. However, this request is premised on whether the development is consistent with the provisions of the PD zone. Under Section A314-62 A of the HCC, the PD zone is intended to be used to "permit more flexibility to cope with difficulties due to topography and other natural or man made hazards." For instance, greater setbacks from the edge of the bluffs and from the earthquake fault could have been incorporated in the project, without affecting overall project density by clustering development on portions of the property. Section A314-62 A provides for "clustered

development" in concert with the provision of open space and recreational areas. As designed, the project offers very little clustering, other than grouped parking "pods".

In addition, the Commission notes that a 20 percent bonus density increase is proposed in an area that simultaneously has a limited density due to the AP (Airport Protection) combining zone. Since the entire property is located under the AP zone, clustering on the property can in no way mitigate health and safety concerns as encouraged by MAP Policy 3.28 3. Strictly speaking, under the AP combining zone, the 26.5-acre site could have a maximum of 8 to 9 homes (26.5 acres divided by 3 acres per unit). Section A313-44 of the HCC indicates that this section shall apply "when any of the special area combining zones are combined with a principal zone." The section also states that: "When more than one regulation is applicable to the same subject matter within a zone, the most restrictive regulation is applicable." Consequently, the Commission finds that allowing a 20 percent bonus density is inconsistent with the density limitations of the AP zone, inconsistent with the intent of MAP Policy 3.28 G to mitigate health and safety concerns for new development under an airport approach zone, and inconsistent with the PD (Planned Unit Development) combining zone.

IV. Conclusion.

In conclusion, the Commission finds that while residential use of the subject property is certainly consistent with the Local Coastal Program, the project as proposed cannot be found consistent with a number of key sections of the LCP. Given the size of the property, it is clear that a number of different site plans could be drawn for development of the property which would enhance public benefits as well as minimize hazards to future residents and to the general public. By making better use of clustered development to locate new homes well away from hazardous faults and coastal bluffs, to enhance open space and recreational areas, to provide more consistency of design with the surrounding areas, and to enhance public use of the Hammond Trail and approaches to the trail, a revised project could be found consistent with the County's Local Coastal Program.

9613p

August 23, 1997

James Muth
California Coastal Commission
45 Fremont Street Suite 2000
San Francisco, CA 94105-2219

RE: Sand Pointe development - McKinleyville

Dear Mr. Muth,

Please present this letter to the Commission.

We have lived in Humboldt County our entire lives and have resided and worked in McKinleyville for 19 years. We are neighbors of the Sand Pointe development. We own and operate Ocean West Village, a senior mobile home park comprised of over 150 residents. Although we cannot speak for all of the residents of our park, it is quite evident that the overwhelming majority of us are in strong support of the Sand Pointe development as it was approved by our Board of Supervisors. It is a quality project that will be an asset to our neighborhood.

Sincerely,

Loring Swanlund

Jacqueline Swanlund

CALIFORNIA COASTAL COMMISSION
NORTH COAST AREA
FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
(415) 904-5260

Th 6a

Staff: James Muth
Staff Report: August 22, 1997
Hearing Date: Sept. 11, 1997
Commission Action:

STAFF REPORT

DE NOVO HEARING ON APPEAL

LOCAL GOVERNMENT:	Humboldt County
DECISION:	Approval with Conditions
APPEAL NO.:	**A-1-HUM-96-70**
APPLICANTS:	**STEVE MOSER and BRIAN & CINDI HUNT**
AGENTS:	MARTIN McCLELLAND and CHAD ROBERTS of Oscar Larson & Associates.
PROJECT NAME:	**Sand Pointe**
PROJECT LOCATION:	North side of Murray Road near the Mad River in McKinleyville, Humboldt County, APN 511-11-14.
PROJECT DESCRIPTION:	**63-lot subdivision of a 26.5 acre site**
APPELLANTS:	Patricia Hassen/Concerned Citizens, Barbara Kelly/Humboldt Coastal Coalition, and Lucille Vinyard/Redwood Chapter of the Sierra Club.
SUBSTANTIVE FILE DOCUMENTS:	Humboldt County Local Coastal Program; Humboldt County Coastal Development Permit No. CDP-39-94; Conditional Use Permit No. CUP-22-94; Major Subdivision Permit No. FMS-11-94; Rezone No. ZR-18-94; Draft Technical Report for the Humboldt County Airports Master Plan by Hodges & Shutt, dated January 25, 1985; Executive Summary of the Humboldt County Airports Master Plan by Hodges & Shutt, dated June 1980; Humboldt County Airport Land Use Compatibility Plan by Hodges & Shutt, dated March 1993; the Arcata-Eureka Airport Master Plan for Humboldt County by Hodges & Shutt, dated May 1993; Volumes I & II of the Draft EIR dated December of 1995; and the Final EIR dated March of 1996.

STAFF NOTE

On February 5, 1997, the Coastal Commission found that the appeal of Humboldt County's approval raised a substantial issue with respect to the grounds on which the appeal had been filed, pursuant to Section 13115 of the Title 14 of the California Code of Regulations. As a result, the County's approval is no longer effective, and the Commission must consider the project de novo. The Commission may approve, approve with conditions (including conditions different than those imposed by the County), or deny the application. Since the proposed project is between the first public road and the sea, the applicable test for the Commission to consider is whether the development is consistent with Humboldt County's certified Local Coastal Program and with the public access and public recreation policies of the Coastal Act. Testimony may be taken from all interested persons at the de novo hearing.

SUMMARY OF STAFF RECOMMENDATION

1. SUMMARY OF STAFF RECOMMENDATION DE NOVO: DENIAL

The staff recommends that the Commission **DENY** the coastal development permit application for the proposed project on the basis that the project is inconsistent with the County's certified LCP.

Staff believes that the project is inconsistent with LCP standards that require development to minimize risks to life and property from seismic hazards as 16 lots of the 63-lot subdivision only have a 25 to 30-foot setback from the surface trace of an earthquake fault when the LCP requires a minimum setback distance of 50 feet.

Staff also believes that the project's density is inconsistent with LCP policies regarding airport safety as the project's density is 6 to 7 times greater than the density normally allowed within an airport approach zone and the project's density has been allocated in a manner inconsistent with the LCP's seismic standards. Staff therefore recommends denial of the project.

Staff normally makes every effort to recommend approval of a project by conditioning the proposed development to make it consistent with the Coastal Act, or, in the case of appeals such as this, with the certified LCP. In this case, however, it is not possible to identify measures to mitigate the significant adverse seismic impacts of the proposed project consistent with the certified LCP without undertaking a major redesign of the proposed subdivision.

There are feasible alternatives that the applicants could explore which would mitigate significant adverse impacts consistent with certified LCP policies, such as reducing the number of lots and arraying the lots across the site differently, or by using the property's "P" (Planned Unit Development) combining zone to cluster lots together, to provide more adequate setbacks between designated building areas and earthquake faults.

2. STAFF RECOMMENDATION.

Staff recommends that the Commission adopt the following resolution:

Denial:

The Commission hereby denies a permit for the proposed development on the grounds that the development, located between the sea and the first public road nearest the shoreline, is not in conformance with the certified Humboldt County LCP.

II. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. BACKGROUND.

The Humboldt County Building and Planning Department received an application for the proposed subdivision on February 9, 1995. A draft Environmental Impact Report for the project was completed in the early part of 1996. At the Planning Commission hearings during May through July of 1996, the applicants, County staff, and numerous property owners spoke to concerns regarding the proposed density of the Sand Pointe Subdivision in light of presently adopted plan and zoning standards, and site conditions. The concerns about the project focused primarily on the requested 20 percent bonus density increase, seismic and hydrologic forces affecting the site, compatibility of the development with the neighborhood, effects on coastal resources, and the land use compatibility with the Eureka-Arcata Airport.

In addition, the staff recommendation from the County Planning and Building Department differed with the staff recommendation from the County Public Works Department, including the Aviation Division of the Public Works Department. The Aviation Division was very concerned about possible threats to continued airport operations from the proposed residential density. Specifically, staff at the County Public Works Department were not in favor of the project's 20 percent bonus density increase, primarily because of airport land use compatibility relating to noise and safety issues and the density of the proposed development.

On July 16, 1996 the Planning Commission deadlocked in a 3 to 3 vote (with one abstention), thus failing to act upon the Final EIR and the proposed project. The tie vote of the Planning Commission represented "no action" being taken on the project, which is a functional denial of the project. The Planning Commission's non-action and effective denial of the project was then appealed by the applicants to the Board of Supervisors.

The Humboldt County Board of Supervisors held a series of public hearings on the appeal and the proposed development on August 13, August 20, August 27, September 3, September 24, and November 5, 1996.

On August 20, 1996, while acting as the Airport Land Use Commission, the Board of Supervisors found, by a 3 to 2 vote, that the proposed 2.4 dwelling units per acre density for the project and site was compatible with the adopted (1980) airport master plan.

At a September 3, 1996 meeting, the Board of Supervisors approved three permits with conditions for the project, consisting of a tentative map approval, a conditional use permit, and a coastal development permit. At a September 24, 1996 meeting, the Board of Supervisors adopted County Resolution No. 96-76 to certify the Final EIR for the project and adopt findings, mitigation and monitoring measures, and a statement of overriding considerations.

The Coastal Commission received notice of the County's final action on the coastal development permit application associated with the project on October 1, 1996. The local decision was appealed to the Commission in a timely manner by three appellants representing three groups of people. They are: (1) Patrica Hassen representing a group called Concerned Citizens, (2) Barbara Kelly representing a group called the Humboldt Coastal Coalition, and (3) Lucille Vinyard representing the Redwood Chapter of the Sierra Club.

The hearing on the appeal was opened and continued on November 12, 1996. The Commission found substantial issue on February 5, 1997.

B. PROJECT SETTING AND DESCRIPTION.

1. Area Location.

The subject property and proposed subdivision are located in the McKinleyville area of Humboldt County, about 1,200 feet west of Highway 101 intersection with Murray Road. The 26.5-acre property is located at the westerly end of Murray Road, on the north side of the road, between the Pacific Sunset Subdivision and the old Hammond Railroad right-of-way. The property also lies in the northwest corner of McKinleyville's urban limit line. See Exhibits No. 1 through 4. The tentative map is shown in Exhibit No. 4.

The western property boundary generally parallels a coastal bluff which is adjacent to the Mad River and the Pacific Ocean. An unimproved portion of the Hammond Trail, a public coastal trail, is located mid-slope on the bluff slope and within a cut bench area that was the former right of way for the Hammond Railroad. To the west of the Hammond Trail, between the Mad River and the ocean, is an undeveloped 67± acre parcel owned by the applicants that consists of sandy ocean beach, sand dunes, and the bed of the Mad River. Widow White Creek is located within a ravine, just beyond the northern boundary of the project. The eastern property boundary abuts the Pacific Sunset Subdivision, and the southern property boundary fronts on Murray Road.

The areas to the west and to the north of the proposed subdivision are primarily undeveloped and provide recreational opportunities due to their proximity to the old Hammond Railroad right-of-way, the Mad River, the Pacific

Ocean, and White Widow Creek. The areas to the east and to the south are developed residential subdivisions interspersed with larger undeveloped tracts of land.

2. Project Site.

The project site is located over a gently sloping, open coastal terrace that is about 50 to 80 feet above sea level. Between the coastal terrace and the Mad River lies the east bank of river, a low-lying sandy terrace at least 70 feet wide covered with riparian vegetation, and the coastal bluffs (with the Hammond Trail located mid-slope in a cut area on the bluffs).

The property is currently developed with one residential unit which fronts Murray Road near the southeast corner of the project site. The site was previously used for agriculture, primarily to grow flowers and bulbs. The site is now used as a hay field. The top of the bluffs has a series of small indentations indicating where gullying has occurred in the past. Except for the Hammond Trail, the area from the Mad River shoreline to the top of the bluffs is generally covered by dense brush and trees. Natural drainage of the site is to the west and southwest with a minor drainage area to the north to Widow White Creek.

The site has several natural and man-made hazards associated with it. As to natural hazards, the site lies within an Alquist-Priolo special studies zone. A surface trace of a primary thrust fault has been found and mapped in the southwesterly portion of the property. The project site is also situated above a 50-foot-high coastal bluff that is adjacent to the Mad River and subject to erosion. With respect to man-made hazards, the entire subdivision is located at the end of the airport approach for one of the two runways used by the Arcata-Eureka Airport. The Humboldt County LCP has land use and zoning regulations which call for limiting density in airport approach and transition zones to: (1) maintain airport safety for people who travel by air, (2) minimize risks to life and property for those people who chose to live beneath an airport approach zone, and (3) maintain continued airport operations without interference by people who choose to live under an airport approach zone and then complain about too much airplane noise, etc.

The majority of the project site is agricultural land that is presently used for hay production. The "perennial grassland" over the open coastal terrace is dominated by European grasses. The western margin of the project site includes a coastal bluff and a native plant association known as "northern coastal scrub". This association extends from the vegetated margin of the grassland westward over the edge of the bluff, down over the bluff slope, to end above the riparian influence zone of the Mad River. This northern coastal scrub plant community is dominated by California blackberry (Rubus ursinus) and a variety of other shrubby perennial species, including coast silktassel (Carrya elliptica), cascara (Rhanus purshiana), salal (Gaulteria shallon), twinberry (Loncera involucrata), coyotebrush (Baccharis pilularis), arroyo willow (Saliz lasiolepis), blueblosom (Ceanothus thyrsiflorus) and nootka rose (Rosa nutkana). Swordfern (Polystichum munitum) is also present. The

northern coastal scrub plant community also includes numerous Sitka spruces (Piciea sitchensis) and beach pines (Pinus contorta). An isolated "beach/pine forest" (including Monterey Pine (Pinus radiata) is located on the coastal terrace at the north end of the subdivision. An "alder/riparian forest" is located within the coastal ravine that contains Widow White Creek. The edge of the Mad River is bordered by a "northern fore dune grassland and mat" community. See Exhibit No. 3.

3. Project Description.

Originally, the Sand Pointe project was proposed as a phased subdivision of a 26.5-acre site into 63 single-family residential parcels ranging in size from approximately 9,900 to 21,800 square feet. At the August 20, 1996 meeting of the Board of Supervisors, the applicants amended their project description to include authorization of the construction of 63 principal residences, including the construction of streets, parks, screening, utilities and other site improvements through the combined coastal development and conditional use permit provisions.

In addition to the creation of 63 lots and the construction of 63 houses, the proposed project would create five other lots; four will be open-space landscaped parks and one will be used as a recreational vehicle storage area for the homeowners. The tentative map of the proposed subdivision is shown in Exhibit No. 4.

The proposed project also includes: (a) four open-space parks and a continuous greenway system within the boundary of the project, (b) onsite street lighting that is low-elevation, low-intensity lighting, and (c) onsite storm drainage system designed to accommodate onsite treatment of non-point source water pollution, while allowing adequate storm drainage for larger runoff events.

The proposed project includes paved roadways with rolled curbs, offstreet parking, underground utilities, engineered drainage system, a homeowner's storage lot, and trailways which will provide access to a local coastal trail. Other features of the proposed project include internal pocket parks and pathways for the residents of the subdivision, as well as a recreational vehicle storage area in the northeast corner of the project. All parcels would be served by public water and sewer. An outbuilding would be demolished and two cypress trees will be removed. The project does not extend Wilbur Avenue westerly, from the Pacific Sunset Subdivision into the the Sand Pointe project site, although the proposal does include a "crashable" barrier at the end of Wilbur Avenue.

The Sand Pointe project, as a Planned Unit Development, is proposed as a secured (fenced and gated) community. The project includes a 5 to 6-foot-high perimeter fence with a gated access from Murray Road. See Exhibit No. 5. The development would vary from the requirements of the base zoning district, such as reduced road widths, parking pockets, lot dimension and setbacks.

Onsite detention swales have been included in the project design to reduce the precentage of incident rainfall running off the site, increase infiltration, trap sediments, and provide for biological treatment of biological and some chemical wastes resulting from project site occupancy. The increased runoff exceeds the capacity of the existing storm drainage system in Murray Road. As a result, segments of the existing storm drain system in Murray Road would be augmented or replaced with larger components (i.e. increase the pipe size below the point of connection of the Sand Pointe drainage system, from 24 inches to 36 incles diameter.)

The proposed project could result in erosion at the existing storm drain on the Mad River shoreline. Thus, an energy-dissipation device would be constructed at the end of the existing Murray Road storm drain.

4. PUD Bonus Density.

The project proposes a subdivision for 63 parcels, which the applicants believe represents a 20 percent density bonus with respect to existing LCP requirements of 0 to 2 units per acre and zoning requirements of the RS-20 zone (Residential Single-Family, minimum lot size of 20,000 square feet). The certified LCP authorizes up to a 20 percent density bonus when the project to which it is related provides an "extraordinary public benefit." To qualify for the density bonus, the applicants proposed the following benefits:

(1) a fee simple dedication of 67-acre parcel (APN 511-011-05) consisting of beach and dune lands west of the project site and the Mad River to be conveyed to a suitable public agency or an appropriately qualified non-profit organization;

(2) the creation of a 5,000-square-foot "resting park" associated with the Hammond Trail at the end of Murray Road and located near the entrance driveway to the subdivision, to be dedicated to the McKinleyville Services District;

(3) the removal of two westerly power/telephone poles along Murray Road and the undergrounding of the above-ground wires along the west end of Murray Road;

(4) an offer to dedicate an easement for public access from the end of Wilbur Street along the east side of the subdivision northward to the Hammond Trail;

(5) voluntarily limiting the building height to 23 feet (from average grade to roof peak) on Lots A-1 through A-4, A-7 through A-10, B-7, and C-1 through C-24 to protect views; and

(6) an offer to install a fence on the east side of the Hammond Trail.

See Exhibit No. 6 for a more detailed description of these benefits. See also Exhibits No. 10 and 11 for more project details. After the Coastal Commission

found substantial issue in February of 1997, the Commission received one letter in support of the project (See Exhibit No. 20) and many letters in opposition to the project (See Exhibits No. 21 through 41). Additional correspondence is found in Exhibits No. 42 through 48.

5. Summary of Applicable Land Use and Zoning Regulations.

The Sand Pointe property is within the McKinleyville Area Plan (MAP) of the Humboldt County Local Coastal Program and the Humboldt County Coastal Zoning Regulations (HCC). Under the McKinleyville Area Plan, the plan designation for the property is RE, meaning Residential Estates, 0-2 dwelling units per acre. See Exhibit No. 7. The property is principally zoned RS-20, meaning Residential Single Family, with a minimum lot size of 20,000 square feet. The following special area combining zones and associated regulations also apply to the property: AP - Airport Safety Review, G - Alquist/Priolo Fault Hazard, A - Archaeological Resource Area, N - Noise Impact, R - Streams and Riparian Corridor Protection, P - Planned Unit Development, and Q - Qualified Combining zone (to prohibit second units).

The certified LCP includes, by reference, a number of components of the McKinleyville Community Plan, including the circulation plan and the Airport Compatibility Plan. The Airport Compatibility Plan was adopted by the County for off-airport property, based on a plan prepared in 1980 by Hodges and Shutt. The Airport/Land Use Safety Compatibility Criteria of the 1980 Plan is shown in Exhibit No. 8. The Airport Land use Compatibility Plan was updated in 1993 by Hodges and Shutt, but the County but did not submit it as an amendment into the County's certified Local Coastal Program. Both the certified 1980 plan and the uncertified 1993 plan were considered in the EIR and discussed by both the Planning Commission and the Board of Supervisors at public hearings for the project.

C. ANALYSIS OF LCP CONSISTENCY.

1. Seismic Hazards.

The proposed development is subject to the applicable policies and provisions of the McKinleyville Area Land Use Plan (MAP) and the Humboldt County Coastal Zoning Code (HCC). MAP Policy 3.28 specifically incorporates Section 30253 of the Coastal Act. Section 30253 of the Coastal Act states in applicable part:

> New development shall...minimize risk to life and property in areas of high geologic (emphasis added), flood, and fire hazard,...assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas or in any way require the construction of protective devices....

MAP Policy 3.28 A also states in applicable part:

> New development shall be consistent with the adopted Humboldt County Safety and Seismic Safety Element of the General Plan.

Lastly, Section A315-16 H(1) and (2) of the HCC applies to the supplemental public safety impact findings that must be made for a coastal development permit/project located within an Alquist-Priolo Fault Hazard Area of the coastal zone (which includes the Mad River Fault). Section A315-16 H(1)(b) of the HCC specifically states:

> A project as proposed will not cause or allow a structure for human occupancy to be placed within fifty (50) feet of a trace of an active fault (emphasis added).

As previously mentioned, the surface trace of an earthquake fault (the Mad River Fault) runs through the southwesterly portion of the property. The project plans indicate that 16 lots have designated building sites that are less than 50 feet (emphasis added) from the active trace of an earthquake fault. Consequently, the project as proposed is not consistent with Section A315-16 of the HCC. See Exhibit No. 9.

An Earthquake Fault Zone, Fault Evaluation Report, for the proposed project was prepared in November of 1994 by SHN, consulting engineers and geologists. See Exhibit No. 14. A companion R-1 Geologic and Geotechnical Report was also produced in December of 1994 by SHN. See Exhibit No. 15. Among other things, the earthquake report notes a primary thrust fault traversing the southwestern portion of the property. The report indicates that a "stratigraphic displacement in excess of the maximum trenching depth of 12 feet has occurred along the primary fault" and that "cumulative displacement of at least 6 feet has occurred along the zone of smaller faults." The report recommends that structures for human occupancy be located no closer than 50 feet east of the upper plate, and 25 to 30 feet west of the lower plate of where the projected fault plane intersects the ground surface (emphasis added).

In support of their ability to adjust the zone of exclusion from 50 feet to 25 feet, the applicants contend that the geologic report for the project was independently reviewed by Giblin Associates, Consulting Geotechnical Engineers, who found that the information presented in the report generally satisfied the policies and criteria in California Division of Mines and Geology Special Publication 42. See Exhibit No. 16. However, whether or not the report is consistent with Special Publication 42, the project must also be consistent with the provisions of the County's LCP as presently certified.

The applicants further contend that it is the custom and practice of geologists to vary standards where they believe it is appropriate. The applicants contend that the geologist's setback distance, deemed as appropriate by geologic evaluation, is allowed by the regulations which implement the Alquist-Priolo Earthquake Fault Zoning Act and that therefore the project is consistent with the adopted Humboldt County Safety and Seismic Safety Element of the General Plan. However, whether or not such adjustments in the setback are allowable under the Alquist-Priolo Act, the proposed

project must also be consistent with the LCP and such adjustments are not allowed in the County's LCP as presently certified. Moreover, the regulations which implement the Alquist-Priolo Earthquake Fault Zoning Act state that the area within 50 feet of the trace of an active fault shall be presumed to be underlain by active branches of that fault unless proven otherwise by an appropriate geologic investigation and report. See CCR Title 14, Division 2. As discussed further below, such proof has not been demonstrated.

A group of appellants hired LACO Associates, Consulting Engineers and Geologists, to provide a second professional opinion on the contents and recommendations of the two geotechnical reports that were prepared for the project and site by SHN. LACO submitted comments to the County on the Draft EIR which included evidence supporting conclusions contrary to those relied on in the draft EIR. See Exhibit No. 17.

In general, LACO Associates felt that the geotechnical reports were well thought out and carefully prepared. However, LACO Associates had some sharp differences of professional opinion regarding the seismic recommendations. With respect to SHN's recommendation of a less than 50 foot setback for designated building sites from the surface trace of an earthquake fault, LACO Associates assert:

> ...we cannot emphasize ...too strongly, that the location of the surface trace of the fault is based too heavily on the interpretation of the slope profiles, and is somewhat lacking in hard data, i.e. trenching.

LACO Associates concluded that: (1) the surface trace of the fault is speculative, (2) additional trench investigations should be considered to more accurately locate the fault, and (3) there is little basis for adjusting the standard zone for exclusion for structures for human occupancy (setbacks) of 50 feet on both sides of the fault to only 25 feet on the west side of the fault trace. LACO Associates summarized by stating: "It is our opinion that the [final EIR] does not adequately prove that the adjustment of the zone of exclusion from 50 feet to 25 feet is justified." LACO Associates also questioned the wisdom of locating the only means of vehicular access to and from the proposed subdivsion in a position where roadways may be destroyed by ground surface rupture.

Consequently, there is a difference in professional opinion between LACO Associates and SHN and Giblin Associates regarding what precise set-backs from the surface trace of an earthquake fault represent adequate margins of safety. While SHN and Giblin Associates believe that less than a 50 foot setback from the fault line is adequate, LACO Associates concludes that the data does not support such an adjustment.

Section A315-16H(1)(b) of the HCC unequivocally requires a setback of at least 50 feet from the surface trace of an active fault. Given the clarity of the requirement of Section A315-16H(1)(b) that a 50-foot setback be maintained, the Commission finds that the difference of professional opinion regarding the appropriateness, from a safety standpoint, of a setback as little as 25 to 30

feet from the surface trace of an active fault, must be resolved consistent with the standard contained in the certified LCP. Therefore, the Commission finds that the project as proposed is not consistent with Section A315-16 of the HCC and must be denied.

2. Development Density Inconsistent with Airport Safety.

As previously mentioned, the subject property lies entirely within an airport approach zone for the Eureka-Arcata Airport in McKinelyville. See Exhibits No. 12 and 14 for the location of the airport approach and transitional zones in relation to the project. See also the comment letter in Exhibit No. 13.

The airport is a public facility of statewide and regional significance. In addition, airport traffic is likely to expand in the future.

MAP 3.28 G applies to the Arcata-Eureka Airport Special Study Area, and it states in applicable part:

> 1. New development within the Arcata-Eureka Airport approach and transitional zones shall be consistent with the approved off-site development guidelines contained in the adopted County Airport Master Plan. The Airport Land Use Commission will define and formally establish an airport safety zone, adopt specific noise and safety standards, and apply such standards to all new development within these zones.
>
> 2. Generally, within the airport approach and transitional zones the plan recommends an overall residential density of 1 unit per 2.5 acres (emphasis added).
>
> 3. The clustering of new development or planned unit development technique shall be encouraged for new development in these zones to mitigate health and safety concerns.

Section A314-50 D (3) of the HCC states:

> The maximum density in an approach zone is one unit per three acres (emphasis added). A minimum of one (1) dwelling unit per lawfully created lot is permitted, even if this density is exceeded. The special permit process shall be used to retain to the maximum extent feasible the contiguous open space in the approach zone.
>
> Exceptions to the maximum density of one unit per three acres within an approach zone may be permitted subject to approval by the Director of the Department of Public Works.

The project's density of 2.4 dwelling units per acre exceeds: (a) the generally permitted density of 1 dwelling unit per 2.5 acres called for in MAP Policy 3.28G, and (b) the permitted density of 1 dwelling unit per 3 acres

that is required for all new development within an airport approach zone per Section A314-50 D (3) of the HCC. In fact, the project's density is 6 to 7 times the density that would ordinarily be allowed for new development under an airport approach zone.

In 1980 a document entitled: "Draft Technical Report, Humboldt County Airport Master Plan" by Hodges & Shutt, Aviation Planning Services, was adopted for use by the County. The document contains background information on airport planning issues, off-airport planning issues, and discussions of airport/land use compatibility policies (noise, airspace, and safety). The document recommended certain airport/land use compatibility policies. The criteria to be used to evaluate whether a land use is acceptable with respect to its airport proximity is shown in the Airport/Land Use Safety Compatibility Criteria. See Exhibit No. 8.

When the County adopted the McKinleyville Area Plan (MAP) in 1982, it incorporated the 1980 Airport Master Plan into section 3.28 G, the Arcata-Eureka Special Study Area. As noted above, MAP 3.28 G generally recommends an overall residential density of 1 unit per 2.5 acres within the airport approach and transitional zones (emphasis added). Use of the words "generally" and "recommends" in MAP 3.28 G provides some discretion on the part of the reviewing agency to determine maximum density. This discretion, of course, is limited by the application of all other applicable LCP policies and standards.

The property is subject to several combining zones of the HCC. These "overlay or combining zones" are used where special regulations apply to the property. The purpose of the combining zones is to establish regulations for land use and development in special areas that are identified in the Humboldt County General Plan and LCP. The special zone regulations apply when any of the special area combining zones are combined with a principal zone by the County Board of Supervisors. The HCC states that "the most restrictive regulation governs" where one or more of the County's regulations conflict with one another or where one or more regulations are applicable to the same matter within a zone.

The property is specifically subject to the AP (Airport Safety Review) combining zone as identified in Section A314-50 of the HCC because the property is located entirely within an airport approach zone. The purpose of the AP zone is to establish regulations to maintain compatibility between the proposed land uses and development and Humboldt County airports and to further minimize risks to life and property under airport approach zones. The airport approach zone restricts density to 1 dwelling unit per 3 acres. The requirements of the AP zone are in addition to the requirements of the principally permitted RS-20, Residential Single Family, one unit per 20,000 square feet. The 1 unit per 3 acre density requirement of the AP zone was established based on the recommendation of the 1980 Airport/Land Use Safety Compatibility Plan. The maximum density for unsubdivided lands within an AP zone is limited to one unit per three acres, unless an exception is made by the Director of the Public Works Department. See Exhibit No. 19.

MAP Policy 3.28 G 3 specifically requires that clustered development or planned unit development be encouraged for new development in the airport approach and transitional zones to mitigate health and safety concerns. In this case, clustering development in the transition zone cannot be used to mitigate health and safety concerns in the airport approach zone as the entire property is located within an airport approach zone.

MAP Policy 3.28 G and Section A314-50 D (3) of the HCC do allow a certain amount of flexibility on the part of reviewing agencies to determine appropriate density for this project. As noted above MAP Policy uses the terms "generally" and "recommends" with regard to the maximum density limitation. Section A314-50 D (3) specifically allows the Director of Public Works to make exemptions to the maximum allowable density and without specifying within that section the criteria that must be met to grant an exception. However, as also described above, the ability of a reviewing agency to waive the 1 unit per 3 acre density requirement does not have the effect of waiving any other policy or requirement of the LCP, such as those pertaining to seismic hazards. The Commission finds that a project must be found to be consistent with all applicable LCP policies and standards even after application of Section A314-50(D)(3). Thus, the grant of a density exception does not mean the project need not comply with other LCP policies and standards. In this case, density has not been allocated to this project consistent with all other LCP Policies and standards. As demonstrated above, the project is inconsistent with LCP standards that minimize seismic hazards. Thus, a density exception has not been proposed consistent with all other LCP standards, and as demonstrated above, must be denied.

The applicants contend that a project density of 2.4 dwelling units per acre is supported by the more recent, 1993 Airport Land Use Compatiblity Plan, which that suggests a higher density may be allowable within an airport approach zone. The applicants contend that the 1993 Airport Land Use Compatiblity Plan designates the project site at a density of 4 dwelling units per acre and that this 1993 Plan has been adopted by the County for planning considerations at the Arcata-Eureka Airport. The applicants also contend that the 1993 Plan is based on updated safety and noise information for the Airport, which indicated that the lower recommended densities in the 1980 Plan were no longer needed to protect the Airport from incompatible uses.

However, the 1993 Plan has never been adopted by the County for areas outside of the Airport, including the subject property. The 1993 Plan was never subject to local public hearings by the County and was never amended into the LCP. Thus, neither the general public nor the Commission ever had the opportunity to evaluate the report and the appropriateness of its recommendations for inclusion in the LCP. Pursuant to Section 30514 of the Coastal Act, no LCP amendment shall take effect until it has been certified by the Commission. Therefore, regardless of the appropriateness of the recommendations of the 1993 Plan, the recommendations do not apply in the coastal zone and are not a standard of review for the review of coastal development permits. The Commission therefore finds that the information in

the 1993 Plan is not the standard of review as it has not been incorporated into the County's certified LCP. In summary, the Commission concludes that if the 1993 Plan is in fact the basis for approving the higher density in the airport approach zone, then, to maintain the integrity of the LCP, the County should hold hearings on the report, and if appropriate, incorporate the recommendations of the report into an LCP amendment that would change the provisions of the LCP that are based on the 1980 Airport Master Plan that are inconsistent with the 1993 report.

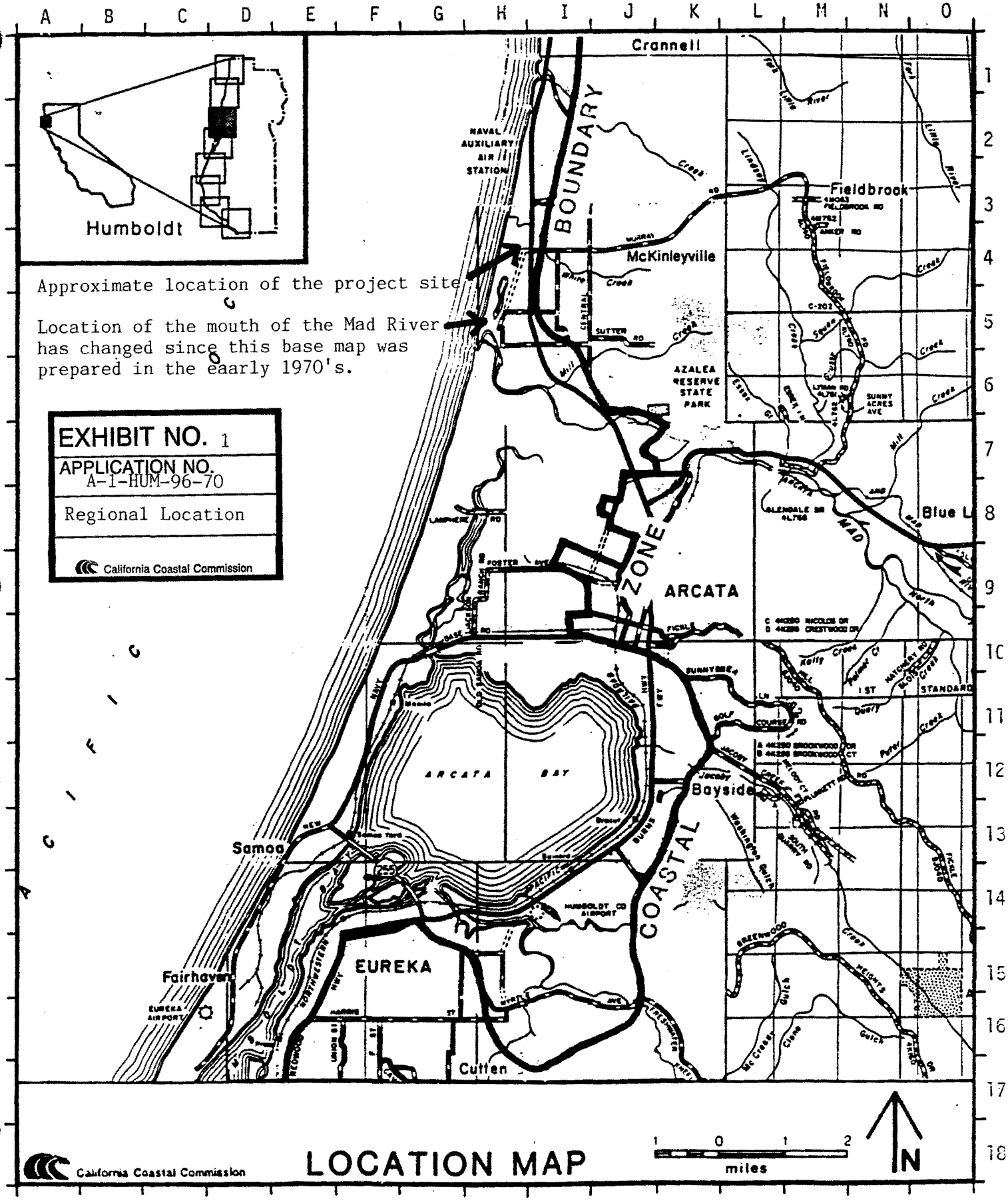
Finally, the applicants also contend that an LCP amendment was approved for the adjacent Pacific Sunset Subdivision which allowed for smaller lot sizes and increased residential densities. This contention is only partially correct. This subdivision was approved by the Coastal Commission in 1984, a year before the County's LCP was certified. Under LCP Amendment No. 1-87 (Hartman), the Humboldt County Board of Supervisors modified the proposed LCP amendment that was submitted to the Coastal Commission to decrease the residential density in the northwest corner of the subdivision and along the westerly edge of the subdivision because of the limited density that is allowed under an airport approach and transition zones. Thus, the only area of the subdivision that was allowed increased density was the area outside of the airport approach and transition zones. See Exhibit No. 18.

4. Conclusion.

Under the U.S. Supreme Court's decision in Lucas v. South Carolina Coastal Council (1992) 505 U.S., 112 S.Ct. 2886, where a project denial would deprive a property owner of all economically viable use, then denial of the project by a regulatory agency might result in a taking of the property for public use unless the proposed project would constitute a nuisance under State law. In denying the proposed land division, the Commission finds that there is no taking of private property, since a subdivision development with fewer, but larger, lots could comply with the applicable policies of the County's LCP.

The Commission finds that a land division is not the principally permitted use of the property, but a conditional use, and may only be approved subject to consistency with the County's LCP. In this case, the proposed land division is clearly inconsistent with the County's LCP policies regarding seismic hazards. The Commission finds that there is no way to condition the proposed land division, as presently configured, such that it would be consistent with the LCP.

There are feasible mitigation measures and alternatives available that the applicants could propose which would mitigate significant adverse seismic impacts consistent with certified LCP policies and standards, such as reducing the number of lots and arraying the lots across the site differently, or by using the property's "P" (Planned Unit Development) combining zone to cluster lots together, to provide more adequate setbacks between designated building areas and earthquake faults.



County of Humboldt

Sheet 3 of 8

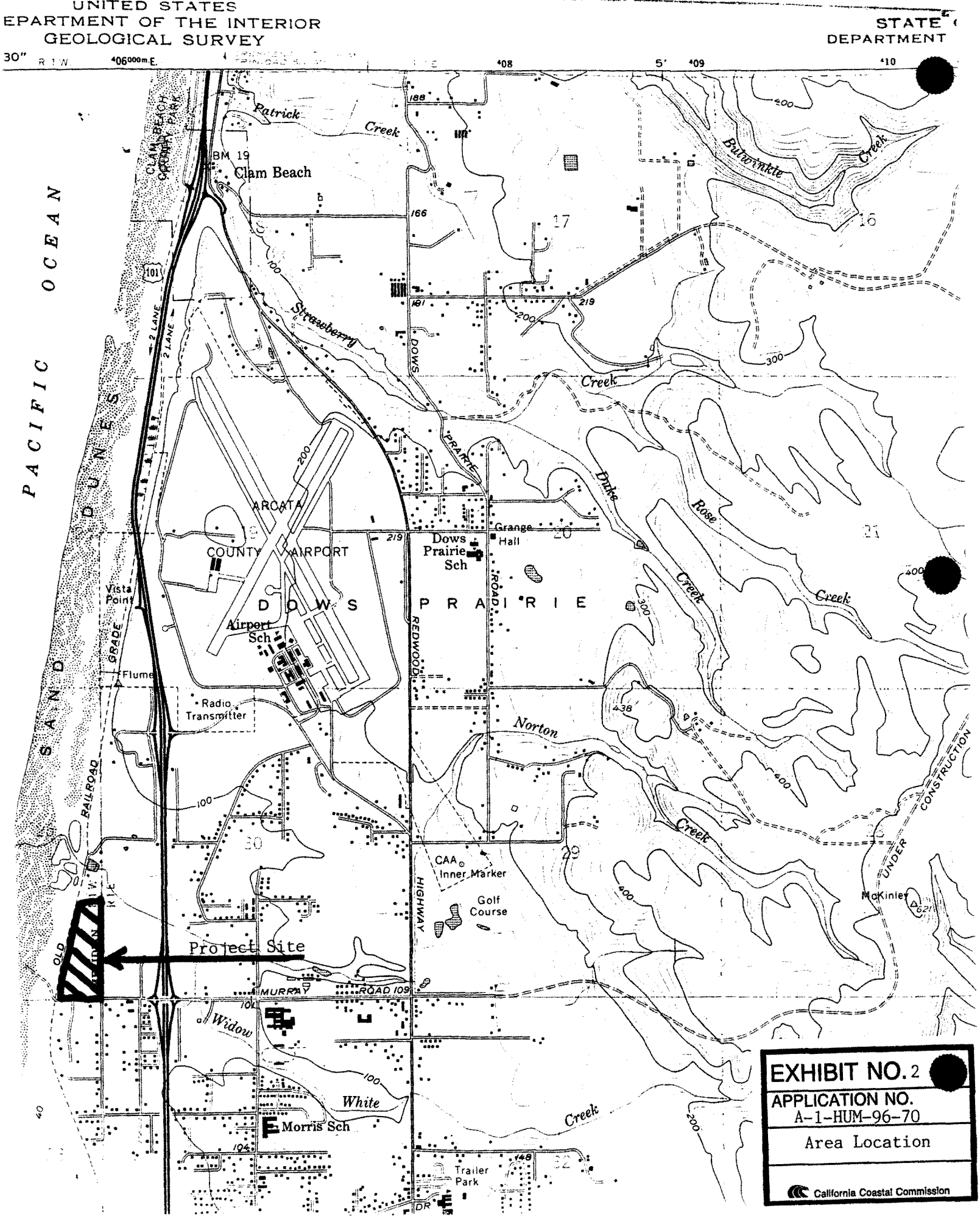


EXHIBIT NO. 2

APPLICATION NO.
A-1-HUM-96-70

Area Location

California Coastal Commission

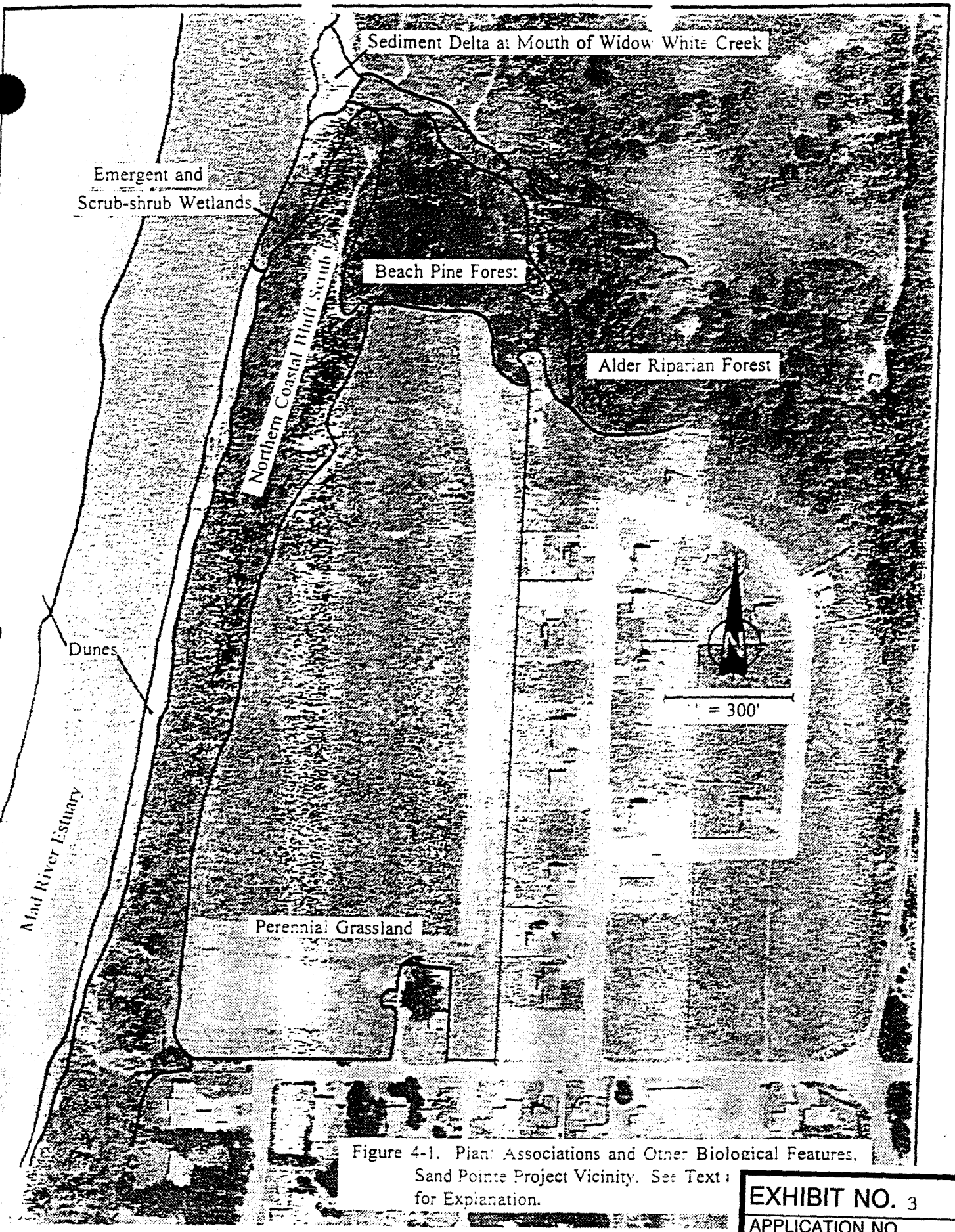


Figure 4-1. Plant Associations and Other Biological Features, Sand Pointe Project Vicinity. See Text for Explanation.

EXHIBIT NO. 3
APPLICATION NO. A-1-HUM-96-70
Plant Associations
California Coastal Commission

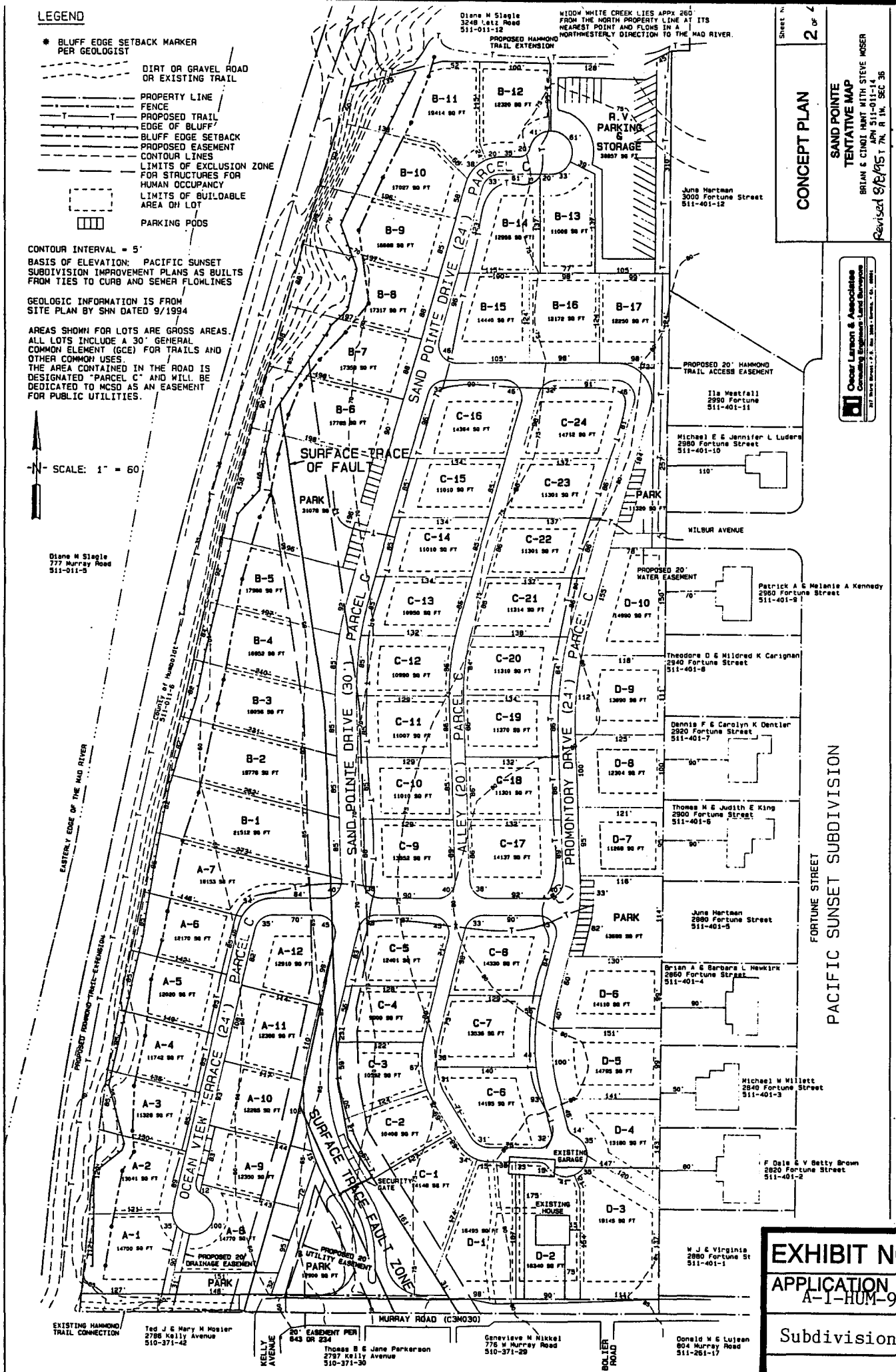


EXHIBIT NO. 4

APPLICATION NO. A-1-HUM-96-70

Subdivision Plan

California Coastal Commission

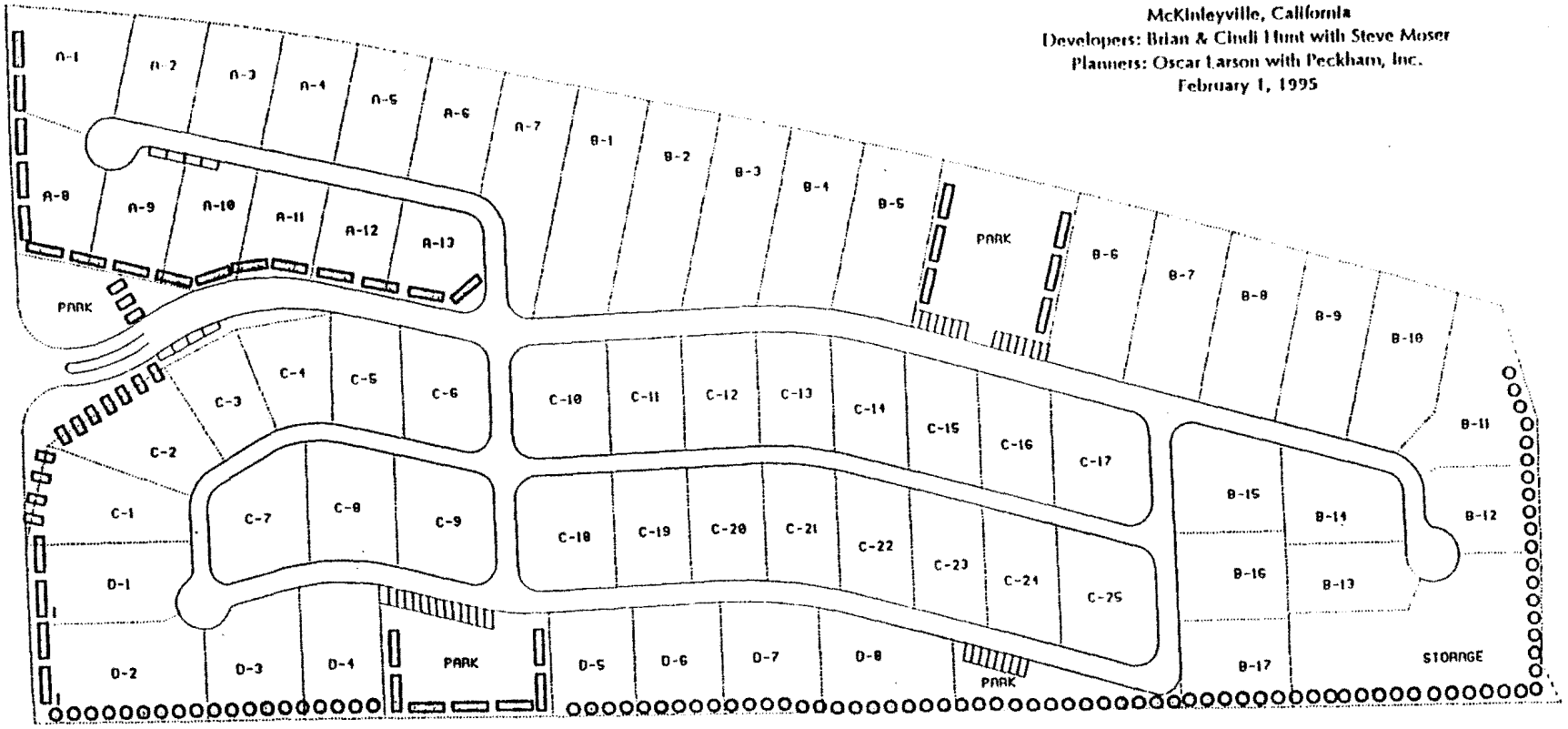
EXHIBIT NO. 5
APPLICATION NO.
A-1-HUM-96-70
Fence and Security Plan
California Coastal Commission

SECURITY PLAN

SAND POINTE

McKinleyville, California
Developers: Brian & Cindi Hunt with Steve Moser
Planners: Oscar Larson with Peckham, Inc.
February 1, 1995

DRAFT



0 50 100 150 North

OPAQUE FENCE
SEMI-TRANSPARENT FENCE
TRANSPARENT FENCE

SAND POINTE

The following items are offered by the Applicant to create Extraordinary Public Benefits:

Resting Park

The Applicant will construct a resting park (±5,000 square feet) at the west end of Murray Road, which will include lawns, an underground sprinkler system, two (2) picnic tables, two (2) sitting benches, and shrubbery to block the view of vehicles from Murray Road. The Applicant will offer to dedicate this park to the McKinleyville Community Services District as an Open Space Maintenance Zone. Maintenance and liability insurance will be provided by the Homeowners Association, estimated at $100.00 to $130.00 per month. The value of approximately 5,000 square feet of land at $8.00 per square foot is $40,000.00. The cost to develop approximately 5,000 feet of landscaping is $20,000.00.

Beach Dedication

The Applicant will offer to dedicate APN 511-011-05 (approximately 67.27 acres) to the State Coastal Conservancy, or to another suitable entity which will manage the land for conservation purposes. The Applicant will be required to deposit approximately $20,000.00 into a Trust Account to allow the recipient to pay liability insurance from the interest proceeds. The value of the 67.27 acres is approximately $100,000.00.

Telephone Poles and Lines

Aboveground power and telephone lines from the two westernmost poles along Murray Road will be placed underground, and the poles removed, at an estimated cost of $45,000.00 to $65,000.00.

Fences

Approximately 700 lineal feet of 6-foot high board-on-board (all heart redwood) fence with 6-inch by 6-inch pressure-treated posts and horizontal pressure-treated bases will be built adjacent to the Hammond Trail on the north and south sides of Sand Pointe. The fence will cost approximately $20.00 per lineal foot, for a total cost of approximately $14,000.00. The cost of monthly maintenance (and reserve for replacement) will be approximately $150.00 per month.

View Easement

Residences on the southwest portion of the property will be restricted to the height of the existing vegetation, 23 feet. This restricts lots A-1, A-2, A-3, A-4, A-8, A-9, and A-10.

EXHIBIT NO.

APPLICATION NO.
A-1-HUM-96-70

Extraordinary Public Benefits offered by the applicants

Coastal Access

An access easement will be offered to the County, from the west end of Wilbur Avenue to the proposed Hammond Trail north of the Sand Pointe site.

Hammond Trail Easement

An easement will be offered for maintenance of the Hammond Trail west of the Sand Pointe project, across all lands east of the existing Trail which are classified as moderate and high bluff slope failure hazard, as depicted on the site map prepared by SHN, December 1994.

Lower Costs to the County

The project will minimize the financial effect to County Public Works by minimizing operation and maintenance costs for roads and other facilities which would otherwise have to be maintained by the County.

Reduced Need for Services

The project will result in a reduced impact on publicly maintained improvements; roadway maintenance, park maintenance, and landscape maintenance will be provided by a Homeowners Association.

The fenced and gated community will result in less need for law enforcement services than would a non-gated community.

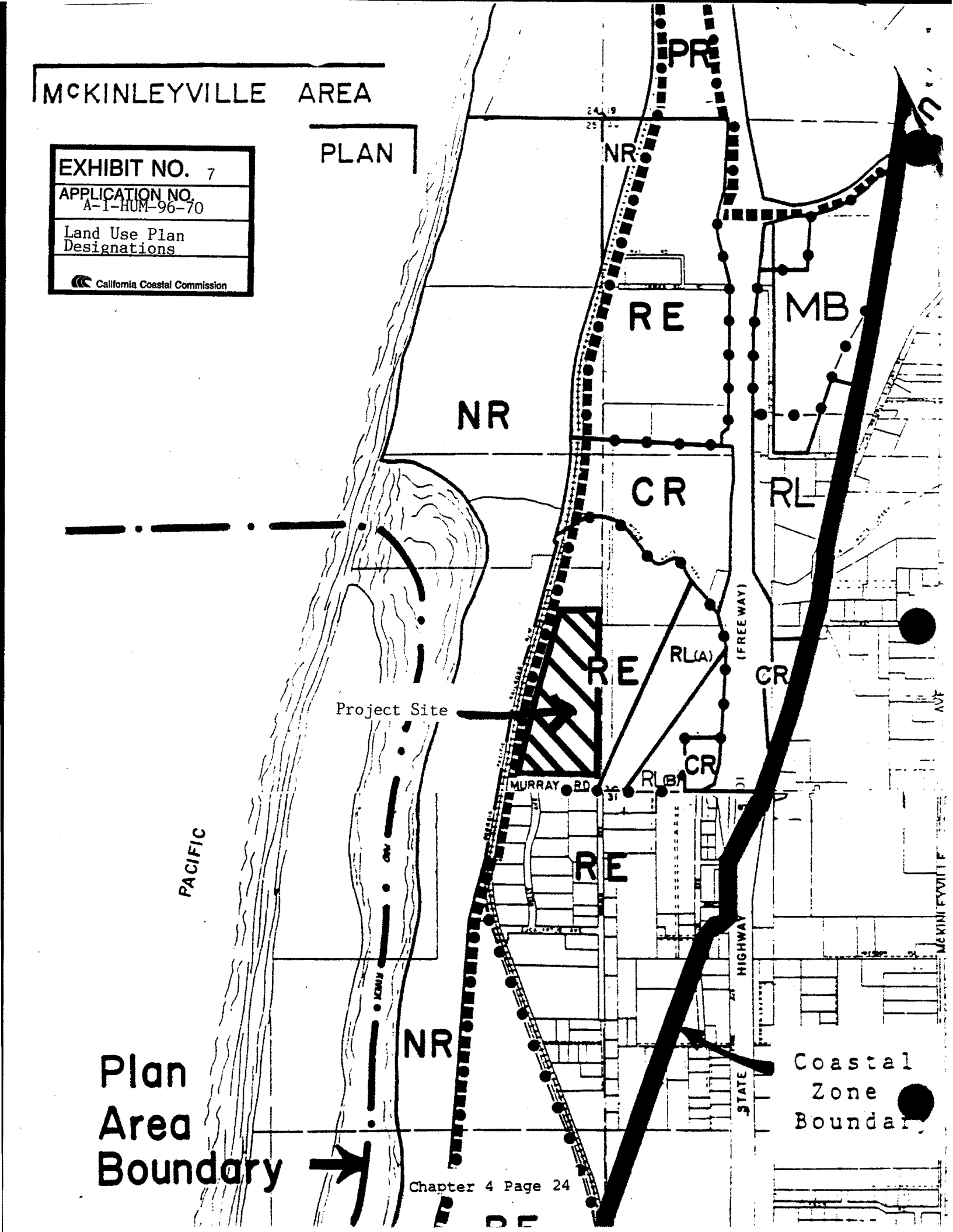

McKINLEYVILLE AREA
PLAN
EXHIBIT NO. 7
APPLICATION NO. A-1-HUM-96-70
Land Use Plan Designations
California Coastal Commission
PR
NR
RE
MB
NR
CR
RL
RE
RL(A)
CR
(FREEWAY)
Project Site
CR
MURRAY RD
RL(B)
RE
PACIFIC
HIGHWAY
NR
Coastal Zone Boundary
Plan Area Boundary

Table 5-4. Airport/Land Use Safety Compatibility Criteria (Based on Hodges & Shutt 1980).

SAFETY ZONES 1/					
CRITERIA or LAND USE CHARACTERISTICS	Clear Zone	Approach Zone 2/ 3/	Transitional Zone 3/	Beneath Flight Track	Horizontal and Conical Zones
Distracting Lights and Glare	–	–	-	-	0
Source of Smoke	–	–	–	-	0
Source of Electronic Interference	–	–	–	–	–
Attractor of Birds	–	–	–	-	-
Low-Density Residential	–	o4/	+5/	+5/	++
High-Density Residential	–	-	o5/	o5/	+
High-Occupancy Uses	–	-	o6/	+	+
Assemblage of People	–	o6/	+	+	++
Permanent Structures	–	+	++	++	++

INTERPRETATION

++ **CLEARLY ACCEPTABLE:**
No hazards result when the land use characteristic occurs within the specified zone.

\+ **NORMALLY ACCEPTABLE:**
Safety is a consideration but, unless unusual conditions are involved, no hazards will result.

o **CONDITIONALLY ACCEPTABLE:**
Hazards are associated with the location of the land use characteristics in the given zone, but mitigation measures are available which may make the relationship between them acceptable.

\- **NORMALLY UNACCEPTABLE:**
The land use characteristic should generally be avoided in the specified zone because of the significant hazards which will result.

– **CLEARLY UNACCEPTABLE:**
Unless strong overriding circumstances prevail, the land use characteristic should not be permitted within the indicated safety zone. Within the extended runway safety area of a clear zone, exceptions are not permissible under any circumstances.

DEFINITIONS

- Distracting Lights and Glare: Any nonairport light which can be mistaken for airport lights. Any source of glare directed toward an operating aircraft.
- Source of Smoke: Any substantial generator of smoke whether from a permanent use or temporary source.
- Source of Electronic Interference: Any source which disrupts radio communications or navigational signals.
- Attractor of Birds: Any land use characteristic, especially including sanitary landfills, which increases the likelihood of aircraft colliding with birds.
- Low-Density Residential: Residential uses, including duplexes and mobile homes, having an average density of less than 10 units per acre.
- High-Density Residential: Residential uses having an average density greater than 10 units per acre.
- High-Occupancy Uses: Uses whi h typically are confined to a structure and which regularly involve densities exceeding 25 person per acre (excluding streets).
- Assemblage of People: Any circumstances, whether permanent or temporary and whether in or out of a structure, which result in assemblages of more than 25 persons per acre (excluding streets).
- Permanent Structures: Any building, sign, or other structure not required for airport operations. (Note: the height of structures must meet the criteria set forth in the airspace policies.)

NOTES AND CONDITIONS

1/ Where zones overlap, the more restrictive criterion applies.

2/ For the purpose of assessing safety compatibility, only the inner 10,000 feet of a precision instrument runway approach zone need be considered.

3/ Where the affected land is lower than the runway elevation, less restrictive criteria may be acceptable.

4/ The use may be acceptable if the average density does not exceed one dwelling unit per approximately 3 acres (agricultural, rural residential, or similar zoning designation). This criterion assumes that it is possible to adjust building sites within the approach zone so as to maximize the extent of contiguous open space. Where this is not the case, residential use is normally unacceptable.

5/ Acceptability is contingent upon the reasonable availability of large, contiguous open spaces in the imm vicinity and consideration for the added margin of aeronautical safety which such spaces provide.

6/ The use may be acceptable if it does not regularly result in a concentration or more than 50 persons pe streets) when averaged over a 2-hour period.

EXHIBIT NO. 8
APPLICATION NO. A-1-HUM-96-70
Airport/Land Use Safety Compatibility Criteria
California Coastal Commission

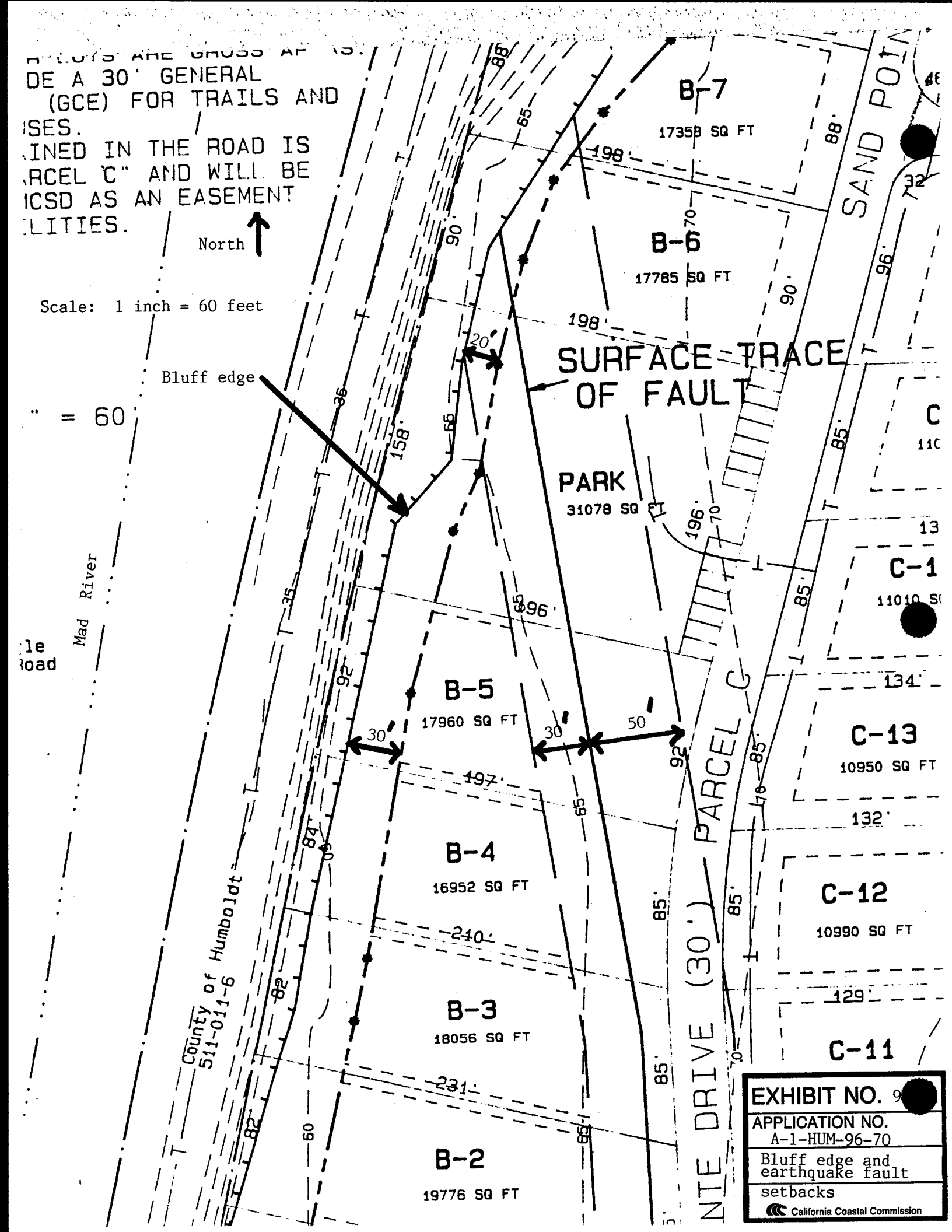


EXHIBIT NO. 9

APPLICATION NO. A-1-HUM-96-70

Bluff edge and earthquake fault setbacks

California Coastal Commission

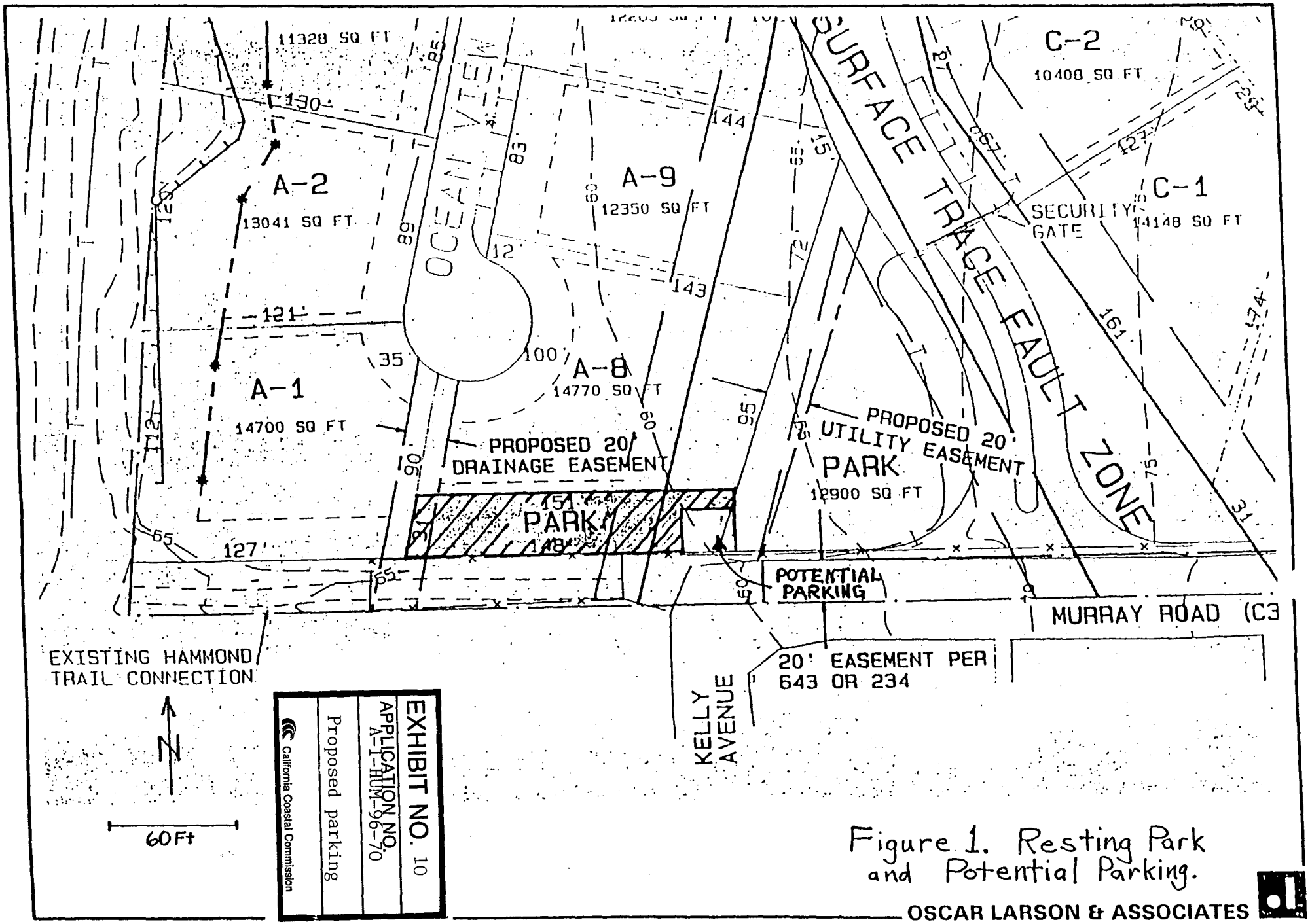


Figure 1. Resting Park and Potential Parking.

OSCAR LARSON & ASSOCIATES

Note: The 5-foot-high, open style fence and the crashable gate at the end of Wilbur Avenue is not shown.

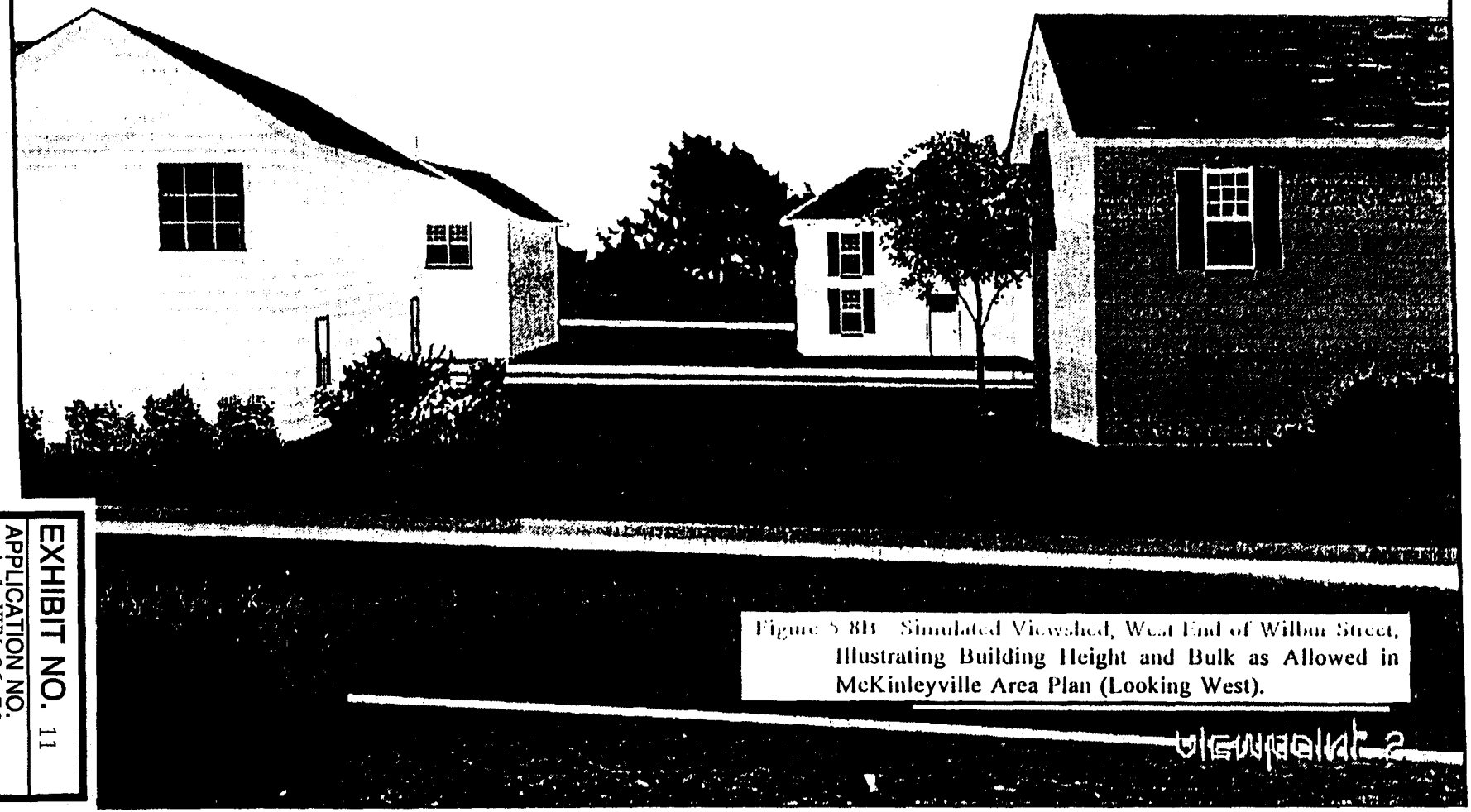


Figure 5.8B Simulated Viewshed, West End of Wilbur Street, Illustrating Building Height and Bulk as Allowed in McKinleyville Area Plan (Looking West).

Image © 1995 Clearlight Productions

EXHIBIT NO. 11
APPLICATION NO. A-1-HUM-96-70
Simulated view from the end of Wilbur Avenue
California Coastal Commission

APPENDIX D

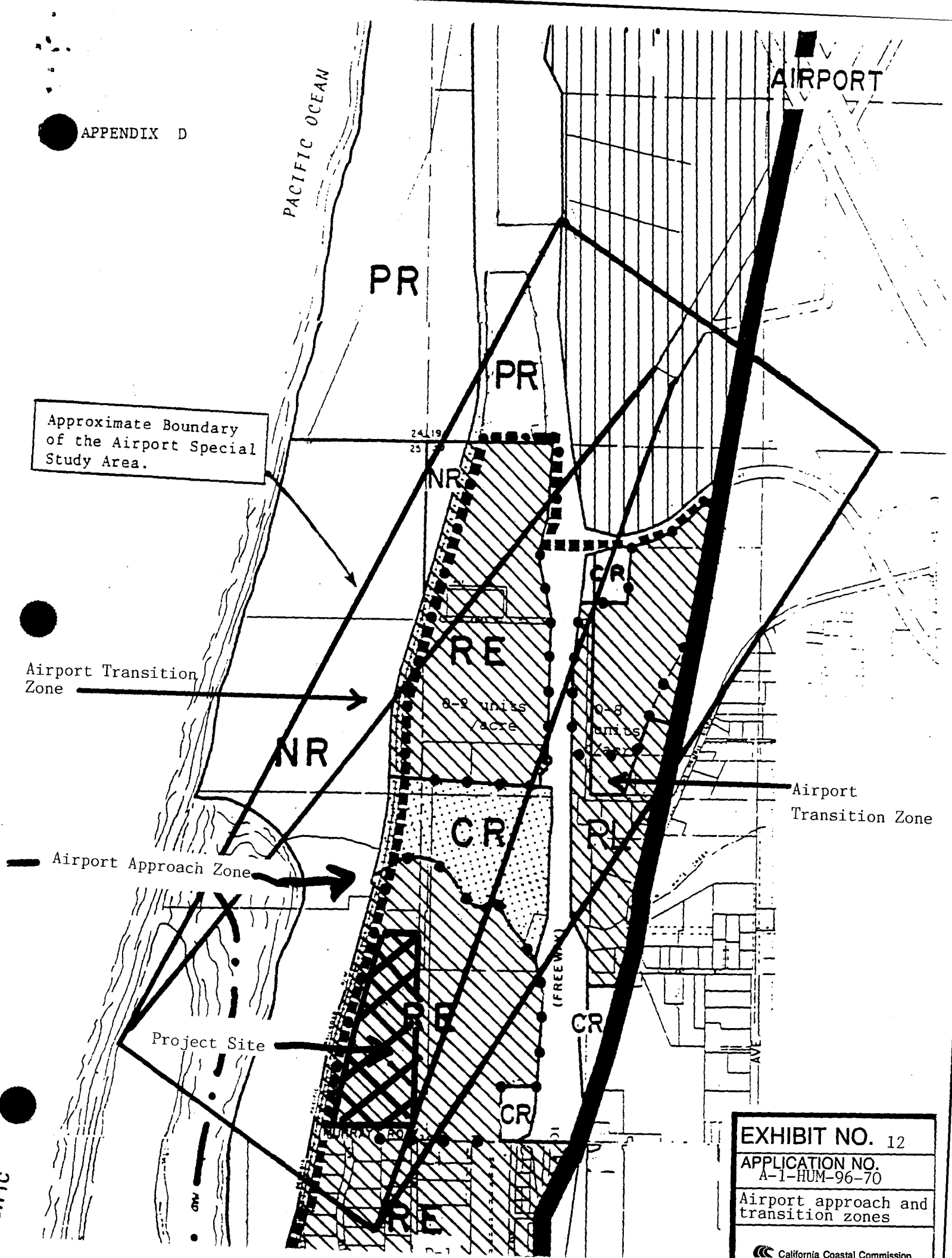
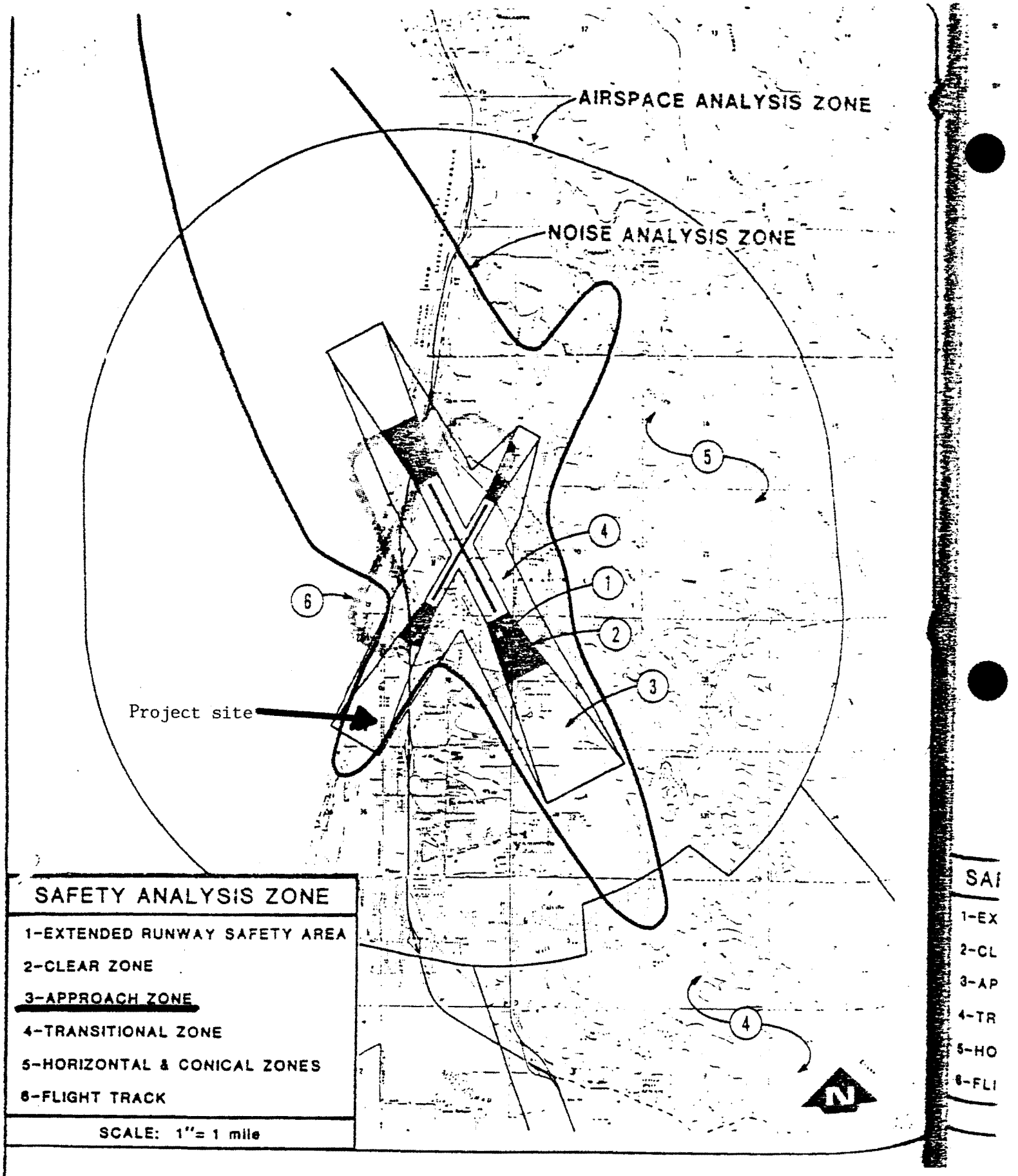


EXHIBIT NO. 12

APPLICATION NO. A-1-HUM-96-70

Airport approach and transition zones

California Coastal Commission



AREA OF INFLUENCE - ARCATA AIRPORT

EXHIBIT NO.

APPLICATION NO. A-1-HUM-96-70

Airport Safety Zones

California Coastal Commission

Richard C. Tobin
2650 Buttermilk Lane
Arcata, CA, 95521
707-825-8424

January 19, 1997

Dear Commissioners,

It would be a shame if you approved the Sand Pointe Project before the Humboldt County Board of Supervisors properly adopts the Off Airport portion of the Arcata Airport Land Use Compatibility Plan (ALUCP).

They use the old plan when it is convenient then use the Draft, unapproved, 1993 Plan when it is convenient.

The Board has publicly admitted the 1993 Draft ALUCP needs to be properly reviewed, however, they have refused to allow it to come up for review. The Board also agrees that the Sand Pointe Project is in the area covered by the ALUCP.

This is extremely important because the number of dwelling units per acre is significantly increased in the plan which has not been approved.

I respectfully request that you:

1. **Send the appeal back to the Humboldt County Board of Supervisors and tell them the appeal is premature. or**
2. **Remove consideration of the Sand Pointe appeal off the docket until the Humboldt County Board of Supervisors submits a legally approved Airport Land Use Compatibility Plan. or**
3. **Deny the appeal.**

Sincerely,

Signed

Reference: 940117

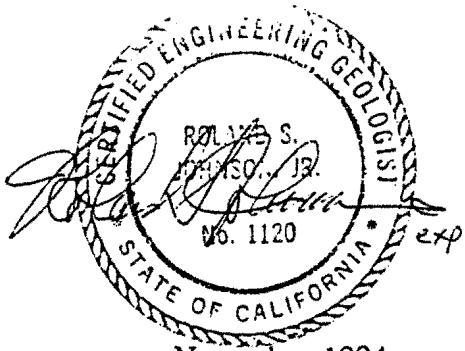
EARTHQUAKE FAULT ZONE FAULT EVALUATION REPORT PROPOSED SUBDIVISION, AP# 511-011-14 McKINLEYVILLE, CALIFORNIA

Prepared for:

Brian and Cindi Hunt, and Steve Moser
McKinleyville, California

Prepared by:

SHN
CONSULTING ENGINEERS & GEOLOGISTS
812 W. Wabash
Eureka, CA 95501
707/441-8855



expires 7/31/95

November 1994

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- Faulting 2
- Seismicity 3

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- Test Pits 6
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RECOMMENDATIONS 8

CLOSURE 9

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2. Site Map
3. Geologic Map
4. Regional Plate Tectonics and Fault Maps
5. Profiles
6. Trench 1 Log
7. Trench 2 Log
8. Trench 3 Log

Pg. 2, Exhibit 14, A-1-HUM-96-70

EARTHQUAKE FAULT ZONE
FAULT EVALUATION REPORT
PROPOSED SUBDIVISION, AP# 511-011-14
McKINLEYVILLE, CALIFORNIA

EXECUTIVE SUMMARY

This report is being provided to document the results of our geologic investigations in July and August 1994. The project site is located north of Murray Road and approximately 1,200 feet west of Highway 101 and is on the north side of Murray Road, in McKinleyville, California (Figure 1). The project site is proposed for subdivision development.

The proposed development lies within an Alquist-Priolo Earthquake Fault Zone (formerly designated as a "Special Studies Zone") as defined by the California Division of Mines and Geology (Davis, 1983: Smith, 1982). Investigation methods and the report format are based upon Appendix C of Special Publication 42 (1992 revision), titled "Fault-Rupture Hazard Zones in California", published by the California Division of Mines and Geology. The primary purpose of our investigation is to evaluate the potential for surface fault rupture within the project area.

In the McKinleyville area, Franciscan rocks are typically unconformably overlain by marine and continental deposits of the early to middle Pleistocene age Falor formation (Carver, Stephens, and Young, 1982a). Late Pleistocene age, marine terrace deposits commonly overlie the Falor formation. Marine terrace deposits are overlain by topsoil consisting of a brown "A" horizon soil from the surface to depths ranging between 2 and 4 feet below ground surface, and a moderately developed pedogenic "B" horizon from approximately 2 to 2.5 feet below the "A" horizon soil.

The Humboldt County coast between Cape Mendocino and Big Lagoon consists of a prominent fold and thrust belt (Carver and Burke, 1989). Regional tectonics of northwestern Humboldt County are dominated by northeast-southwest compression resulting from collision of the Gorda crustal plate with the North American crustal plate. These tectonic processes are ongoing and the resulting fault activity is capable of producing earthquakes and surface ground rupture.

The project site is located within the Mad River Fault Zone (MRFZ). This zone is characterized by several major northwest trending, northeast dipping, thrust faults and numerous associated, minor synthetic and antithetic faults. One of the main thrust faults within this Zone is the Mad River fault, the northern segment of which is mapped as crossing the project parcel.

Subsurface investigations were conducted at the project site to determine whether or not the site has experienced fault rupture since deposition of the McKinleyville terrace deposits. Subsurface investigations were warranted because one scarp is mapped as crossing the southwestern corner of the project parcel, and the majority of the parcel is within an Earthquake Fault Zone (Special Studies Zone).

Aerial photographic studies were conducted to identify topographic features which display fault line morphology in the project vicinity. Based on the stereographic review of aerial photographs, the fault trace at the project site was identified as a gentle slope inflection.

In July and August 1994, a series of 3 exploration trenches were excavated across the project site. The trenches were generally excavated perpendicular to the mapped trace of the northern segment of the Mad River fault.

Based on the results of the aerial photograph review and the subsurface investigation (trenching), a primary thrust fault, indicating vertical stratigraphic displacement in excess of the maximum trenching depth of 12 feet, was identified traversing the southwestern portion of the property, and is consistent with the information gathered by others in the project vicinity. In addition, a fault zone indicating cumulative vertical displacement of at least 6 feet was observed in the southern portion of the project site. Upper plate deformation was observed along the primary thrust fault. Lower plate deformation was not observed.

Page 4, #14, A-1-HUM-96-70

EARTHQUAKE FAULT ZONE
FAULT EVALUATION REPORT
PROPOSED SUBDIVISION, AP# 511-011-14
McKINLEYVILLE, CALIFORNIA

INTRODUCTION

This report is being provided to document the results of our geologic investigations in July through September 1994. The project site is located north of Murray Road and approximately 1,200 feet west of Highway 101 and is on the north side of Murray Road, in McKinleyville, California (Figure 1). From the north side of Murray Road, the subject property extends for approximately 2,000 feet north, and is near Widow White Creek to the north, residences along Fortune Road to the east, and the coastal bluff to the west. We understand that a subdivision is proposed for this site. A site plan is provided as Figure 2.

This preliminary report is intended to provide general geologic information for project planning. For purposes of this report, we assume that the proposed development will consist of conventional, single family residences with associated roads and underground utilities.

The proposed development lies within an Alquist-Priolo Earthquake Fault Zone (formerly designated as a "Special Studies Zone") as defined by the California Division of Mines and Geology (Davis, 1983: Smith, 1982). Investigation methods and the report format are based upon Appendix C of Special Publication 42, 1985 Edition, titled "Fault-Rupture Hazard Zones in California", published by the California Division of Mines and Geology. The purpose of our investigation is to evaluate the potential for surface fault rupture within the project area.

Included within the scope of our investigations is a review of pertinent geologic maps and literature, a review of stereoscopic aerial photographs, a field reconnaissance of the subject parcel and surrounding area, and subsurface excavations (trenches and test pits) within the project site boundaries.

GEOLOGIC SETTING

Geology

Exposed bedrock in the McKinleyville area consists of the Late Jurassic to Late Cretaceous age, central belt melange subunit of the Franciscan Complex (Strand, 1962), Melange typically consists of blocks of sandstone, greenstone and chert with occasional blocks of blueschist, greenschist, and amphibolite schist, ranging from a few inches to several thousands of feet in maximum dimension all set in a highly sheared, claystone-siltstone matrix. In the McKinleyville area, Franciscan rocks are typically unconformably overlain by marine and continental deposits of the early to middle Pleistocene age Falor formation (Carver, Stephens, and Young, 1982a). Late Pleistocene age, marine terrace deposits

Page 5, #14 A-1-HUM-96-70.

commonly overlie the Falor formation. Each terrace consists of an abrasion platform cut across the two principal geologic units: either the Franciscan Complex or the Falor formation. Deposits associated with constructional terrace surfaces typically consist of a basal lag deposit (commonly gravel) overlain by moderately consolidated, marine, alluvial, colluvial, and eolian deposits. Regional geology is shown on Figure 3.

Comparison of the relative degree of pedogenic soil profile development at the site with other dated soil stratigraphic sequences such as the Trinidad, California terrace sequence (Page and Stephens, 1982; Stephens, 1982; Woodward-Clyde, 1980) clearly indicate that the stratified marine terrace deposits are pre-Holocene in age (more than 11,000 years old). Evidence suggests that the McKinleyville terrace sediments were deposited during the Sangamon interglacial period, approximately 82,000 years to 125,000 years before present (Woodward-Clyde, 1980).

Marine terrace deposits are overlain by topsoil consisting of a brown "A" horizon soil from the surface to depths ranging between 2 and 4 feet below ground surface, and a moderately developed pedogenic "B" horizon from approximately 2 to 2.5 feet below the "A" horizon soil.

Faulting

The Humboldt County coast between Cape Mendocino and Big Lagoon consists of a prominent fold and thrust belt (Carver and Burke, 1989). Regional tectonics of northwestern Humboldt County are dominated by northeast-southwest compression resulting from collision of the Gorda crustal plate with the North American crustal plate. Under thrusting of the Gorda plate beneath the North American plate is known as the Cascadia Subduction Zone (See Figure 4). As the Gorda plate thrusts under the North American plate, a prominent fold and thrust belt is created landward of the subduction zone (Carver and Burke, 1989). These tectonic processes are ongoing and the resulting faults are capable of producing earthquakes and surface ground rupture.

The project site is located within the Mad River Fault Zone (MRFZ) (See Figures 1 and 4). This zone is characterized by several major northwest trending, northeast dipping, thrust faults and numerous associated, minor synthetic and antithetic faults. Within the MRFZ, individual faults commonly exhibit highly variable strikes, and shallow dips ranging between approximately 10° to 55°. A number of individual faults within the zone are considered active and capable of producing large earthquakes. Major faults within the MRFZ include, from north to south, the Trinidad, McKinleyville, Mad River, and Fickle Hill faults. One of the main thrust faults within this Zone is the Mad River fault, the northern segment of which is mapped as crossing the project parcel.

Carver, Stephens, and Young (1982a) mapped and described the MRFZ extending from near the town of Maple Creek, northwest to the Pacific Ocean. Their study indicates that the MRFZ is a system of imbricate northwest trending, northeast dipping, thrust and reverse faults. They concluded that at least 3 miles (5 kilometers) of middle and late Pleistocene age dip slip displacement has occurred across the MRFZ since deposition of the early to

middle Pleistocene age Falor formation. Tectonically deformed marine terraces suggest that faulting and warping has continued into the late Pleistocene. Holocene displacement appears to have occurred along numerous segments of the faults.

The California Division of Mines and Geology, as part of the Alquist-Priolo Special Studies Zone Act has produced fault maps of portions of Humboldt County (Smith, 1982). Information shown on these maps is based on compilations of published and unpublished data and interpretations of aerial photographs. In addition to delineation of suggested fault traces, these maps also delineate zones where special geologic studies may reveal the actual location of a fault trace.

Weaver (1981) discussed the tectonic deformation of the McKinleyville terrace and described the characteristic morphology of thrust faults in McKinleyville. Two geomorphic features located near the project site were named during his study: the School Road Scarp and the Mill Creek Scarp (see Figure 1).

The Earthquake Fault Zone (Special Studies Zone) Map indicates two main traces of the Mad River Fault. Carver, Stephens, and Young (1985) mapped four main, active, imbricate thrusts distributed over a zone approximately 2000 feet wide. Figures 1 and 3 show the two segments of the Mad River Fault which the State has mapped. They do not show the additional segments which Carver, Stephens, and Young (1985) have mapped.

This study focusses on that portion of the project that falls within the Earthquake Fault Zone (Special Studies Zone). Subsurface investigations outside of the zone were not required, and in our judgement, are not considered necessary.

Seismicity

Four principal seismic sources are capable of producing strong ground shaking in the McKinleyville area: the Gorda Basin; the northern portion of the San Andreas fault and the associated Mendocino fracture zone; the Little Salmon/Mad River fault zones; and the Cascadia Subduction Zone (CSZ) (Dengler et al, 1991; Figure 4).

Gorda Basin earthquakes are generated because of internal deformation of the subducted Gorda oceanic crustal plate beneath northern Humboldt County. The Mendocino fracture zone is the southern margin of this crustal plate (Figure 4). Many historical earthquakes resulting from deformation of this plate have been of large magnitude, the most recent being the magnitudes 6.5 and 6.7 on April 26, 1992, and the 7.2 event on November 8, 1980. The January 31, 1922, earthquake of magnitude 7.3 is also attributed to this source (Dengler et al, 1991).

Earthquakes occurring along the San Andreas fault and the Mendocino fracture zone are also common. The San Andreas fault system is capable of generating great earthquakes such as the April 18, 1906, magnitude 8.3 San Francisco earthquake. However, earthquakes originating along the associated Mendocino fracture zone are generally of magnitude 6.5 or less (Toppozada et al, 1986, and National Earthquake Information Center). However, on

September 1, 1994, a 7.2 magnitude earthquake, originating along the Mendocino fracture zone, occurred approximately 90 miles west of Petrolia, California. This was the largest event ever recorded for the Mendocino fracture zone.

A complex, northwest trending, northeast dipping system of compressional faults surround the Humboldt Bay region (Figure 4). Within this system, the Little Salmon and Mad River fault zones contain numerous active (Holocene) faults both onshore and offshore. Paleoseismic evidence, deduced from subsurface exploration trenches, suggests that this system of compressional faults is capable of generating very large magnitude earthquakes (Woodward Clyde, 1980). Historically, the largest earthquake believed to have originated on either of these thrust fault zones is the December 21, 1954, magnitude 6.6 event. However, recent investigations (Clarke and Carver, 1992) suggest that the Little Salmon and Mad River fault zones may also move in response to megathrust events on the CSZ.

Extending from near Cape Mendocino, north 750 miles to the Queen Charlotte Islands, the CSZ separates the subducting Gorda and Juan de Fuca plates from the overriding North American plate. Although very large magnitude subduction earthquakes have not occurred in the Pacific Northwest for at least 150 years, many investigators believe that the CSZ is storing energy to be released in future great earthquakes. Should a major subduction zone earthquake occur, the levels of ground shaking in the project vicinity would probably not exceed those of large magnitude earthquakes occurring from other local sources; however, the duration of strong ground motion could be much longer. The first documented CSZ earthquake was the April 25, 1992, magnitude 7.1 event.

PREVIOUS INVESTIGATIONS OF THE MAD RIVER FAULT ZONE

Kelsey and Carver (1988) have assumed that tectonic activity in the Mad River Fault Zone began about 700,000 years ago, based on completion of the Falor Formation deposition, or a little more than a million years after the eruption of the Huckleberry Ridge tuff from the Yellowstone caldera.

Woodward-Clyde Consultants (1980) have shown, by examination of exposures in sea cliffs, road cuts, and exploration trenches, that individual faults within the MRFZ display a complex system of imbricate, northeast dipping fractures and fault surfaces, and secondary, generally southwest dipping antithetic fractures and faults. In general, primary faults trend north 15 to 55 degrees west and dip between 20 and 50 degrees to the northeast. Most faults and fractures that they studied exhibited reverse, dip slip displacement.

The level of activity and recurrence intervals between individual faulting events, occurring within the MRFZ, was recently studied by Carver and Burke (1989). Trenches were excavated across several of the fault trace segments in the McKinleyville area. Scarp morphology was used as an indicator of scarp age. Carver and Burke indicated that at least one Holocene event had occurred within the last 10,000 years and a previous event occurred about 10,000 years ago. Their article indicates that the marine terrace is vertically offset more than 35 meters, with an average late Pleistocene slip rate of about 1.4 mm/yr.

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SITE CONDITIONS

Located on a gently sloping, late Pleistocene age marine terrace, the site is situated at elevations ranging from approximately 50 to 80 feet above sea level. The existing parcel extends to the north, near Widow White Creek, and is bordered on the south by Murray Road, on the east by Fortune Road residences, and on the west by the coastal bluff and the Hammond Trail (See Figure 1). Marine terrace deposits are overlain by topsoil consisting of a brown "A" horizon soil from the surface to depths ranging between 2 and 4 feet below ground surface, and a moderately developed pedogenic "B" horizon from approximately 2 to 2.5 feet below the "A" horizon soil. Bioturbation by burrowing organisms and root penetration is typical to depths of approximately 5 feet below the ground surface, therefore obscuring primary depositional structures, such as bedding.

Aerial photographic studies were conducted to identify topographic features which display fault line morphology in the project vicinity. Stereographic, black-and-white photographs dated 1941, with a scale of 1:20,000, were examined to determine whether or not lineaments other than those previously identified could be detected in the project vicinity. The 1941 photograph was the primary focus for stereographic review, because of the photograph's low sun angle that highlights subtle relief, and because it represents pre-development conditions. In addition, most of the agricultural disturbance of the site occurred after 1941. Topographic lineaments are typically the result of erosional or tectonic processes (that is, crustal movement as a result of faulting, folding, and so on) or a combination of both erosional and tectonic processes. Lineaments that are the result of surface fault rupture processes characteristically display a variety of different types of linear elements along their length. These linear elements include scarps, mole tracks, linear depressions, sidehill ridges, sidehill depressions, slope inflections, spring alignments, saddle alignments, and/or linear stream segments.

Based on the stereographic review of aerial photographs, the scarp of the northern segment of the Mad River fault was identified as a gentle slope inflection. The fault trace segment has not been well defined, because the scarp changes are subtle; but, because of geomorphic surface similarity to other documented faults in the area, this scarp feature on the project site has been mapped as a segment of the Mad River fault. Because of the gentle slope inflection along the scarp, a series of slope profiles with superimposed fault traces are presented at an exaggerated scale (see Figure 5). Our geomorphic evaluation revealed no other lineaments that had fault scarp characteristics.

SITE INVESTIGATIONS

Geomorphic and subsurface trenching investigations were conducted to characterize on-site fault rupture conditions since the deposition of the McKinleyville terrace deposits. Subsurface investigations were warranted because significant topographic relief suggesting a displaced terrace surface, characterizes the southwestern portion of project parcel, and a significant portion of the parcel is within a State of California designated Earthquake Fault Zone (Special Studies Zone).

Test Pits

To determine the depth of trench required to expose sufficient geologic strata capable of demonstrating fault displacements and to evaluate groundwater levels and trench wall stability, several backhoe test pits were excavated across the southern portion of the project site in July, 1994. Examination of test pit walls indicated that a trench approximately 10 to 15 feet deep would adequately expose strata capable of demonstrating fault displacement through the entire Holocene epoch.

Trenches

In July and August 1994, a series of 3 exploration trenches were excavated across the project site (see Figure 2). The trenches were excavated perpendicular to the Alquist Priolo Earthquake Fault Zone (the northern segment of the Mad River fault). As shown on Figure 2, Trenches 1 and 2 were "overlapped" in order to provide continuous trench wall exposure coverage in the portion of the project area with the greatest topographic relief, since this area would probably have the highest fault scarp. Trench 3 was excavated northward, along strike, of the faults identified in Trench 1. The trenching depths varied from 8 to 15 feet below ground surface. Combined length of Trenches 1 and 2 was approximately 587 feet, excluding the overlapped portion. Trench 3 was approximately 300 feet in length. Logs for Trenches 1, 2, and 3 are shown on Figures 6, 7, and 8, respectively.

Trenches were shored prior to trench sidewall cleaning and logging operations. Reference ground surface lines were then established with a surveyors level along top of the trenches, and the northern trench walls were logged in detail. Unit descriptions were made on site and are included on the trench logs (Figures 6, 7, and 8).

Trench exposures of fault features indicate apparent dips (Figures 6 and 8). True strikes and dips were then used to project the fault plane to the ground surface. This ground surface projection is the point of designated surface rupture.

Geomorphic profiles (Figure 5), with exaggerated vertical scales, define the extension of the primary fault encountered in Trench 3 to the north where the primary fault leaves the bluff top. They were also used to define the surface expression and extension of the zone of small faults encountered in Trench 1.

Trench 1 Findings. Trench 1 was excavated from Station 0 to Station 435. Soils encountered in Trench 1 included the "A" and "B" horizon soils, underlain by alluvium consisting of interbedded gravel and silty sand. Alluvium in Trench 1 was underlain by late Pleistocene age littoral marine deposits consisting of interbedded and commonly cross-bedded gravel and silty sand.

A primary thrust fault was identified between Stations 289 and 315. The fault trace projects to the surface at Station 325. Based on the measured attitudes, the fault (at this location only) strikes at between North 40° to 55° west, and dips between 22° and 24° northeast. Corresponding strata on opposing sides of the fault were not exposed to a maximum trench

depth of 12 feet. This indicates at least 24 feet of dip slip movement. Upper plate deformation (downward "bending" of strata) was observed in the alluvium and marine deposits. No deformation of lower plate strata was observed. The "A" horizon soil thickens on the lower plate, beginning at approximately Station 318, where displaced bedding is no longer obvious. No "B" horizon soils were observed in the trench west of Station 335. Since organic rich topsoil ("A_o" horizon) material is in the active zone of bioturbation, dip slip displacement of this material beneath deeper, zonal soil horizons, suggests relatively recent surface fault rupture activity.

In addition to the primary thrust fault, several steeply dipping thrust (reverse) faults with relatively small displacements were observed between approximate Stations 85 and 165. The projected surface trace of this zone of faults is between Stations 97 and 171. Individual faults displace stratigraphic marker beds within the marine deposits by as much as 3 feet vertically. Cumulative displacement in the zone of faults is at least 6 feet vertically.

Trench 2 Findings. Trench 2 was excavated from Station 0 to Station 225, which overlaps the stratigraphy represented by the eastern end of Trench 1 by approximately 78 feet. No faults or displacements were observed in the alluvial and littoral marine sediments exposed in Trench 2.

The zone of small faults encountered in Trench 1 was not observed in Trench 2.

Trench 3 Findings. Trench 3 was excavated northwest (downstrike) of the surface trace of the primary thrust fault identified in Trench 1. Trench 3 was excavated from Station 0 to Station 300. Soils encountered in Trench 3 included "A" horizon soils, underlain by alluvium consisting of interbedded gravel and silty sand. Alluvium in Trench 3 was underlain by late Pleistocene age littoral marine deposits consisting of interbedded and commonly cross-bedded gravel and silty sand.

The primary fault was observed between Stations 134 and 145. The fault trace projects to the surface at Station 119. Measured attitudes (at this location only) indicate that the fault strikes at North 16° east. Corresponding strata on opposing sides of the fault were not exposed to a maximum trench depth of 9 feet. This indicates at least 12 feet of dip slip movement. No obvious upper plate deformation was observed. No deformation of lower plate strata was observed. The "A" horizon soil gradually thickens on the lower plate toward the west, beginning at approximately Station 105. No "B" horizon soils were observed in Trench 3.

The zone of small faults encountered in Trench 1 was not observed in Trench 3.

A short, "offset" trench was excavated approximately 10 feet north of the fault trace in Trench 3 (from approximate Trench 3 Stations 120 to 145) to determine the variability of strike and dip displayed by the fault trace encountered in Trench 3. The fault observed in the "offset" trench had a similar dip to Trench 3, but varied in strike from approximately North 10° West to North 35° West.

CONCLUSIONS

1. A primary thrust fault was identified traversing the southwestern portion of the property. It is consistent with information gathered by others in this vicinity.

2. The primary fault was exposed in 2 locations (Trench 1 and Trench 3) at the project site. Geomorphic features and lineaments (slope inflections) identified during review of aerial photographs and located with survey level profiles, were used to project the surface trace of the fault and the zone of small faults identified in the trenches to the north and south.

3. The trend of the primary fault varies, as demonstrated by the variable strikes measured over a relatively short distance (between Trench 3 and the offset trench) and by the orientation of slope inflections. Such variability in strike is not uncommon behavior for shallow dipping thrust faults in this area. This has also been repeatedly demonstrated by previous studies.

4. The zone of small faults encountered in Trench 1 was not encountered in Trenches 2 or 3. The lateral variability of the faults (indicated by variable strikes and orientation of geomorphic features), suggest that the faults merges into the primary fault, somewhere between Trench 1 and Trench 3 (See Figure 2). The surface trend, and the width if the zone of small faults was established by the general strike of the individual fault features exposed in Trench 1 and the location of the slope inflections observed on Profiles 1B and 2.

5. Stratigraphic displacement in excess of the maximum trenching depth of 12 feet has occurred along the primary fault. Cumulative displacement of at least 6 feet has occurred along the zone of smaller faults. Evidence suggests that overall fault displacement decreases toward the north.

6. Future ruptures would be expected to follow the same general trace as that identified by our investigations. Since the primary fault dips at a shallow angle and lower plate strata indicate no deformation, it is our opinion that future surface fault ruptures that do not follow the previous trace are most likely going to project into materials in the upper plate, east of the identified fault trace. On this basis, the exclusion zone (for structures for human occupancy) should be wider on the east side of the primary fault than on the west side.

7. Upper plate deformation was observed along the primary thrust fault in Trench 1. No lower plate deformation was observed.

RECOMMENDATIONS

1. We recommend that because the amount of net dip slip encountered in exploration trenches is substantial, structures intended for human occupancy be located no closer than 50 feet east (upper plate) and 25 to 30 feet west (lower plate) of where the projected fault plane intersects the ground surface. The recommended exclusion zone

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along the primary thrust fault is asymmetrical, since the primary fault dips at a shallow angle and the lower plate strata indicate no deformation (See Conclusion 5, above). The western portion of the exclusion zone is wider north of Trench 3 since it is further from accurately located trench exposure locations. The area where structures should be omitted is indicated as an exclusion zone as shown on Figure 3. Appurtenant structures such as detached garages, outbuildings, parking areas, and roadways are not considered to be structures intended for human occupancy and are, therefore, not considered or restricted by the Alquist-Priolo zoning.

2. We do not recommend additional fault studies for the proposed project site as long as the type and scope of development does not change substantially.

3. Areas excavated for the fault evaluation were not backfilled under structural fill criteria. Therefore, foundation and/or appurtenant structures traversing the trench alignments may be subject to differential settlement if mitigation measures are not employed.

CLOSURE

The data and conclusions we have presented are based on interpretations of aerial photographs, surficial features, natural exposures and subsurface explorations. Existing site conditions have evolved according to the geologic processes of the past. It is conceivable that tectonic processes may change or accelerate in an unpredictable manner. Since this portion of Humboldt County is an area of dynamic tectonism, we cannot preclude the possibility of propagation of new faults or the lengthening of existing faults; therefore, all risks from surface fault rupture cannot be precisely determined nor avoided when developing a zone of active and potentially active faults.

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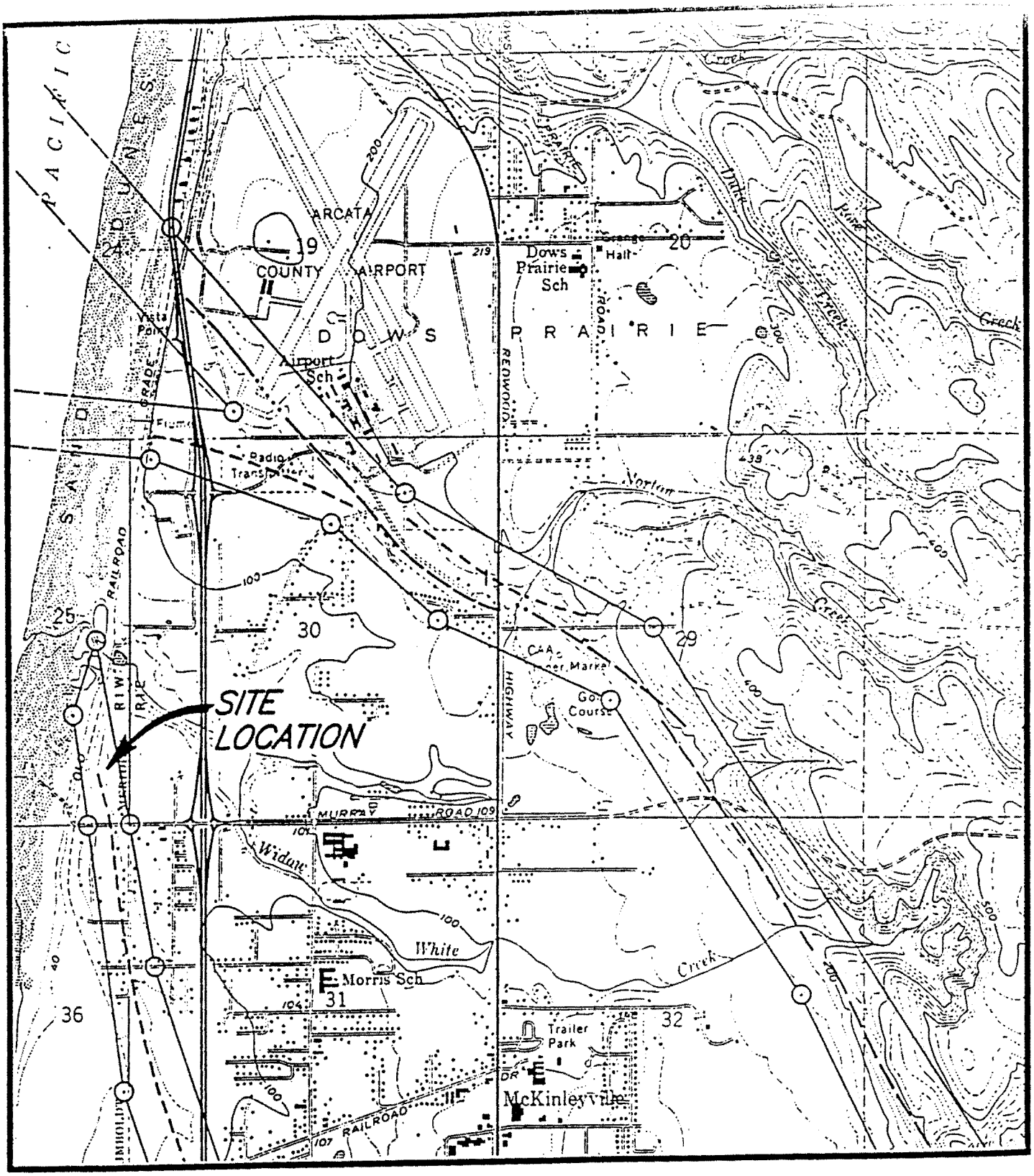


BASE MAP FROM ARCATA NORTH QUADRANGLE
U.S.G.S. 7.5 MINUTE SERIES
(TOPOGRAPHIC) HUMBOLDT CO. CALIFORNIA
SPECIAL STUDIES ZONES

SCALE: 1:24000

EXPLANATION

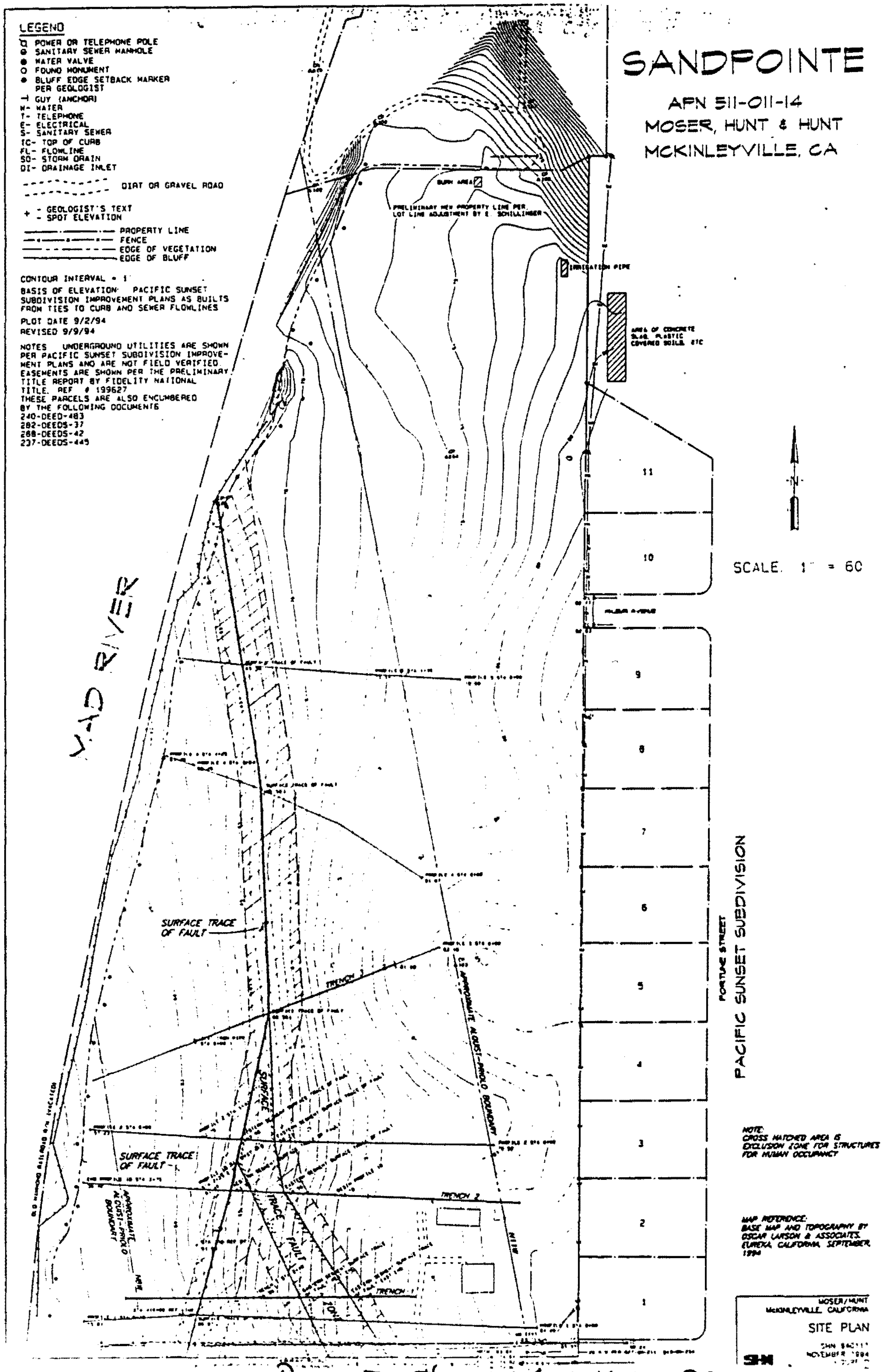
FAULT, DASHED WHERE APPROXIMATE

MOSER/HUNT
McKINLEYVILLE, CALIFORNIA

VICINITY MAP

SHN 940117
NOVEMBER 1994
FIGURE 1

Page 16 #14 A-1-HUM-96-70



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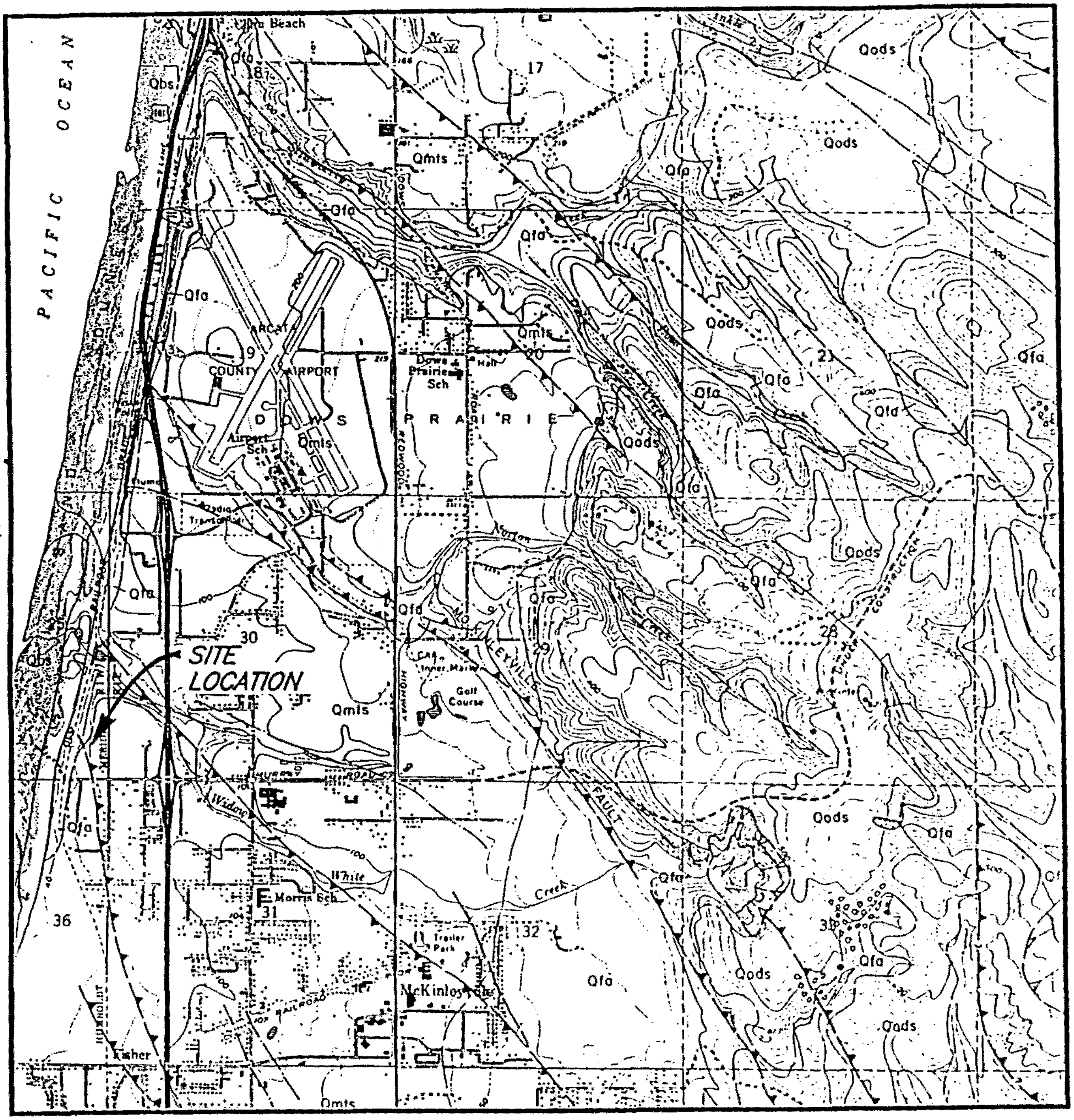

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EXPLANATION

Qsc STREAM CHANNEL DEPOSITS (Holocene): unconsolidated silt, sand, or pebble-to cobble-sized gravel in active river channel and flood-stage, gravel-bar areas.

Q ALLUVIUM (Holocene): unconsolidated, coarse-to fine-grained sand and silt on coastal plain, in valley bottoms, and along modern river flood plains; gravel in channel areas; may include some marine terrace deposits along Mad River flood plain.

Qrt RIVER TERRACE DEPOSITS (Holocene-Pleistocene): dominantly sand or gravel with minor amounts of silt and clay deposited during higher stands of major streams.

Qods OLDER DUNE SANDS (Late Pleistocene): unconsolidated deposits of fine-to coarse-grained sand; generally well vegetated.

Qmts MARINE TERRACE DEPOSITS (Quaternary): poorly to moderately consolidated deposits of marine silts, sands, and gravels forming flat benches on wave-cut surfaces adjacent to the Mad River flood plain.

Qfa FALOR FORMATION (Early to Middle Pleistocene): fluvial and shallow-water marine sediments; includes pebbly conglomerate, sandstone, and silt; in some places, contains abundant animal and plant remains.

KJfs CENTRAL BELT FRANCISCAN SEDIMENTARY ROCKS (Cretaceous-Jurassic): well consolidated sandstone, siltstone, and shale with minor amounts of conglomerate; structurally deformed and usually highly sheared; includes areas mapped as Franciscan Broken Formation by Carver and others (1984).

fm FRANCISCAN MELANGE (Cretaceous-Jurassic): individual blocks of graywacke, sandstone, mudstone, conglomerate, greenstone, chert, or serpentinite in a sheared argillaceous matrix.

LITHOLOGIC CONTACT: dashed where approximately located.

FAULT: dashed where approximately located, dotted where projected or inferred, queried where uncertain.

THRUST FAULT: dashed where approximately located, dotted where projected or inferred, queried where uncertain; barbs on upper plate.

LINEAMENT: linear feature of unknown origin observed on aerial photographs.

BASE MAP AND EXPLANATION FROM
ARCATA NORTH QUADRANGLE
U.S.G.S. (TOPOGRAPHIC) 7.5 MINUTE SE
HUMBOLDT CO. CALIFORNIA
GEOLOGY AND GEOMORPHIC FEATURES
RELATED TO LANDSLIDING, 1984

SCALE: 1:24000

MOSER
McKINLEYVILLE, CALIF

GEOLOGIC M

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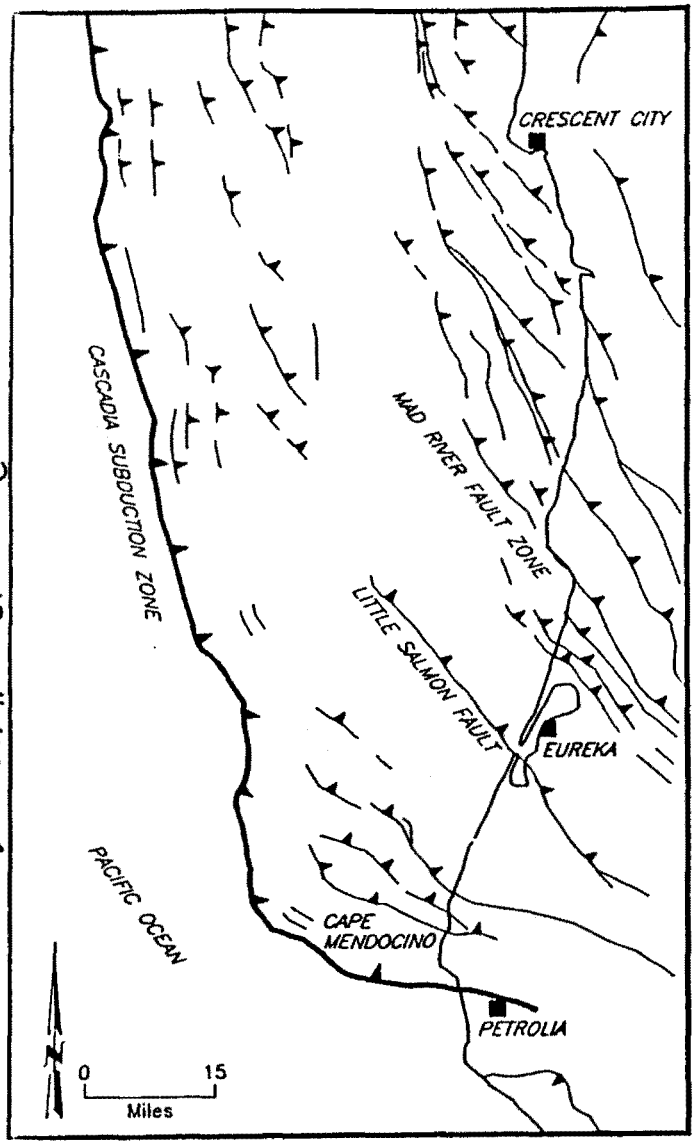
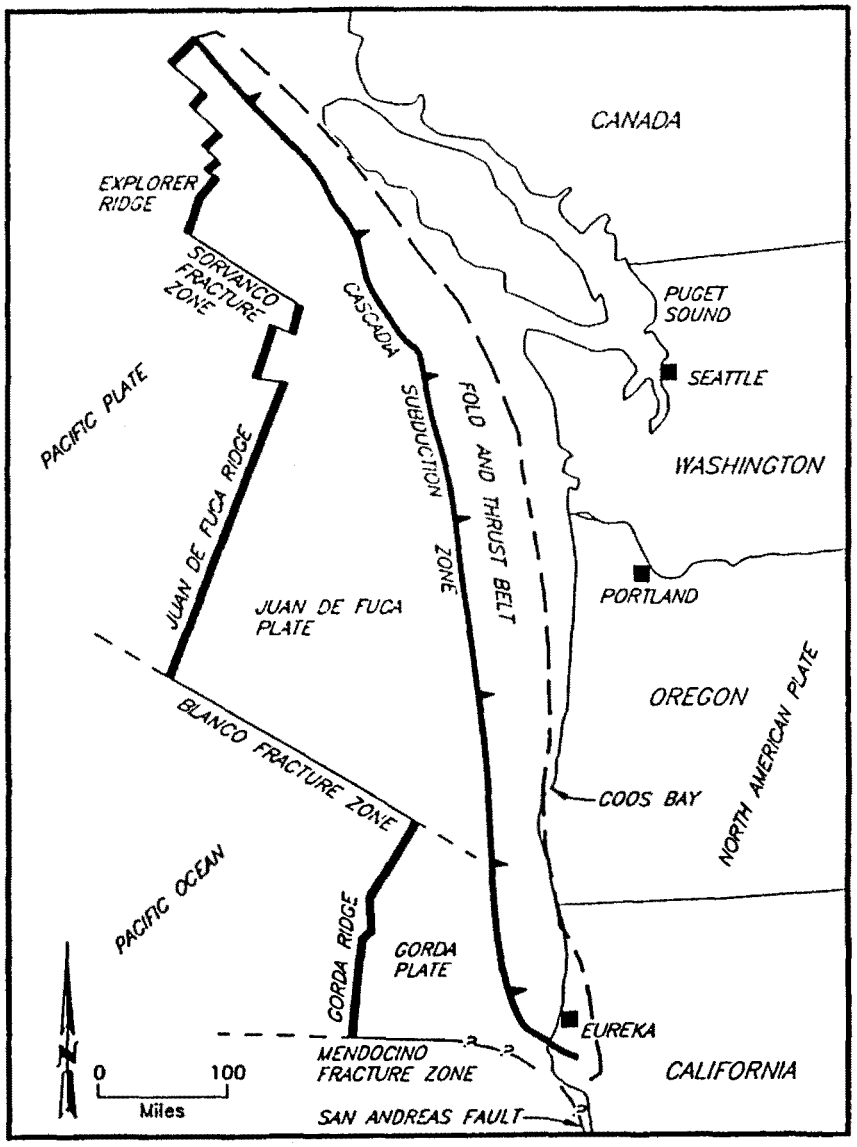
FIGUR





MOSER/HUNT
McKINLEYVILLE, CALIFORNIA

REGIONAL PLATE TECTONICS AND FAULT MAPS

SHN 940117
NOVEMBER 1994
FIGURE 4

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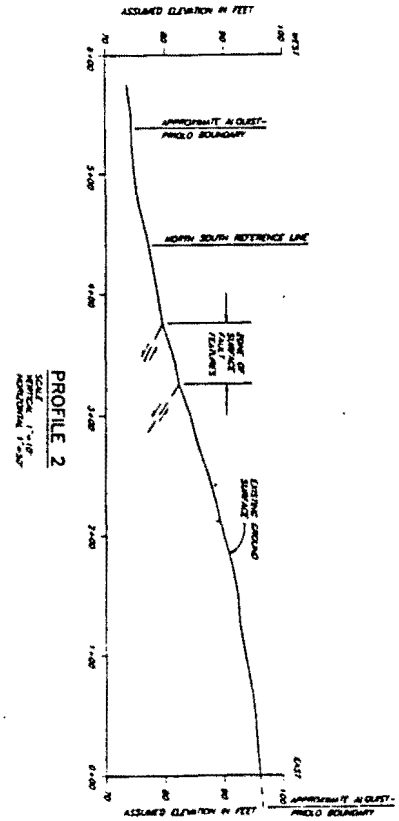
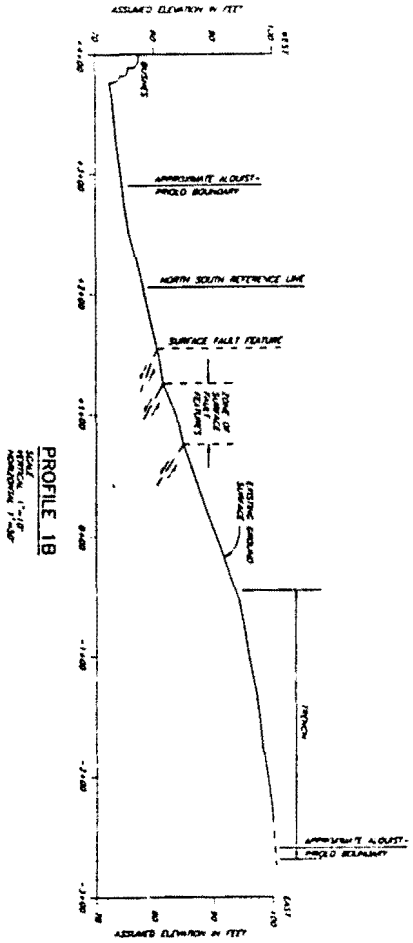


PROFILE 2



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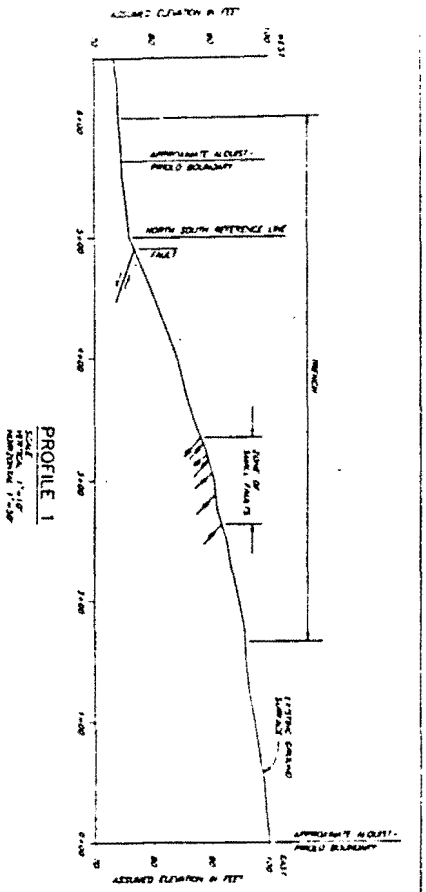

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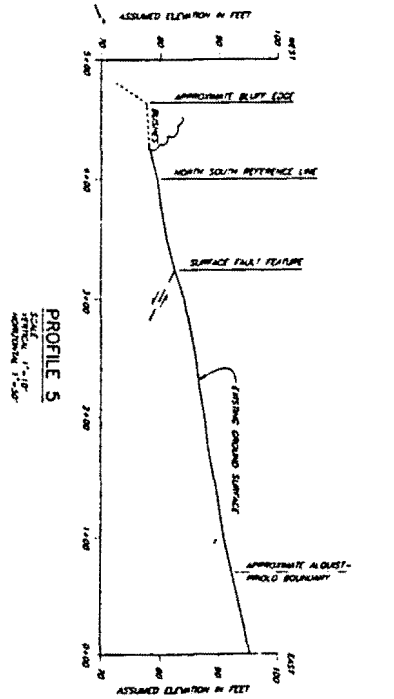

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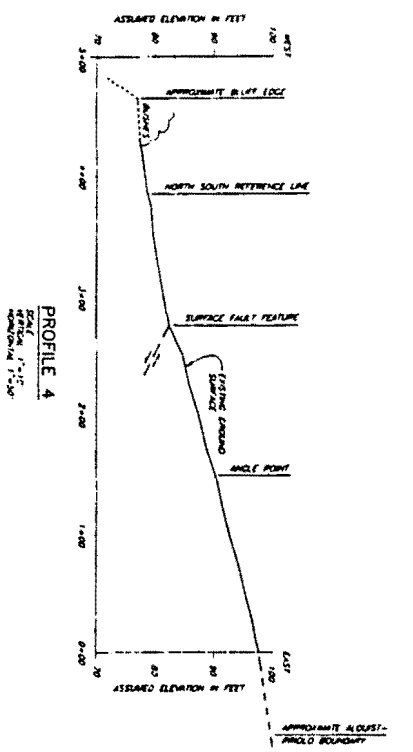

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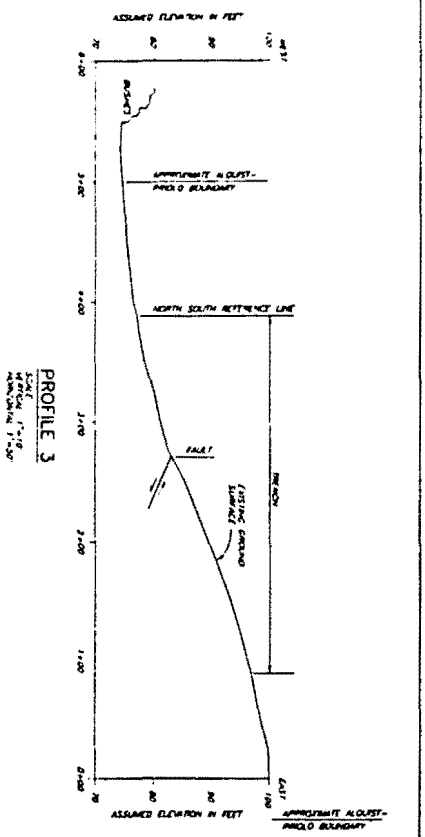

PROFILE 3

PROJECT NO. 840117	DATE 11/96	FIGURE 5	MOSER/HUNT McKINLEYVILLE, CALIFORNIA	DSGN	NO	DATE	REVISION
			PROFILES	DR			
				CHK			
				APVD			

SHN CONSULTING ENGINEERS & GEOLOGISTS
812 W. Wabash Eureka, CA 95501 (707)441-8855 FAX (707)441-8877

VERIFY SCALES

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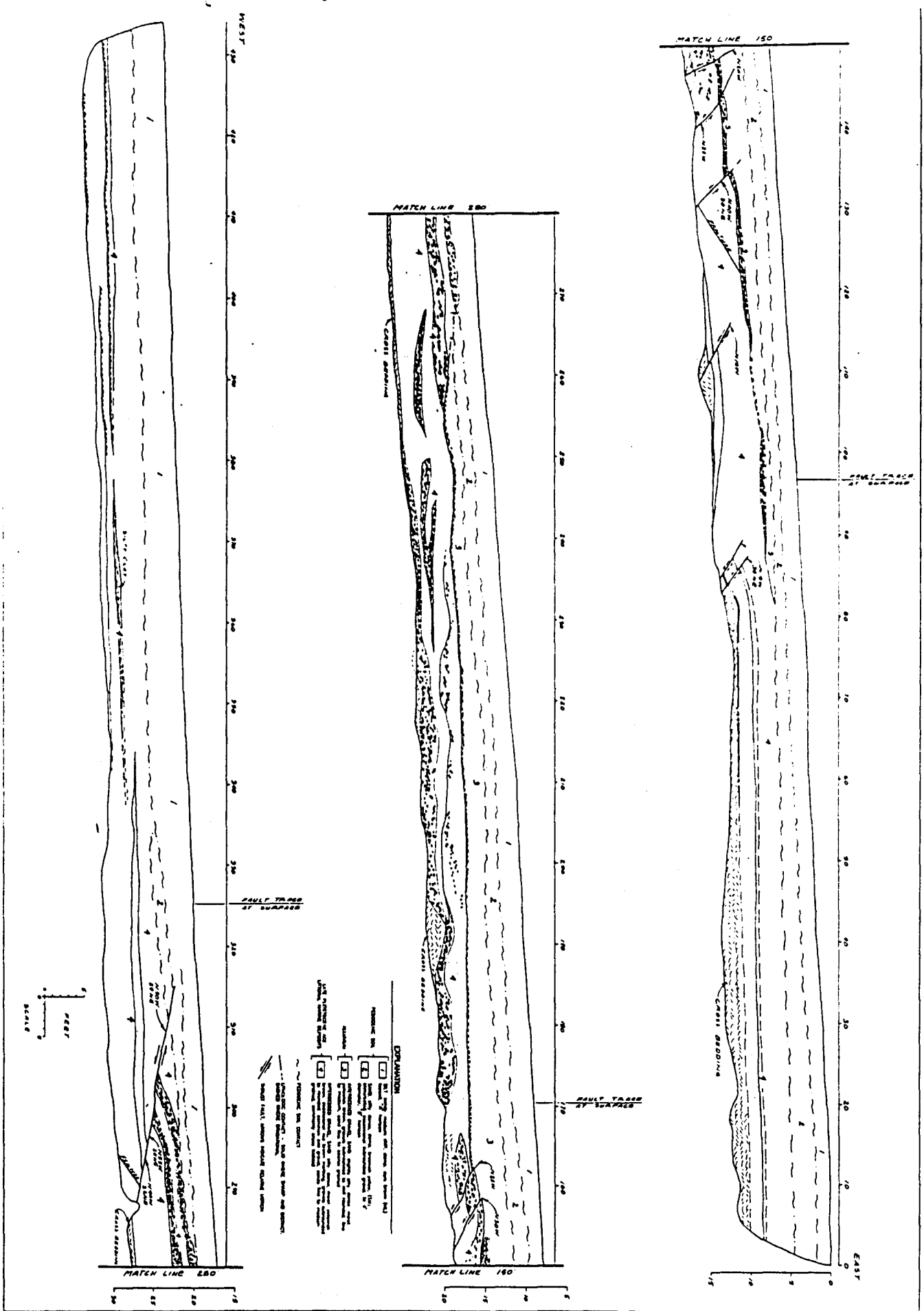

MOSER/MUNT
McKINLEYVILLE, CALIFORNIA

TRENCH 1

DESIGN
DR
CHK
APVD

NO | DATE | REVISION | BY

SHN CONSULTING ENGINEERS & GEOLOGISTS
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Eureka, CA 95501
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FAX (707)441-8877

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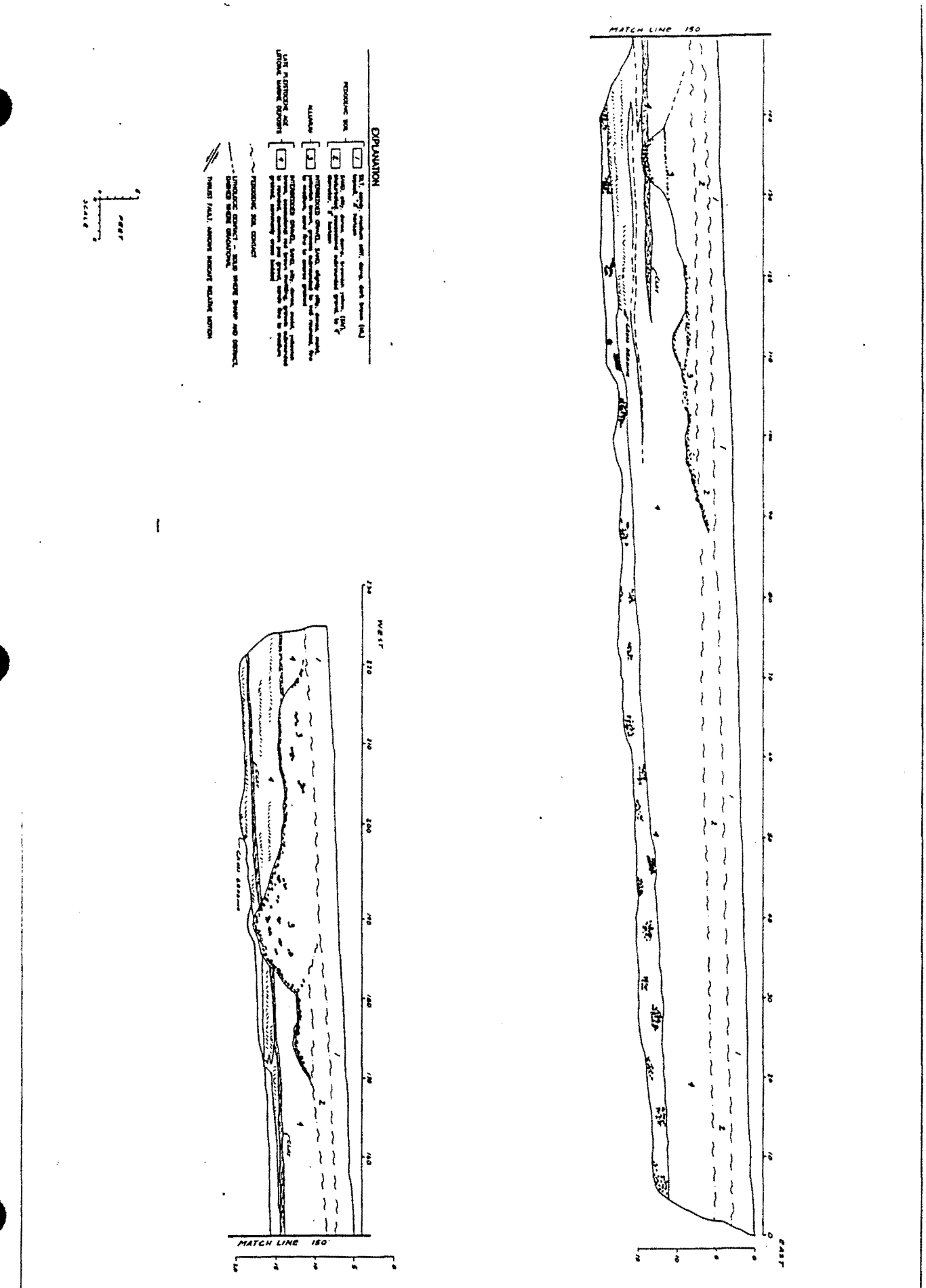
DATE 11/96
JOB NO. 8401.17
FIGURE 9



MOSER/HUNT
McKINLEYVILLE, CALIFORNIA

TRENCH 2

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FIGURE 7
DATE 11/96
PROJ. NO. 640117

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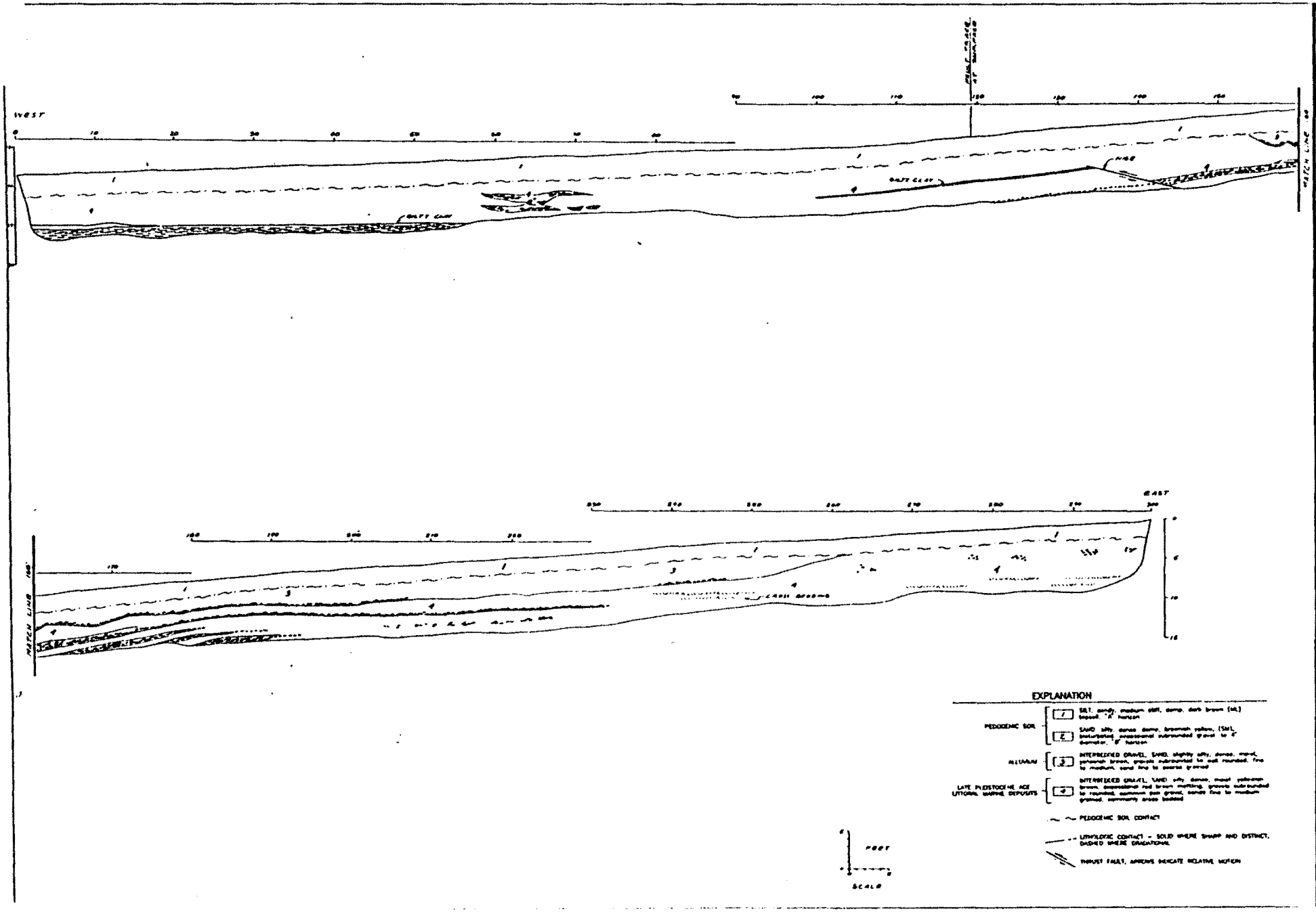
WEST
EAST
MATCH LINE
EXPLANATION
PEDOGENIC SOIL
ALLUVIUM
LATE PLEISTOCENE AGE LITTORAL MARINE DEPOSITS
PEDOGENIC SOIL CONTACT
LITHOLOGIC CONTACT - SOLID WHERE SHARP AND DISTINCT, DASHED WHERE GRADATIONAL
THRUST FAULT, ARROWS INDICATE RELATIVE MOTION
FEET
SCALE

Reference: 940117.100

PRELIMINARY R-1 GEOLOGIC AND GEOTECHNICAL REPORT FOR THE PROPOSED SUBDIVISION AT AP #511-011-14, McKINLEYVILLE HUMBOLDT COUNTY, CALIFORNIA

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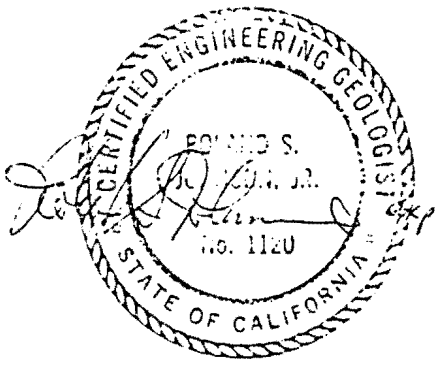

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PRELIMINARY R-1 GEOLOGIC AND GEOTECHNICAL REPORT FOR THE PROPOSED SUBDIVISION AT AP #511-011-14, McKINLEYVILLE HUMBOLDT COUNTY, CALIFORNIA

INTRODUCTION

This report documents the results of the geologic and geotechnical investigations conducted by SHN Consulting Engineers & Geologists (SHN) in November 1994. The project property is located at AP #511-011-14, in McKinleyville, Humboldt County, California (Figure 1). The property is proposed to be subdivided into single family residential parcels. Development will include roadways, sewer and water lines, and storm drainage systems. This Geologic and Geotechnical Report is intended as an update to the previous Engineering Geologic Investigation, conducted at the project site by Northcoast Geotechnical Services (NGS), in November 1980 and April 1981. The NGS, June 5, 1981 report is included in Appendix A.

SHN conducted geological and geotechnical investigations to evaluate geologic hazards and soil engineering characteristics. Our scope was limited to the following items:

1. Discussion of geologic site conditions

2. Summary of previous investigations conducted at the site, including:

   - Engineering Geologic Investigation, conducted by NGS in November 1980 and April 1981 (See Appendix A).

   - Earthquake Fault Evaluation, conducted by SHN in July through October 1994, as detailed in the SHN, November 1994, Fault Evaluation Report.

3. Review of aerial photographs.

4. Discussion of potential erodibility of site soils due to natural processes and concentrated surface runoff.

5. Investigation of site soil characteristics by shallow test pits and fault investigation trenches.

6. Discussion of the potential effects of seismic and bluff slope failure hazards.

7. Providing general soils engineering conclusions and recommendations for the proposed development.

Recommendations related to development of specific structures are not included in the scope of this evaluation. If needed, these recommendations can be provided when specific development plans become available.

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SITE CONDITIONS

The project parcel is located in the east ½ of the southeast ¼ of Section 25, Township 7 north, Range 1 west, Humboldt Base and Meridian. The parcel is located north of Murray Road and approximately 1,200 feet west of Highway 101 and is on the north side of Murray Road, in McKinleyville, California (Figure 1). Located on a gently sloping, late Pleistocene age marine terrace, the site is situated at elevations ranging from approximately 50 to 80 feet above sea level. The existing parcel extends to the north, near Widow White Creek, and is bordered on the south by Murray Road, on the east by Fortune Road residences, and on the west by the coastal bluff and the Hammond Trail, an historic railroad grade (See Figure 2).

GEOLOGY AND SOILS

Exposed bedrock in the McKinleyville area consists of the Late Jurassic to Late Cretaceous age, central belt melange subunit of the Franciscan Complex (Strand, 1962). Melange typically consists of blocks of sandstone, greenstone and chert with occasional blocks of blueschist, greenschist, and amphibolite schist, ranging from a few inches to several thousands of feet in maximum dimension all set in a highly sheared, claystone-siltstone matrix. In the McKinleyville area, Franciscan rocks are typically unconformably overlain by marine and continental deposits of the early to middle Pleistocene age Falor formation (Carver, Stephens, and Young, 1982a). Late Pleistocene age, marine terrace deposits commonly overlie the Falor formation. Each terrace consists of an abrasion platform cut across the two principal geologic units: either the Franciscan Complex or the Falor formation. Deposits associated with constructional terrace surfaces typically consist of a basal lag deposit (commonly gravel) overlain by moderately consolidated, marine, alluvial, colluvial, and eolian deposits. Regional geology is shown on Figure 3. Typical geologic sections are shown on Figure 5.

Comparison of the relative degree of pedogenic soil profile development at the site with other dated soil stratigraphic sequences such as the Trinidad, California terrace sequence (Page and Stephens, 1982; Stephens, 1982; Woodward-Clyde, 1980) clearly indicate that the stratified marine terrace deposits are pre-Holocene in age (more than 11,000 years old). Evidence suggests that the McKinleyville terrace sediments were deposited during the Sangamon interglacial period, approximately 82,000 years to 125,000 years before present (Woodward-Clyde, 1980).

Marine terrace deposits at the project site are overlain by topsoil consisting of a brown "A" horizon soil from the surface to depths ranging between 2 and 4 feet below ground surface, and a moderately developed pedogenic "B" horizon from approximately 2 to 2.5 feet below the "A" horizon soil.

Slope failure features identified during the investigation were generally confined to the steep to very steep slopes along the bluff edge, or adjacent to principal drainage ways (Widow White Creek), not on the proposed development areas located eastward of the low bluff slope failure hazard area shown on Figure 2. Exposures along the bluff edge and railroad grade

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indicate that the predominant, long-term, slope failure process is shallow soil creep or bluff edge ravelling. It should be noted that shallow soil creep is common on steep slopes. If our recommendations are followed, soil creep should not significantly affect project development.

Most slope failure features identified during the investigation have been caused or aggravated by erosion. Erosional features include steep walled gullies resulting from concentrated runoff collecting along the railroad grade, or from the top of the bluff. Old failures in the railroad grade drainage system, that occurred after the railroad was abandoned, may have prograded uphill to the bluff top. Previous agricultural use of the parcel, such as plowing and field drainage control, created berms along the bluff edge. The berms prevented runoff from reaching the bluff edge under most rainfall conditions. However, during substantial rainfall events, the accumulated runoff would eventually over top the berm and send large volumes of water over the bluff edge, commonly creating a gully. Once initiated the gully would enlarge during every significant rainfall event.

No evidence of active, large scale or deep-seated slope failure was observed in or in the immediate area surrounding the project site.

During November 1994, SHN supervised the excavation of 15 test pits to establish subsurface conditions in the designated building site areas. Test pits to depths between 3-1/2 and 7-1/2 feet were excavated at various, representative locations across the parcel. Test pit locations are shown on Figure 2 (Site Plan). Soils conditions encountered in these test pits are summarized below and documented in the subsurface exploration logs (Appendix B). Previously excavated fault investigation trenches were used to characterize deep soils conditions.

Of the 15 test pits excavated to explore general upper soil characteristics, test pits TP-2A, 2B, 2C, 7A, and 7B were located to investigate conditions along the edge of backfill that has been placed into erosion features along the bluff top. The remaining test pits were excavated to characterize typical soil profile conditions across the site.

Specific descriptions of the soils encountered are presented on the subsurface exploration logs. In general, the test pits encountered from 4-1/2 to 5-3/4 feet of fine sandy silt soils, overlying silty fine sand soils, with gradual transitions between the soil types. By observation, the native site soils are of relatively low plasticity, and are considered non-expansive. Laboratory tests indicate that the site's upper silt soils are of relatively low density and are potentially compressible under added loadings, particularly within about two feet of the existing ground surface.

Groundwater was not encountered in the test pits or the fault investigation trenches. A few groundwater seeps (springs) were observed on the bluff slope in the inboard ditch of the Hammond Trail. Test pits and fault investigation trenches indicate that lower portions of the soil profile are well drained and are unlikely to become saturated during normal wet season conditions.

MAD RIVER MIGRATION

Beginning in approximately 1970, the Mad River began migrating toward the north, at a historically unprecedented rate. In early 1991, Caltrans deemed the northward progression of the river a threat to State Highway 101 near Clam Beach. Subsequently, Caltrans began placement of Rock Slope Protection (RSP) along the northern bank of the river, to curb further northward migration. The north bank stabilization with RSP was completed in May 1992 (Borgeld and others, July 1993), approximately 1 mile north of the project site. During the NGS investigation in 1981, the progression of the Mad River was evaluated using stereographic aerial photographs and historical maps (See Figure 3 of the NGS report in Appendix A). The current configuration of the Mad River, where it was stabilized in 1992, is generally shown on Figure 4.

The geology of the bluff along the eastern bank of the Mad River, is comprised of partially consolidated, interbedded fine grained and coarse grained sediments of the Falor formation, and is expected to be more stable than the unconsolidated coarse grained alluvial and sand dune deposits along the western bank of the river. The Mad River channel reach from Hiller Road to the mouth is relatively straight. Based on this observation, the river does not appear to have a tendency to meander. Meandering would result in lateral migration of the river bank. Interchannel bars are rare in this reach, and no significant aggradation has occurred, which would encourage lateral migration of the river.

The 1981 and 1994 distances between the eastern bank of the Mad River and the bluff top edge of the project parcel were compared (at two representative locations) to determine how much the river bank had migrated toward the east since 1981. Based on 1981 measurements, the river was between 210 and 400 feet from the bluff top edge (See Figure 1 of the NGS report in Appendix A). Based on distances measured from two representative profiles (See Figure 5), the river is now between 156 and 185 feet from the bluff edge. Most of this eastward migration appears to have taken place prior to 1985, during the progressive northward migration of the mouth of the river (See Figure 4), when the river bank adjacent to the project site was subject to more direct ocean wave energy. As the mouth of the river migrated northward away from the project site, the river banks experienced much less direct wave erosion and strong currents created by significant tidal fluctuations. Such erosion processes are currently effecting the coastal bluff near the river mouth. River mouth erosion processes are not currently effecting the river bank adjacent to the project area.

FAULTING AND SEISMICITY

Specific references cited in the "Faulting and Seismicity" section are detailed in the references section of the Fault Evaluation Report (SHN, November 1994).

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Faulting

The Humboldt County coast between Cape Mendocino and Big Lagoon consists of a prominent fold and thrust belt (Carver and Burke, 1989). Regional tectonics of northwestern Humboldt County are dominated by northeast-southwest compression resulting from collision of the Gorda crustal plate with the North American crustal plate. Underthrusting of the Gorda plate beneath the North American plate is known as the Cascadia Subduction Zone (See Figure 6). As the Gorda plate thrusts under the North American plate, a prominent fold and thrust belt is created landward of the subduction zone (Carver and Burke, 1989). These tectonic processes are ongoing and the resulting faults are capable of producing earthquakes and surface ground rupture.

The project site is located within the Mad River Fault Zone (MRFZ) (See Figures 1 and 6). This zone is characterized by several major northwest trending, northeast dipping, thrust faults and numerous associated, minor synthetic and antithetic faults. Within the MRFZ, individual faults commonly exhibit highly variable strikes, and shallow dips ranging between approximately 10° to 55°. A number of individual faults within the zone are considered active and capable of producing large earthquakes. Major faults within the MRFZ include, from north to south, the Trinidad, McKinleyville, Mad River, and Fickle Hill faults. One of the main thrust faults within this Zone is the Mad River fault, the northern segment of which is mapped as crossing the project parcel.

Carver, Stephens, and Young (1982a) mapped and described the MRFZ extending from near the town of Maple Creek, northwest to the Pacific Ocean. Their study indicates that the MRFZ is a system of imbricate northwest trending, northeast dipping, thrust and reverse faults. They concluded that at least 3 miles (5 kilometers) of middle and late Pleistocene age dip slip displacement has occurred across the MRFZ since deposition of the early to middle Pleistocene age Falor formation. Tectonically deformed marine terraces suggest that faulting and warping has continued into the late Pleistocene. Holocene displacement appears to have occurred along numerous segments of the faults.

The California Division of Mines and Geology, as part of the Alquist-Priolo Special Studies Zone Act has produced fault maps of portions of Humboldt County (Smith, 1982). Information shown on these maps is based on compilations of published and unpublished data and interpretations of aerial photographs. In addition to delineation of suggested fault traces, these maps also delineate zones where special geologic studies may reveal the actual location of a fault trace.

Weaver (1981) discussed the tectonic deformation of the McKinleyville terrace and described the characteristic morphology of thrust faults in McKinleyville. Two geomorphic features located near the project site were named during his study: the School Road Scarp and the Mill Creek Scarp (Figure 1 in the Weaver report).

The Earthquake Fault Zone (Special Studies Zone) Map indicates two main traces of the Mad River Fault. Carver, Stephens, and Young (1985) mapped four main, active, imbricate thrusts distributed over a zone approximately 2000 feet wide. Figures 1 and 6 show the two segments of the Mad River Fault which the State has mapped. They do not show the additional segments which Carver, Stephens, and Young (1985) have mapped.

Based on the results of the fault evaluation (SHN, November 1994), a primary thrust fault, indicating vertical stratigraphic displacement in excess of the maximum trenching depth of 12 feet, was identified traversing the southwestern portion of the property (See Figure 2 of the November 1994 report), and is consistent with the information gathered by others in the project vicinity. In addition, a fault zone indicating cumulative vertical displacement of at least 6 feet was observed in the southern portion of the project site. Upper plate deformation was observed along the primary thrust fault. Lower plate deformation was not observed. The "Exclusion zone for structures for Human Occupancy" is designated to cover the area that is subject to significant surface fault rupture or deformation hazard in the event that the identified faults become active in the future.

Seismicity

Four principal seismic sources are capable of producing strong ground shaking in the McKinleyville area: the Gorda Basin; the northern portion of the San Andreas fault and the associated Mendocino fracture zone; the Little Salmon/Mad River fault zones; and the Cascadia Subduction Zone (CSZ) (Dengler et al, 1991; Figure 6).

Gorda Basin earthquakes are generated because of internal deformation of the subducted Gorda oceanic crustal plate beneath northern Humboldt County. The Mendocino fracture zone is the southern margin of this crustal plate (Figure 6). Many historical earthquakes resulting from deformation of this plate have been of large magnitude, the most recent being the magnitudes 6.5 and 6.7 on April 26, 1992, and the 7.2 event on November 8, 1980. The January 31, 1922, earthquake of magnitude 7.3 is also attributed to this source (Dengler et al, 1991).

Earthquakes occurring along the San Andreas fault and the Mendocino fracture zone are also common. The San Andreas fault system is capable of generating great earthquakes such as the April 18, 1906, magnitude 8.3 San Francisco earthquake. However, earthquakes originating along the associated Mendocino fracture zone are generally of magnitude 6.5 or less (Toppozada et al, 1986, and National Earthquake Information Center). However, on September 1, 1994, a 7.2 magnitude earthquake, originating along the Mendocino fracture zone, occurred approximately 90 miles west of Petrolia, California. This was the largest event ever recorded for the Mendocino fracture zone.

A complex, northwest trending, northeast dipping system of compressional faults surround the Humboldt Bay region (Figure 6). Within this system, the Little Salmon and Mad River fault zones contain numerous active (Holocene) faults both onshore and offshore. Paleoseismic evidence, deduced from subsurface exploration trenches, suggests that this system of compressional faults is capable of generating very large magnitude earthquakes (Woodward Clyde, 1980). Historically, the largest earthquake believed to have originated on either of these thrust fault zones is the December 21, 1954, magnitude 6.6 event. However, recent investigations (Clarke and Carver, 1992) suggest that the Little Salmon and Mad River fault zones may also move in response to megathrust events on the CSZ.

Extending from near Cape Mendocino, north 750 miles to the Queen Charlotte Islands, the CSZ separates the subducting Gorda and Juan de Fuca plates from the overriding North American plate. Although very large magnitude subduction earthquakes have not occurred in the Pacific Northwest for at least 150 years, many investigators believe that the CSZ is storing energy to be released in future great earthquakes. Should a major subduction zone earthquake occur, the levels of ground shaking in the project vicinity would probably not exceed those of large magnitude earthquakes occurring from other local sources; however, the duration of strong ground motion could be much longer. The first documented CSZ earthquake was the April 25, 1992, magnitude 7.1 event.

Subject to strong seismic ground motion, the project area is in Seismic Zone 4 as delineated by the 1991 Uniform Building Code (ICBO, 1991).

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our field investigation, it is our opinion that the project area is suitable for the development as proposed, and that the development will not contribute to, or be subject to, substantial geologic or soils engineering hazards, if our recommendations are implemented.

1. Hazard Zones

The proposed development areas on the project parcel are designated as being subject to low bluff slope failure hazards (defined below). Bluff top sites away from bluff edge are not subject to landsliding, due to the gentle slope gradients. Bluff slope failure hazard zones relate to potential failure due to bluff top retreat during the economic life span of a typical residential structure (assumed to be 50 years). The hazard zones consider natural and man created (example: loose filled "blowout" features at the bluff top) site conditions.

Low Bluff Slope Failure hazard areas are generally suitable for conventional residential development. Development in these areas is not expected to contribute to or to be subject to significant geologic hazards throughout the economic life span of the project, provided that our recommendations are followed.

Moderate Bluff Slope Failure hazard areas are considered to be subject to substantial risks relative to "permanent" structures such as buildings, driveways, and retaining walls. Development of these areas is not considered prudent except for temporary structures (such as detached decks) or landscaping that does not involve grading. No site grading should be considered in these areas.

High Bluff Slope Failure hazard areas are considered to be subject to excessive risks to "permanent" structures, and are generally unsuitable for development. Slope failure and severely accelerated erosion should be expected if these areas are disturbed by development activities, or subjected to extended periods of abnormally high soil moisture. We recommend that development of these areas should be avoided. No site grading, construction of drainageways, soil disturbance, irrigation, or significant vegetation removal should be considered in these areas.

Bluff slope failure hazard designations are based on the assumption that the geologic processes that affect this portion of Humboldt County are similar to the geologic processes that have occurred in recent geologic time. We cannot eliminate the possibility that unexpected and unpredictable events could initiate extensive coastal bluff failures that, in turn, could adversely affect any portion of the project area. In our opinion, the probability of such events is very low, but should not be ignored.

2. Bluff Retreat Hazards

The mouth of the Mad River was stabilized in 1992 to curb further northward migration of the river channel. The mouth is stabilized at a distance of approximately one mile north of the project site. Since 1981, the eastern bank of the river in the project vicinity has migrated up to 215 feet toward the east, and is currently between 156 and 185 feet (as established at the two measured profiles on Figure 5) from the top edge of the bluff. Most of this eastward migration appears to have taken place prior to 1985, during the progressive northward migration of the mouth of the river (See Figure 4), when the project site would have been subject to erosion processes related to the transition between the river and the ocean.

Because the river mouth has been stabilized at a distance of approximately 1 mile from the project site, the threat of significant river bank erosion is considered low at the project site. Minor variations of a few 10's of feet should be expected during the economic lifespan of the project. The stability of the steeply sloping portion of the bluff slope and the bluff top would not be reduced by river erosion processes unless over 70 feet of eastward river bank erosion took place. It is highly unlikely that this would occur except under a condition where the river broke through the spit that separates it from the ocean, and created a new river mouth. If this unprecedented and unexpected event were to occur (and sustained ocean wave erosion resulted), the east river bank, the bluff slope, and eventually the bluff top would migrate eastward. The potential for this to occur to the extent that residences would be adversely effected is considered to be a very low level hazard. Coastal bluff erosion adjacent to the project area is currently and historically low-rate. No mitigation for potential adverse river bank erosion is currently indicated.

3. Soil Erosion Hazards

Changes in land use, which include construction of a variety of impervious surfaces (access roads, driveways, rooftops, etc.) will change natural runoff conditions. Increased concentrated runoff could result in accelerated erosion near the bluff edge and on the bluff slope. Driveways, parking areas and other impermeable surfaces should be designed to dissipate runoff uniformly. This is particularly important for any runoff that is directed toward the bluff edge. The access road should be designed to incorporate a storm drain system with an outlet to the bank of the river. The outlet design must consider the potential for future changes in the river bank.

Areas disturbed during construction or minor site grading should be revegetated as soon as practical prior to the beginning of the rainy season. The bluff edge (western boundary of project parcel) shall not be subjected to ground disruption or vegetation removal that adversely effects the roots of plants near the bluff edge. Minor limb removal will not increase erosion hazards. It is very important that significant concentrated runoff not be permitted to flow down the bluff face.

4. Site Preparation and Grading

Surficial Low Density Soils. Less than 1/2 foot of low density, root-filled, topsoil was encountered across the project parcel. These soils are not suitable for support of foundations, structural fills, or improvements. Laboratory tests and site observations indicate that low density, compressible soil typically extends downward about two feet beneath the site surface. In isolated areas compressible soils may reach depths of three to four feet. These soils may consolidate excessively under typical foundation or fill loads, causing foundations, improvements, and pavements to settle, if not mitigated. The compressible, upper soils should not be used for supporting foundations, fills, or improvements. Deeper than normal foundation systems, or remedial grading that results in adequate soil densification, can be used to mitigate settlement potential. Backfill placed into erosion features along the bluff top (TP-2A, 2B, 2C, 7A, and 7B) is unconsolidated and not suitable for foundation support.

Native soils are well drained. Subdrainage for conventional residential construction will not be required. A site-specific groundwater evaluation should be conducted if a builder proposes to construct a below grade crawl space or a basement.

Cut and fill. Cut and fill slopes up to 3 feet in height should be placed no steeper than 1-1/2 to one, and 2 to 1, respectively, (horizontal to vertical). Higher or steeper slopes should be reviewed by us for stability and erosion hazard consideration. Due to the generally low density, potentially compressible nature of the upper site soils, fills to support structures should be evaluated for settlement potential during the design process. Cut and fill along the bluff edge shall be avoided.

Grading. As proposed, development of building sites and access roads is expected to require minimal grading. If cuts or fills in excess of 3 feet in height are to be constructed on site, site specific geotechnical investigations and/or evaluations will be required in order to prevent significant settlement risk and adverse impacts on stability of existing slopes. All landscape fills over 1 foot thick should be compacted.

Grading associated with proposed lots near Widow White Creek (northern parcel boundary) should be restricted to slopes of 15 percent or less.

Structural Fill placement. In the following recommendations, "compact" and "compacted" refer to obtaining a minimum of 90% of the maximum relative dry density as referenced to the ASTM D1557-91 test method, or to the CALTRANS 216 test method for the access road system. We recommend the following:

a. Notify Underground Service Alert (1-800-642-2444) prior to commencing site work, and use this service and other methods as appropriate to avoid damaging underground and overhead utilities.

b. Strip all cultural debris, vegetation, root-systems, dark-colored organic-rich topsoil, uncontrolled existing fill, and any compressible, low density upper soils from areas to receive structural fill or improvements, and for five feet outside. Additionally, excavate as required to accommodate design grades and planned minimum fill or pavement section thicknesses.

With the exception of vertical sides or steps, subgrade surfaces to receive structural fill should be cut-graded to slope no steeper than 10 percent.

Conduct a geotechnical engineering review of exposed subgrade surfaces. The geotechnical engineer will recommend that remaining unsuitable soils, such as overly weak, compressible, or saturated soils, be additionally removed. Where structural improvements will be located above the loose backfill placed in Earthquake Fault exploration trenches, the following general recommendations for soil removal and recompaction are provided to reduce the risk of significant adverse settlement:

(1) Residential structures--remove the top 8 feet of fill, then backfill with nonorganic native sand, river run gravel, or Class II aggregate base compacted to 90% of the maximum relative dry density as determined by ASTM D1557-91

(2) Underground utilities using flexible materials--remove enough fill so that the excavation is 4 feet deeper than proposed utility grade, then backfill to utility line grade with soil material (as above) compacted to 90% (ASTM D1557-91) followed by conventional backfill placement to ground level

(3) Access roads, driveways, and other pavement areas--remove the top 6 feet of fill, then backfill with soil material (as above) compacted to 90% of the maximum relative dry density as determined by CALTRANS 216, to subgrade level followed by the appropriate pavement section to ground level.

Additional construction recommendations will be needed when development details can be evaluated in relation to the specific fault investigation trenches to be encountered.

c. Compact the upper six inches of exposed subgrade soils which are to receive structural fills.

d. Structural fill material should consist of relatively non-plastic (Liquid Limit less than 35, Plasticity Index less than 12) material containing no organic material or debris, and no individual particles over 6 inches across. We suggest the use of granular soils (sand, gravel) for fill, because these soils are relatively easy to moisture condition and compact. Except for the root filled upper soil layer, on site native soils should be suitable for structural fill material.

e. Structural fill should be placed to design grades and compacted to a minimum of 90% of the maximum relative dry density as determined by the ASTM D1557-91 test method (residential improvements) or CALTRANS 216 test method (access road system improvements)

5. Residence Foundations

We recommend that foundation elements be supported exclusively on in-place, undisturbed native soils, or on specifically designed structural fill that has been evaluated to minimize settlement potential by the geotechnical engineer. Compressible, low density upper soils and uncontrolled fill materials are not considered to be capable of supporting conventional residential building loads without excessive settlement risk. Investigations suggest that adequate foundation footing grades are typically two feet or more beneath the existing ground surface.

Following removal of root-filled topsoil and compressible, low density subsoils, and grading as recommended, foundations may be constructed. Residence foundation excavations should be evaluated by the geotechnical engineer to determine if compressible soils have been removed. Foundations should be sized, embedded, and reinforced to at least the minimums presented in the current edition of the Uniform Building Code. Such foundations may be designed so they do not exceed an allowable bearing capacity of 800 pounds per square foot (psf) for dead plus live loads. These values may be increased by one-third to account for the short-term effects of wind and/or seismic loading. A friction coefficient of 0.3 may be used for the footing/soil contact. Retaining walls over 3 feet high should be designed after site specific soil conditions are evaluated.

When foundations are constructed in accordance with all our recommendations, it is unlikely that total post-construction settlement will exceed 3/4 inch or that differential settlement between adjacent foundation elements will exceed 1/2 inch.

The ground surface that is adjacent to foundations, driveways, exterior slabs, or parking areas should be sloped to drain away from the structure.

Foundation excavation and utility trench backfill should be compacted, except for landscape areas where the upper 1 foot should be placed in a "firm" condition. Landscape fills deeper than 1 foot should be compacted to a minimum of 80% of the maximum relative dry density. Areas excavated for the earthquake fault evaluation were not backfilled under structural fill criteria. Therefore, foundation and/or appurtenant structures traversing the trench alignments will be subject to differential settlement if mitigation measures are not employed.

6. Deep-seated Slope Failure Hazards

Deep-seated slope failure that would affect the project vicinity is considered to be a very low level geologic hazard. Deep-seated slope failure is not likely to occur except during very strong seismic shaking coincident with unusually high soil moisture conditions. In our opinion, the probability of such an event in the project area is very low, but should not be ignored. No mitigation for potential deep-seated slope failure is currently indicated.

7. Seismic Hazards

The project area is subject to seismic hazards. Strong earthquake induced ground shaking is considered to be the most significant seismic hazard. Specific lots on the project parcel are not expected to experience significant differences in earthquake induced ground shaking. Numerous earthquake sources can affect the proposed development, including the primary thrust fault identified during the fault evaluation. Structures for residential use should be of wood-frame construction, built to withstand strong seismic shaking. The minimum standard for construction of the residence should be in accordance with the latest edition of the Uniform Building Code (UBC) for the highest Seismic Zone (Seismic Zone 4).

Structures intended for human occupancy must be located outside of the zone subject to earthquake fault rupture. The area where structures should be omitted is indicated as an exclusion zone shown on Figure 2 of the Earthquake Fault Evaluation Report (SHN, November 1994). Appurtenant structures such as detached garages, outbuildings, parking areas, and roadways are not considered to be structures intended for human occupancy and are, therefore, not considered or restricted by the surface fault rupture zoning.

8. Tsunami Hazards

Since the project site is located on an elevated terrace (between approximately 50 and 80 feet above mean sea level), and is separated from the Pacific Ocean by the Mad River and the spit that divides the ocean and the river, it is unlikely that the project parcel will be subject to significant tsunami hazards.

Tsunami runup elevations have been estimated by the Army Corps of Engineers for the Pacific Northwest for tsunamis originating from distant sources (Alaska, Hawaii, Japan, and South America [Houston, 1979]). It should be noted that the elevations provided in the Corps study are based on numerical models and were intended for flood insurance purposes rather than public safety, and tsunami elevations provided by the Corps have a 90 percent probability of not being exceeded in 50 years.

Tsunamis have been recorded at Humboldt Bay. The maximum water elevation above mean lower low water (MLLW) at the U.S. Coast Guard Station on the North Spit caused by the 1964 Alaskan earthquake was estimated at 9 feet. The water level changed 6 feet in 20

minutes (Wilson and Toren, 1972). Current available information (Houston, 1979) suggest tsunami runup elevations at the beach, west of the project site, of between 15 and 30 feet. Arrival times for tsunamis originating from the distant sources mentioned above is generally in excess of 3 hours.

The Army Corps of Engineers study does not take into account tsunamis generated by local sources such as the Cascadia Subduction Zone (CSZ), since this source was not recognized at the time of the Corps study.Tsunami runup models have not been developed for coastal Humboldt County; however, the National Oceanic and Atmospheric Administration (NOAA) is currently finalizing tsunami runup models for the Humboldt Bay area, based on locally generated tsunamis (CSZ). The maximum documented local tsunami was generated by the April 25, 1992 CSZ earthquake, and was recorded at the Coast Guard station near at the mouth of Humboldt Bay within 40 minutes after the earthquake with a height of approximately 3 feet. Larger magnitude earthquakes would be expected to generate larger tsunamis. No mitigation for potential tsunamis is currently indicated.

CLOSURE

The analyses, conclusions, and recommendations contained in this report are based on site conditions as they existed at the time of our investigation. We have assumed that the information obtained from limited observations and subsurface explorations is representative of the subsurface conditions throughout the project area.

Our recommendations are tended on the assumption that design and construction of the improvements will conform to their intent. If an evaluation of design conformance is desired, a representative of our firm is available to review specific development plans. Our recommendations specify that the geotechnical engineer is to evaluate site specific soil conditions where residential foundations, retaining walls, drainage control structures, or significant grading areas are to be located. .

If subsurface conditions that differ significantly from those disclosed by our investigations are encountered during construction, we must reevaluate the applicability of our conclusions and recommendations. Such a reevaluation may result in reconsidered and/or amended recommendations.

If the period of time between the submission of our report and the start of work at the site exceeds 2 years, or if conditions have changed due to natural causes or construction operations at or adjacent to the project area, we should review our report to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse. This report is applicable only to the project and project area studied.

The field investigation was conducted to investigate the site characteristics specifically addressed by this report. Assumptions about other site characteristics, such as hazardous materials contamination, should not be made from this report.

REFERENCES

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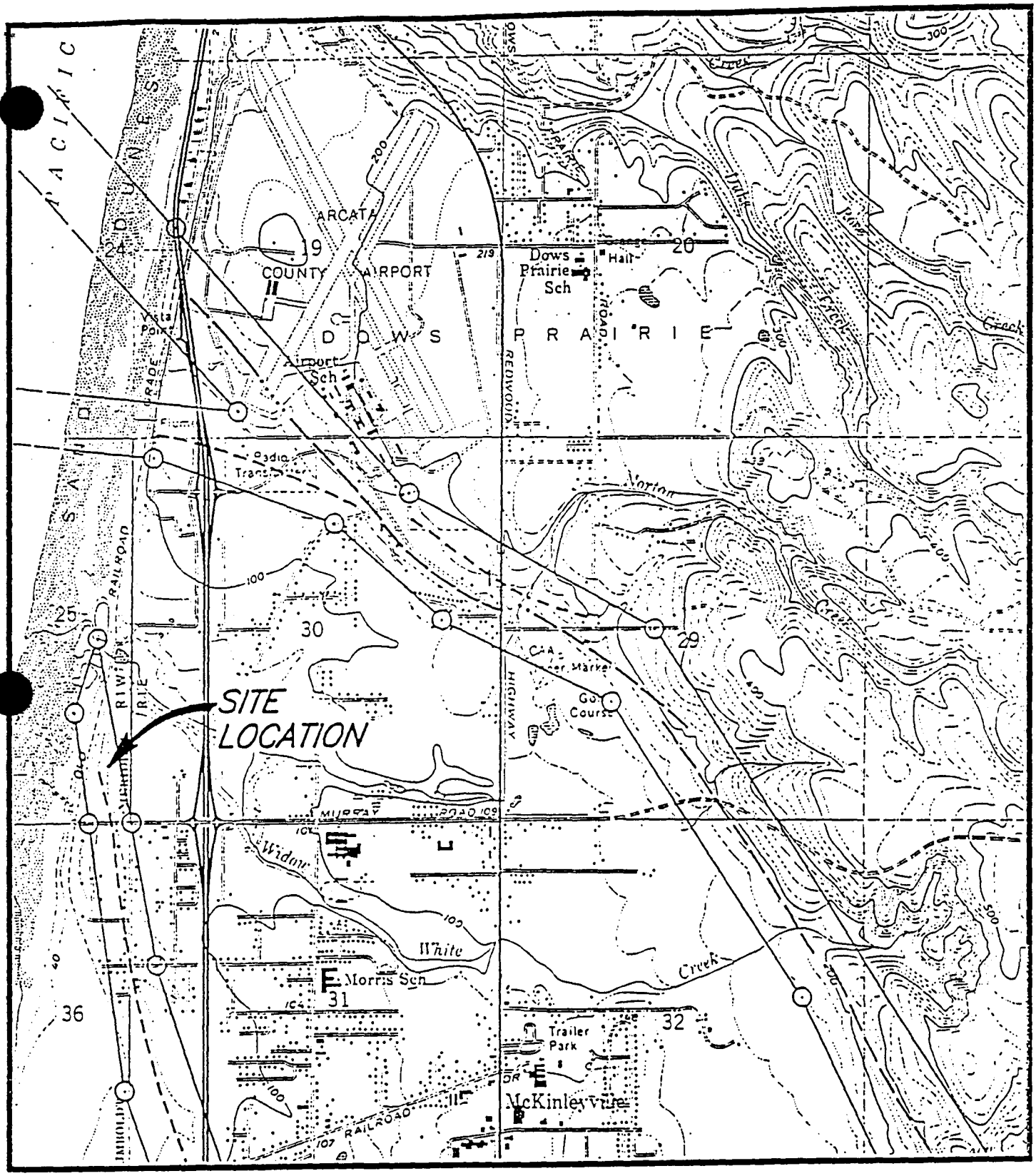


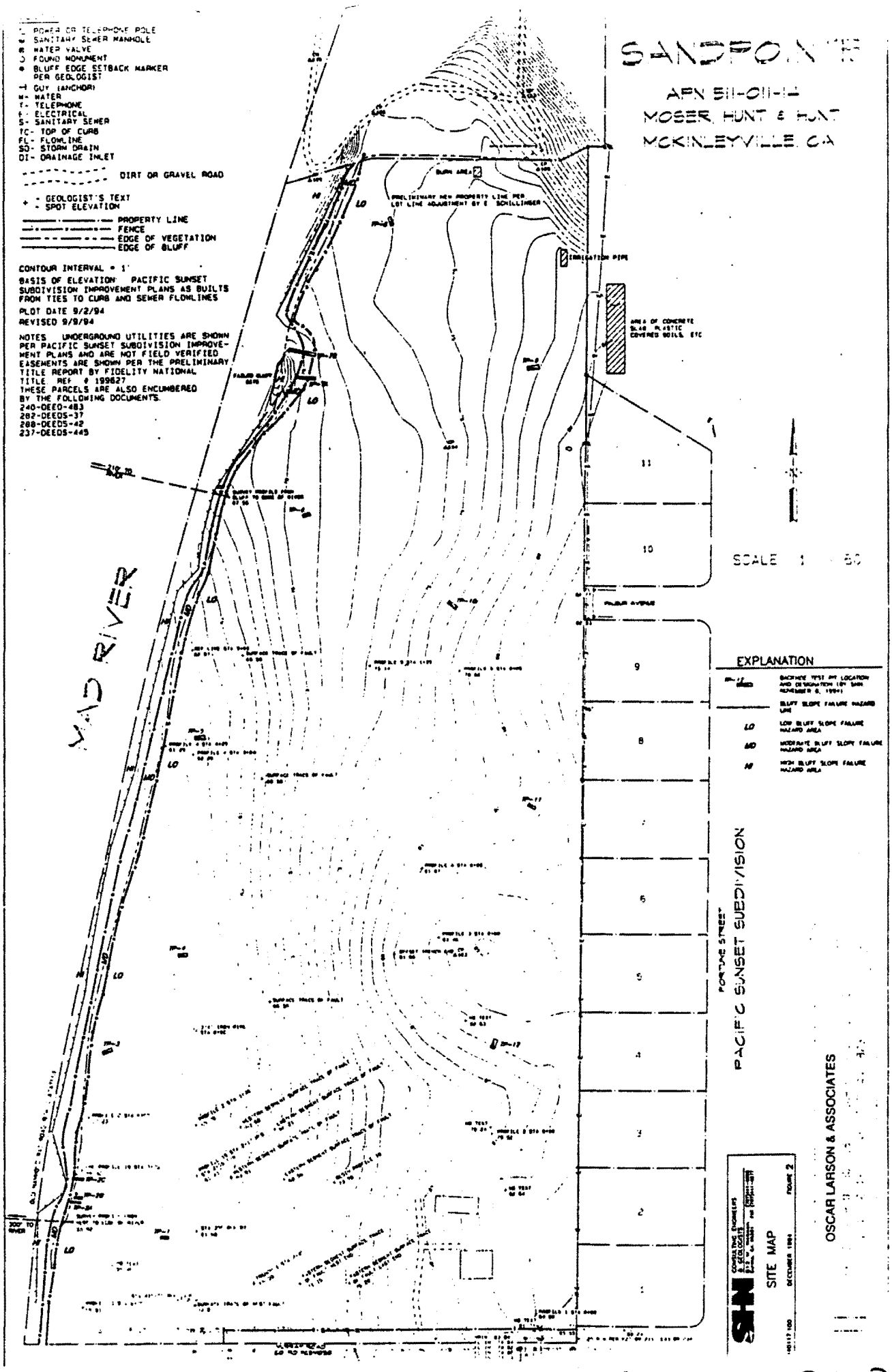
BASE MAP FROM ARCATA NORTH QUADRANGLE
U.S.G.S. 7.5 MINUTE SERIES
(TOPOGRAPHIC) HUMBOLDT CO. CALIFORNIA
SPECIAL STUDIES ZONES

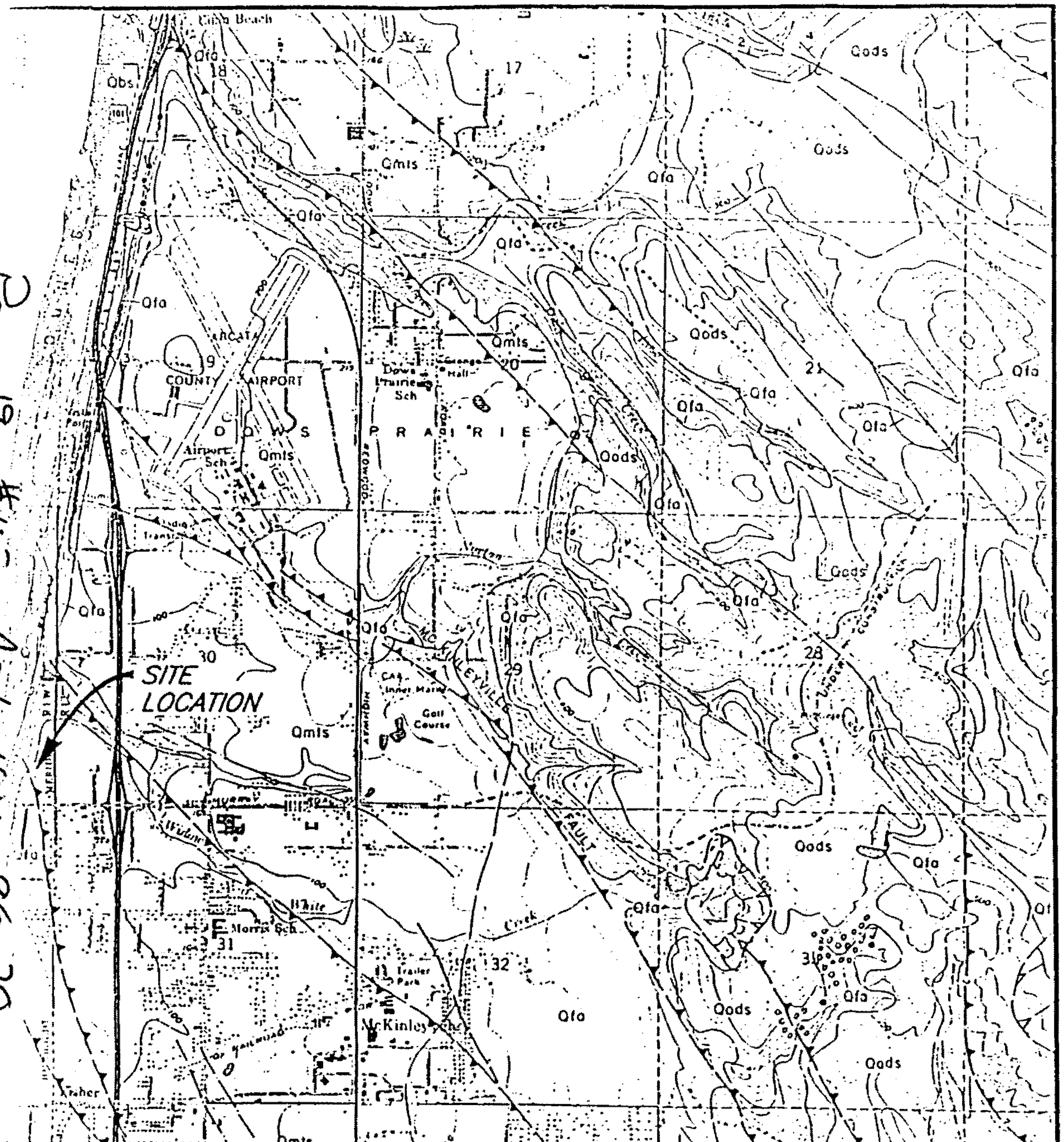
SCALE: 1:24000

SANDPOINTE
McKINLEYVILLE, CALIFORNIA

VICINITY MAP

EXPLANATION


SANDPOINTE
APN 511-011-11
MOSER, HUNT & HUNT
MCKINLEYVILLE, CA
- POWER OR TELEPHONE POLE
- SANITARY SEWER MANHOLE
- WATER VALVE
- FOUND MONUMENT
- BLUFF EDGE SETBACK MARKER PER GEOLOGIST
- GUY (ANCHOR)
W- WATER
T- TELEPHONE
E- ELECTRICAL
S- SANITARY SEWER
TC- TOP OF CURB
FL- FLOWLINE
SD- STORM DRAIN
DI- DRAINAGE INLET
DIRT OR GRAVEL ROAD
- GEOLOGIST'S TEXT
- SPOT ELEVATION
PROPERTY LINE
FENCE
EDGE OF VEGETATION
EDGE OF BLUFF
CONTOUR INTERVAL = 1'
BASIS OF ELEVATION PACIFIC SUNSET SUBDIVISION IMPROVEMENT PLANS AS BUILTS FROM TIES TO CURB AND SEWER FLOWLINES
PLOT DATE 9/2/94
REVISED 9/9/94
NOTES UNDERGROUND UTILITIES ARE SHOWN PER PACIFIC SUNSET SUBDIVISION IMPROVEMENT PLANS AND ARE NOT FIELD VERIFIED EASEMENTS ARE SHOWN PER THE PRELIMINARY TITLE REPORT BY FIDELITY NATIONAL TITLE REF # 199627
THESE PARCELS ARE ALSO ENCUMBERED BY THE FOLLOWING DOCUMENTS.
240-DEED-483
282-DEEDS-37
288-DEEDS-42
237-DEEDS-445
BURN AREA
PRELIMINARY NEW PROPERTY LINE PER LOT LINE ADJUSTMENT BY E. SCHILLINGER
IRRIGATION PIPE
AREA OF CONCRETE SLAB OR PLASTIC COVERED SOILS, ETC
FAILED SLOPE
MAD RIVER
SCALE 1" = 50'
EXPLANATION
BACKHOE TEST PIT LOCATION AND DESIGNATION (BY SHN, NOVEMBER 8, 1993)
BLUFF SLOPE FAILURE HAZARD LINE
LO LOW BLUFF SLOPE FAILURE HAZARD AREA
MO MODERATE BLUFF SLOPE FAILURE HAZARD AREA
H HIGH BLUFF SLOPE FAILURE HAZARD AREA
PACIFIC SUNSET SUBDIVISION
PORTUNE STREET
11
10
9
8
7
6
5
4
3
2
1
300' TO RIVER
SHN CONSULTING ENGINEERS & GEOLOGISTS
SITE MAP
FIGURE 2
DECEMBER 1993
OSCAR LARSON & ASSOCIATES



EXPLANATION

Qsc	STREAM CHANNEL DEPOSITS (Holocene): unconsolidated silt, sand, and pebble-to cobble-sized gravel in active river channel and flood-stage, gravel-bar areas.
Q	ALLUVIUM (Holocene): unconsolidated, coarse-to fine-grained sand and silt on coastal plain, in valley bottoms, and along modern river flood plains; gravel in channel areas; may include some marine terrace deposits along Mad River flood plain.
Qrt	RIVER TERRACE DEPOSITS (Holocene-Pleistocene): dominantly sand and gravel with minor amounts of silt and clay deposited during higher stands of major streams.
Qods	OLDER DUNE SANDS (Late Pleistocene): unconsolidated deposits of fine-to coarse-grained sand; generally well vegetated.
Qmts	MARINE TERRACE DEPOSITS (Quaternary): poorly to moderately consolidated deposits of marine silts, sands, and gravels forming flat benches on wave-cut surfaces adjacent to the Mad River flood plain.
Qfa	FALOR FORMATION (Early to Middle Pleistocene); fluvial and shallow-water marine sediments; includes pebbly conglomerate, sandstone, and silt; in some places, contains abundant animal and plant remains.
KJfs	CENTRAL BELT FRANCISCAN SEDIMENTARY ROCKS (Cretaceous-Jurassic): well consolidated sandstone, siltstone, and shale with minor amounts of conglomerate; structurally deformed and usually highly sheared; includes areas mapped as Franciscan Broken Formation by Carver and others (1984).
fm	FRANCISCAN MELANGE (Cretaceous-Jurassic): individual blocks of graywacke, sandstone, mudstone, conglomerate, greenstone, chert, and serpentinite in a sheared argillaceous matrix.
	LITHOLOGIC CONTACT: dashed where approximately located.
	FAULT: dashed where approximately located, dotted where projected or inferred, queried where uncertain.
	THRUST FAULT: dashed where approximately located, dotted where projected or inferred, queried where uncertain; barbs on upper plate.
	LINEAMENT: linear feature of unknown origin observed on aerial photographs.

BASE MAP AND EXPLANATION FROM
ARCATA NORTH QUADRANGLE
U.S.G.S. (TOPOGRAPHIC) 7.5 MINUTE SERIES
HUMBOLDT CO. CALIFORNIA
GEOLOGY AND GEOMORPHIC FEATURES
RELATED TO LANDSLIDING, 1984

SCALE: 1:24000

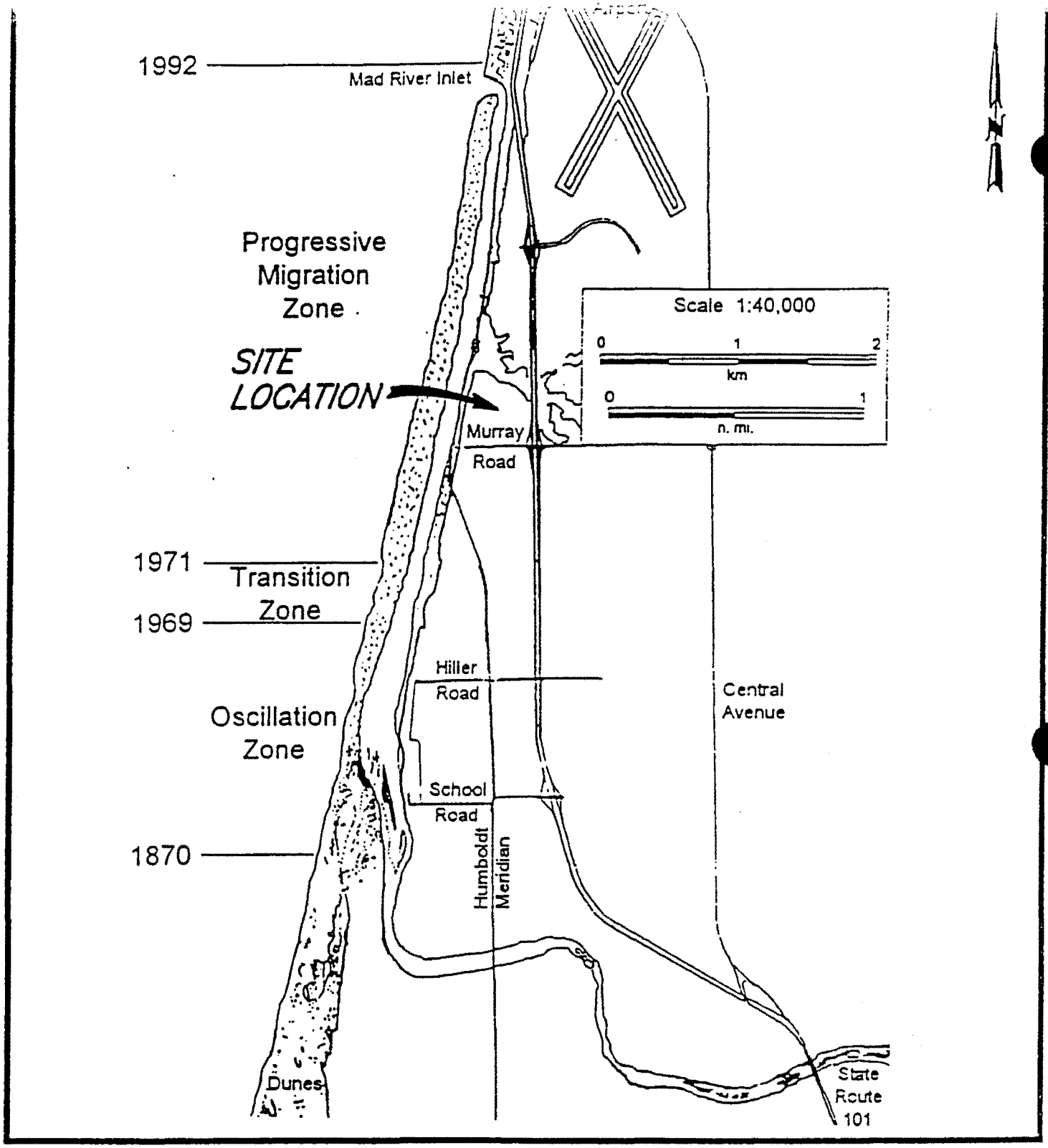
N

SANDPOINTE
McKINLEYVILLE, CALIFORNIA

GEOLOGIC MAP

SHN

SHN 940117.100
NOVEMBER 1994
FIGURE 3



HISTORICAL MAD RIVER INLET POSITIONS SEPARATING THE THREE ZONES OF DOCUMENTED INLET BEHAVIOR: THE OSCILLATION ZONE, CHARACTERIZED BY NORTH–SOUTH OSCILLATION OF THE INLET; THE TRANSITION ZONE, REPRESENTING A PERIOD OF PREDOMINANTLY NORTHWARD MIGRATION; AND THE PROGRESSIVE MIGRATION ZONE, WHICH DELINEATES THE PERIOD OF STEADY NORTHWARD INLET MIGRATION.

MAP SOURCE: BORGELD AND OTHERS (JULY 1993). "FINAL PROJECT EVALUATION REPORT: MAD RIVER MOUTH MIGRATION". EUREKA: CALIFORNIA DEPARTMENT OF TRANSPORTATION. FIGURE 4–5, PAGE 35.

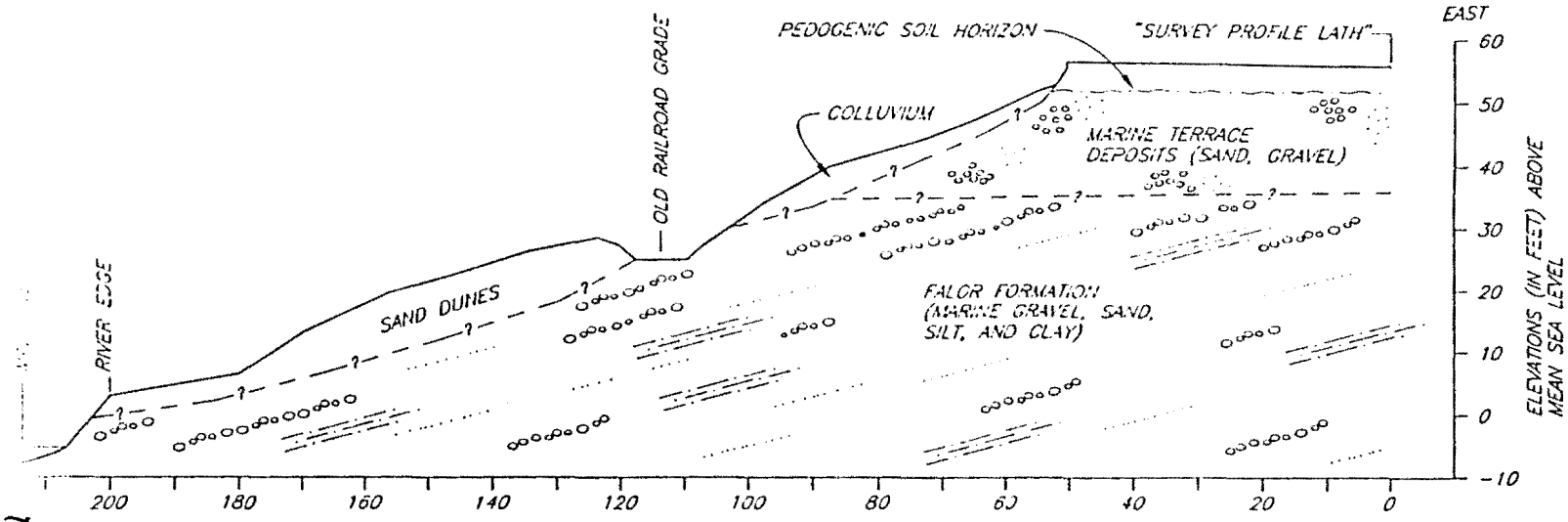
SANDPOINTE
McKINLEYVILLE, CALIFORNIA

MAD RIVER INLET, 1992

SHN 940117.100
NOVEMBER 1994
FIGURE 4

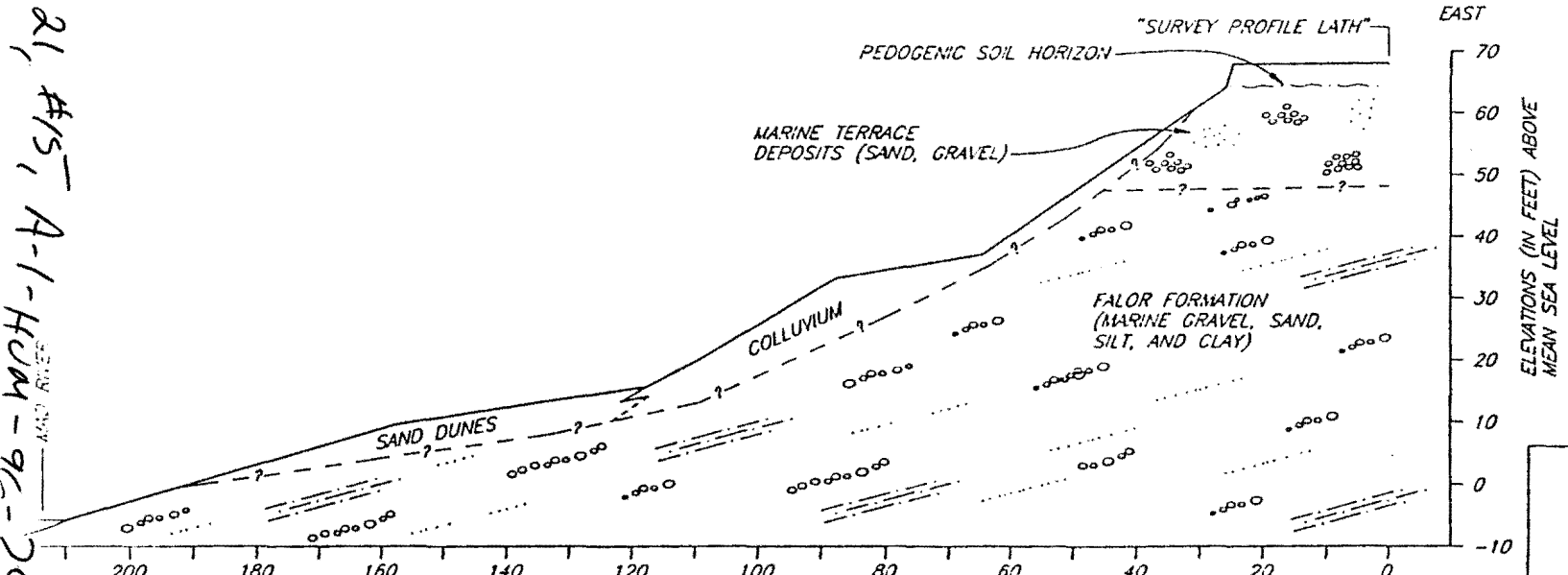
SHN

Page 20, #15, A-1-HUM-96-70



SURVEY PROFILE
SOUTH END

SCALE: 1"=20'
HORIZONTAL=VERTICAL



SURVEY PROFILE
NORTH END

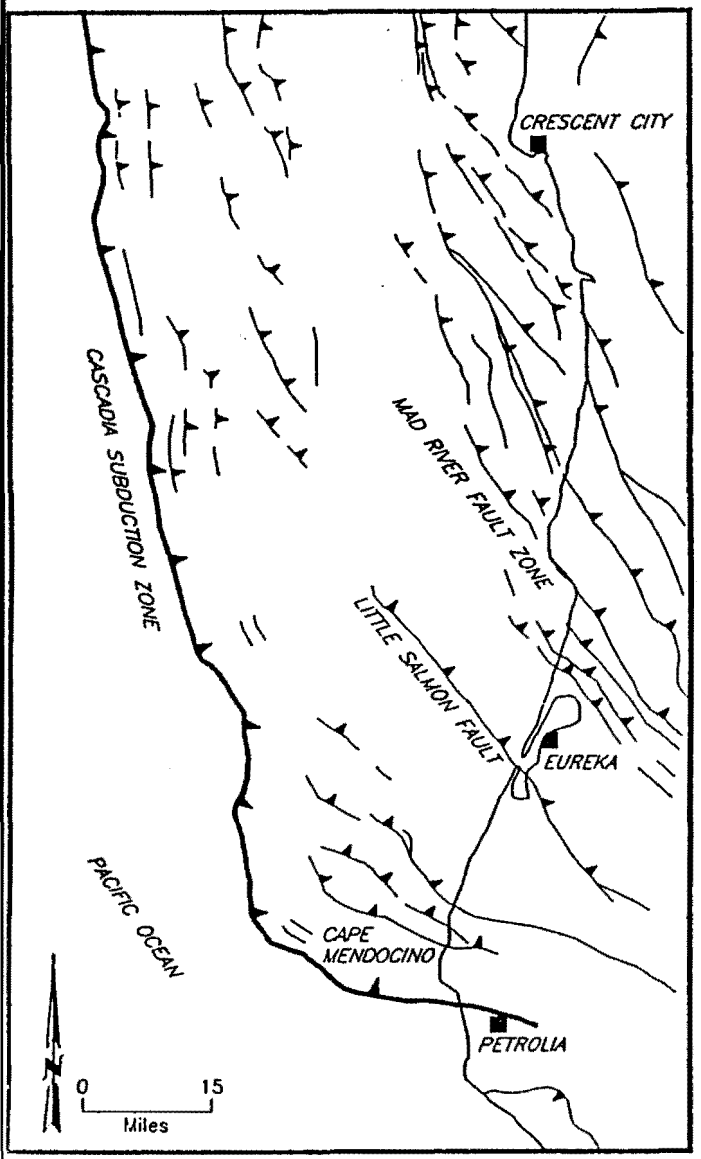
SCALE: 1"=20'
HORIZONTAL=VERTICAL

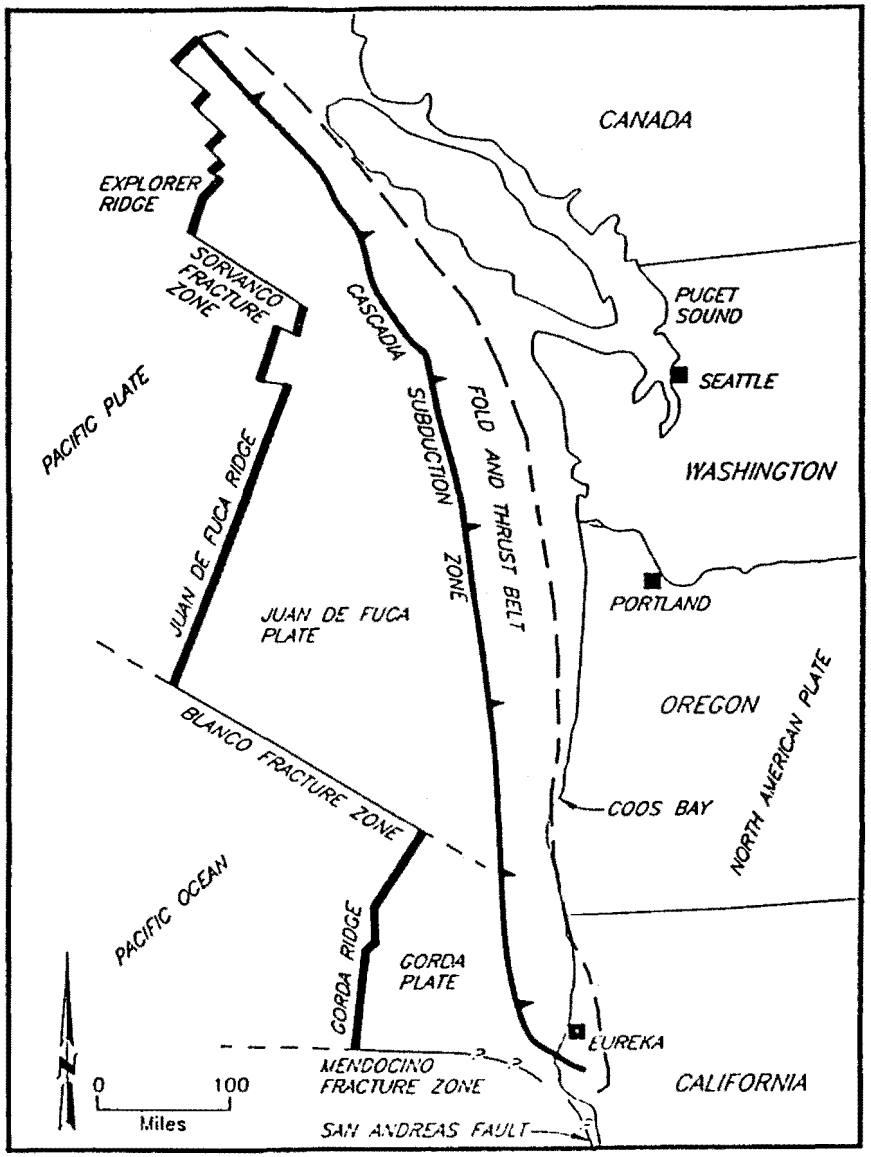
SANDPOINTE
McKINLEYVILLE, CALIFORNIA

BLUFF SLOPE PROFILES

SHN 940117.100
NOVEMBER 1994
FIGURE 5

Page 21, #15, A-1-HUM-96-20





SANDPOINTE
McKINLEYVILLE, CALIFORNIA

REGIONAL PLATE TECTONICS AND FAULT MAPS

SHN 940117.100
NOVEMBER 1994
FIGURE 6

Page 22, #15; A-1-HUM-96-20

POST OFFICE BOX 6172 SANTA ROSA, CA 95406
TELEPHONE (707) 528-3078 FACSIMILE (707) 528-2837

GIBLIN ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS

December 7, 1994

Job No. 1306.6.8

Planning and Building Department
County of Humboldt
3015 H Street
Eureka, CA 95501-4484
Attention: Mr. Jim Baskin

Gentlemen:

Geologic Conformance Review
Alquist-Priolo Earthquake Fault Zone Act
Moser - Hunt Property
Assessor's Parcel No. 511-011-14
McKinleyville, California

This letter presents the results of our geologic conformance review regarding the report entitled "*Earthquake Fault Zone, Fault Evaluation Report, Proposed Subdivision, Assessor's Parcel No. 511-011-14; McKinleyville, California*", by SHN Consulting Engineers and Geologists, dated November 1994. The subject report is directed toward evaluating fault rupture hazard within proposed building sites that are located within an Alquist-Priolo Earthquake Fault Zone.

The purpose of our review was to evaluate the above referenced report for conformance with the policies and criteria of the California Division of Mines and Geology as described in Special Publication 42, revised 1990. Our conclusions are not an independent assessment of the suitability and stability of the site, but are intended to present our opinion as to whether qualified personnel have adequately investigated the characteristics of the site and provided recommendations consistent with the technical data supplied in the report.

SCOPE

We have performed the following scope of services:

GIBLIN ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS

1. A detailed review of the fault evaluation report, associated maps, aerial photographs used by the investigators, and subsurface logs; and assessment of the adequacy of the documentation and the appropriateness of the depth of study conducted in consideration of the use proposed for the project site.

2. A review of pertinent regional geologic literature, maps and other reference materials.

3. An on-site review of the project area during excavation and logging of Trench 3 with the author of the subject investigation, Roland S. Johnson, Jr., to observe fault features, as well as geomorphic features that may be fault-related.

4. Preparation of this written review.

FINDINGS AND CONCLUSIONS

Based on our on-site evaluation and review of the above referenced fault investigation report by SHN Consulting Engineers, it is our professional opinion that the information presented in the report generally satisfies the policies and criteria in California Division of Mines and Geology Special Publication 42.

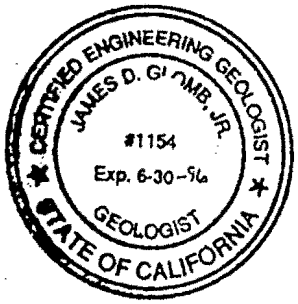
Opinions and conclusions regarding active faulting and/or risk are solely the responsibility of SHN Consulting Engineers. We assume no responsibility for the opinions and conclusions of SHN Consulting Engineers. We recommend that this letter be included in the file for the project. Should changes occur in the proposed use of the subject property, we should be notified to review and comment on those changes in a written letter.

GIBLIN ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS

We trust this provides the information needed at this time. If you have questions or wish to discuss this in more detail, please do not hesitate to contact us.

Yours very truly,
GIBLIN ASSOCIATES

Jim Glomb
Certified Engineering Geologist No. 1154



Jere A. Giblin
Civil Engineer No. 19796

JDG/JAG:nw.3M52
Copies Submitted: 4

cc: SHN Consulting Engineers & Geologists
812 W. Wabash
Eureka, CA 95501
Attention: Roland S. Johnson, Jr.

Page 3, #16, A-1-HUM-96-70

LACO ASSOCIATES
CONSULTANTS

GUY J. CONVERSANO • CE 14398/TE 0037
HOWARD W. GARDNER • ME 21300/CHE 4063
CHARLES W. GALLATY • CE 20181
RONALD C. CHANEY • CE 29027/GE 000934
RONALD J. DEN HEYER • CE 45626
DAVID N. LINDBERG • RG 5581/CEG 1895
FRANK R. SICKNER • REA 12138
DAVID K. IMPER • REA 01160

March 1, 1996

4302

Mr. Theodore P. Merz
2988 Fortune Street
McKinleyville, California 95519

Subject: Comments on Draft EIR prepared for Sand Pointe Subdivision, McKinleyville

Dear Mr. Merz:

We have reviewed the geology and soils portions of the Draft EIR for the Sand Pointe Development Project in accordance with our discussion. Our review was limited to a study of the document supplemented by a few reference materials readily available to us. In general, we feel that the document is well thought out and carefully prepared. Based on our review, we have a few comments or questions regarding the Geologic Report (R-1) and the Fault Evaluation Report (FER) in appendix C of the EIR. Our questions and comments are discussed below. If you have further questions, please contact us.

FER:

We understand that the surface trace of the fault was located by means of a field investigation which included level surveying of six topographic profiles and excavation of three fault trenches. Significant faulting was exposed in two of the three trenches, and the surface trace of these faults was projected between and beyond the profiles and trenches by interpretation.

4 It is our opinion, and we cannot emphasize it too strongly, that the location of the surface trace of the fault is based too heavily on the interpretation of the slope profiles, and is somewhat lacking in hard data, i.e. trenching. Specifically, it is our opinion that additional fault investigation trenches should be placed to confirm the interpretation that the faults observed in Trench 1 do, in fact, combine into the single fault in Trench 3. We believe that there is a strong likelihood that the faults observed in the western part of Trench-1 may <u>not</u> combine by Trench-3 and may, in fact, exist beyond (west of) the west end of Trench-3.

The FER reports that the strike of the faults observed is quite variable. The strike of the fault in Trench-3 and in the "offset" trench ten feet north of Trench-3 reportedly varies from N16°E to N35°W. The surface trace of the fault was projected north from Trench-3 with a strike slightly west of north. The log of the "offset" trench was not included in the FER, but should be. Taking into account the variability of the strike of the fault and the high density of the proposed project, it is our opinion that the surface trace of the fault,

216 J Street • P.O. Box 1023 • Eureka, California 95502 • 707-443-5054 • 1-800-515-5054 • FAX 707-443-0553

as mapped (site plan in Figure 2 of the FER), is speculative and additional trench investigations should be conducted to more accurately locate the fault.

5 We also find that, based on the data reported in the FER, there is little basis for adjusting the standard zone of exclusion for structures for human occupancy (setback) of 50 feet on both sides of the fault to only 25 feet on the west side of the fault trace. In section 3603(a) of the Alquist-Priolo Fault Zoning Act (formerly the Alquist Priolo Special Studies zones Act) it states in part that: "No structures for human occupancy. . . shall be permitted to be placed across the trace of an active fault. Furthermore, the area within fifty (50) feet of such active faults shall be presumed to be underlain by active branches of that fault unless proven otherwise by an appropriate geologic investigation and report" (CCR Title 14, Division 2). It is our opinion that this FER does not adequately prove that the adjustment of the zone of exclusion from 50 feet to 25 feet is justified.

6 There is no indication in the EIR that the FER has been reviewed by a geologist registered in the State of California as required in Section 3603(e) of the title referenced in the preceding paragraph. Section 3603(e) states: "A geologist registered in the State of California, within or retained by each lead agency, shall evaluate the geologic reports required herein and advise the lead agency." If this has been done, the findings of the independent evaluation by a registered geologist should be appended to the FER.

Without the independent review and approval, the FER is neither complete, nor acceptable, and because of this fact, the Draft EIR is neither complete nor acceptable.

7 The development plans for the proposed subdivision show the roadways and utility corridor are to be located within the area underlain by the fault and zone of exclusion (the fault setbacks). We question the wisdom of locating the only means of ingress and egress to the proposed subdivision in a position where the roadways may be destroyed by ground surface rupture. We would recommend that the developer(s) seriously consider adding an additional means of vehicular access to the proposed project so that emergency vehicles (fire and ambulance) will retain access to the site, in the event of an earthquake which damages or destroys the roadways at the south end of the proposed subdivision.

R-1 Report

8 The R-1 has recommended what we consider insufficient setbacks from the top of the bluff. The map (S-1) included in the "Planning Scenario" (Toppozada and others, 1995) cited in the EIR, shows the development to be subject to Modified Mercalli Intensities of VIII+ to IX, and shows the western margins of the proposed project as subject to liquefaction. Toppozada (and the

EIR) report that the edge of the bluff is "susceptible to coherent landslides". The EIR then states that slope failures would be most likely to result from a combination of over-steepened slopes, a reduction in vegetational cover, and an increase in soil water. The EIR therefore quotes Toppozada and others and then proceeds to ignore their findings. It is our opinion that there already exists a significant risk of slope failure at the site, without oversteepened slopes, a reduction in vegetational cover, and an increase in soil water. The setbacks form the top of the bluff should be reconsidered and should be increased, in our opinion.

We agree that river mouth erosion processes are not currently effecting the project site. The R-1 report states that since 1981 the river has migrated eastward some 54 to 215 feet toward the bluff top edge in the vicinity of the project site. Of more concern is the proximity of the river to the toe of the bluff, because erosion of the bluff toe is what will destabilize the bluff. The distance from the toe of the bluff to the edge of the river does not appear to be addressed in the report.

We do not agree with the conclusion that because the mouth of the river has been "stabilized" about one mile north of the site that the threat of significant bank erosion should be considered low at the project site. The northward migration of the river mouth is historically unprecedented and the future behavior of the river in response to the stabilization of the mouth is not reliably predictable. It is also somewhat misleading to state that the mouth is "stabilized" Caltrans continues to add rock slope protection at the site, indicating that the river mouth has not really been stabilized.

9 The causes of the northward migration of the Mad River mouth are not well understood; the migration is probably a result of a complex interplay of a number of factors, such as changes in land use in the basin, climatic change, channel modifications, and dam construction, among others. In response to these factors, the Mad River channel lengthened and the channel gradient probably decreased. The mouth of the river is now stabilized, but the factors to which the river was responding in lengthening its channel and decreasing its gradient have probably not changed within the basin.

Given that the mouth of the river is anchored (and we cannot agree that it is in fact "stabilized"), and that the driving forces which caused the channel lengthening probably continue to operate, it seems more reasonable to conclude that additional adjustments may occur in the future. Because the mouth can no longer migrate northwards, the river may begin to meander in order to continue to increase its channel length and decrease its gradient. Should this occur, meanders in the channel could increase the rates of erosion of the east bank of the river and destabilize the bluff by undercutting at the toe of the slope. In light of this, the bluff setbacks for structures in this

proposed subdivision should be reviewed and probably should be increased to adequately protect the anticipated homes.

We appreciate the opportunity to assist you in evaluating the proposed Sand Pointe Subdivision development. If you have any questions or comments regarding our conclusions, please phone our office.

Sincerely,
LACO ASSOCIATES

David N. Lindberg

David N. Lindberg, CEG 1895
Associate Engineering Geologist

Ronald C. Chaney

Ronald C. Chaney
Geotechnical Engineer
RGE 0934, Exp. 3/31/99

DNL:amm

...IFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, Governor
...RNIA COASTAL COMMISSION
...AST AREA
...ARD STREET, 4TH FLOOR
...NCISCO, CA 94105
...3-8555

F-66

October 29, 1987

TO: COMMISSIONERS AND INTERESTED PARTIES

FROM: Edward Y. Brown, District Director
Noah Tilghman, Assistant District director
James J. Muth, Coastal Planner

SUBJECT: Revised Findings for County of Humboldt LCP Amendment No. 1-87 (major) to their certified Local Coastal Program. Filed: May 18, 1987; 90th day: Waived.

FOR: Possible Commission action at the Commission's November 20, 1987 meeting in Marina del Rey.

REVISED FINDINGS

SYNOPSIS

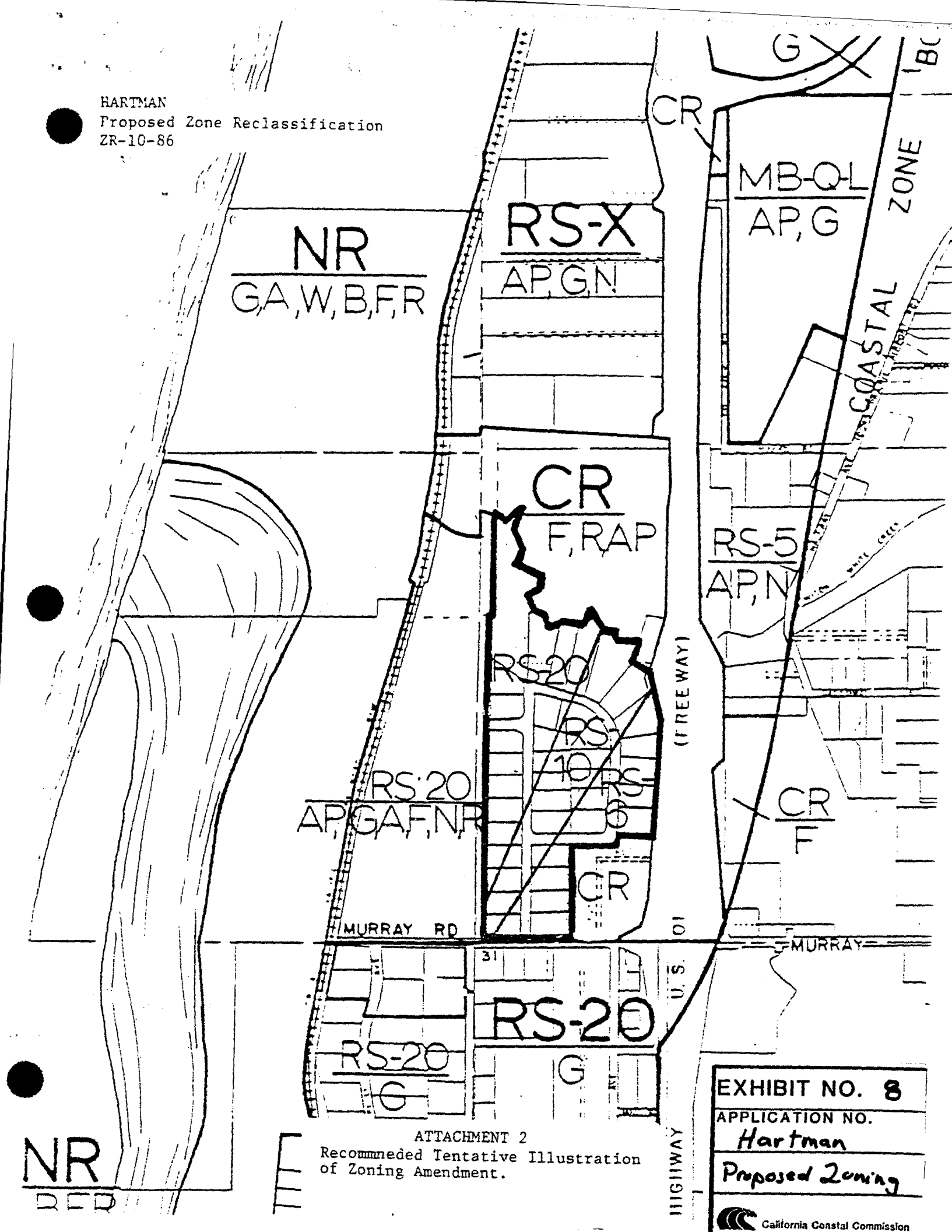
Background: This LCP Amendment was filed as complete on May 18, 1987, however, the 90 day time period was waived so that the amendment could be heard at the August Commission meeting in Eureka, California.

The LCP Amendment consists of three major amendments all located within the McKinleyville area of Humboldt County (See Exhibit #1). The LCP Amendment requests are:

1. McKinleyville Community Services District/Bugenig calls for the conversion of 4± acres of agricultural land to residential use and extension of the McKinleyville Urban Limit Line;
2. County of Humboldt call for the extension of the McKinleyville Urban Limit Line for a 10± acres, county-owned property so as to allow for water and sewer service extensions and possible development of a recreational vehicle park;
3. Hartman calls for an increase in residential densities for a 12± acre portion of a pre-existing but unbuilt subdivision.

Commission Action: On the MCSD/Bugenig LCP Amendment, the Commission staff recommendation was for denial. The Commission did not accept the staff recommendation for denial and approved the amendment as submitted by the County. The Commission extended the urban limit line and certified the proposed "Residential Low Density, 3-7 units/acre" by a 11-1 vote. The Commission then voted 0-12 not to reject the proposed "Residential Single Family, 5,000 sq.ft. lots with a geological hazard combining zone" zoning district designation.

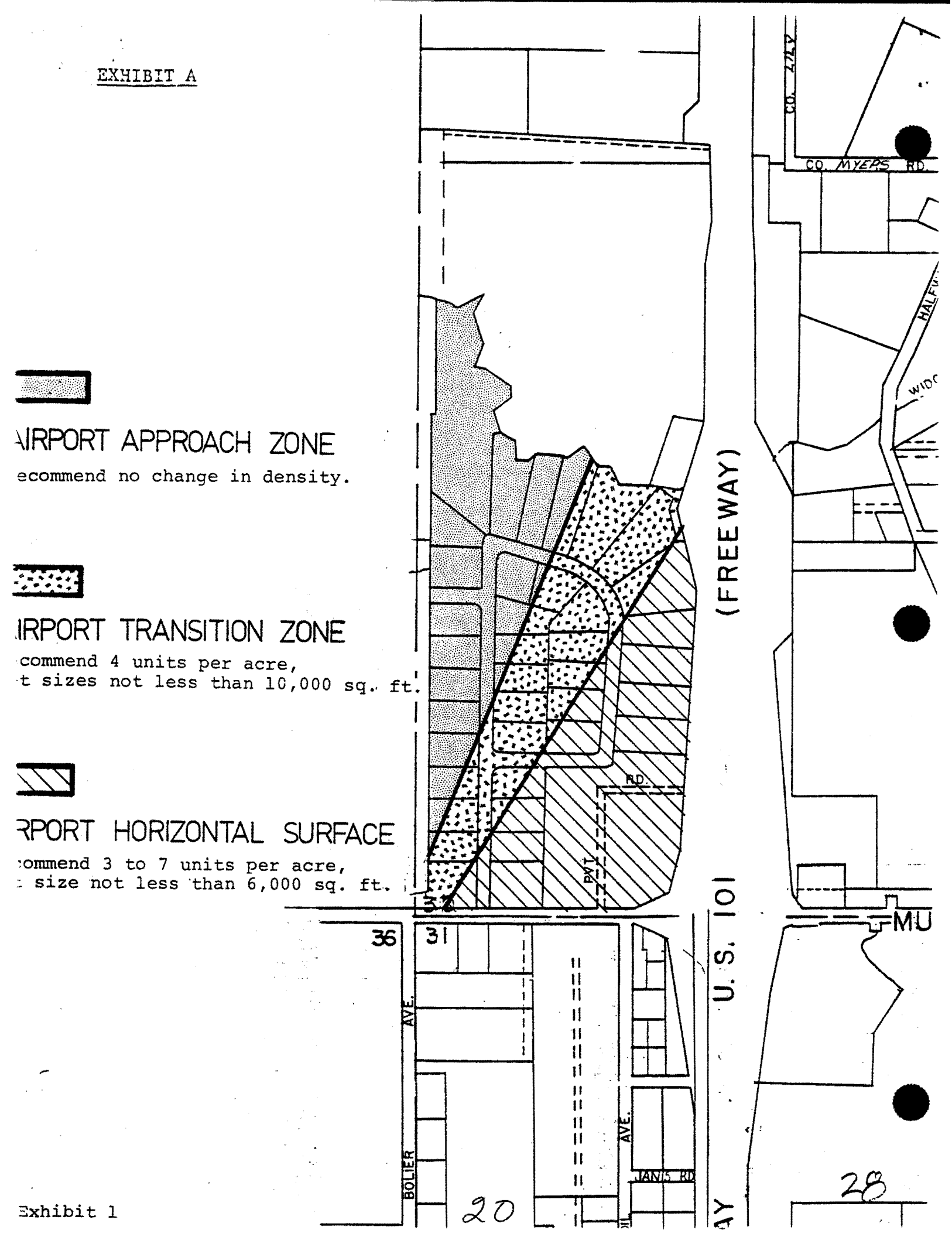
EXHIBIT NO. 18
APPLICATION NO. A-1-HUM-96-70
PAGE 1 OF 5
California Coastal Commission



ATTACHMENT 2
Recommneded Tentative Illustration of Zoning Amendment.

EXHIBIT NO. 8
APPLICATION NO.
Hartman
Proposed Zoning
California Coastal Commission

EXHIBIT A



AIRPORT APPROACH ZONE

ecommend no change in density.

IRPORT TRANSITION ZONE

commend 4 units per acre,
t sizes not less than 10,000 sq. ft.

RPORT HORIZONTAL SURFACE

commend 3 to 7 units per acre,
size not less than 6,000 sq. ft.

HARTMAN
Proposed General Plan Amendme
GPA-04-86

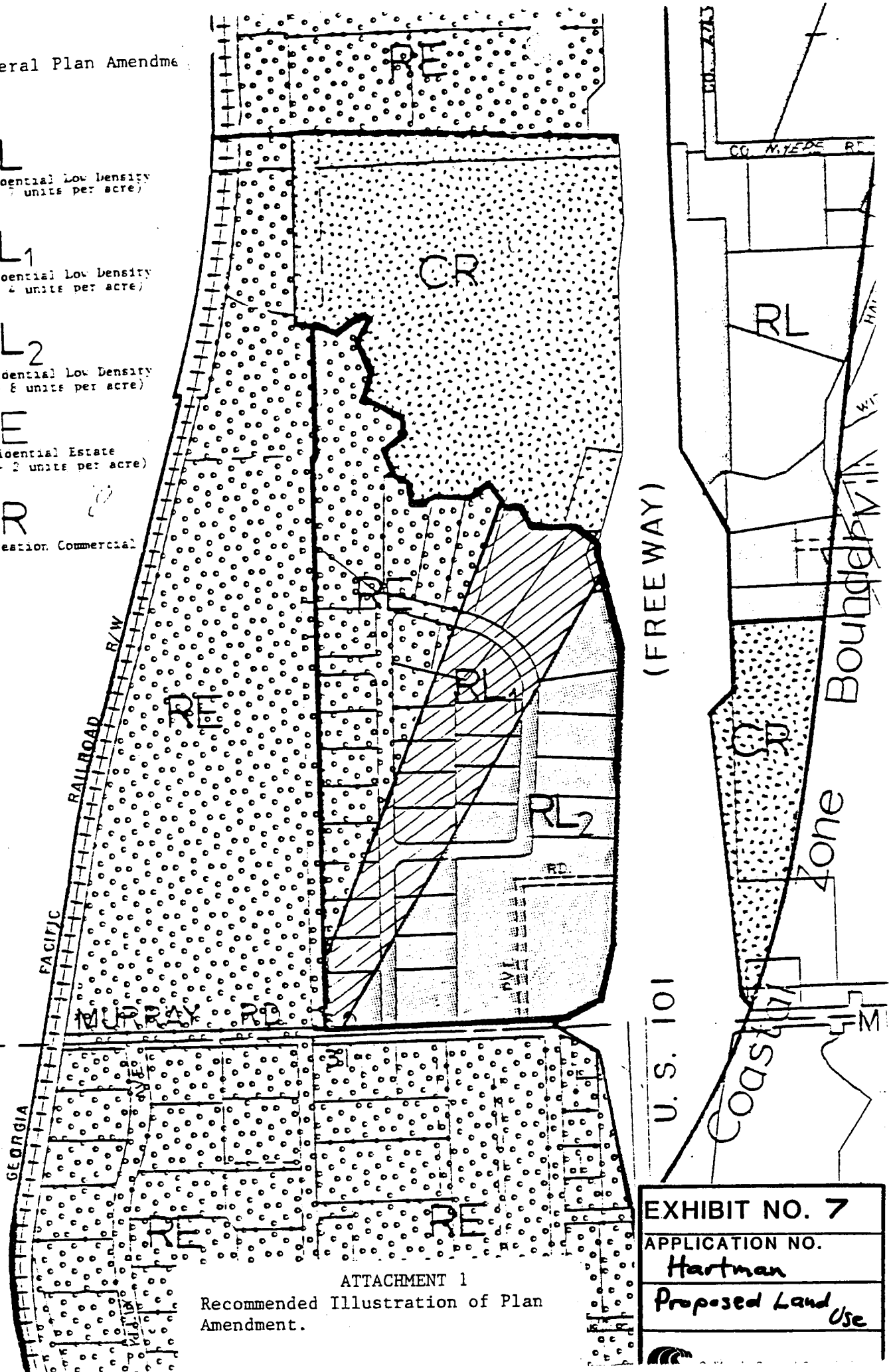
RL
Residential Low Density
(3 - 7 units per acre)

RL1
Residential Low Density
(0 - 4 units per acre)

RL2
Residential Low Density
(3 - 8 units per acre)

RE
Residential Estate
(0 - 2 units per acre)

CR
Recreation Commercial



ATTACHMENT 1
Recommended Illustration of Plan Amendment.

EXHIBIT NO. 7
APPLICATION NO.
Hartman
Proposed Land Use

Finally, the County Board of Supervisors modified the proposed amendment to decrease the residential density and account for the approach flight zone of the County airport. See Exhibits #7 and #8 This was further clarified by the County Dept. of Public Works as to the final configuration of the affected areas within the subdivision. See Exhibit #9.

C. Staff Recommendation on the Land Use Plan Amendment

Staff recommends that, following a public hearing, the Commission adopt the following resolution and related findings:

1. MOTION - CERTIFY THE LAND USE PLAN AMENDMENT AS SUBMITTED

"I move that the Commission certify the amendment to (Humboldt County's) McKinleyville Area Land Use Plan as submitted by the County."

Staff recommends a YES vote, and adoption of the following resolution and findings. This motion requires a majority of the appointed membership of the Commission (6) votes to pass.

RESOLUTION: The Commission hereby certifies this amendment to (Humboldt County's) McKinleyville Area Land Use Plan for the specific reasons discussed in the findings on the grounds that, as submitted, this amendment and the land use plan as amended, meet the requirements of Chapter 3 of the Coastal Act. This amendment is consistent with applicable decisions of the Commission that guide local government actions pursuant to Section 30265(c) and approval of this amendment will not have significant environmental effects for which feasible mitigation measures have not been employed consistent with the California Environmental Quality Act.

2. FINDINGS FOR CERTIFICATION AS SUBMITTED

a. Concentration of Development

Section 30250(a) states in pertinent part:

"(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have a significant adverse effects, either individually or cumulatively, on coastal resources."

COUNTY ADMINISTRATIVE OFFICE
COUNTY OF HUMBOLDT
825 5TH STREET, ROOM 111
EUREKA, CALIFORNIA 95501 PHONE (707) 445-7266

May 6, 1997

Mr. Jim Muth
California Coastal Commission
North Coast District
45 Fremont Street, Suite 2000
San Francisco, California 94105-2219

Dear Mr. Muth:

SUBJECT: SAND POINTE DEVELOPMENT, McKINLEYVILLE, CALIFORNIA, AIRPORT COMPATIBILITY

This letter is being sent in regard to the Sand Pointe Development project as approved by our Board of Supervisors in September 1996.

I am currently the Acting County Administrative Officer, and I was the County's Public Works Director at the time of the County's Planning Commission and Board of Supervisors hearings on the project. One of the operational areas for which I was responsible as Public Works Director is the Arcata-Eureka Airport (located in McKinleyville).

My department was initially very concerned about the potential effect of the project on the long-term operation and safety of the Airport.

However, after substantial discussion with our Airport Consultant (Shutt Moen Associates), coupled with the Supervisors' action to lower the density to 2.4 dwelling units per acre, our initial reservations have been satisfied.

Therefore, as the senior staff person responsible for the long-term operation and safety of the Airport, I wish to indicate that the project's impact on the Airport should not be a consideration if the project were to move forward as approved and conditioned by the Board of Supervisors.

Thank you for the opportunity to comment.

Sincerely,

JOHN MURRAY
Acting County Administrative Officer

A:SandPointe

June 11, 1997

California Coastal Commission
North Coast Area
45 Fremont Street, Suite 2000
San Francisco, California 94105-2219

RE: Letter in support of Sand Pointe development, Humboldt County

Dear Commissioners,

I was the Director of Public Works for Humboldt County for 26 1/2 years. This included several years supervising county airport activities. I am a licensed Civil Engineer in the states of California, Oregon, and Washington. I am also a licensed Traffic Engineer in California.

Due to my position in the county I was not permitted to express my personal opinions on projects of this nature. It could have created a conflict of interest and ethics. Due to my recent retirement I now have the option of voicing my opinion not only as a trained professional but also as a member of the community I have lived in, and worked for, for over 30 years. This letter is to offer my support for the Sand Pointe development based upon my career experience and community concern.

In addition to the work I have done here in Humboldt County I was also a Deputy Director of Public Works in the Bay Area for 6 1/2 years, in the City of Benicia and Los Angeles County. I have a total of 41 1/2 years as a Civil Engineer. I don't have any involvement financially or otherwise with the developers or any of the consultants involved in the development.

As the Director of Public Works one of my primary responsibilities was to insure that our airport remain operational and that adjacent development be consistent with long term airport viability and public safety. The Sand Pointe project has met the criteria established in the Airport Land Use Compatibility Plan and will be a welcomed addition to our community.

In my 41 1/2 years of experience in this area I believe this to be one on the best overall developments I have seen. I hope you will look at it with favor and grant the applicants approval to proceed with the conditions imposed by our Board of Supervisors.

Very truly yours,

Guy C. Kulstad

Guy C. Kulstad, P.E.
Director of Public Works (Retired)
County of Humboldt

cc: James Muth

re: appeal no.:A-1-HUM-96-70

Leonard R. Shumard Jr.
2965 Fortune St.
McKinleyville, Ca 95519

January 30,1997

Greetings Ladies and Gentleman of the Commission:

I realize you have a busy agenda here today so I will briefly voice my objections to the Sand Pointe project as proposed.

1. County officials did not protect Counties interest by approving increased density within airport approach zone. This is the only commercial airport in a rapidly growing area and it is of vital concern to protect it.

2. Erosion hazards have not been adequately addressed, what an understatement!!! Right now as we speak property is being lost on both sides of the planned development. Homes and property are being threatened north and south of Sand Pointe and local officials are turning a blind eye to the problem.

3. Sand Pointe is not a P.U.D. and doesn't qualify for a bonus density. Four of six Planning Commissioners agree there are **no extra public benefits**. One of the Commissioners who disagree is on the **developers payroll** as landscape designer. Also developers are not selling homes but only building lots.

4. The Prescriptive Rights Survey was very poorly done by County Staff. The very idea that a high density, locked and gated project is a benefit to the community is a crude and sick mockery to the spirit of Prop. 20.

5. "Density inconsistent with surrounding area", another understatement. Be advised this project sets a precedent for this area. The only comparable project is Knox Cove which is approx. 1/2 mile south of Sand Pointe and consists of lots which are 3-4 times larger than those proposed for Sand Pointe.(Residents are now wanting out of Knox Cove because erosion is destroying their property .)
Surrounding neighborhoods have 18' height restrictions on some lots to protect public views. Sand Pointe has 23' height restrictions on some lots, these should be lowered to 18' to conform to surrounding developments.

6. High density development will destroy feeding habitat of Bald Eagles and other birds of prey including the Osprey. Even if Riparian Habitat is saved by Developers, eagles won't roost 30 feet from homes.

7. Since the project doesn't meet criteria for P.U.D. it does indeed exceed the **Sites Urban Plan Designation.**

Members of the Commission I ask you to find that these issues are real and that they do indeed raise substantial questions about the way this entire project has been handled by the local officials. I ask you to please preserve the spirit of Prop. 20 by preventing developers from blocking views and locking the public out of one of the last undeveloped Riparian Habitats in our area.

Please reject the project as it is presently proposed.

Thank you for allowing me to air my views.

Sincerely yours,

Leonard R. Shumard Jr.

Post-it® Fax Note 7671	Date 1-31-97	# of pages ▶ 1
To CA Coastal Comm.	From Diane Ryerson	
Co./Dept.	Co.	
Phone #	Phone # 707-839-0159	
Fax # 415-904-5400	Fax # 707-826-5868	

1991 Baird Rd.
McKinleyville, CA 95519
January 31, 1997

RECEIVED
FEB 10 1997
CALIFORNIA
COASTAL COMMISSION

California Coastal Commission
North Coast Area
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Commission Members:

As a resident of McKinleyville, I am writing to express my opposition to the Moser and Hunt proposed Sand Pointe subdivision APN 511-011-14. Please do not approve this subdivision as proposed for the following reasons:

1. This area of the coastline is undergoing active erosion. The changing course of the Mad River and its tributary, Widow White Creek,contribute to the erosion.
2. An earthquake fault runs through the property.
3. The property is located within the number 2 landing flight zone, and the Coast Guard helicopters fly over the property frequently at relatively low altitudes, creating a significant noise and safety hazard if more than one dwelling unit per 2.5 acres is allowed.
4. The 67 acres offered for public use in exchange for a density bonus are under water and are of no use to the public for hiking, biking, picnicking, or enjoying a broad ocean view.
5. A Gated subdivision will detract from our sense of community and friendly atmosphere and create blatant economic segregation; fences will completely block the ocean view for the public in this area; the aesthetic value (feeling of openness and connection of land and ocean) of the Hammond trail bordering the property will be significantly decreased by a fence running along one side of the trail.

I do not want my taxes and insurance premiums to pay for the losses of those who choose to build or buy homes in highly disaster prone areas. When planning commissions and boards of supervisors permit building in disaster prone areas, resources and public monies are needlessly wasted over the long term to benefit a small number of affluent people in the short term.

Please follow the spirit of the mission of the California Coastal Commission and protect our beautiful coastline for use by all the public. Thank you for your serious consideration of this issue.

Sincerely,

Diane Ryerson

EXHIBIT NO. 22
APPLICATION NO.
A-1-HUM-96-70
California Coastal Commission

Lewis L. Klein
1361 Azalea Ave.
McKinleyville, CA 95519
707-839-1535

Feb. 4, 1997

Attention: Steve Scholl and Coastal Commissioners
Calif. Coastal Commission
North Coast Area
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

RE: COMMENTS ON SAND POINTE STAFF REPORT FOR THE SAND POINTE PROJECT IN HUMBOLDT COUNTY. APPEAL NO: A-1-HUM-96-70
ITEM 14A

Dear Mr. Scholl and Coastal Commissioners,

The Staff Report which recommends a determination of no substantial issue on the appeal filed by Patricia Hassen et al. was not received by myself until late last week. Hence my comments have been rushed. Nevertheless, I cannot agree with staff's recommendation with respect to at least three of the issues in the appeal: 1) Significant Impacts to Coastal Views from Public Areas; 2) Airport Safety; and 3) Setbacks from earthquake faults. My comments on the issue of Coastal Views from Public Areas are similar to written ones I made in response to the DEIR, and in verbal remarks made before the Humboldt County Planning Commission and Board of Supervisors.

1) Significant Impacts to Coastal Views from Public Areas

Page 30 of the Staff report contains the following quote. "Finally, regarding issues of viewing access, the appellants do not say where vehicular viewing will be obscured. Vehicular viewing of the sea from the end of Murray Road will not be impacted since no homes are located at the end of Murray Road. Vehicular viewing of the sea a one approaches the end of Murray Road will only be partially obstructed to the north by the construction of new homes within the subdivision. In addition, vehicular viewing of the sea from the end of Wilbur Avenue will also be partly obstructed._

In my comments on this issue in the EIR and at the public hearings it was clear that was being referred to were impressive views from Murray Road across the project site to the north and north west. And these views will be eliminated both for pedestrians and vehicular passengers if the 5-6 foot solid security fencing proposed for the project and approved by the County is implemented.

The reality of the present situation is that the coastal views for the public from the south boundary of the proposed project area from Murray road to the north are outstanding. They include unobstructed views to the northwest of the Pacific ocean and to the headlands to the east of Trinidad. These public views will be significantly obstructed by the proposed project, particularly the solid security fencing that has been proposed by the developers and approved by the County bordering the south end of this project, paralleling Murray Road.

It is true, as the EIR indicates, that section 4.53(D) of the McKinleyville Area Plan (MAP) does not identify this area for specific scenic protection. But only because it is assumed that this location will "receive adequate protection through the land use designations, public ownership, etc." I think it is quite clear by the material presented in the EIR that the currently proposed security fencing if implemented will not only not protect some outstanding public scenic coastal views, but probably eliminate them entirely.

My reading of the MAP is that the security fencing as a visual non-avoidable obstruction to the general public should fall under the design standards outlined in Section 3.42(C)(2) of the MAP, and be "referred to the Design Assistance Committee" for the appropriate findings. It is not clear whether the County has designated such a committee, and thus not clear whether the MAP has been fully implemented to effectively protect the scenic and visual qualities of coastal areas as a resource of public importance, and whether this proposed development has been adequately sited and designed to protect views along the ocean and scenic coastal areas. I believe this too is a substantial issue with regard to the project's conformity with the LCP policies

It should be noted that some of language in Section 3.42(C)(2) of the MAP is not absolutely clear, but the intent of the following passage clearly indicates that "[w]here views from public roads to the coast or coastal waterways are of concern, the height, width, and setbacks from roads and parcel lines shall be considered to retain as much of the existing view as is possible". Plainly, if a solid security fence some 6 feet in height paralleling a public road had been foreseen at the time this section of the MAP had been drafted, the drafted language would have specified that its design would be such that it too would retain as much of the existing view as possible.

My belief is that the contention in the staff report (pg. 33) that "views along Murray Road towards the Mad River and the blue water areas of the ocean should not be significantly impacted where the development is no higher than the height of the vegetation along the bluffs totally misses the point. If it is impossible to look over or through the security fencing along Murray Road, the fact that the buildings are no higher than the height of the bluff vegetation has no bearing on the obstruction of coastal views to the north and northwest of the project from a public roadway. And it is those views of the Trinidad Headlands that are particularly striking from this roadway and were identified in the EIR to be significant. That the obvious visual obstruction was dealt with by Humboldt County by adopting a Statement of Overriding Consideration in the FEIR does not excuse the Coastal Commission from dealing with the issue directly as a consequence of responsibilities under the Coastal Act and as a consequence of the appeal before you. This is a substantial issue of Coastal Resource Protection despite staff's recommendation.

2) Setbacks from earthquake faults

On page 19 of the current staff report, it is recommended that the Coastal Commission accept a designated building site within 25 feet of the active trace of a surface earthquake fault. Staff's recommendation totally ignores the specifically called for 50 feet setback in the certified LCP, and the requirement (Section A315-14) that a positive finding be made on the 50 foot setback for any discretionary permits. This is tantamount to implying that the unambiguous standards in a certified LCP are meaningless and can be ignored without raising to the level of a substantial issue. If the wording in the Alquist-Priolo was meant to preempt standards in Local Coastal Plans than the legal justification for that interpretation should have been supported in the staff report. Failing that, it is very obvious that the reduction in

setbacks from the specific standard of fifty feet contained in the certified Local Coastal Program is not in conformity with the certified Local Coastal Program and by definition raises a "substantial issue" which must be addressed by the Coastal Commission.

3) Airport Safety and Development Density

On page 15 of the Staff Report, it is recommended that the Commission make a finding that despite the arguments raised by the Appellants regarding airport safety issues the certified _LCP allows a certain amount of flexibility in determining the appropriate density for this project, and therefore a project density of 2.5 residences per acre be acceptably substituted for one of 1 unit per 3 acres. The level of flexibility allowed in an LCP is a substantial issue. It could be argued that if the staff findings are adopted the Commission will be finding not that "the LCP allows a certain amount of flexibility in determining the appropriate density for this project", but that the LCP allows **unlimited** flexibility in determining the appropriate density for this project, and any other project within the approach and take off zones of the airport. Thus I believe there are actually two substantial issues here: 1. Does the project comply with the intended meaning of the LCP on airport safety matters , not just the technical procedures for waiving the requirements, and 2) was it appropriate to certify a LCP, or did the Commission actually intend to certify an LCP, which allowed for unlimited discretion on the part of a County employee to waive requirements without written findings on substantial issues of airport safety?

If the LCP is certified with unanticipated loopholes which allow the general provisions of the Coastal Plans to be evaded, it would appear that the appropriate time to consider them, would be when projects are appealed within which the issues and the ambiguous or faulty assumptions are patently important to the approval process.

Thank you for your attention to my comments.

Sincerely,

Lewis L. Klein

JYME/LARRY CHAMBERS
2963 Springer Drive
Mc Kinleyville, Ca 95519
Humbolt County
Home Phone 707-839-5394

April 27, 1997

California Coastal Commission
North Coast Area
45 Fremont, Suite 2000
San Francisco, Ca 94105-2219

Re: Sand Pointe

Dear Mr. James Muth,

My letter is in regards to the above subject. We are home owners in Humbolt County and our property is located in Pacific Sunset subdivision adjacent to the Sand Pointe site. We have many concerns regarding the future of this development. We as home owners would like to express our desires such as an open area to the future development along with curbs and cutters as our subdivision currently displays. We are also very concerned about the 100 foot minimum setback from the edge of the bluffs before home construction may occur and that each home be placed on 2 1/2 acres as perscribed in the past. We would not be in favor of a "gated community" due to no access to the ocean for the public. Therefore no gates could be allowed. We are also concerned about the lighting that this development would bring. As it is now there is no lighting in our subdivision, only what our homes have to offer and we feel this would be the only method for the new Sand Pointe development. We really care to keep things as "natural" as possible and still accomodate growth for our future. We as residents of Humbolt County feel that the 67 acres found in the mad river that was declared a public benefit by the developer Mr Moser and Mr Hunt is a total wash. This propsed "public benefit" has been and will remain underwater for the past 20 years. One of our very most concerns is that of the Hammond Trail. If homes were to be built above the trail this could and would endanger the existence of the Hammond Trail due to erosion. This is a beautiful trail and we look forward to it's growth, but no growth would occur if this present subdivision is allowed to continue.
Thank you so much for your time on this very important matter. This is not only important for the present but ever so important for the future of Mc Kinleyville and the beautiful coastal structure that is enjoyed by many throughtout the state and the country as well as some visitors from abroad.

Sincerely,

Larry & Jyme Chambers

EXHIBIT NO. 24
APPLICATION NO.
A-1-HUM-96-70
California Coastal Commission

May 7, 1997

TO: Mr. James Muth, Coastal Planner
California Coastal Commission, North Coast Area
45 Fremont Street, Suite 2000
San Francisco, Ca. 94105-2219

FROM: Donald E. and Selby J. Fermer
3767 Erlewine Circle
Sacramento, Ca. 95819-1518

RE: SAND POINTE DEVELOPMENT A-1-HUM-96-70

Mr. Muth

After reviewing the tape of comments by the Commissioners at the February meeting in San Diego, we feel the following 10 important issues must be addressed by staff prior to your preparation of a recommendation to the Coastal Commission.

As you are aware from our previous conversations, none of these are new matters. Each point is justified and, taken together, form an acceptable alternative to the current Sand Point proposal.

1. **DENSITY OF 1 UNIT/ 2 ½ ACRES**
   - required in the currently approved Airport Land Use Plan
   - consistent with the McKinleyville Area Plan (MAP) that states "No land division shall be approved within the Urban Limit that would constitute a conversion from the use identified in the area plan map, and no zoning should be approved which would allow such conversion"
   - creates compatibility with the surrounding area as the density along the Hammond trail to the South is 1/ .75 to 1 acre, and to the North it is 1/ 5+ acres
   - fits the MAP which recommends "less dense development radiating westerly"
   - does not set precedent in the coastal zone of Humboldt County for increased density

2. **ALQUIST PRIOLO SETBACK OF 50 FEET ON BOTH THE EAST AND WEST SIDES**
   - required by the State of California that "no structure for human occupancy shall be within 50 ft."
   - reduces the burden of the taxpayers of California and the resources of Humboldt County in case of an earthquake
   - increases the health, safety and welfare of the occupants

3. **BLUFF SETBACK OF 100 FEET**
   - provides for a 75 year economic life span of the development based on the recent erosion rate immediately to the north and south of this site
   - protects the environmentally sensitive coastal scrub growth at the top of the bluff
   - ensures the continued viability of the Hammond Trail

4. **18 FOOT BUILDING AND LANDSCAPING HEIGHT LIMIT**
   - would be "visually compatible with the physical scale of the surrounding development" as stated in the MAP
   - preserves the viewshed from the public roads and the existing residences
   - established by the amended Hartman CDP (see attachment) for Pacific Sunset subdivision to the east, forming the basis for a "reasonable expectation" that this practice would be upheld when the land to the west was developed
   - upheld by the Humboldt County Planning Commission August 4, 1994 on lot 8 in Pacific Sunset

5. **NO STREET LIGHTING**
   - preserves the night views since no lighting exists in ANY of the nearby neighborhoods to the ocean side of Highway 101

6. **NON-GATED, NON-WALLED DEVELOPMENT**
   - continues the set precedent along the California coast
   - compatible with the surrounding area
   - allows previously established coastal access and views to remain

7. **STANDARD STREET WIDTHS, CURBING, GUTTERS AND SIDEWALKS**
   - allows for movement of public safety vehicles in the event of an earthquake, fire, or other emergency where multiple, large or difficult to maneuver fire trucks would be required
   - meets County and Uniform Fire Code standards for public streets
   - permits easier access for school buses, RVs, and utility and construction vehicles
   - matches conditions in the adjoining subdivision

8. **REMOVAL OF THE RV STORAGE FACILITY**
   - no longer necessary with 2 ½ acre lots and standard street widths
   - eliminates an eyesore with the proposed lighting and fencing
   - removes the possibility of an unmaintained area with the passage of time

9. **PUBLIC ACCESS**
   - established by prescriptive rights over the years
   - upholds a main principle in the Coastal Act
   - required by the Humboldt County Board of Supervisors (A meeting was to take place between the developers and the Pacific Sunset Homeowners to discuss Wilbur Avenue access. That meeting has never taken place, even though it was a condition of approval.)

10. **NO DENSITY BONUS DUE TO THE LACK OF EXTRAORDINARY PUBLIC BENEFITS**
    - unjustified as most are already required as mitigation in the HCC, the MAP or the Coastal Act itself
      a. Part of the offered ~~56~~ 67- acre land dedication is under the Mad River and already in state ownership by the State Lands Commission.
      b. The sandy spit has long term previously established prescriptive rights.
      c. A proposed reduced height of certain houses provides no benefit to the public, only to the residents within the development, and is addressed by limiting the overall heights to 18 feet.
      d. Undergrounding a couple of electric power poles could hardly be described as an extraordinary public benefit.
      e. Public parking for 5 cars accessing the Hammond Trail from the end of Murray Road is already provided and appears adequate.
    - non-qualifying since most are not public, none are extraordinary, and some are not only NOT benefits at all, but may prove to be a liability to the County and/or the State.

Thank you for the opportunity to comment and feel free to contact me to discuss the justification for any of the above points.

Sincerely,

Selby J. Fermer

EXHIBIT B

SINGLE FAMILY RESIDENTIAL DEVELOPMENT SCHEDULE

FOR TWELVE (12) SPECIFIC PARCELS WITHIN THE PACIFIC SUNSET SUBDIVISION

[CDP-80(A TO L) - 88]

Case No.	Assessor Parcel	Address	Floor Area[1]	Story[3]	Height	Yard[2]	Remarks
CDP-80(A)-88	511-401-02	2820 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(B)-88	511-401-04	2860 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(C)-88	511-401-05	2880 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(D)-88	511-401-06	2900 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(E)-88	511-401-07	2920 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(F)-88	511-401-08	2940 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(G)-88	511-401-17	2936 Fortune St.	2256 +/- 500 sq. ft.	one	not to exceed 18 ft.		—
CDP-80(H)-88	511-401-13	2999 Springer Dr.	2476 +/- 500 sq. ft.	two	not to exceed 28 ft.		non-buildable area[4]
CDP-80(I)-88	511-401-31	2983 Springer Dr.	2476 +/- 500 sq. ft.	two	not to exceed 28 ft.		non-buildable area[4]
CDP-80(J)-88	511-401-32	2979 Springer Dr.	2476 +/- 500 sq. ft.	two	not to exceed 28 ft.		non-buildable area[4]
CDP-80(K)-88	511-401-33	2973 Springer Dr.	2476 +/- 500 sq. ft.	two	not to exceed 28 ft.		non-buildable area[4]
CDP-80(L)-88	511-401-34	2963 Springer Dr.	2476 +/- 500 sq. ft.	two	not to exceed 28 ft.		non-buildable area[4]

(1) All figures include an attached two-car garage.

(2) All side yards shall be a minimum of five (5) or greater and all rear yards can vary from the approved plot plan provided they are a minimum of eighty (80) feet and also observe the recorded non-building limitations.

(3) Any change in the number of stories will require Planning Commission approval.

(4) All residential development (dwelling, garages, accessory structures) is prohibited within the recorded non-buildable area.

Mr. James Muth
California Coastal Commission
45 Fremont Suite 2000
San Francisco, Ca 94105-2219

Dear Mr. Muth,

Re; Humboldt County-Sand Pointe

As an adjoining property owner to the proposed Sand Pointe development, I have grave concern for the existing affected neighbors and the future homeowners of Sand Pointe. The project as proposed would have a serious deteriorating property value affect on the immediate neighbors. The future homeowners of the proposed project would be very adversely affected with the proposed minimum setbacks from the Mad River and the earthquake fault. Erosion along this area of the Hammond Trail could force closure of the trail.
The density of this area is a very critical issue that has not received adequate consideration at the county level.
It is my belief that the best interests of future homeowners and the neighbors and the general public would best be served by restricting development in Sand Pointe to the established airport density rating of one dwelling unit per 2.5 buildable acres.
In summary I think long range planning should address the density, setback distances and potential erosion problems.

Sincerely,

Dale Brown

Dale Brown
2820 Fortune
McKinleyville, Ca 95519
707-839-3876

Thomas M. & Annette C. Lesher
2993 Springer Drive
McKinleyville, CA 95519
(707) 839-4743

May 8, 1997

California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Muth,

RE: Humboldt County - Sand Pointe

The established density for the area in question is 2.5 acres. It would be inconsistant with adjacent developments to allow a higher density. More houses would NOT be in the general public's best interest by any stretch of the imagination.

The Coastal Commission was originally established to prevent just such a proposed development. We are, quite frankly, incredulous that the project was not rejected on a county level; and appeal to the Commission's wisdom in considering the intent of the current laws concerning prescriptive rights and airport safety.

Thank you for your time,

Annette C. Lesher
Thomas M Lesher

Patricia Hassen
2975 Fortune Street
McKinleyville, CA 95521
(707) 839-8241 FAX #: 839-5188

May 14, 1997

California Coastal Commission
North Coast Area Office
45 Fremont, Suite 2000
San Francisco, CA 94105-2219
Attn: James Muth, Coastal Planner

RE: Application No. 1-Hum-96-70 Steve Moser and Brian & Cindi Hunt

Dear Mr. Muth,

Since the February 5, 1997 Coastal Commission meeting in San Diego and the 6 to 3 vote of substantial issue regarding the appeal I submitted on behalf of myself and the Concerned Citizens of McKinleyville, our group has again reviewed some of the issues and would like to take this opportunity to voice our concerns on the Sand Pointe Subdivision.

BLUFF EROSION

(A)

Since displaying the slides of the bluff erosion at the Feb. Coastal meeting, there has been considerable more damage to the bluff area on this project and back south in the Knotts Cove subdivision and going north toward the Vista Point to the rock slope put there by California Dept. of Transportation to stop the Mad River from destroying Hwy. 101.

(B)

The bluff setback in some of the Sand Pointe Proposed Subdivision is as little as 15 feet. Who will be responsible to replace the very venerable Hammond Trail and the 18 homes that will be built on the already eroding bluff if this 63 home project is accepted by this Commission.

(C)

We feel there should be 100 ft. setback instead of the 75 ft. setback reserved in the Coastal Act. This would save the state from having to purchase land from the front row of homes on the bluff.

AIRPORT & DENSITY

This land was originally zoned for 1 unit per 2.5 acres before the Board of Supervisors changed hats to Airport Land Management in the Sept. 1996 meeting and in 3 minutes voted to change the zoning to 2.4 units per acre.

This 26.5 acres was zoned 2.5 acre per unit for a reason. Beside all the other sensitive reasons to leave this 2.5 acre per unit are the obvious reason. **THE AIRPORT AND THE COAST GUARD. This land is in the #2 flight landing approach.** The Coast Guard Helicopters fly lower than the commercial and private aircraft and sometimes are a lot noisier.

WE DO NOT WANT TO FORFEIT OUR AIRPORT OR COAST GUARD. THEY ARE TOO IMPORTANT TO HUMBOLDT COUNTY!!!

MAD RIVER FAULT ZONE

(A)

The system consists of northwest trending high-angle normal & reverse faults approximately 50 miles long onshore, and perhaps extending 30 miles in length offshore (Converse Davis Dixon Associates, 1976). This system considered active and is suspected of being responsible for the magnitu 6.5 earthquake of December 21, 1954. (McKinleyville Community Plan update: February, 1993 for Humboldt County Planning Dept.)

(B)

State of California requires no structures intended for human occupancy be located no closer than 50 feet on either side of earthquake fault line.

The only road to enter or leave this proposed Sand Pointe Subdivision has been designed on the Mad River Fault Zone.

COASTAL PUBLIC ACCESS PROTECTION

(A)

The Public Access Protection Regulations shall apply to all lands located between the public road and the sea.

The first public road is Fortune Street. Therefore, the first public road between the sea and the land, will be denied public access because of a "Gated Subdivision" with 5 foot board fences and a private road.

EXTRAORDINARY PUBLIC BENEFITS

NONE

(a) Beach dedication - 67.27 acres - Underwater for over 20 years.
(b) Utilities underground - This is done in all new subdivisions.
(c) Dedication of 5000 sq.ft. - for Hammond Trail outside gated entrance. This is an insult to the PUBLIC. (The same has been dedicated less than a block away and has never been used by the public).

RECOMMENDATION FOR SUBDIVISION

1. No street lighting - same as surrounding area
2. 2.5 acre per unit - surrounding areas zoned for 1/2 to 5 acres
3. Public Roads - no gated community - open Wilbur St. to subdivision.
4. No R V storage facility - larger lots and public roads. No need for R V storage area.
5. 100 foot setback - for protection of the Hammond Trail
6. 50 foot setback - both sides of Mad River Fault Zone
7. Height restriction on buildings, trees and shrubbery as to keep within consistency of the surrounding neighborhood and viewshed.
8. Hazardous waste - new testimony on August 1996 presented to Board of Supervisors in regards to toxins used on land was ignored. (see attached pages). 1, 2, 3
9. Public use of the 26.5 acres has been documented by aerial photographs shown at the February 1997, Coastal Commission Meeting in San Diego, CA

Thank you for reading over and considering our concerns on this project.

Pat Hassen and the Concern Citizens
of McKinleyville, Westhaven, Trinidad, Dows Prairie and Fieldbrook.

P. Hassen

6 Aug 96

To Whome It May Concern:

During the summer about (8) eight years ago I was watching a tractor with tanks on it working on what was known as the bulb farm. As I was hiking later on in the day. At the end of Fortune Street. I observed the tractor at the end of the field. It was being cleaned out so I walked toward the tractor and a fellow that was cleaning it came toward me very quickly saying stay away from here because we are using Arsnic Trixoide and it is very dangerous.

Morris Stine

Morris Stine

McKinleyville Ca.

Copy

Patricia Hassen
2975 Fortune St.
McKinleyville, CA 95519
(707) 839-8241
Fax #: (707) 938-5188

October 9, 1996

Moser Realty
Brian & Cindi Hunt Company Real Estate
1836 Central Ave.
McKinleyville, CA 95519

Re: Sand Pointe Development
775 Murray Rd.
McKinleyville, CA 95519
APN 511-011-14

We, the concerned citizens are requesting permission to take soil samples on the North-East corner of the Sand Pointe Development project.

North Coast Laboratories has been hired to take the samples. We would like you to be present at the site when these samples are taken.

Please contact me at the above telephone number or fax your reply to me by October 18, 1996 so, that we can set a time and day convenient for you. North Coast Laboratories would like to have a couple of days notice before testing.

Thank you for your co-operation in this matter.

Sincerely,

Pat Hassen
Representing Other Concern Citizens

Moser Realty
and
Investments

October 11, 1996

Patricia Hassen
2975 Fortune Street
McKinleyville, CA 95519

RE: Response to your letter dated October 9, 1996

Dear Ms. Hassen,

The issues regarding the soils at the Sand Pointe site have been thoroughly addressed and resolved to the satisfaction of the Humboldt County Public Health Department and the North Coast Regional Water Quality Control Board.

Any request to enter upon our private property is hereby denied.

Sincerely,

Cindi Hunt

Brian Hunt

Steve Moser

cc: North Coast Laboratories

P.O. Box 2192
1836 Central Avenue
McKinleyville, CA 95521
(707) 839-3233
FAX (707) 839-3234

Mr. James Muth
California Coastal Commission
45 Fremont St., Suite 2000
San Francisco, Ca 94105-2219

May 21, 1997

Dear Mr. Muth,
RE: Humboldt County-Sand Pointe Subdivision

As a suppliment to my recent letter, I enclose a copy of the plans that the Humboldt County Planning Department changed requiring a greater setback from our back lot line. Our back lot line (west) adjoins the proposed Sand Pointe Subdivision.

The added setback prevents us from a view of Trinidad Head from our house. View is value, in my opinion. We were given no options.

As an added bit of information, I served on the Humboldt County Planning Commission from 1-91 thru 12-94 and served as chair of the commission for the year of 1994.

Thank you for your consideration on this project.

Sincerely,
Dale Brown

Dale Brown
2820 Fortune St
McKinleyville, Ca 95519
707-839-3876
APN 511-401-02

May 28, 1997

Mr. James Muth
CALIFORNIA COASTAL COMMISSION
North Coast Area
45 Fremont, Suite 2000
San Francisco, CA. 94105-2219

RE: Appeal No. A-1-HUM-96-70
Project Description: Steve Moser and Brian & Cindy Hunt

Dear Mr. Muth:

On the above referenced project, we would like to address the issue of the coastal view by the public and private residents in the vicinity.

Our contention with matter this dates back to 1993, during which time several homes were being built within the Pacific Sunset Subdivision. Frustrated by the ambiguous information given to me by the Humboldt County Planning Department, I finally appealed to you in search of a reasonable explanation. Prior to the construction of our home in 1989 the County agreed to an 18' height restriction among several homes along the west boundary of our project. It was required that these parcels adhere to this temporary 18' height restriction created by both the developer and the County as a "marketing window" in order to preserve the view shed of homeowners purchasing parcels to the east of these lots. This restriction was tied to the Coastal Development Permit (Case No. CDP 81-92) in place during that time. You had informed us that application for a Coastal Development Permit does not consider the criteria of height restriction, and that this restriction was agreed to by a Local Coastal Planning Committee who were conferred with by the planning staff. Enforcement of this restriction was, mildly speaking, poorly handled, brought to light several years later in a significant decision made by a Planning Commission hearing held August 4, 1994 (Applicant File No. APN 511-401-08; CDP 81-92) wherein a proposed project was forced to comply to the expired 18' height restriction. The evidence was overwhelming and the vote unanimous, pointing to the County's complete mishandling of this issue.

In light of the 23' height restrictions which are now being allowed in the Sand Point subdivision, we appeal to the Commission that consideration of existing residences who performed in accordance with the County's action be made. We believe the Planning Department should be held accountable for their decisions and are upset by the politics which seemingly allows major developers greater rights over those who have already invested their futures. Homes that have been built under the 18' height restrictions have set a precedence for any development which follows to the West. Continuance of the view shed agreed to originally should be preserved.

We believe that land use planning particularly as it relates to diminishing coastal property, should is a resource for the enjoyment of *all*. The Sand Point project as it is presented, promotes a feeling of "Us vs. You" with the use of fences and locked gates. We did not move to the North Coast to live in a community which creates artificial barriers and pretense but rather to reside in an area where we be an integral part of our environment. To us the Sand Point project is better suited to an urban, high density area where it's amenities can be better appreciated.

Sincerely,

Carolyn and Dennis Dentler

To: California Coastal Commissioners
From: Elizabeth Alves
2990 Fortune St
McKinleyville CA 95519
Date: 14 June 1997
Re: Sand Pointe Appeal

In considering the aspects of this proposal, I direct your attention to the new overhead photographs taken and submitted by Galen Hassen. They clearly show continuing instability of the bluffs along the eastern side of the lower reach of the Mad River. Comparison with the previous Hassen photos and earlier ones from the Humboldt County Public Works Department document the process.

The applicants and their agents have repeatedly asserted that bluff erosion and failure are unlikely along the subject parcels, even while they admit such activity immediately north and south of it. The County of Humboldt, CalTrans and property owners north of Widow White Creek are engaged in a protracted set of hearings to attempt agreement on the causes and solutions of bluff failure there. While some degree of wave action is involved in that stretch of the bluffs, there has been virtually no ocean wave action south of Sand Pointe for many years, yet property owners there are experiencing failure which decreases the size of their lots and threatens their homes.

It is important to note that those properties began with bluff set-backs much wider than those proposed for Sand Pointe. If the Sand Pointe property enjoys some immunity from the bluff failure problems associated with properties to the north and south of it, the most likely reason is not that it differs in physical geology/hydrology, but because there are no houses built on it near the bluff. A reasonable conclusion is that the forces related to subdividing and building homes on the top of the bluffs were a contributing factor in the bluff failures to the north and south.

The Hammond Trail is a spectacular coastal resource which permits the public to enjoy river and ocean views, birds and wildlife. Development near the top of the bluff would surely endanger the trail. The proposal to gate Sand Pointe and lock out the public compounds the issue of access.

Fortune Street is currently the public road closest to the sea, and it is used regularly by members of the public for the ocean views. The applicants propose to block most of these existing views, and to exclude the public from the streets inside their development, resulting in a substantial net loss of public access to ocean views. The argument that the Hammond Trail provides adequate public access depends its continued existence. The Hammond right-of-way has already been lost to bluff erosion north of Widow White Creek, where the density of development on the top of the bluff is much less than proposed for Sand Pointe.

Please consider the serious hazards of bluff failure, site failure associated with the earthquake fault, the airport approach zone, public access and neighborhood compatibility as you look at this proposal. All the hazards are exacerbated by the increased density requested. You have the authority to protect the California coastline--please exercise it.

Melanie Kennedy
2960 Fortune St.
Mckinleyville, CA. 95519

Re: Development #A-1-HUM-96-70

Dear Mr. Muth

June 9, 1997

We built adjacent to the 20 plus acres now known as the Sand Pointe application in 1989. The application goes beyond our understanding of the McKinleyville Area Plan and the Coastal Act as we understood as follows:

Density: *This extraordinary density bonus request appears to be a dangerous concession which sets precedent in the coastal zone. It does not appear to be supported by the McK. Area Plan because there are no extraordinary public benefits to allow it.*

View: *The proposed development effectively blocks a large piece of the coastal zone for which there is no other public view access and also violates the 18 ft. limit set in Pacific Sunset (a CDP administered by Humboldt County in 1988 and later upheld in 1994).*

Coastal Access: *The "closed, gated, private, fenced" nature of the application violates historical use of this area and certainly the general ambience of the surrounding area.*

Once again: in moving to this area, we felt these principles of coastal access would be preserved by the Coastal Commission. The application before you goes way beyond anything we could of imagined in this area and we humbly submit these items should not be allowed.

Thank you for the opportunity to voice our concerns.

Sincerely,

Melanie Kennedy

Melanie Kennedy (appellant)

RECEIVED
JUN 19 1997
CALIFORNIA
COASTAL COMMISSION

TESTIMONY FOR CALIFORNIA COASTAL COMMISSION, JUNE 11, 1997
BY GEORGE WALLER, MCKINLEYVILLE, CALIFORNIA

One significant issue with the proposed Sand Pointe development is that it does not fit into the surrounding area. The density is too high, and the gated access is not compatible with the neighborhood.

I am not opposed to reasonable development using existing zoned density, after taking into account the airport requirements, earthquake zones, and bluff areas, which cannot be developed anyway. My current belief is that this would allow less than 16 parcels at current density constraints, and with a 20 % planned Unit development density bonus would result in less than 20 parcels.

The project as presented will have 63 parcels and is unacceptable as compared to 16 which are allowed under current zoning (without planned unit development density bonus). Unacceptable density can be measured in its symptoms, which are unacceptable traffic safety problems, unacceptable destruction of existing neighborhood character, unacceptable degradation of public views, unacceptable degradation of public access, unacceptable reliance on public infrastructure such as roads, water, and sewer.

In an airport zone, unacceptable noise-level incompatibility (too many complaints) can be added to the list. This is significant because it inhibits the ability of the airport to serve its purpose as the area grows and flight technology changes. This was confirmed by testimony of airport officials at public hearings regarding this project.

Specific unacceptable traffic safety issues include the HWY 101 northbound off-ramp at Murray Road, where, if one wishes to turn west, one must turn left around a blind corner precisely where pedestrians are crossing the street. Between the traffic on Murray, the on and off ramps, and the pedestrians, this is *currently* a daunting place for an able and responsible driver. I would like to see the CHP response to this traffic safety issue.

Coincidentally, about two years ago, a CHP officer nearly hit me at this intersection, when he had to move the front end of his car into my lane in order to look my way to see if I was approaching (that's how this intersection works!) He slammed on his brakes just in time, and thankfully there was no contact, only a close call. I was frightened, but I am sure the CHP officer felt worse. I can easily empathize with him since I have had that exact experience several times myself, due to the fact that I live and work near that off-ramp and make that turn at least twice each day.

This precise point of blindness at this intersection is also the *only* legal place where the students can cross to the nearby high school and elementary schools, and is the *only* legal way to access the convenience store from the west side of the freeway. The closest other store on the west side of the freeway is Roger's Market, a mile away (by trail only), and the nearest other place for pedestrians to cross the freeway is at School Drive, also about a mile away by trail to the south. There is currently no other legal way to cross the freeway to the north of this precise point, unless

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PAGE 1 OF 5

one wades across widow white creek, although a trail is planned which will make connection with Airport Drive, to the north, about three quarters of a mile away, by trail only. The planned Sand Pointe development is situated in this north west direction from the Murray offramp, where *all* vehicle traffic and most pedestrian traffic to *any* school, store, or business, will need to use this intersection and cross the deadly spot where the CHP almost hit me. **This is a density issue.** The impact of the difference on this intersection alone, between developing the currently allowed 16 units and the planned 63 units should be of concern regarding traffic safety.

I can also specifically attest to how the planned development will degrade the surrounding neighborhoods, because I live in the adjoining Pacific Sunset Neighborhood, directly to the east of the site. For about six years, I have lived and worked at this location, operating a small construction and consulting business in the water treatment industry.

Let me describe my neighborhood, which is the primary adjoining neighborhood to the proposed Sand Pointe development. The parcels are spacious (over 20,000 sq ft), and laid out to form a loop circulation with one outlet to Murray Ave. There are no secondary units on the parcels, and there are very few outbuildings or trees, and we are on a bluff; consequently there are corridor views of the ocean continuously as one walks the loop of the neighborhood.

The streets are clean and wide, allowing plenty of on street parking, bicycle riding, hockey playing, and skating by the children and adults, too. The pavement and sidewalks are smooth and inviting; so many people come from outside of our neighborhood to enjoy strolling jogging, skating, and bike riding;. We get wheel chair folks, we get lots of people teaching their teenagers to drive (paradoxically, because I do not believe it is such a safe place to learn to drive) and even an occasional horse. We get lots of people walking, and on bicycles, who informally use the existing access to Widow White Creek and the Hammond Trail. I have had people from outside our neighborhood come up to me and express appreciation for our open neighborhood and open attitude towards people who "walk our loop."

The utilities are generally underground in our neighborhood, there is an undeniable open, airy feeling to the place. There are no streetlights, and so in the evening one can see the glow of the setting sun and also at night, the stars and the comets and the meteors.
It is foggy here most of the time, so on the occasional times that the night sky is clear, we feel awesomely blessed by the views and the ambiance. There is good access to the Hammond Trail and to the Mad River. People come from other parts of town to walk through this neighborhood or sit in their car and eat their lunch.

One reason the State of California mandated that Planned Unit Development (PUD)/density bonus be considered for projects, is that it would allow developers to be able to afford better planning than has often occurred. The Sand Pointe project fails this justification for PUD (and density increase) status, because it is the antithesis of good planning.

The basis of all good plans must be the setting of the project: the surrounding land uses, the topography, the climate, the neighborhood, the zoning(!). The setting for the Sand Pointe Project is very unique, as I have explained. I do not think anyone can argue that it is good planning to put into this unique setting, a development of parcels sized down to 9000 sq ft; a

walled, gated, locked enclave; a Recreational Vehicle (RV) storage area; a density increase of 300% over what the current zoning apparently calls for.

The planners also failed in another fundamental way. The PUD concept is based on the expectation of *better* planning. The purpose of residential planning is to produce housing as a place for people to live, better planning produces housing which allows better quality of living or better economy of living. Once again the planners failed to look at the setting. The existing neighborhoods into which this plan would be thrust, have a strong coherency in the existence of sharing neighborhood interests and activities, including the annual street barbecue. There is an informal, but very strong neighborhood watch organization and ethic, where one does not hesitate to be proactive in observing and thwarting those who would cause damage to neighbor's property or harm to their families. The same qualities of our neighborhood which gives it the open-sky, sunset vista character, gives us the ability to be able to closely watch each others houses and properties (if we choose to develop that relationship with each other).

The neighborhoods are linked closely in other matters also: one family can easily watch another's children when needed, and also in help each other with house maintenance skills. The coherency of our neighborhood allows mutual support, protection, and fun, which is exactly what quality neighborhood living is all about.

Again it is unbelievable to those of us living and working near the project site, that the planners are asking for bonus points for their project! Into our functioning, quality, coherent neighborhood, they are planning a walled, gated, community, which will most assuredly seriously and significantly block communication and cooperation with the new neighbors. The proposed plan would create a neighborhood divided physically by a wall, which could not help but engender feelings of separation on a social or economic level between those inside the gate and those outside the gate, and which would negatively effect the open feeling (both visually and socially)of the whole area, including neighborhoods to the east, south and north of the project site.

The proposed Sand Pointe development negatively impacts the quality of lives in our Pacific Sunset neighborhood, by unanimous agreement of *all* who live near the site (except the seller's of the parcel). Just as unfortunate, the proposed Sand Pointe would also deprive the future Sand Pointe residents the opportunity of our quality kind of experience (if they so choose to embrace it). It would construct a walled enclave within the existing setting, isolating the inhabitants on both sides of the wall and lowering the quality of the living on both sides of the wall!

A PUD density bonus must be based on the acceptance of the validity of the Extraordinary Public Benefits, and also on the acceptance that the Planned Development is an improvement on the existing plan (the current zoning, setbacks, and other existing constraints). The Sand Pointe Proposal fails on both these accounts. **The existing density and layout, the current zoning, the currently agreed-upon land use, is much more advantageous to the potential buyers of the parcels, the public, the County, and the neighbors, than the proposed PUD.**

As far as gated communities go, I have had some experience in living next to one, and it is very ugly. By some twist of fate, before I moved to my current location, I lived on Eucalyptus Street in Mckinleyville. This was during the transition time of development of Knox Cove, the

gated community given such high marks by the Humboldt County Planning commission during their deliberations on the Sand Pointe project in July, 1996. What a difference my perspective is! I lived adjacent to the Hammond trail, directly across (50 feet) from the edge of the Knox Cove development. Before Knox put the chain link fence across the access, I constantly observed people using the existing trail to walk to the river. This had been an historical route to the railroad and the ocean for over 50 years, and when the Mad River migrated north along the rail line, this became one of the very few local access routes to the river.

Most of the people using this area were senior citizens and children, but other family members and adults traditionally used this area also. During the season, families and individuals would come to this area to pick berries and to fish. There was a significant wetland on the site, where the children would gather frogs and explore the productive and diverse habitat of the undisturbed wetland. There was a truly incredible sand dune on the edge of the bluff, which created a natural park and play area for the children. It was common, at least a weekly occurrence for some families, for a parent or caretaker to take the children to go play on the "big sand dune." From the sand dune, on the edge of the bluff, one could look out over the Mad River Estuary and the Pacific Ocean. We would watch fishing boats, cruise ships, freight (log) ships, whales, etc.

Our neighborhood adjacent to Knox Cove was very mixed and quite coherent considering the diversity. We had college students, working families, and retired folks. We knew our neighbors and relied upon each other. Knox Cove destroyed the potential of expanding (and maintaining) this neighborhood cohesiveness, along with taking for ever our sand dune and our access to the river. The neighbors who eventually built on the Knox Cove side of the fence were from the start alienated from us and us from them. They were 50 feet away, but to walk to their front door was nearly a mile due to the chain link fence. This fence precluded our children from playing together, there was no opportunity to form mutual help alliances such as neighborhood watch. The wetland and the forest and the sand dune were destroyed. The Hammond Trail sported a brand new chain link fence running along side. My son was the paperboy for a short while (and was given the combination to the locked gate of the Knox Cove enclave), but he was told by Mr. Knox himself that the locked gate was dangerous and that the boy shouldn't be going through the gate without an adult.

During the deliberations on the Sande Pointe development, the Humboldt County planning commission defended Knox Cove development because they have "clients there who seem to like the place". (I was at the meeting and this was also recorded). This is a very limited perspective. I see (from behind their locked gate) many building lots and houses in Knox Cove which have had for sale signs in front of them for many months. I know there is concern about building on some of the lots there which are located directly over the destroyed wetland. Disturbed site vegetation and disturbed natural hydrology (including destruction of the wetlands) has augmented the erosion of the bluff between the development and the Mad River. From the Mad River one can see the tires and tarps and concrete and all manner of attempts of the residents to stop the bluff erosion, and it is ugly, ugly, ugly. From the beautiful Mad River Estuary, it is ugly, ugly, ugly. Knox Cove is a blight on the community fabric of Mckinleyville for everyone except those who seem to be making money in one fashion or another from it. The proposed Sand Pointe project, in nearly all respects, is simply another Knox Cove. Please come on by and see for yourself, I would be happy to walk you through these neighborhoods (or at least up to any locked gates).

I have seen this problem before because I had four uncles (my mother's brothers) who ran a real estate business in Los Angeles in the 50s and 60s, when the place looked a little bit like Mckinleyville and was ripe for development. My uncles made a tremendous amount of money, three of them spent every penny of it and one (the one who doesn't drink) is living comfortably at 80 and is an active, happy person. All of them contributed greatly to their community and their family, and no one at that time had a clear view of what L.A. would be like 50 years later. None of us, however, and probably no one in Humboldt County, currently would chose to live in the places that these men helped develop.

Moving to places with more walls, higher density of people, and less neighborhood coherency is an option for all of us and all Americans. It is astounding to me that our county bureaucrats and local developers seem to want to bring that scene up here to us, or that they would want to leave an overdeveloped, overvalued, crowded, noisy, pit of a place for Mckinleyville's children, as my Uncles left to the children and property owners of Los Angeles. There are only a couple of reasons that come to me why developers and county bureaucrats would want to do this to us, you tell me if they are as obvious to you as they are to me!

I have since moved from the property adjacent to Knox Cove, and by some twist of fate now find myself living in the neighborhood adjacent to another locked, gated, socially destructive, and environmentally destructive proposed development, the Sand Pointe development.

It is totally within Mr. Mosher's rights to develop his property (and I support him in this), but it is way out of line for him to increase the existing density by over 300% and to participate in degrading our coastal and cultural resources. I believe the Coastal Commission was created to make the best decision on cases just like this. Please help us protect our coast and protect developer's rights to *appropriately* develop their lands. Thank you for your consideration in this matter, and feel free to give me a call if I can help clarify any of this. (707) 839-8167 or WALLERGM@aol.com.

George Waller, Mckinleyville, CA.

ps-about the author of this letter. I own and operate a business which helps public sector and private clients utilize constructed natural systems (such as wetlands) to clean polluted water. I live and work out of my home in the Pacific Sunset subdivision, which is directly adjacent (to the east) to the proposed Sand Pointe Development. The ocean view value of my property will not be greatly affected by Sand Pointe development because I live on the east side of the Pacific Sunset subdivision, closer to the freeway and farther from the ocean side of the neighborhood. I have enclosed a company brochure to help you understand from where I come. Thanks again-

Date: June 14, 1997

To: Mr. James Muth, Coastal Planner
California Coastal Commission
45 Fremont St., Suite 2000
San Francisco, CA 94105-2219

From: Barbara Morrison
2740 Kelly Ave.
McKinleyville, CA 95519

Re: Sand Pointe Development A-1-HUM-96-70

Mr. Muth,

As I have expressed to you in previous correspondence regarding this development, I hope that your staff will address the number of problems that this ill-conceived project presents.

When my husband and I bought our property along this bluff 18 years ago, we did so because it offered a 160 degree unobstructed view of the Pacific Ocean, and every time we turn of Highway 101 and immediately see the surf, we appreciate the unique coastal quality of this area: it is the first place north of San Francisco that the Ocean can be viewed from Highway 101. So the proposal of Sand Pointe developers to erect a walled obstruction to that view for all who exit 101 to access the Hammond Coastal Trail or just to view the Pacific is inconceivable. To create a sense of "exclusivity" for a few with glaring street lights, walls, and gates, at the expense of the general public, appears as ill-conceived as placing the P.G.E. Nuclear Power Plant at the entrance to the city of Eureka was. At least 20 years later we have the sense to remove the lights and fences and stacks of the power facility, especially, of course, because we're sitting on major earthquake faults, another problem with this development's request to increase density and height of structures.

But most glaring among this project's problems is the issue of bluff erosion. My neighbors and I along Kelly Ave. can speak to this first-hand. As I mentioned to you before, when the mouth of the Mad River was in front of us a number of years ago, the Army Corps of Engineers told all of us homeowners along here that we would have to move our homes. Mr. Steve Moser was one of those bluff homeowners who chose to sell his home rather than deal with the ongoing erosion. Fortunately for those of us who remained, the river moved farther north and threatened the public entity of Highway 101, so the State became involved in attempting to contain the erosion and movement. But what an irony that now Mr. Moser argues the stability of this area for development profits.

In fact, Mr. Moser would have you think this was a problem of the past, but as a specific example of this being an ongoing problem, I have watched dump trucks delivering fill and stabilizing materials to a lot 8 houses down the street from me for the last two

months--sometimes almost daily. When I inquired about the cost and duration of this bluff restoration project, I was told that it was a $60,000 plus "complicated" project. Obviously, erosion is something we deal with daily.

I would therefore urge the Coastal Commision to return the density of development to its original 1 unit for 2.5 acres in consideration of fragile bluff erosion and earthquake faults, insist upon removal of the obstructing walls and gates, and ignore the ludicrous suggestion by the developers that they should be granted these special concessions because they're giving the community "extraordinary benefits" of underwater land that creates a liability for the county/state.

This is a beautiful coastal area that should and will be developed. What is hoped is that this commission will have the foresight to recognize this area as a gateway to the coast and its trails, not a series of gates obstructing the coast.

Thank you,

Barbara Morrison

June 30, 1997

Mr. James Muth, Coastal Planner
California Coastal Commission
North Coast Area Office
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Re: Permit #A-1-HUM-96-070

Enclosed is a copy of a memorandum dated 9/2/79 which was initiated by your office to the Humboldt County Planning Department. This memo refers to the same parcel of land referenced in the above-numbered action. All of the questions raised in this memo remain unresolved and are a portion of the same Sand Pointe issues now before the Commission.

As stated in your Staff Report, 1/24/97, p.31, the applicable policies in the Coastal Act Section 30251 and MAP Policy 3.42 and MAP Text 4.23, address issue of compatibility with surrounding areas. This is of particular significance to the adjacent subdivision residents as well as to the public at large. This is a popular view access area. The proposed development, in its county-approved form, would alter in a major way the natural landform.

As you are aware, there are other equally significant issues such as bluff erosion, prior use soil contamination, seismic sensitivity, aerial impact concerns, to name a few. All of these issues have been brought to your attention by several of the appellants, so rather than bore you with repitition, I will simply concur with their positions.

Prohibiting the gated concept, the high density and the unlimited height construction would serve to be in compliance with the Coastal Act and MAP policies. We urge the Commission to keep the spirit of the Coastal Act alive by not approving the Sand Pointe proposal in its original form.

Sincerely,

Sylvia Jeppson

Neal S. Jeppson

Neal S. Jeppson
2900 Fortune Street
McKinleyville, CA 95519
(707) 839-4672

Encl.

California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

July 10, 19
Re: Sand Pointe S
Attn: James Muth

Dear Members of the California Coastal Commission:

The Sand Pointe Subdivision plan is not compatible with the surrounding area because of the proposed density bonus, bluff instability and the locked gate. None of the surrounding areas have homes in excess of two per acre.

Density and the proposed locked gate are relevant coastal issues because of natural hazards and the adjacent segment of the Hammond coastal trail. The Hammond Trail lies immediately west of the proposed subdivision, between the subdivision and the Mad River. The trail segment which was to have been built this year immediately north of the subdivision was delayed because of concerns about the environmental sensitivity of the mouth of Widow White Creek and the patch of shore pine forest next to it.

Creating a populous subdivision here with a locked gate would endanger prospects for that as yet unbuilt trail segment immediately to the north. I ask you to minimize the negative impacts of this subdivision upon the Hammond Trail by removing the front row of homes from the proposal and replacing them with landscaping that does not require summer irrigation.

I also ask you to deny the request for a locked gate, because a locked gate is not compatible with heavy public use along the Hammond Trail. People who choose to live behind a locked gate can be expected to try to obstruct heavy public use in the immediate vicinity of their homes. We do not want anybody to block public use and enjoyment of that trail. Many of us have been waiting for years for this segment of the coastal trail to allow us to walk to Clam Beach about a mile to the north.

The Franciscan soil type at this site is nothing more than an ancient sand dune. All that is needed to trigger bluff erosion is to increase runoff with excessively dense development and to permit people to plant lawns and water them heavily in the immediate vicinity of the bluff. Several nearby homeowners have lost a large percentage of their back yards when the bluff started to go, and once it starts, it's exremely difficult to stop it. If the bluff in front of this subdivision fails, it will destroy the Hammond Trail and public access to this highly popular and scenic area.

Mary Gearhart, the landscape architect working with this subdivison, is an expert at designing low-maintenence perennial gardens. She designed a beautiful one for a small front yard in nearby Sunnybrae subdivision, and she could design one for the strip above the bluff which has to be left as a setback. We recommend you require at least a 150-foot setback, and allow the developer to use that strip for the park he plans to have within the subdivision. As a member of the Califonia Native Plant Society, I recommend planting natives. Local natives require no summer watering and support birds and wildlife. Low-growing varieties which will not obstruct views could be used.

Please protect this beautiful but fragile coastal parcel.

Sincerely,
Barbara Kelly
2670 Kelly Ave.
McKinleyville, CA 95519

phone: (707) 839-5356

HUMBOLDT COASTAL COALITION

P.O. BOX 714
EUREKA, CA 95502

Attn: James Muth
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

RE: Sand Pointe Subdivision

July 10, 1997

Dear Coastal Commission Members:

The most urgent coastal issue related to this subdivision proposal is its potential to interfere with the public's use of the adjacent Hammond Coastal Trail. The segment of that trail with the most spectacular coastal views, where seals, cormorants and ducks can first be seen in the river and where the river mouth and Trinidad head first come into view, is the segment in front this subdivision. That trail is part of the coastal trail which will eventually extend all the way from Canada to Mexico.

The nearby landslides from the bluff which stands between this subdivision and the Hammond Trail demonstrate the danger this subdivision poses. The builders of that trail segment filled in some severe erosion gullies and planted native plants on them but, as you know, the more dense this subdivision, the greater the increase in runoff; and the more runoff, the higher the chance of bluff failure. There is already a great deal of seepage flowing into the Mad River from the base of the bluff below the proposed subdivision, even in summer. If the bluff fails, it will block and destroy the trail. We ask you to (1) deny the proposed density bonus, and (2) remove the front row of homes from the plans in order to ensure an adequate setback and prevent excessive irrigation which could trigger slides.

Coastal trails have priority in the Coastal Act over coastal subdivisions. One worrisome aspect of the timing of this subdivision is the fact that the Hammond Trail segment immediately north of this subdivision has recently been delayed because of environmental concerns about the sensitivity of Widow White Creek. The more lots sold in the subdivision, the greater the probability that one or more of the buyers will try to throw a monkey wrench into the building of that trail segment. People who choose to live behind a locked gate are more likely than the average home buyer to object strenuously to a public trail next to their home, even though that popular trail enhances real estate values.

We who have worked and lobbied so long for trails and public open space in our area do not want this subdivision to obstruct hard-won public coastal access. We would like to see that trail segment completed before Sand Pointe subdivision is built. However, we understand that the trail builders had to wait four years before they were able to obtain funding for the trail segment in front of Sand Pointe, and the next segment needs to overcome some other obstacles before the trail builders will be permitted to seek funding. If it is unrealistic or unfair to ask the developer to wait until the trail is built, we can at least insist that he lessen the potential for trouble by omitting the locked gate and greatly reducing the proposed housing density.

Aryay Kalaki
(707)442-1538
Co-chair

Frances Ferguson
(707)822-5079
Co-chair

Barbara Kelly
(707)839-5356
Secretary

EXHIBIT NO. 36
APPLICATION NO. A-1-Hum-96-70
Pg. 1 of 2
California Coastal Commission

In conclusion, we ask you to require:

1. No more than one house per acre on this site, preferably fewer because of earthquake and slide hazards.

2. Romoval of the front row of homes from the subdivision and the planting of drought-tolerant natives within 150 feet of the bluff edge.

3. Removal of the locked gate and replacement of the high fences with shrubs to retain coastal views and mitigate inevitable negative impacts on birds and wildlife.

4. Whatever measures are possible to protect the adjacent segments of the Hammond Trail and full public access to it and to the Mad River.

Sincerely,
Barbara Kelly, for the Humboldt Coastal Coalition

JUL 14 1997

Michael and Kathryn Willett
2840 Fortune St.
McKinleyville, CA
95519
July 6, 1997

Jim Muth
Coastal Planner for the North Coast District
45 Fremont
Suite 2000
San Francisco, California
94105-2219

Dear Mr. Muth

We are writing with respect to the proposed Sand Point Subdivision In McKinleyville, CA

We would like to bring the following points to the attention of the Coastal Commission:

The applicants have requested variances from the existing zoning regulations on the grounds that their project provides extraordinary benefits to the community.

Yet their proposed plan in fact represents a significant negative deviation from the standards of development already in place - standards that were set after a long process of public debate.

Their proposal for a walled and gated high density suburb is clearly an obvious change in the character of local development which would be much more suitable in an urban environment.

Their proposed density increases in a seismically and geologically unstable zone would not only create very real liability for the local governments - but would also set a precedent for overuse of the rest of our beautiful coast.

They have declared that land that they cannot build on because of bluff instability and because of the presence of a seismic fault are to be donated to the local community as "parks". Not a bad idea on the surface - but - the community will not have access to these areas. This is an outrageous hypocrisy.

Their proposal restricts traditional access to coastal areas - both for their neighbors and for the public as a whole.

The safety of their proposal is based on a patently absurd assertion that the bluffs on which the plan to build will be in their present location for fifty years - these bluffs have in fact had significant erosion in the three years since the project was proposed. The mouths of the Northern California rivers are some of the most hydraulically active areas in the world. They shift with alarming regularity.

The increased density they propose also occurs in proximity to our one local commercial airport. High density development in such areas only puts our County at risk for suits over noise and safety issues - as well as jeopardizes federal funds for its future operations.

The developers personal gain would result in significant decline rather than enhancement of surrounding property values.

In short, the developers are not asking that they be permitted to exercise their property rights, but rather that the community grant them an extraordinary opportunity for profit.

The irony in these events is that they would have had very little, if any, local opposition if they had proceeded along the lines of the current zoning restrictions.

The potential tragedy is that exceptions to balanced, environmentally and community-sensitive growth could become the rule.

Thank you for your time and attention in these matters.

Sincerely yours,

Michael W Willett MD

Kathryn Willett

Michael and Kathryn Willett

Michael W. Willett, MD
2840 Fortune St.
McKinleyville, CA
95519
Sunday, July 6, 1997

Mr. Peter M. Douglas
Executive Director
California Coastal Commission
c/o North Coast Area
45 Fremont, Suite 2000
San Francisco, CA
94105-2219

Dear Mr. Douglas:

I am writing to request that consideration of the application for the Sand Point Subdivision in McKinleyville, CA be postponed from your August to your September meeting in Eureka so that local opinion regarding the project can be more effectively voiced.

I am sensitive to the right that the applicants have to speedy resolution of their request, but a one month deferral would represent an insignificant delay in a process that has already lasted three years.

I am a local physician who has already testified on three occasions on local hearings held regarding this project. I would like to have the opportunity to bring my opinions before you in person - but the restraints of my professional schedule would not permit travel to southern California to testify.

I believe that my situation is not unusual. Most of the participants in the local public discussions have many other demands on their time.

Thank you for your time and attention in these matters.

Sincerely yours,

Michael W. Willett MD

Michael W. Willett, MD

No. Coast

RECEIVED
JUL 28 1997
CALIFORNIA
COASTAL COMMISSION

July 25, 1997

Dear California Coastal Commission:

I have a couple of comments regarding the "Exceptional Public Benefit" that the proposed Sand Pointe development is said to provide to the community of McKinleyville. I am a resident of the Hiller Road/McKinleyville Avenue area, however my son and I take frequent walks long the Hammond Trail.

1. A Gated Community does not constitute an Exceptional Public Benefit. A gated community only accomplishes a mind set of US versus THEM. McKinleyville already possesses one gated community towards the end of Kelly Road, and the public is actively discouraged from entering its confines. It must be pointed out that the Knox Cove Gated Community still has parcels that are available.

2. The proposed four parks are contained within the confines of Sand Points proposed gates. If the general public is unable to enter the confines of this gated community, I fail to understand how members of McKinleyville will benefit from the creation of these parks. It would be far more beneficial to the community of McKinleyville if the developer were required, through the Quimby Act, to contribute towards the existing parks of McKinleyville.

3. The general public's view of the coast will be impaired. The proposed 64 home subdivision, with homes arranged in four rows deep, will be surrounded by a six foot tall fence.

4. Dedication of 67.27 acres of beach front property valued at over $100,000. Once upon a time, (20 years ago) it was true, this parcel had beach front property. However, the mouth of the Mad River has since migrated from its previous site of School Road area, to just south of Vista Point. In 1975 there was a public access road to the beach from Murray Road, and extremely large sand dunes upon which my sister's and I used to play when we were children. That entire area has disappeared due to the migration of the Mad River. The only beach front property is located on the other side of the Mad River, and accessible only by using Mad River Beach or Clam Beach access.

Additionally, there has been a public prescriptive right of way along the river front which has been used by countless numbers of people, myself included.

In closure, the subdivision of Pacific Sunset was required to meet a minimum of 1/2 acre lots, abide by a maximum building height, and meet standard road widths. In order to provide for continuity of the surrounding neighborhoods, I encourage the Board to consider these comments during your decision making.

Sincerely,

Jill K. Geist
1069 Fritz Road
McKinleyville, CA 95519

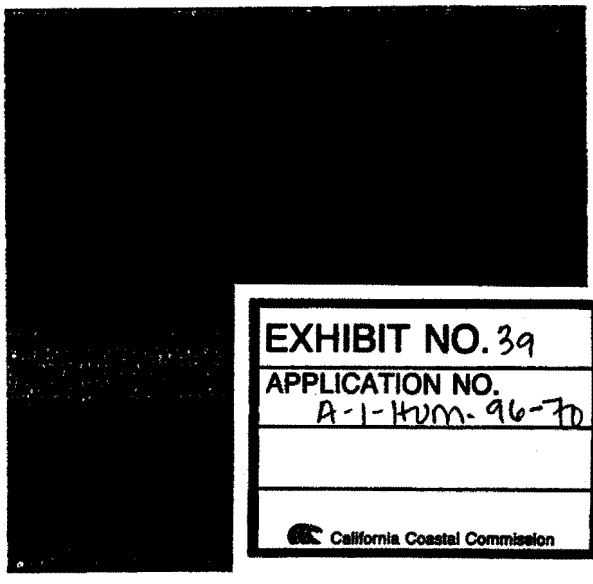

EXHIBIT NO. 39
APPLICATION NO.
A-1-HUM-96-70

California Coastal Commission

LAW OFFICE OF
LAWRENCE O. EITZEN

July 23, 1997

RECEIVED
JUL 28 1997
CALIFORNIA
COASTAL COMMISSION

California Coastal Commission
North Coast Area, Attention: J. Muth
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Re: Sandpointe - Commission Appeal No.: A-1-HUM-96-70

Dear Mr. Muth:

While I served on the Humboldt County Planning Commission, the Sandpointe Planned Unit Development Project came before us. I voted against the project for the following reasons:

The increased density was requested based on the Planned Unit Development's offering of benefits to the community at large. Four out of seven commissioners felt the public benefits were inadequate and only benefited the people within the future subdivision. The density increase in relation to the airport plan seemed bogus.

The fence to protect the riparian corridor between the houses closest to the bluff and the public trail, would do a better job of protection if located at the top of the bluff instead of at the bottom beside the public trail. Most of the houses closest to the bluff will not have a view of the ocean without lowering the trees between them and the view. The temptation to have an ocean view is too great for most of us to resist when we could just go out in our back yards and cut a few trees.

The removal of trees and bushes will undermine any protection the roots give the bluff against erosion. The bluff is eroding both to the north and south of this property and nas, in the past, eroded on this property and been filled. I did not feel the setback from the bluff was adequate considering the history and present state of erosion in the area.

With gated communities along our ocean frontage the access to the ocean will only be for those physically strong enough to hike down to the trail. The rest of us will be locked out, in this case, a quarter of a mile away.

I thank you for your consideration.

Sincerely,

Kitch Eitzen

EXHIBIT NO. 40
APPLICATION NO.
A-1-Hum-96-70
California Coastal Commission

816 THIRD STREET, P.O. BOX 75 EUREKA CA 95501 (707) 443-2209

1991 Baird Rd.
McKinleyville, CA 95519
August 18, 1997

California Coastal Commission
North Coast Area
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Commission Members:

As a resident of McKinleyville, I am writing to express my opposition to the Moser and Hunt proposed Sand Pointe subdivision APN 511-011-14. Please do not approve this subdivision as proposed for the following reasons:

1. This area of the coastline is undergoing active erosion. The changing course of the Mad River and its tributary, Widow White Creek contribute to the erosion.
2. An earthquake fault runs through the property.
3. The property is located within the number 2 landing flight zone, and the Coast Guard helicopters fly over the property frequently at relatively low altitudes, creating a significant noise and safety hazard if more than one dwelling unit per 2.5 acres is allowed.
4. The 67 acres offered for public use in exchange for a density bonus are under water and are of no use to the public for hiking, biking, picnicking, or enjoying a broad ocean view.
5. A Gated subdivision will detract from our sense of community and friendly atmosphere and create blatant economic segregation; fences will completely block the ocean view for the public in this area; the aesthetic value (feeling of openness and connection of land and ocean) of the Hammond trail bordering the property will be significantly decreased by a fence running along one side of the trail.

I do not want my taxes and insurance premiums to pay for the losses of those who choose to build or buy homes in highly disaster prone areas. When planning commissions and boards of supervisors permit building in disaster prone areas, resources and public monies are needlessly wasted over the long term to benefit a small number of affluent people in the short term.

Please follow the spirit of the mission of the California Coastal Commission and protect our beautiful coastline for use by all the public. Thank you for your serious consideration of this issue.

Sincerely,

Diane Ryerson

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
NORTH COAST AREA
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
(5) 904-5260

May 13, 1997

EXHIBIT NO. 42
APPLICATION NO. A-1-Hum-96-70
Pg 1 OF 6
California Coastal Commission

Mr. Marty McClelland
Oscar Larson and Associates
317 Third Street, P.O. Box 3806
Eureka, CA 95502-3806

RE: **Request for Additional Information to Review the Sand Pointe Development Project in the McKinleyville area of Humboldt County, APN 511-11-14.**

Dear Mr. McClelland:

As you know, the Commission acted on the appeal for the Sand Pointe Development on February 5, 1997. The Commission determined by a 3 to 6 vote that the project as approved by the County raises a substantial issue of conformance to the Humboldt County LCP. As a result, the County permit is ineffective and the Commission will be considering the project de novo.

I want to thank you for your letter of May 7, 1997 to me inquiring about the status of the above referenced project. As you know, we have had several conversations in the past where I have indicated to you that we would be requesting additional information to complete our review of the Sand Pointe Development Project. I apologize for the amount of time it took to write this letter but as I indicated in our telephone conversation on May 12, 1997, we have been identifying areas where we need additional information to determine what development can be approved, consistent with the certified LCP, and the Chapter 3 access policies of the Coastal Act.

In reference to the February 5, 1997 meeting, you indicate in your letter of May 7, 1997 that: "we were told the permit hearing would be in San Rafael in June of 1997." Although preferences for upcoming hearing dates are often requested, the scheduling of a hearing will largely depend on when you provide a complete response to the information requested.

Given that the project that the Commission will be considering de novo has come to the Commission after an appeal of a local government action, the Commission has not previously been in a position to request information from the applicants needed to determine whether the proposed project is consistent with these policies. This letter is intended to outline the information we will need from you to evaluate the consistency of the project with the LCP and the access policies of Chapter 3 of the Coastal Act, and to formulate a staff recommendation for the de novo proceeding. We also need certain other items of information to comply with certain procedural requirements.

Please provide us with the following information so that we may prepare a staff recommendation on the Sand Pointe Subdivision project.

1. Bluff Retreat Rate.

Please have a registered professional geologist or geotechnical engineer determine what is the actual or estimated rate of bluff retreat due to erosion and other factors over the next 75 years. The 1981 geotechnical report for the project does not provide usable or current bluff retreat and shoreline erosion information. The report states on page 8 that: "Minor variations of a few 10's of feet should be expected during the economic lifespan of the project." The estimated rate of bluff retreat in the geotechnical report is too vague to establish a reliable setback distance between the edge of the bluffs and the designated building site for each bluff top lot.

In determining the actual or estimated rate of bluff retreat, please:

(a) Use a time period of 75 years as the economic lifespan of a single-family residence (instead of 50 years) to determine the appropriate setback distance between the edge of the bluffs and the designated building space for each of the 18 bluff top lots shown on the subdivision plan. The LCP does not define the number of years that constitutes the economic lifespan of a structure, but the Commission has considered 75 years to be a typical lifespan for a single-family residence in previous permit actions.

(b) Specifically take into account the increased risk of bluff failure for those lots located near existing or former gullies, and

(c) Specifically take into account possible movement of the mouth of the Mad River to (or a breach in the sand spit at) a location opposite the property.

Special attention should be given to those lots located near former or existing gullies or washouts along the edge of the bluffs when determining the appropriate setback between the edge of the bluffs and the designated building site for each bluff top lot. Volume II of the 1995 Draft EIR contains a 1981 geotechnical report of the property by Northcoast Geotechnical Services for Matthews Machinery Company which discusses bluff stability at the bottom of page 4. The 1981 report states that: "Five significant areas of accelerated gully erosion were noted during field examination along the edge and top of the bluff (see figure 1)." Please be advised that significant bluff failure occurred this winter on lot 11 in the nearby Knox Cove Subdivision. Lots 4 and 5 in the subdivision appear to have had bluff failure as well. The failure appears to have occurred where pre-development leveling and grading activity filled in pre-existing gullies. Since there may be physical similarities between the nature of the bluff top gullies on both properties (Knox Cove and Sand Pointe), particular attention should be paid to the setback line for those parcels located near former or existing gullies or washouts along the bluffs.

We also ask that special attention also be given to the possible migration of the mouth of the Mad River. With respect to bluff retreat hazards, the Preliminary R-1 Geologic and Geotechnical Report for the project states on page 8 that it would be "highly unlikely" and an "unprecedented and unexpected event" if the current location of the mouth of the Mad River were to migrate

south by one mile so that river mouth is opposite the Sand Pointe property, or if a breach in the sandy spit that separates the river from the ocean were to occur opposite the Sand Pointe property.

However, under a discussion of the effects of the Mad River on page 5 of the 1981 geotechnical report for the property, the report indicates that the mouth of the Mad River migrated past the Sand Pointe property sometime during 1972 or 1973. Among other things, the 1981 geotechnical report concludes on page 6 that:

> "Historic data indicate that the river has migrated and retreated along a path parallel to the bluff since prior to 1870, apparently in response to natural dynamics of river and ocean hydraulics."

This evidence suggests that the mouth of the river could be located opposite the property again in the future, perhaps in the near future due to the rapid rate at which the mouth of the river appears to migrate. The impact of such an occurrence could be very significant as it would subject the bank to wave erosion from the ocean and it could result in a very high rate of river bank erosion and bluff retreat over a short period of time.

Our request for current bluff retreat rate information is required by the following LCP policies:

> McKinleyville Area LUP Policy 3.28(C)(3) requires in applicable part that: "developments permitted in the hazard areas shall be sited and designed to assure stability and structural integrity for their expected ecomonic lifespans..."
>
> McKinleyville Area LUP Policy 3.28(C)(1)(b) requires that a geotechnical report: "consider, describe, and analyze...historic, current, and foreseeable cliff erosion."
>
> Section A314-16(F)(3)(f) of the Humboldt County coastal zoning ordinance requires in applicable part that: "Specifically, within the coastal zone, the reports should give particular treatment and analyze the following, as applicable:...(f) Professional conclusions as to whether the project can be designed so that it will neither be subject to nor contribute to significant geologic instability throughout the lifespan of the project...".
>
> Section A314-16(G)(3)(a) of the Humboldt County coastal zoning ordinance requires in applicable part that developments in the coastal zone..."shall be sited and designed to assure stability and structural integrity for their expected economic lifespans...".
>
> Section A314-16(F)(3) of the Humboldt County coastal zoning ordinance establishes the necessary contents in a geotechnical report for new bluff top development in the coastal zone. Section A314-16(F)(3) specifically requires that the report give: "particular treatment and analyze...historic, current, and foreseeable cliff erosion."

The concept plan for the subdivision submitted with the application shows the proposed location of the "Bluff Edge Setback" line. After the bluff edge setback line has been reconsidered in light of the above, please submit a revised concept plan showing the location of the revised "Bluff Edge Setback" line based on a 75-year economic lifespan. Please also submit a reduced, black and white, 8 1/2 by 11-inch copy of the concept plan, as revised.

2. Fault Hazard Setback.

Please explain the basis used by the engineering consultant for adjusting the standard 50-foot-wide setback zone for exclusion of structures for human occupancy on both sides of the fault to only 25 to 30 feet on the west side of the surface trace of the fault line.

SHN's basis for using less than the standard 50-foot-wide setback is not clearly explained in the geotechnical report. Although the deviations from the standard setback distances recommended by SHN are precise, the precision is called into question when the report acknowleges that the intersection of the fault plane at the ground surface is "projected" and when the report also acknowledges that: "we cannot preclude the possibility of propagation of new faults or the lengthening of existing faults; therefore, all risks from surface fault rupture cannot be precisely determined nor avoided when developing a zone of active and potentially active faults".

Our request for this fault hazard setback information is supported by the following LCP policies:

> McKinleyville Area LUP Policy 3.28(A) requires in applicable part that new development shall be consistent with the adopted Humboldt County Safety and Seismic Safety Element of the General Plan.
>
> Section A315-16(H)(1)(b) of the Humboldt County coastal zoning ordinance requires that new development within an Alquist-Priolo Fault Hazard area will not cause or allow a structure for human occupancy to be placed within fifty (50) feet of a trace of an active fault.

3. Value of the 67.27-acre Parcel.

Please indicate how many acres, if any, of the 67.27-acre parcel (APN 511-011-05) to be donated to a public agency or suitable non-profit organization are currently below the mean high water line or mean high tide line of the Mad River and/or the Pacific Ocean. Please explain in detail how the approximate $100,000.00 dollar value of the parcel was determined, and include a copy of any appraisal performed to determine this valuation for the property. Did the appraisal consider the regulatory impediments to developing the portion of the parcel that is below the mean high water line and below the mean high tide line? Since the 67.27-acre parcel is subject to tidal action, did the party who made the appraisal contact the State Lands Commission (SLC) to determine whether the SLC has an ownership interest in the property?

Our request for a detailed explanation of how the approximate $100,000.00 dollar value of the parcel was determined is supported by McKinleyville Area LUP Policies 3.25(B) and 3.37(D) and Section A314-62(E)(1) of the Humboldt County coastal zoning ordinance which allow for density increases of up to 20% over planned densities where the proposed development incorporates "extraordinary public benefits" beyond the applicable requirements of the General Plan...". The 67.27-acre parcel to be donated to a public agency or suitable non-profit organization is the single-most valuable item in the list of extraordinary public benefits being offered by the applicants. Among other things, the County relied upon the $100,000.00 dollar valuation of the 67.27-acre parcel to find that the applicants were offering extraordinary public benefits in conjunction with the proposed subdivision. The Coastal Commission could reach the same finding as the County. However, two of the Coastal Commissioners indicated at the February 5, 1997 public hearing on the appeal that the dedication of land by the applicants was a potential issue with them. Therefore, before there is any further reliance upon the approximate value of the 67.27-acre parcel, the Commission should receive a detailed explanation as to how the value of the parcel was determined.

4. Maximum Density Exception.

Please provide a summary of any reason or basis for granting an exception to the maximum density of one unit per three acres under the Airport Safety combining regulations in Section A314-50(D)(3) of the Humboldt County coastal zoning ordinance.

5. Legal Ability to Implement the Project.

"Section 30601.5 of the Coastal Act states:

> Where the applicant for a coastal development permit is not the owner of a fee interest in the property on which a proposed development is to be located, but can demonstrate a legal right, interest, or other entitlement to use the property for the proposed development, the Commission shall not require the holder or owner of any superior interest in the property to join the applicant as co-applicant. All holders or owners of any other interests of record in the affected property shall be notified in writing of the permit application and invited to join as co-applicant. In addition, prior to the issuance of a coastal development permit, the applicant shall demonstrate the authority to comply with all conditions of approval.

Thus, Section 30601.5 of the Coastal Act provides that if an applicant is not the owner of a fee interest in property, the applicant must demonstrate a legal right, interest, or entitlement to use the property in the manner proposed. Therefore, if there are any questions with regard to ownership of the property, the applicant is required to provide evidence that they have the legal right to use the property for the purpose for which it is proposed.

Please clarify whether anyone other than the applicants (Brain J. Hunt, Cindi A. Hunt, and Stephen A. Moser), holds a legal interest, or claim thereof, in either the parcel to be donated or the parcel to be divided, and submit copies of the title documents or other evidence that demonstrates the extent and nature of those interests. As discussed above, since the 67.27 acre parcel is subject to tidal action, please provide evidence that no State Lands interest exists on any portion of the 67.27 acre-parcel to donated. The Commission had been faxed a copy of a notice Case No. DR 9700057 filed in Humboldt County Superior Court by the applicants in March of 1997 against Judith Hatman, Lesley Genetry, Ila Westfall, Dorothy Alves, Elizabth Elves, et. al.. Please provide a copy of the lawsuit and indicate the current legal status of this case. The notice indicates that the case involves ownership of an easement across one of the subject properties.

6. Declaration of Agents.

Lastly, please complete the enclosed one-page form and return it to this office. As required under Section 30319 of the Coastal Act, the purpose of the form is to provide the Commission with the names and addresses of all persons who, for compensation, will be communicating with the Commission or Commission staff on the applicant's behalf or on behalf of the applicant's business partners.

The information you provide in response to this letter is considered part of the coastal development permit application. Please include in the cover letter transmitting this information a statement that by signing the transmittal letter, you certify that you have read the submitted information and that to the best of your knowledge, the information and all attached appendices and exhibits are complete and correct. Also state that you certify that you understand that the failure to provide any requested information or any misstatements submitted in support of your proposal shall be grounds for revoking a permit issued on the basis of such misrepresentation, or for seeking of such further relief as may seem proper to the Commission.

Thank you for your cooperation. Please call if you have any questions.

Sincerely,

Robert S. Merrill FEK

ROBERT S. MERRILL

JAMES J. MUTH
Coastal Planner

Enclosure.

cc: A-HUM-96-70 file.

9333p

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

CALIFORNIA COASTAL COMMISSION
NORTH COAST AREA
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
(415) 904-5260

July 11, 1997

EXHIBIT NO. 43
APPLICATION NO. A-1-Hum-96-70
Pg 1 of 6
California Coastal Commission

Martin G. McClelland, Operations Manager
Oscar Larson and Associates
317 Third Street
P.O. Box 3806
Eureka, CA 95502

RE: Coastal Development Permit Application No. A-1-HUM-96-70, Sand Pointe Development.

Dear Mr. McClelland:

Thank you for your letter of June 9, 1997 and the accompanying information noted as Attachments A through E that you submitted for the above-referenced permit application. We have completed our review of the submitted information and we find that the information satisfies the requests in our May 13, 1997 letter for more information regarding fault hazard setbacks, the value of the 67.27-acre parcel, the maximum density exception basis, the legal ability of the applicants to implement the project, and the declaration of the agents (items 2-5 of the May 13th letter).

As discussed below, however, we have several follow-up or clarifying questions concerning the geologic information submitted in response to item 1 of our May 13, 1997 letter, regarding bluff retreat rates and related bluff setbacks.

1. Verification that the two filled gullies on the bluff edge are now stabilized.

In our May letter's request for bluff retreat rate information, we had asked that in establishing the bluff retreat rate, special consideration be given to bluff retreat in those areas where gullies exist, since the rate of retreat might be greater in those areas. The SHN letter dated June 10, 1997 that you submitted states on page three, last paragraph, that: "The two worst gullies on the bluff edge (of the 5 referenced in the 1981 NGS report) were stabilized by filling with rocky clayey soil prior to construction of the Hammond Trail." The letter explains on page four, first paragraph, that the two stabilized gullies accommodated concentrated runoff during the intense storm of "New Year's" 1997 without significant erosion and that the trail below these gullies shows no evidence of erosion or measurable sediment deposition. The implication is that there is no greater bluff retreat hazard around the gullies than elsewhere along the bluff.

We appreciate SHN's observations that the two gullies that were filled did not fail during the New Years day storm. However, the fact that the recently placed fill did not fail during one storm event does not necessarily demonstrate by itself that the erosion of the gullies has been stabilized and that no greater bluff retreat hazard exists around the gullies. Please provide any additional verification you can that the two filled gullies on the Sand Pointe property are now stabilized. For example, were engineered plans prepared, and appropriate permits obtained, prior to the gully stabilization work? If there are plans, do they have an engineer's stamp? Is there any documentation that the rocky clayey soil was a suitable use of fill material for these gullies and that the fill material was adequately layered and compacted?

2. Clarification of discrepancy in the smallest of the bluff top setback distances between what is stated in the draft & final EIR's and shown on the tentative map for the proposed subdivision.

Volume 1 of the draft EIR is dated December, 1995. On page 3-9, the draft EIR states in applicable part:

> In addition to avoiding the Mad River Fault trace, the project design has incorporated the consulting geologist's recommendations regarding setbacks from the existing bluff margin, together with other recommendations (such as avoiding discharging concentrated irrigation or runoff in the vicinity of the bluff setback, which ranges in width between 20 and 45 feet...).

The final EIR is dated March, 1996. At the bottom of page F-1-7 and the top of page F-1-8, the final EIR states in applicable part that: "The R-1 Report established setbacks along the bluff margin of the project site.... The width of the setback...ranges between 25 and 40 feet from the current bluff margin...."

The tentative map plan for the proposed subdivision is at a scale of 1" = 60. The map was last revised 8/8/95. The map indicates that the width of the bluff top setback ranges between 10 and 43 feet from the current bluff margin.

Of the three sources of information indicated above (i.e. the draft EIR, the final EIR, and the tentative map), the largest setback distances are approximately the same (i.e. 45 feet in the draft EIR, 40 feet in the final EIR, and 43 feet on the tentative map). However, there is a significant discrepancy between the smallest of the setback distances which should be explained (i.e. 20 feet in the draft EIR, 25 feet in the final EIR, and only 10 feet on the tentative map). In providing an explanation regarding the discrepancy between the smallest of the bluff top setback distances, please clarify which source for the bluff top setback distances is most correct and may be relied upon.

3. Clarification of the discrepancy between the bluff top retreat rate and the recommended bluff top setback distances indicated in the SHN letter, the final & draft EIR's, and the tentative map for the proposed subdivision.

Using a "worse case" scenario, the SHN letter concludes on page two that the bluff retreated about ten feet between 1941 to 1981, and retreated another two feet between 1981 and 1997, for a total of 12 feet over a 56-year period. By our calculations, this conclusion by SHN represents an average annual bluff retreat rate of about 0.2143 feet/year (12 feet divided by 56 years equals 0.2143 feet/year). If this average annual bluff retreat rate were extended over a 75-year period of time, the bluff can be expected to retreat a total of about 16 feet (75 years times 0.2143 feet equals 16.07 feet).

The SHN letter continues to explain on page three, second and third paragraphs, that:

> The portion of the setback attributed to chronic, regular, erosion processes was determined to be five feet over a 50 year period. Since we had not observed the recent history of the bluff slope and were not sure how the Hammond Trail was going to be constructed, we decided to be cautious and double the "chronic erosion" portion of the setback to 10 feet. On the basis of recent observations, we conclude that the extra caution was not warranted. Therefore, extending the reference from 50 years to 75 years results in 7 1/2 feet of setback due to "chronic erosion" processes and another 2 1/2 feet to maintain a level of conservatism. Therefore, no change in the recommended 10 foot setback due to extending economic lifespan from 50 to 75 years is warranted.
>
> The recommended set back that exceeds the 10 foot "chronic erosion" portion reflected "one time" unusual events such as extraordinary seismic events and storms. The set back distances consider variables such as bluff slope gradient, bluff slope height, distance from the river bank to the bluff top, proximity to filled areas, presence of bluff slope springs, etc. As such, the recommenced setback due to "one time" event factors is the same for a 75-year interval as a 50 year interval.

The SHN letter does not address the apparent inconsistency between the 16 feet of bluff retreat that can be expected based on the historic rate of bluff retreat and the recommended setback distance of 10 feet due to "chronic erosion" and other factors. Please clarify this discrepancy between the bluff top retreat rate that can be established based on historic retreat rates indicated in the June 10, 1997 SHN letter and the recommended bluff top setback distances indicated in either the June 10, 1997 SHN letter, the draft EIR, the final EIR, or the tentative map for the proposed subdivision, (whichever document has the most correct bluff top setback distance information, based on your response to Question No. two above).

4. <u>Clarification of the difference that construction of the Hammond Trail had on the rate of bluff retreat</u>.

The portion of the Hammond Trail that is located on the bluff slope, between the Mad River and the project site, has been cleared of encroaching vegetation and roughly graded to provide lateral public access along the banks of the Mad River. Page 3 of the SHN letter indicates that construction of the trail near the project site had not yet occurred when SHN determined the bluff retreat

rates and bluff setback distances. In any event, now that the portion of the Hammond Trail nearest the project site and down slope from the edge of the bluffs has been cleared of its encroaching vegetation and roughly graded, please have SHN clarify what difference (if any) construction of the trail has had on the rate of bluff retreat.

5. Reevaluation of bluff retreat rate in light of information prepared by the California Department of Transportation for installation of rip rap at the mouth of the Mad River.

The SHN letter on page four, last paragraph, states in applicable part:

> It is fairly clear with the passing of two more rainy seasons that ocean wave effects in the mouth of the river have no significant effect on areas south of Widow White Creek. The mouth has shown no signs of breaching the sand spit or migrating more than a few hundred yards from the northernmost position. The additional two years of history observing the effects of the northward migration of the Mad River adds to our 1995 conclusion that it is highly unlikely that the Mad River will erode its east bank for enough to destabilize the top of the existing coastal bluff.

The SHN letter on page five, first paragraph, also states in applicable part:

> It is important to point out that the behavior of the Mad River continues to be unprecedented in the history of the northern Pacific Coast. However, there has now been almost 30 years of steady northward migration of the mouth with no breaches in the sand spit that separates the river from the ocean.

Notwithstanding, however, our review of the enclosed information from the California Department of Transportation presents a somewhat different picture. For example, the report dated July of 1993 states on page five, third paragraph, that: "From this perspective it is not surprising that the Mad River spit experiences wave overwash when large wave set-up is coupled with spring high tides."

The report states on page 37, first paragraph, that: "Erosion of the spit allowed waves to travel into the Mad River Lagoon and erode the base of the coastal bluff as evidenced in subsequent photographs."

The report states on page 37, last paragraph, that:

> As this process of continued northward migration began, an event occurred that indicated a new regime had been established. In 1975, the inlet experienced a spit breaching event, resulting in two inlets. The breach was set up by a sequence that initiated in 1974. During the winter of 1974, a significant flood event occurred that had resulted in the cutting back of the barrier spit on the river side upstream of the inlet mouth near Hiller Road. In the following year, 1975, a short duration storm occurred that included large waves. The breach event was apparently due to wave overwash in the area of the spit that had been cut back during the

> previous years flood event. The dual inlets were maintained until the tidal flushing coupled with fluvial discharge was unable to keep both inlets swept of sediments transported into the inlets by waves. The southern inlet sealed; the northern inlet was maintained. ... Had the southern channel been maintained at the expense of the northern one, the river inlet would have been observed to migrate back southward recreating Mad River Lagoon. During similar events prior to the transition period, the southerly inlet typically was selected rather than the northern one.

The report states on page 39, last paragraph, that:

> Of interest here is that large storm waves arrived coupled with the largest river discharge of the decade. The combined attack of these two forces caused both spit and backshore erosion from wave attack and overwash, with high river discharge flushing the sediments into the nearshore circulation system.

The 1993 report on page 42 shows three inlets separated by intertidal bars during the winter of 1982-83. The 1993 report concludes on page 47, second paragraph, that: "The combination of floods with large tides produces maximum ebb gradients at the inlet mouth, a condition favorable to inducing channel incision, erosion and ultimately inlet migration."

The more recent report is dated May of 1997 and the report states on page three, second paragraph, that:

> On January 1, 1997 during high river flows, it was noted that a portion of the flow had breached into the Arcata Bottoms and was flowing into the Mad River Slough and subsequently into Humboldt Bay. There were also signs of a partial river breach at Hiller Road.

The 1997 report concludes on page four that: "The Mouth of the Mad River continues to be dynamic. Although the rock structure assisted in stopping the northward progression of the Mad River, the mouth continues to oscillate at its present location."

Its apparent that SHN did not take the information about the breaching of the sand spit over the past few decades in the Caltrans reports into account when SHN concluded there had been no breaching over the last 30 years in establishing the bluff retreat rate. Please have SHN reevaluate the actual or estimated bluff retreat rate, taking into account the possibility that a breach of the sand spit could occur opposite the property, as evidenced by the enclosed Caltrans information, and explain why the bluff retreat should or should not be modified, and if so, by how much.

Per our recent telephone conversation, this letter also serves to confirm that APN 511-011-05 (the 67.27-acre parcel to be donated) is a separate legal parcel from APN 511-011-14 (the 26.5± acre parcel to be developed).

Lastly, at the Coastal Commission's July 8, 1997 meeting in Ventura, Steve Scholl, District Director for the North Coast, reported the letter of July 1, 1997 from Selby Fermer to the Commission. The Selby letter asks the

Commission to schedule the Sand Pointe project for the September meeting in Eureka. Per the last paragraph of your letter of June 9, 1997, Mr. Scholl also reported to the Commission that the applicants wanted to have the project heard at the earliest possible date, which at this time, would be the August meeting in Los Angeles. Although no formal vote was taken, the Commission concurred with Mr. Scholl's recommendation that the Sand Pointe project be heard in September in Eureka to allow for a local public hearing on the project. Consequently, we have tentatively scheduled the Sand Pointe project for the September 9-12, 1997 meeting in Eureka. To keep to this schedule, we need to receive information which adequately responds to our requests above by August 8, 1997.

Thank you for your continued cooperation and assistance.

Sincerely,

James J. Muth

JAMES J. MUTH
Coastal Planner

Enclosures.

cc: Sand Pointe file.

9480p

LIST OF PERSONS WHO WILL COMMUNICATE ON BEHALF OF PERSONS WHOSE PERMITS HAVE BEEN APPEALED TO THE COASTAL COMMISSION

Name of Person Whose Permit Has Been Appealed	Stephen A. Moser, Trustee Brian J. Hunt Cindi A. Hunt
Project and Location	Sand Pointe, McKinleyville, California
Commission Appeal No. (same)	A-1-HUM-96-070

Persons Who Will Potentially Communicate For Compensation on Behalf of Applicant or Applicant's Business Partners With Commission or Staff

NAMES:	ADDRESSES:
Martin G. McClelland	Oscar Larson & Associates 317 Third Street Eureka CA 95501
Chad Roberts, PhD	Oscar Larson & Associates 317 Third Street Eureka CA 95501
Roland Johnson, CEG	SHN Consulting Engineers & Geologists 812 West Wabash Avenue Eureka CA 95501
Tim Boesé, PE	Boesé Engineering 2919 Highland Court Arcata CA 95521
Ed Nilsen, AIA	Nilsen Real Estate Appraisals 3988 Walnut Drive Eureka CA 95503
Bill Barnum, Esq.	Law Offices of William F. Barnum 2103 Myrtle Avenue Eureka CA 95501
John Feeney, Esq.	Roberts, Hill, Calligan, Bragg, Feeney & Angell 434 Seventh Street Eureka CA 95501

MEMO OL:05217:MGM:6357

TO: Jim Muth, California Coastal Commission

FROM: Marty McClelland

SUBJECT: Response to Letter Dated 13 May 1997 (received 15 May 1997 by fax); Sand Pointe Project

DATE: 21 May 1997

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4. Maximum Density Exception

You have asked for the following: "Please provide a summary of any reason or basis for granting an exception to the maximum density of one unit per three acres under the Airport Safety combining regulations in Section A 314-50(D)(3) of the Humboldt County Coastal Zoning Ordinance."

The following is provided:

- The general plan text and maps allow for a higher project-site density, based on discretionary approval by County decision-makers.
- The base zoning allows for a higher project-site density, based on discretionary approval by County decision-makers.
- The previously adopted general plan and zoning included consideration of the 1980 Airport Plan and its proposed densities, and found the indicated plan and zoning to be compatible and consistent with the 1980 Airport Plan.
- The Coastal Commission certified the McKinleyville Area Plan and implementation zoning, including the overlay zone, as consistent with the Coastal Act. The certified MAP indicated a zoning density of 2 dwelling units per acre.
- The general plan and zoning regulations allow for densities in excess of those specified by the land use plan under specified circumstances, based on discretionary approval by County decision-makers.
- The adjoining parcel (Pacific Sunset) was approved for development (following an appeal to the Coastal Commission) at a higher density of 2 dwelling units per acre.
- The project site was set aside as an urban expansion area. Now that services are available, development at 1 DU per 3 acres would be contrary to an overall view of the coastal plan and contrary to its implementation.

- The more recent 1993 Airport Land Use Compatibility Plan, which has been adopted by the County for planning considerations on the Arcata-Eureka Airport but not for areas outside the Airport, designates the project site at a density of 4 dwelling units per acre. The 1993 Plan is based on updated safety and noise information for the Airport, which indicated that the lower recommended densities in the 1980 Plan were no longer needed to protect the Airport from incompatible uses.

- The County's Director of Public Works indicated to the Board of Supervisors that, following his discussion with the County's Airport Land Planning Consultant (Shutt Moen Associates), he had no objection to the project at the density of 2.4 dwelling units. He has subsequently sent a letter to you in support of the project dated 6 May 1997 (see next page).

It is noted that all of the above is included in the administrative record previously sent to you by the County (except the May 97 correspondence from John Murray) and much has been previously cited in your staff reports to the Commission.

We believe that the conclusions contained in your staff reports (2) to the Commission, with recommended findings adopted by the Commission and pertaining to the zoning (December 1996), reflect all of the reasons or bases for resolving the density issue in light of the zone regulation A-314-50(D)(3) of the Humboldt County Coastal Zoning Ordinance.

MGM:ikmy

CONSULTING ENGINEERS
& GEOLOGISTS

812 W. Wabash
Eureka, CA 95501-2138
(707) 441-8855
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John R. Schlaze, P.E.
Jeff Nelson, P.E.
Roland S. Johnson, Jr. C.E.G.

Reference: 940117.100

June 10, 1997

Steve Moser
Brian and Cindy Hunt
1836 Central Avenue
McKinleyville, CA 95519

SUBJECT: RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION BY THE CALIFORNIA COASTAL COMMISSION FOR THE PROPOSED SAND POINTE DEVELOPMENT PROJECT, APN 511-11-14, MCKINLEYVILLE, HUMBOLDT COUNTY, CALIFORNIA

Dear Steve, Brain, and Cindy:

At your request, SHN is providing this document as a response to the "Bluff Retreat Rate" and "Fault Hazard Setback" sections of the May 13, 1997, California Coastal Commission letter addressed to Mr. Marty McClelland. We understand that the Commission has determined that the project as approved by the County raises a substantial issue of conformance to the Humboldt County LCP. In this document, it is our intent to respond to the request for information in the order designated by the May 13, 1997 Commission letter even though the requests are mixed in the narrative.

Before addressing specific Commission requests, we believe it is important to point out that the 1981 geotechnical report by Northcoast Geotechnical Services, mentioned in the May 13, 1997 Commission letter, was written by the same person (Roland S. Johnson, Jr.) that authored the SHN January 25, 1995, R-1 geotechnical report for the Sand Pointe project. In addition, there are other references to the nearby Knox Cove Subdivision. The geologic report for that project (December 15, 1983 by Northern Geotechnical Incorporated) was also written by Mr. Johnson. This demonstrates that Mr. Johnson has substantial experience with McKinleyville coastal bluff geologic processes and hazard mitigation techniques.

The Commission letter suggests that various recommendations documented in the SHN January 25, 1995, geotechnical report be reconsidered as a result of issues which the letter identifies as requiring a response. You should be aware that the issues identified were considered when the SHN report was prepared and therefore, were included in the data base that was the foundation for recommendations. On this basis, there will be no changes of the recommendations in the SHN report.

BLUFF RETREAT RATE

The rate of bluff retreat due to erosion and other factors over the next 75 years, is requested. The conventional way to determine a bluff retreat rate is to study aerial photos and maps that document the bluff top edge position at various times in the past. The conventional studies conducted prior to writing the 1981 Northcoast Geotechnical Services (NGS) report noted no discernible changes in bluff location or configuration (except for individual gully features which represent isolated bluff areas) during the period from 1891 (a 1:200,000 scale map) through 1981, which included aerial photos dated 1941, 1958, 1962, 1966, 1970, 1974, and 1979. This would suggest a bluff retreat rate of zero. However, this is illogical because even well vegetated steep bluffs underlain by nonlithifed earth materials experience some measures of direct rainfall erosion, burrowing animals, and downslope creep of loose surficial soils. We can assume that the bluff top retreat that did occur before 1981 was not noticeable because magnified aerial photos (even at a scale of 1 inch equals 1000 feet) just are not clear enough to detect changes in a linear feature, like an abrupt bluff edge, of 5 feet or less. Considering that the 1941 aerial photo series is sharp and the bluff edge was not obscured by much vegetated, we certainly could have detected a bluff edge change of 10 feet when compared with 1981 field observations. Therefore, we can conclude a "worse case" retreat of 10 feet during the period 1941 to 1981, or one quarter foot per year. Since the railroad line was used regularly between 1941 and approximately 1960 and the bluff top was regularly plowed and cropped during the period, some portion of this "calculated" retreat must have occurred.

Accurate bluff top configuration information for the period 1981 to 1995 is based on direct observation. A through study of the bluff top alignment was conducted by the same geologist (Mr. Johnson) in both 1981 and 1995. Distinct features such as mature spruce trees at, or in very close proximity to, the bluff edge indicated no overall erosion of the bluff edge, and isolated areas where a foot to a maximum of 2 feet of retreat occurred as a result of relatively small slabs of soil breaking away from the edge. Portions of the bluff edge having no distinguishing features could have retreated up to 2 feet over the 1981-1995 interval without showing any surficial evidence of change. We did not attempt to confirm these conclusions with aerial photo analysis because the bluff slope and bluff top were covered (approaching 100%) with dense vegetation consisting of trees, brush, and berry vines. Mr. Johnson revisited about 12 representative locations on the bluff top in June 1997 and noted no measurable change at those locations since 1995. Therefore, we can concluded a "worse case" retreat of 2 feet during the period 1981 to 1997, or one eighth foot per year. This apparent insignificant amount of erosion (including mass wasting processes) can be attributed to elimination of agricultural activity in the area east of the bluff edge which reduced runoff substantially, and the railroad grade "going back to nature", thereby reducing associated cut slope erosion substantially.

On Page 8 of the 1995 SHN geotechnical report it states "Minor variations of a few 10's of feet should be expected during the economic lifespan of the project." This statement is in reference to the amount of river bank erosion that should be anticipated, and does not relate directly to retreat at the bluff top. If necessary, we can amend the sentence as a result of extending the economic lifespan from 50 to 75 years by stating "a few tens of feet plus another 10 feet, but that is still significantly less than the "over 70 feet" of eastward river bank erosion that would need to occur before river bank erosion could begin to adversely effect the top edge of the bluff.

Referring to paragraph 2; bluff retreat rate--the setback distances indicated on Figure 2 of the 1995 SHN geotechnical report are the accumulation of a number of factors which contribute to bluff slope instability. Examples are, direct rainfall erosion effects, low rate soil creep of vegetated slopes, shallow failure caused by very strong earthquakes, and movement of a saturated soil and root mat on steep slopes due to extraordinarily heavy rainfall. The portion of the setback attributed to chronic, regular, erosion processes was determined to be 5 feet over a 50 year period. Since we had not observed the recent history of the bluff slope and were not sure how the Hammond Trail was going to be constructed, we decided to be cautious and double the "chronic erosion" portion of the setback to 10 feet. On the basis of recent observations, we conclude that the extra caution was not warranted. Therefore, extending the reference from 50 to 75 years results in 7-1/2 feet of setback due to "chronic erosion" processes and another 2-1/2 feet to maintain a level of conservatism. Therefore, no change in the recommended 10 foot setback due to extending economic lifespan from 50 to 75 years is warranted.

The recommended set back that exceeds the 10 foot "chronic erosion" portion reflected "one time" unusual events such as extraordinary seismic events and storms. The set back distances consider variables such as bluff slope gradient, bluff slope height, distance from the river bank to the bluff top, proximity to filled areas, presence of bluff slope springs, etc., As such, the recommended setback due to "one time" event factors is the same for a 75 year interval as a 50 year interval.

Setback determinations for project areas located near existing or former gullies were accounted for in the 1995 SHN geotechnical report. The two worst gullies on the bluff edge (of the 5 referenced in the 1981 NGS report) were stabilized by filling with rocky clayey soil prior to construction of the Hammond Trail. We do not concur with the "increased risk" statement in the Commission letter. Berms were placed above the 3 other active gullies noted in the 1981 NGS report a short time after that report was completed. The berms were in place by September of 1982 so that no significant enlargement due to concentrated runoff occurred between April 1981

and the spring of 1982 when heavy storms caused substantial enlargement of the two gullies that were later filled and stabilized. The 3 bermed gullies have not enlarged perceptively since September 1982. Additionally the 2 stabilized gullies accommodated concentrated runoff during the intense storm of "New Years" 1997 without significant erosion. The trail below these old gullies shows no evidence of erosion or measurable sediment deposition. This storm initiated at least 5 bluff slope failures in the Knox Cove Subdivision.

SHN cannot discuss the details of these slope failures because we are currently working with land owners at 3 of the sites. However, we can say that all 5 failure areas were subject to uncontrolled concentrated runoff from developed areas of the bluff top.

Recommendations in the 1995 SHN geotechnical report preclude directing substantial runoff toward the bluff edge and the Preliminary Grading and Drainage plan prepared by Oscar Larson and Associates (February 1995) indicates how this is to be accomplished. In addition, the 1995 SHN report strongly recommends that no vegetation is to be disturbed in the vicinity of the bluff top. It is important to point out that the Commission letter suggests physical similarities between the Knox Cove development and Sand Pointe that could allow set back comparisons between the two developments. There are substantial physical and geologic differences that do not allow such a comparison. There is also a significant difference in when the studies were conducted, and level of geologic study, that makes comparison of the two geotechnical reports inherently unreliable.

When the 1995 SHN geotechnical report was prepared, the Caltrans stabilization project was in place less than 3 years. Discussions in the report reflect this relatively short history of observation. It is fairly clear with the passing of 2 more rainy seasons that ocean wave effects in the mouth area of the river have no significant effect on areas south of Widow White Creek. The mouth has shown no signs of breaching the sand spit or migrating more than a few hundred yards from the northernmost position. The additional two years of history observing the effects of the northward migration of the Mad River adds to our 1995 conclusion that it is highly unlikely that the Mad River will erode its east bank for enough to destabilize the top of the existing coastal bluff. We tested this conclusion by measuring the distance between 2 fixed bluff top reference points and the river bank directly to the west. The attached profiles (by Oscar Larson and Associates, May 1997) indicate the results of the re-survey of the two reference sections. Even though the surveyor could not follow the previous survey line exactly, it can be seen that no significant migration of the east bank of the Mad River has occurred since August of 1994. This further substantiates the recommended bluff top setbacks considering the current apparent equilibrium of river with its eastern bank.

It is important to point out that the behavior of the Mad River continues to be unprecedented in the history of the northern Pacific Coast. However, there has now been almost 30 years of steady northward migration of the mouth with no breaches in the sand spit that separates the river form the ocean. Considering this historical data, the conclusion on page 6 of the 1981 NGS report that "historic data indicate that the river has migrated and retreated along a path parallel to the bluff since prior to 1870, apparently in response to natural dynamics of river and ocean hydraulics" is not accurate. In retrospect the wording of this conclusion actually contradicts the 3rd paragraph of page 5 of the report that describes an observation that well over 100 years ago the river mouth appeared to have come within ½ mile of the present location of Murray Road. The 1870 map described in the 1981 NGS report documents the only substantial northward position of the Mad River mouth until the recent period of migration, which began between 1966 and 1970. Considering the events of the last 16 years, we conclude that the statements and recommendations provided in the 1995 SHN report are more valid that those of the 1981 NGS report.

We do not know enough about the complex interactions between an ocean and a river estuary confined by a prominent coast bluff to preclude the possibility that the Mad River may one day migrate southward of Widow White Creek or break through the spit and exposed the base of the bluff to ocean waves. However, there is no current information that would indicate any tendency for rapid migration of the mouth nor, more specifically, a tendency for a rapid and continuous southerly migration. Therefore, we conclude that the potential for the mouth of the river to relocate opposite the Sand Pointe development in the next 75 years for a long enough period to subject proposed project improvements to significant geologic instability, is very low.

FAULT HAZARD SETBACK

The basis for SHN's establishment of setbacks from faults capable of producing surface fault rupture, starts with the State of California, Alquist-Priolo Special Studies Zone Act of 1972. This Act states that the purpose of the law is, in part, to provide policies and criteria ... to prohibit the location of developments and structures for human occupancy across the trace of active faults .... Implementation was to be pursuant to policies and criteria established and adopted by the State Mining and Geology Board. The policies and criteria were developed in concert with the Department of Conservation, Division of Mines and Geology and the adopted policies and criteria were documented in Special Publication 42 (revised 1985). Pertinent specific criteria provided in Special Publication 42 are: a) No structure for human occupancy, identified as a project under Section 2621.6 of the Act, shall be permitted to be placed across the trace of an active fault. Furthermore, as the area within fifty (50) feet of such active faults shall be presumed to be

underlain by active branches of that fault unless proven otherwise by an appropriate geologic investigation and report prepared as specified in Section 3603(d) of this subchapter, no such structure shall be permitted in this area: and e) A geologist registered in the State of California, within or retained by each lead agency, shall evaluate the geologic reports required herein and advise the lead agency. (Underlined for emphasis).

The Humboldt County General Plan has adopted the State policies, criteria, and guidelines as provided in Special Publication 42 and accordingly, many Fault Evaluation Reports have been published by consulting geologists, with conclusions and recommendations substantiated by independent registered geologists retained by the County, where setbacks from surface fault traces have varied from the 50 foot setback "presumed to be underlain by active branches of that fault". It is important to note, that in some areas of Humboldt County the faults are poorly understood, highly complex, covered by deep recent soil deposits, below water table, or obscured by surface objects (trees, roads, buildings, fill, etc.) such that setbacks from surface fault traces are recommended to exceed 50 feet. The faults on the McKinleyville plain have been trenched and studied at a level that far exceeds all other zoned areas of the county. Geomorphic features (the surface expression of underlying fault movements) are well preserved, ground surface disturbance and obscurance by surface objects is minimal, and surface expression of faults has proven to be typically linear. As a result most experienced fault investigators are able to identify site specific fault characteristics that "disprove the presumption that the area within 50 feet of the fault trace is underlain by active branches of that fault". In the case of the fault evaluation for Sand Pointe, the County review geologist was on site during trenching operations and worked closely with the investigating geologists while interpretation of fault related geologic features were being interpreted. Many of the detailed characteristics of fault features that were discussed and resolved during field consultations with the review geologist were not presented in the written report (as is customary for this type of geologic work). But, if a strong case for setbacks of 25 and 30 feet on the lower plate of the fault had not been made, by SHN, the review geologist would not have rendered a professional opinion that the report was in conformance with the policies and criteria in Special Publication 42.

The principal technical reasons for lower plate setbacks of less than 50 feet are 1) The primary fault is a very low angle thrust that has demonstrated practically no deformation of shallow soil strata on the lower plate. The potential for active fault traces below trenching depth on the lower plate is, therefore, very low to negligible. The potential for future development of new faults in the lower plate is also very low, and as stated in Special Publication 42, "The development of a

new fault... is relatively uncommon and generally need not be a concern in site development" (page 22 1st paragraph). 2) The primary fault has displaced soil strata within a close proximity to the surface (2 feet in one trench, 5 feet in the other) and the fault plane is essentially straight. This allows a projection to the ground surface to an accuracy of one foot. The resulting fault trace (the surface projection) forms a subtle, but well defined inflection point that was consistently observed at each fault exposure. 3) The surface fault features defined by measured inflection points in the area north of the trenches, are clearly reflected on the profiles presented in the report. Projecting the features between profiles creates a linear fault trace that is characteristic of the faults in McKinleyville. Fault traces that might wander off the alignment of the identified surface fault features should be no more than 10 feet from the linear projection, which is well within the 30 foot setback zone. Significant bending or development of multiple fault traces would create surface features that would be noticed by an experienced geologist.

The Commission letter questions the precision of fault trace information in the fault evaluation report because of the use of the term "projected" and the statement "we cannot preclude the possibility of propagation of new faults or the lengthening of existing faults; therefore ...". We have to use the word "projected" to reflect the fact that fault rupture planes are preserved at the surface for only a few years after a ground surface rupturing earthquake event. Bioturbation and erosion processes smooth and obscure the ruptured ground rather quickly. So the vast majority of surface ruptures are obscured and the trace must, thereafter, be projected to the surface. The above statement, "we cannot preclude ..." acknowledges our inherent inability to accurately predict the future of dynamic earth process such as fault development. It is not a reflection of recommended surface fault rupture trace setbacks. We make the same statement about faults with recommended setbacks of 50 feet or more. All experienced geologists make similar statements, so that nongeologists clearly understand that all geologic facts and particularly geologic predictions are interpretations of a data set that is never complete.

Hopefully, this document covers the concerns of the Commission that relate to geologic hazards associated with the proposed Sand Pointe development. Let me know if further identification will be required.

Sincerely,

SHN CONSULTING ENGINEERS & GEOLOGISTS

Roland S. Johnson, Jr., CEG 1120
Principal Engineering Geologists
RSJ:ls

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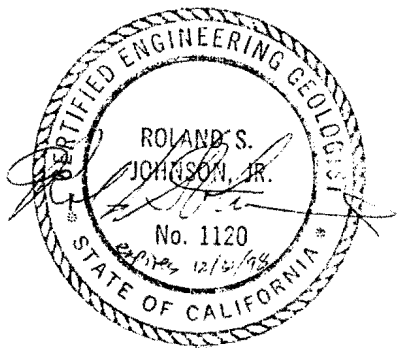

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(916) 221-5424
FAX (916) 221-0135

John K. Schwarz, P.E.
Kjell Nelson, P.E.
Robert S. Johnsson, Jr., C.E.G.

Reference: 094117.100

August 5, 1997

EXHIBIT NO. 47
APPLICATION NO. A-1-Hum-96-70
Pg 1 of 4
California Coastal Commission

Steve Moser
Brian and Cindy Hunt
1836 Central Avenue
McKinleyville, CA 95519

SUBJECT: SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION BY THE CALIFORNIA COASTAL COMMISSION FOR THE PROPOSED SAND POINTE DEVELOPMENT PROJECT, APN 511-11-14, MCKINLEYVILLE, HUMBOLDT COUNTY, CALIFORNIA

Dear Steve, Brian, and Cindy:

At your request, SHN is once again providing a response to the Coastal Commission staff regarding geologic information submitted in our various reports and our letter of June 10, 1997. This time SHN will address only those items discussed in the July 11, 1997, California Coastal Commission letter to Oscar Larson and Associates.

SHN believes that it is important to point out that the latest Coastal Commission letter is asking for geologic information that is unusually technical and in most cases not particularly relevant to the methods we use to evaluate geologic hazards. The author of the letter does not appear to be familiar with the standards that form the basis of professional geologic practice. We are doing our best to cooperate with answering the questions posed, but an inordinate amount of time and effort is required to answer technical questions from someone without sufficient geologic background to clearly define the point they believe needs clarified. The issues raised in Coastal Commission letters of May 13, 1997 and July 11, 1997 have not influenced us to change any of the conclusions and recommendations presented in our various geologic reports. In fact, the tone and content of the questions asked by Coastal Commission staff implies that SHN geologists must have omitted consideration of some pertinent geologic factor(s) that would result in presentation of inappropriate conclusions or recommendations. Frankly, we do not believe it is appropriate for Coastal Commission planners to expect that we will discuss proprietary methods of how we formulate our solutions to the complex problem of determining how natural and man influenced geologic processes influence a particular coastal bluff project. Even though we have reservations about the intent of Coastal Commission "follow-up or clarifying questions" we will provide summary comments in the following narrative.

1. Filled gullies on the bluff edge.

   The level of bluff retreat hazard around the filled gullies is clearly indicated on the site map presented with the December 1994 SHN report. Recent observations of those areas show no evidence that would suggest that the hazard designations be changed. The rocky clay

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soil fill areas show no evidence of subsidence, lateral deformation, surficial soil creep, or significant erosion. These areas require a "setback" as do other bluff edge areas and the "setback" designations reflect our suspicion that these fills were not placed under engineering control.

2. Clarification of bluff top setback discrepancy.

When SHN conducted our bluff top retreat hazards studies, we installed a series of stakes in the ground to indicate the precise location of the "setback" line. The line was then surveyed to record it permanently. We have no comment about the various maps that relate this "setback" line to the edge of the bluff top.

3. Clarification of bluff top retreat rate relative to recommended bluff top "setback" distances.

Coastal staff has attempted to selectively reiterate or redefine the "bluff retreat rate" discussion on pages 2 and 3 of June 10, 1997, SHN letter. We have no intention of participating in a mathematics debate as a response to the "request for clarification". We will point out that the "worse case" scenario discussion is connected to the uncertainties of interpreting distances from aerial photographs and that is only one variable in of determining a specific bluff retreat rate for "chronic erosion" processes. We do not concur with the Coastal Commission staff interpretation of what we presented. In addition, we did not say that we expect future bluff retreat rates (no matter how conservative the calculation) to be represented by "estimates" of previous retreat rates. Land use conditions have changed so much that it is not reasonable to use historic estimates to reflect future bluff retreat rates with or without the development proposed. Again, our recommended "setbacks" are as presented in our December 1994 report.

4. Clarification of bluff retreat rates relative to the Hammond Trail construction.

Construction of the Hammond trail has had no influence on the bluff top and no observable adverse effect on the bluff slope. The ground area that was exposed as a result of vegetation removal is predominantly the same area now covered by crushed rock to form the trail bed. Erosion potential has not increased significantly and is not likely to increase as long as the trail bed is maintained.

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5. Reevaluation of bluff retreat in light of Caltrans information.

SHN does not intend to discuss the Coastal Commission staff interpretation of the Borgeld report or the 1997 Caltrans monitoring report as neither of them directly addresses estuary erosion processes adjacent to the proposed Sand Pointe Development. We refer you to the letter of July 16, 1997 by R. Chad Roberts (Oscar Larson & Associates) for a succinct assessment of the validity of the Coastal Commission staff comments.

We do need to clarify that our previous letter would have been more complete if we had mentioned the 1982-83 multiple river mouths. However, these "breaches" were of short duration and we understand that they were related to the northward advancing "primary" mouth. All these breaches sealed as the river continued to migrate north. SHN did not consider this event to be pertinent to our overall conclusion about the low level hazard of significant bluff retreat resulting from a new river mouth developing adjacent to Sand Pointe. We have already accounted for the potential adverse effects that could result from a river mouth developing adjacent to Sand Pointe and therefore will not be modifying our estimated bluff retreat rate or our "setback" recommendations.

It is also prudent to reiterate our earlier discussions related to what could happen in the unlikely event that a new river mouth developed adjacent to some portion of Sand Pointe. A sustained breach of the sand spit that allowed large waves to enter the estuary likely would eventually erode the remaining sand dunes from the base of the bluff and then erode the more competent Falor deposits at the bluff toe. If nothing was done to protect the base of the bluff slope, continued erosion likely would cause progressive debris slides that could eventually proceed inland to the point that bluff top areas might be effected. Remember, however, that over 70 feet of eastward erosion at the base of the slope would have to take place before the upper portion of the bluff slope experienced any erosion. These circumstances are substantially different from those which have occurred recently in the Knox Cove area, where bluff top failures were related to concentrated runoff, a problem already addressed in the drainage system design for the Sand Pointe project.

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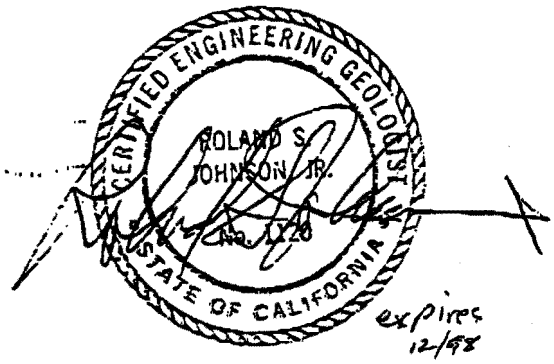
& GEOLOGISTS

We look forward to the time when we can describe the extent of our work to members of the Coastal Commission. The amount of effort that has gone into studies, reports, and responses to comments related to this residential development is unprecedented in our experience. Please call if you have questions or require additional clarification of geologic issues related to the proposed project.

Sincerely,

SHN CONSULTING ENGINEERS & GEOLOGISTS



Roland S. Johnson, Jr., C.E.G. 1120
Principal Engineering Geologist

RSJ:ls

Oscar Larson & Associates
Consulting Engineers • Land Surveyors

317 Third Street • P.O. Box 3806 • Eureka • CA 95502 • (707) 445-2043 • FAX (707) 445-8230 • e-mail: olarson@northcoast.com

Mr Jim Muth
North Coast Area
California Coastal Commission
45 Fremont Street Suite 2000
San Francisco CA 94105-2219

Reply to: OL:08067:MGM:6357

6 August 1997

Subject: CDP No. A-1-HUM-96-70
Sand Pointe Development
Response to CCC Letter of 11 July 1997

Dear Mr. Muth:

The purpose of this letter is to forward to you answers to the questions contained in your 11 July 1997 letter concerning the geologic information previously provided.

Enclosed please find a letter dated 5 August 1997, prepared by Roland Johnson, C.E.G. of SHN Consulting Engineers and Geologists. Also enclosed is a letter dated 16 July 1997 prepared by Dr. Chad Roberts of our office, subject: Migration of Mad River Mouth.

In addition to the information provided in the enclosures, the following is offered:

Item 1 - Filled Gullies. As indicated in my phone conversation with you on 15 July 1997, it is our understanding that the gullies were filled using a Coastal Development Permit issued to the County of Humboldt for the Hammond Trail (approximately 1979). The actual work was performed by, and/or under the supervision or, control of the Redwood Community Action Agency. You may wish to discuss this with Don Tuttle, Natural Resources Director of the County's Department of Public Works.

It is our understanding that, before the RCAA construction, the filling of the gullies was also a component of a separate Coastal Development Permit application submitted to the North Coast Regional Coastal Commission (we believe in the early 1980s) by Mark Rynearson, Al Hartman, or Matthews Machinery Company. The application was placed on the Commission's agenda; however, it was pulled by the applicant because he/they did not agree with the staff recommendation to impose an offsite public access easement on other parcels also owned by the applicant. A copy of the permit information probably resides in your records.

Item 2 - "Discrepancy" in Bluff Top Setback. Prior to the preparation of the tentative map, we first had our surveyors identify the location of the bluff top edge. This was done by taking approximately a dozen spot locations and plotting the result. We did not identify every location along the entire length of the bluff because it would have required substantial vegetation removal, and was in any event unnecessary for mapping the edge.

The project geologist was subsequently asked to identify the location of his recommended bluff setback line "on the ground." This was done through the placement of metal fence posts at various locations along the setback line. The line of posts was subsequently surveyed with the results plotted and shown on the tentative map. Various references to the width of the setback reflect various estimates of the distances between this line and the bluff edge line above. All of the descriptions, however, have referred to this same project setback feature, regardless of how it was described.

Mr. Johnson's letter to you (enclosed) indicates, in part, his opinion that you have not followed standard professional practices in determining your "worst case" bluff setback distance.

Your "determination" is then seen (by you) as a discrepancy with the setback line shown on the tentative map.

We have spoken with the applicants about your "perceptual" problem. They are willing to accept a minimum required setback distance equal to the larger: (i) eighteen (18) feet from the "bluff top edge," as it is shown on the tentative map; or (ii) the bluff setback line delineated by the geologist.

Item 3. See SHN letter, page 2.
Item 4. See SHN letter, page 2.
Item 5. See SHN letter, page 3, and Chad Roberts letter.

Please let me know if there is any other answers you may need to assist you in your efforts concerning this project.

Sincerely,

OSCAR LARSON & ASSOCIATES

Marty McClelland

Martin G. McClelland
Operations Manager

MGM:ikmy

Encl.

copy: Steve Moser (w/Encl.)
Brian and Cindi Hunt
Jim Baskin (w/Encl.)
John Feeney, Esq. (w/Encl.)

RECORD PACKET COPY

G.M. HASSEN
2975 FORTUNE STREET
McKINLEYVILLE, CA 95519
PHONE (707) 839-8241

May 20, 1997

California Coastal Commission
North Coast Area Office
45 Fremont, suite 2000
Attn: James Muth, Coastal Planner

RE: Sand Pointe Sub Division.

Dear Mr. Muth,

The response of the overwhelming majority of the appellants and concerned citizens and the logical answers of what should be the building regulations and requirements on this property is as follows, for the reasons following the list.

1. Lot size 2.5 acres.
2. Bluff set back 100 feet from edge.
3. Earth quake fault setback 50 Ft.
4. Wilber Ave. completed as originally intended.
5. No fenced or gated community.

The purpose for establishing each of the above, four, listed requirements can be one or all of the following reasons.

Most of these are or can be hazardous conditions.

FIRE HAZARD. With high density housing and strong winds, which are common to this area, a fire could sweep through the development from any direction and affect the neighboring areas before the fire department could be properly deployed.

AIRPORT SAFETY. There is no such thing as a secondary runway as indicated in the E.I.R.. Many of the commercial and private aircraft are just as loud as the Coast Guard helicopters (80 dB+) and they are not required to fly at or above 500 ft. over this area.

There are many birds and wild life some rare to the area that nest near by and constantly hunt the field. (Section 30240 P.R.C.).

BLUFF SETBACK. this area of the coast line is well known by the geologists & seismic geologists at Humboldt State University. All of whom I have spoken to, claim no structure should be built West of the freeway in this area. As stated in the Alquist-Priolo criteria, this is UNCONSOLIDATED SEDIMENTS & SAND. It is common knowledge to the people that regularly walked or boated the river bank, that there are several tiny streams coming out of the bluff that run year around. Visual inspection and logic tells me that this is one of the major causes of bluff failure and cave off of the bluffs above and away from the river, due to undermining and

washouts. These streams are evident from just North of School Rd. to the Vista Point. One property owner in Knots Cove had over 40 ft. (half of his back yard) drop away in the mater of a few seconds, in the night, about New Years eve. A French Drain will not solve this problem. The ocean wave action creating a new river bank can be seen in the attached photos. (20251 P.R.C.)(30250 - 30255 P.R.C.) (30240 - 30244 P.R.C.)(30230 - 30235 P.R.C.).

FAULT SETBACK. According to a Dr. of Seismic Geology and in plain English. A project on this property is Bad News. The Mad River Fault runs right through it and this is extremely unstable soil and if properly tested they would find more fishers on this property. **This is an active fault.**

LOCKED GATED AREA. This idea is in defiance of Public Access (Sections 30210 - 30123 P.R.C.) There is no public access to the beach, or trail or to the first public road. (Sections 30210 - 30213)(Sections 20251)&(SEC 30220 - 30224)

COMPLETE WILBER AVE. AS INTENDED. Wilber Ave. was not in the plans of the Sunset Subdivision but allegedly, with the instance of the, Now developer of the Sand Pointe Subdivision Steve Moser, was added to make a multiple access from the two sub divisions to Murray Rd. This access is a good idea and Mr. Moser should live up to his verbal contract.

EXTRAORDINARY PUBLIC BENEFITS ? There are none. The property that was to be donated is useless to the public.

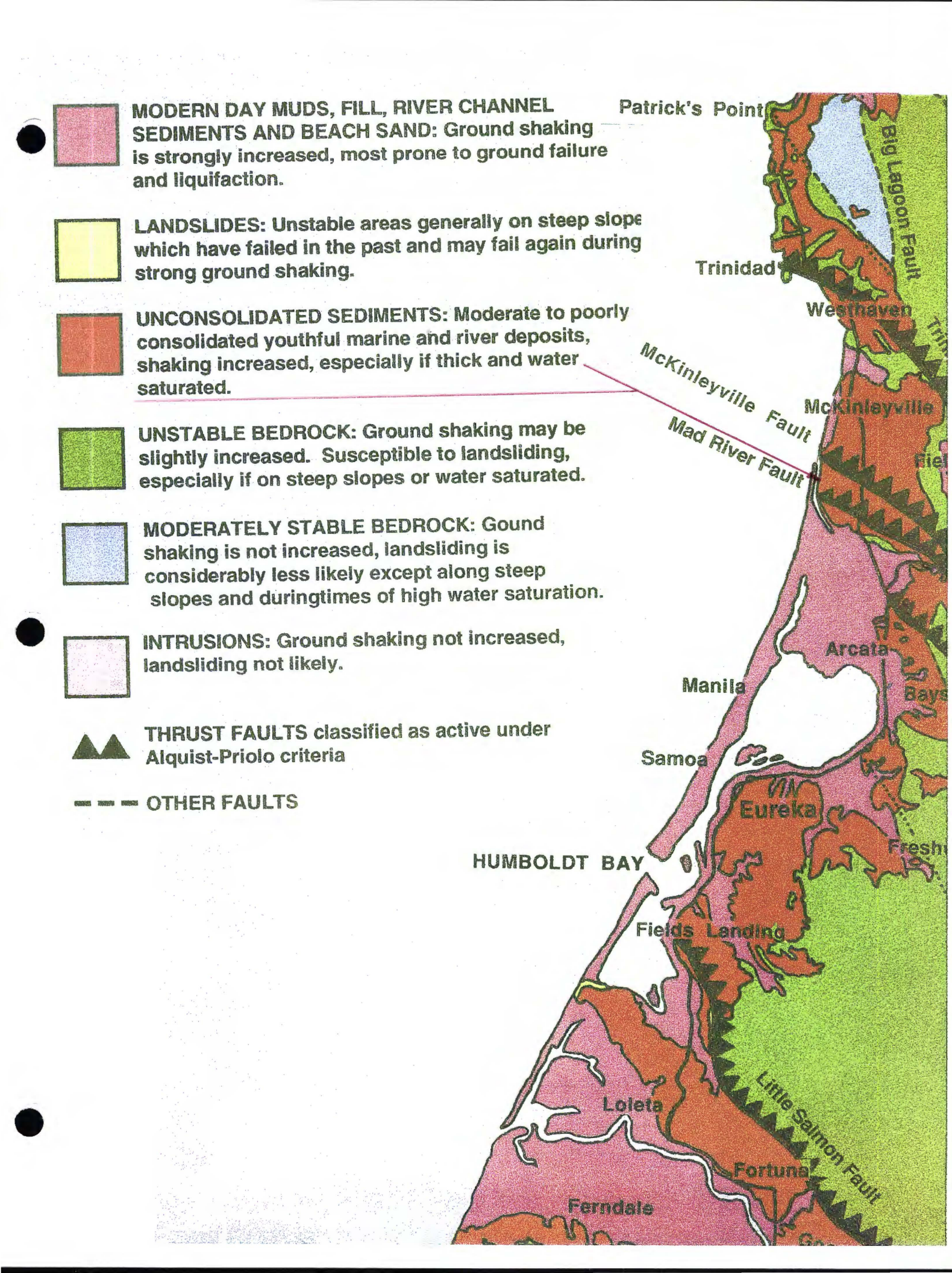
As I stated some of these comments will tie in with others.

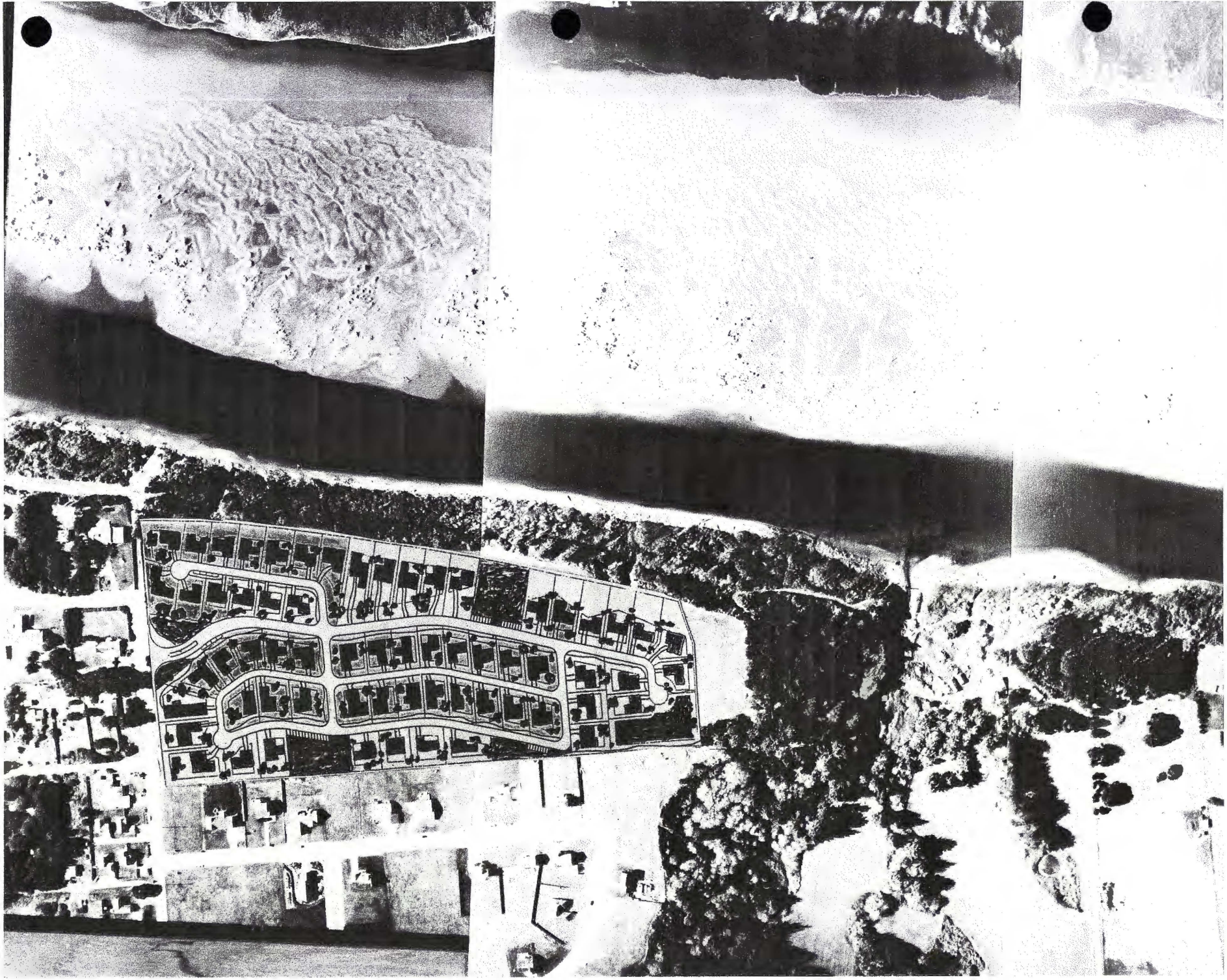
The added documents and photos. should be self explanatory.

Thank you for your patience and indulgence.

Galen M Hassen

Galen M. Hassen


MODERN DAY MUDS, FILL, RIVER CHANNEL SEDIMENTS AND BEACH SAND: Ground shaking is strongly increased, most prone to ground failure and liquifaction.
LANDSLIDES: Unstable areas generally on steep slope which have failed in the past and may fail again during strong ground shaking.
UNCONSOLIDATED SEDIMENTS: Moderate to poorly consolidated youthful marine and river deposits, shaking increased, especially if thick and water saturated.
UNSTABLE BEDROCK: Ground shaking may be slightly increased. Susceptible to landsliding, especially if on steep slopes or water saturated.
MODERATELY STABLE BEDROCK: Gound shaking is not increased, landsliding is considerably less likely except along steep slopes and duringtimes of high water saturation.
INTRUSIONS: Ground shaking not increased, landsliding not likely.
THRUST FAULTS classified as active under Alquist-Priolo criteria
OTHER FAULTS
Patrick's Point
Big Lagoon Fault
Trinidad
Westhaven
McKinleyville Fault
Mad River Fault
McKinleyville
Arcata
Manila
Samoa
Eureka
HUMBOLDT BAY
Fields Landing
Little Salmon Fault
Loleta
Fortuna
Ferndale



Wind can and does blow quite strongly from most all directions. Trees and shrubs lean toward the South. Again note bluff failure red lines showing proposed Extraordinary Public Benefits donation of 67.27 acres. You can also see the river bank erosion.

Tide going out. Note: Red arrows above Hammond Trail indicated point of bluff failure, tide going out. (washing by river and bluff failure).

Note: Paths and trails on property indicate public use.

Note: Tide action from the Ocean in the Mad River. This photo was made on 10/26/96. You can see visible changes in the bluff and river by comparing it to the rest of the prints, which were photographed on 04/09/97.

Visible erosion on Bluff above and below the Hammond Trail. You can see the water line, where the water was about two hour's earlier. The Hammond Trail is about 2/3 up the bluff. It is extremely hard to see but the Mad River Fault line can be seen at the low altitude oblique shots.

Erosion at Sand Pointe Subdivision site.

This is another Seismic fault line North of Sand Pointe Project. This one is located at the mouth of the Mad River. Note: the additional bluff erosion due to unstable soil, the Mad River and Ocean current.

Bluff failure and seismic fault North of Sand Pointe Project.

Close up of the other Seismic fault.

Erosion along east bank of The Mad River and Widow White Creek.

Erosion and bluff failure at Knotts Cove, one block south of Sand Pointe Project.

Bluff failure in back yards of Knotts Cove Subdivision. Undermining due to unstable soil.

Hammond Trail

Sand Pointe Project

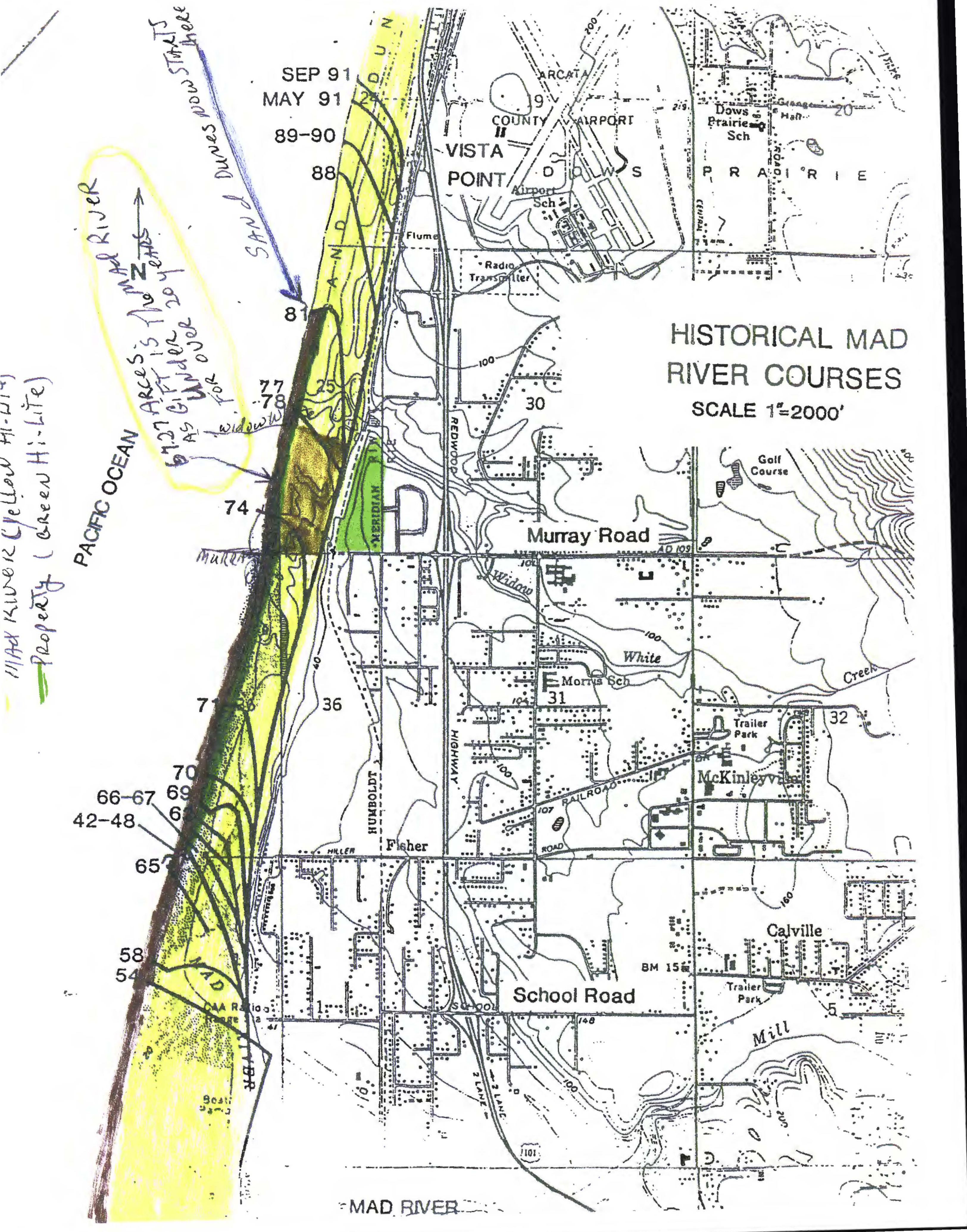
NOTE EROSION

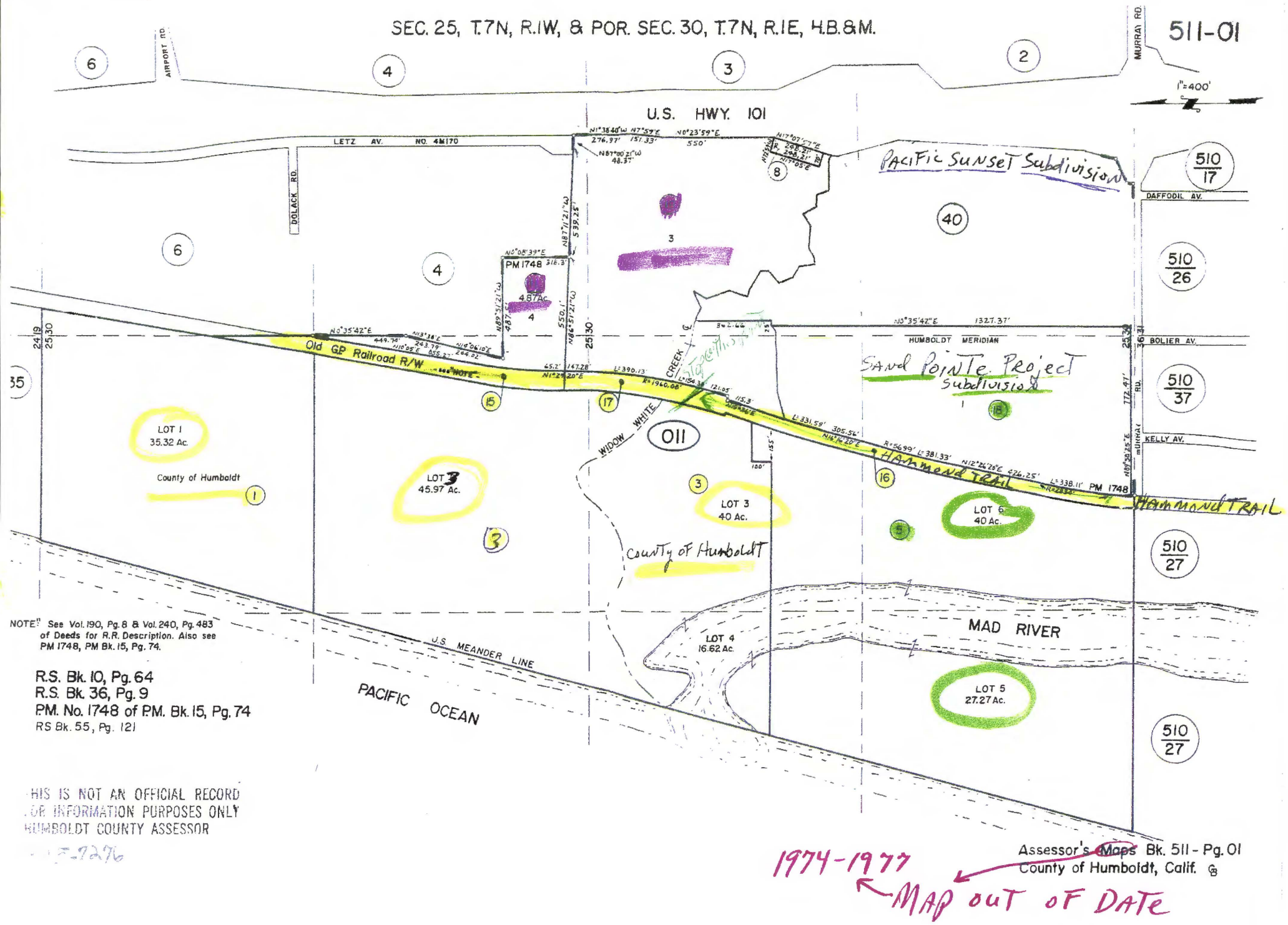
Hammond Trail

Fault line visible on cliff near the mouth of Mad River.

Sand Pointe Subdivision Project.

Knotts Cove Subdivision.


HISTORICAL MAD
RIVER COURSES
SCALE 1"=2000'
SEP 91
MAY 91
89-90
88
81
77
78
74
71
70
69
66-67
42-48
65
58
54
PACIFIC OCEAN
SAND DUNES
DOWS PRAIRIE
VISTA POINT
COUNTY AIRPORT
ARCATA
Airport Sch
Flume
Radio Transmitter
Dows Prairie Sch
Grange Hall
Murray Road
School Road
Golf Course
Trailer Park
McKinleyville
Morris Sch
White
Creek
Widow
RAILROAD
HUMBOLDT
MERIDIAN
REDWOOD
HIGHWAY
Fisher
HILLER
Calville
BM 158
Mill
MAD RIVER
CAA Radio Range
30
31
32
36
25
24
20
19
Mad River (yellow Hi-Lite)
Property (Green Hi-Lite)
Sand Dunes now starts here
1.27 acres is the Mad River as gift under 20 years for over
Widow White
Mullen



NOTE: See Vol. 190, Pg. 8 & Vol. 240, Pg. 483 of Deeds for R.R. Description. Also see PM 1748, PM Bk. 15, Pg. 74.

R.S. Bk. 10, Pg. 64
R.S. Bk. 36, Pg. 9
P.M. No. 1748 of P.M. Bk. 15, Pg. 74
RS Bk. 55, Pg. 121

1974-1977

Assessor's ~~Maps~~ Bk. 511 - Pg. 01
County of Humboldt, Calif.

MAP OUT OF DATE