

CALIFORNIA COASTAL COMMISSION

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Date Filed: March 19, 2008
49th Day: May 7, 2008
180th Day: September 15, 2008
Staff: Tiffany S. Tauber
Staff Report: June 27, 2008
Hearing Date: July 11, 2008
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: **1-08-006**

APPLICANT: Humboldt County Department of Public Works

PROJECT LOCATION: Along Scenic Drive, approximately two miles southeast of Trinidad, adjacent to Luffenholz Beach County Park at Post Mile 1.14, Humboldt County (APNs 515-102-04, 515-101-02; -06; -07).

PROJECT DESCRIPTION: Repair the existing slip-out failure along a 270-foot-long section of Scenic Drive by (1) excavating approximately 5,720 cubic yards of material from the 6,000 square-foot slip-out area, (2) installing an approximately 250'L x 150'W x 30'D stabilization trench with a subsurface drainage system, (3) installing a centralized, 94-foot-long, 18-inch-diameter downdrain, and (4) re-establishing a 20-foot-wide roadway surface and a 2-foot-wide shoulder.

LOCAL APPROVALS RECEIVED: None Required.

OTHER APPROVALS REQUIRED: None.

SUBSTANTIVE FILE DOCUMENTS: (1) “*Subsurface Investigation, Trinidad Scenic Drive, Vicinity PM 1.25*” dated July 1994 prepared by Taber Consultants, Engineers and Geologists.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve with conditions the coastal development permit application for the proposed road repair and reconstruction project along a 270-foot-long section of Scenic Drive, adjacent to Luffenholz Beach County Park, approximately two miles southeast of the City of Trinidad. The project site is located in an area of deferred certification and thus, the standard of review is the Coastal Act.

Scenic Drive is a public road located west of Highway 101 that provides access to several public beaches, trails, and facilities as well as to surrounding residential development. Winter storms in 2005-2006 caused soils to become saturated along this portion of Scenic Drive resulting in a large slip-out that caused a 270-foot-long, 20-foot-wide section of the roadway to subside four to five feet in depth. The existing asphalt pavement leading to the failure broke into numerous sections, making the roadway impassable to vehicles. The roadway has been closed to through traffic since the damage occurred.

The Humboldt County Department of Public Works (applicant) is proposing to repair the road failure by (1) excavating approximately 5,720 cubic yards of material from the 6,000 square-foot slip-out area, (2) installing an approximately 250'L x 150'W x 30'D stabilization trench with a subsurface drainage system, (3) installing a centralized, 94-foot-long, 18-inch-diameter down drain, and (4) re-establishing a 20-foot-wide roadway surface and a 2-foot-wide shoulder.

The upper (southern) parking area of Luffenholz Beach County Park would be temporarily closed during construction and used as a staging area. However, the proposed project would not result in significant adverse impacts to public access, as the park and the lower (northern) parking area where the beach access stairway is located would remain open for public use. The applicant estimates that the proposed project would take approximately 45 days (8-10 weeks) to complete.

The project area does not contain any environmentally sensitive habitat areas. The principle issues raised by the proposed project are geologic hazards and water quality. Staff believes that with the attachment of three special conditions, the proposed project would be consistent with the Coastal Act.

The project site encompasses a very steep westerly-facing slope approximately 90 feet above Luffenholz Beach and is subject to geologic hazards due to slope instability, fault

activity, and groundwater seepage. The applicant submitted a geologic report entitled “*Subsurface Investigation, Trinidad Scenic Drive, Vicinity PM 1.25*” prepared by Taber Consultants, Engineers and Geologists dated July 1994. Although the report was prepared in 1994 prior to the current slip-out failure, the road condition at the subject site has a history of similar failures and the conclusions and recommendations contained in the report remain applicable to the current conditions at the project site. The proposed road repair work involving excavation of a stabilization trench and installation of a series of drainage features is based on the recommendations contained in the Taber report.

Coastal Commission staff geologist, Dr. Mark Johnsson reviewed the proposed project and geologic report submitted by the applicant. Dr. Johnsson recommended several revisions to the project as originally proposed by the County, including installing the proposed downdrain below finished grade rather than along the surface of the slope, and installing an elbow energy dissipater at the outlet of the downdrain rather than a ¼ to ½ ton rock energy dissipater. The County incorporated Dr. Johnsson’s recommendations into the proposed project and submitted a revised set of design plans showing the changes to the downdrain. To ensure that the project is carried out consistent with the revised plans as proposed, staff recommends Special Condition No. 1, requiring that all project design and construction conform to the proposed design plans prepared by Humboldt County Department of Public Works dated March 11, 2008 and included as Exhibit No. 3.

To ensure the protection of coastal water quality and to minimize erosion, staff recommends Special Condition No. 2 that sets forth construction-related responsibilities and requires implementation of Best Management Practices (BMPs). These required BMPs include (a) installing a geoweb slope protection system, fiber rolls, and/or an erosion control blanket with weed-free straw as proposed to prevent the entrainment of sediment and the entry of polluted stormwater runoff into coastal waters, (b) disposing of any excess excavated material and construction debris resulting from construction activities at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit; (c) maintaining on-site vegetation to the maximum extent possible during construction activities; (d) limiting all grading activity to the dry season between April 15th and October 31st; (e) containing all on-site stockpiles of soil and construction debris at all times; and (f) replanting any disturbed areas with native vegetation following project completion as proposed.

Lastly, as the proposed development would be located in an area of high geologic hazard, staff recommends Special Condition No. 3 requiring the applicant to assume the risks of extraordinary erosion and geologic hazards of the property and waive any claim of liability on the part of the Commission. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards.

As conditioned, staff recommends that the Commission find that the project is consistent with the Chapter 3 policies of the Coastal Act.

The Motion to adopt the Staff Recommendation of Approval with Conditions is found on page 4 below.

STAFF NOTES:

1. Standard of Review

The proposed project is located in the Trinidad area of Humboldt County. Humboldt County has a certified LCP, but the subject property is located within an area of deferred certification. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

I. MOTION, STAFF RECOMMENDATION AND RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-08-006 pursuant to the staff recommendation.

Staff Recommendation Of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution To Approve the Permit:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the

environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See Attachment A.

III. SPECIAL CONDITIONS:

1. Conformance of the Project Design to Proposed Plans

- A. Project design and construction shall conform to the proposed design plans prepared by Humboldt County Department of Public Works dated March 11, 2008 and included as Exhibit No. 3, including the downdrain to be installed 1' below finished grade with a 90° elbow energy dissipater at its outlet.
- B. The permittee shall undertake development in accordance with the proposed project design plans. Any changes to the proposed project design plans shall be reported to the Executive Director. No changes to the proposed project design plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. Best Management Practices and Construction Responsibilities

The permittee shall comply with the following construction-related requirements:

- a. Fiber rolls, a geoweb slope protection system, and/or an erosion control blanket with weed-free straw shall be installed as proposed prior to, and maintained throughout, the construction period to contain runoff from construction areas, trap entrained sediment and other pollutants, and prevent discharge of sediment and pollutants to coastal waters;
- b. Any excess excavated material and construction debris resulting from construction activities shall be disposed of at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit;
- c. On-site vegetation shall be maintained to the maximum extent possible during construction activities;
- d. All grading activity shall be limited to the dry season between April 15th and October 31st;

- e. All on-site stockpiles of soil and construction debris shall be contained at all times; and
- f. Any disturbed areas shall be replanted with native vegetation immediately following project completion.
- g. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be employed or allowed to naturalize or persist at the site of the proposed development. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property.
- h. Rodenticides containing any anticoagulant compounds, including but not limited to, Bromadiolone, Brodifacoum, or Diphacinone, shall not be used.

3. Assumption of Risk, Waiver of Liability and Indemnity

By acceptance of this permit, the applicant/landowners acknowledge and agree: (i) that the site may be subject to hazards from coastal erosion hazards, such as waves, storm waves, and flooding; or landslide, bluff retreat, erosion, and earth movement; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

1. Site Description

The proposed project is located along Scenic Drive adjacent to Luffenholz Beach County Park approximately two miles southeast of the City of Trinidad (Post Mile 1.14). Scenic Drive, a public road located west of Highway 101, is approximately three miles long and extends from the mouth of Little River north to the City of Trinidad. The road is maintained by the Humboldt County Department of Public Works and provides access to several public beaches, trails, and facilities as well as to surrounding residential

development. The project site is located in an area of deferred certification and thus, the standard of review is the Coastal Act. (See Exhibits 1 & 2.)

Scenic Drive at the subject location is a one-lane, paved road descending northerly on a gentle grade across a very steep westerly-facing slope approximately 90 feet above Luffenholz Beach and 30 feet below the margin of a flatter slope extending easterly. Luffenholz Beach County Park includes two parking areas along Scenic Drive; an upper (southern) parking area located directly adjacent to the project site and a lower (northern) parking area located above a steeply descending staircase that leads to the beach.

Winter storm events in late 2005 and early 2006 caused soils to become saturated along this portion of Scenic Drive resulting in a large slip-out that caused a 270-foot-long, 20-foot-wide section of the roadway to subside four to five feet in depth. The existing asphalt pavement leading to the failure broke into numerous sections, making the roadway impassable to vehicles. The roadway has been closed to all traffic since the damage occurred causing a hardship for local residential and visitor traffic. Concrete barricades are currently located at each end of the project site.

Vegetation along the road embankment is dominated by invasive plant species including Himalayan blackberry, English ivy, and Pampas grass. The project area has a history of slumping and slip-outs due to oversaturation of the hillside, which has made conditions difficult for vegetation and trees to take hold and grow to maturation.

The project area does not contain any environmentally sensitive habitat areas. The California Natural Diversity Database (CNDDB) indicates that the federal and state listed plant, *beach layia*, and *Wolf's evening-primrose* (CNPS List 1B) may occur within the project area. Mr. David Imper, a plant ecologist with the U.S. Fish and Wildlife Service, visited the project site in January 2008 to assess species presence and suitable habitat for the two special status plants. It was determined that no suitable habitat for *beach layia* was identified at the project site and that there would be no impact to *Wolf's evening primrose* from the proposed project.

2. Project Description

The proposed project involves repairing the existing slip-out along a 270-foot-long section of Scenic Drive by installing a stabilization trench with subsurface drainage facilities and reconstructing the roadway to its original dimensions. Approximately 5,720 cubic yards of material would be excavated from the approximately 6,000 square-foot slip-out area. Excavated material determined to be suitable for reuse as fill would be stockpiled onsite and any remaining excavated material would be transported to an approved disposal facility.

The proposed stabilization trench is approximately 250 feet long, 150 feet wide, and 30 feet deep with a 1:2 slope along the embankment. The drainage improvements proposed

to be installed within the stabilization trench include (1) a finger subdrain near the roadway and upslope embankment area, (2) a transverse subdrain along the downslope embankment, and (3) a lateral subdrain near the bottom of the trench. Approximately 545 feet of 8-inch perforated pipe would be used throughout the drainage system. A total of 2,300 square yards of filter fabric would line the bottom of the trench. Additionally, a centralized, 94-foot-long, 18-inch-diameter downdrain would be installed one foot below finished ground to convey stormwater runoff from the roadway down the embankment. A 90° elbow energy dissipater would be installed at the outlet of the downdrain.

Approximately 4,480 square yards of geogrid would be used to reinforce the reconstructed embankment. Finally, a 20-foot-wide roadway surface and a 2-foot-wide shoulder would be re-established with 110 cubic yards of Class 3 aggregate base and 90 tons of asphalt concrete.

No large, mature trees would be removed as a result of the project. Several trees less than 6-inches dbh would be removed along with the ground cover in the area to be excavated, which consists primarily of invasive weedy plant species. The applicant proposes to implement erosion control measures including a geoweb slope protection system, fiber rolls, and/or an erosion control blanket with weed-free straw. In addition, the applicant indicates that the contractor would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for all areas of ground disturbance.

As noted above, Scenic Drive in the project location is currently closed and would remain closed, with the existing concrete barricades in place, during construction activities. The upper (southern) parking area of Luffenholz Beach County Park will be temporarily closed during construction and used as a staging area. The park and the lower (northern) parking area where the beach access stairway is located would remain open for public use. Proper signage and safety measures would be used to keep visitors away from the construction area and direct the public to open park facilities and trails.

The applicant estimates that the proposed project would take approximately 45 days (8-10 weeks) to complete.

3. Geologic Stability

Coastal Act Policies:

Section 30253 states in applicable part:

New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs...

The project site encompasses a very steep westerly-facing slope approximately 90 feet above Luffenholz Beach and is subject to geologic hazards due to slope instability, fault activity, and groundwater seepage.

The applicant submitted a geologic report entitled “*Subsurface Investigation, Trinidad Scenic Drive, Vicinity PM 1.25*” prepared by Taber Consultants, Engineers and Geologists dated July 1994. (See Exhibit 4.) The stated purpose of the study is to “provide earth materials criteria for planning and design of remedial work at this roadway-slope distress location.” The County notes that although the report was prepared in 1994 prior to the current slip-out failure, the road condition at this location has a history of similar failures - hence the reason the Taber report was prepared - and that the conclusions and recommendations contained in the report remain applicable to the current conditions at the project site.

Based on the subsurface investigation conducted by Taber, the report concludes that the underlying basic cause of slope events, similar to the current slip-out failure, is slope over-steepening from toe-of-slope erosion by undercutting wave action in areas of weak rock materials. The proximate cause of such distress is storm-induced seepage-pressure surcharge-loading, creating a hydraulically over-steepened slope of surficial earth materials. The report further concludes that contributory causes of instability may include disrupted subsurface drainage patterns from faulting, mechanical defects in the rock, and seepage surcharge-loading from upslope irrigation/septic systems.

The Taber report sets forth several recommendations and objectives for remedial work in the project area based on the geologic characteristics of the site. Specifically, the report recommends installing a subsurface, trenched drainage system to control surface drainage on-slope and along the roadway to reduce storm infiltration of fragile slopes and to provide relief for out of slope seepage. The proposed road repair work involving excavation of a stabilization trench and installation of a series of subgrade drainage features is based on the recommendations contained in the Taber report.

Coastal Commission staff geologist, Dr. Mark Johnsson, reviewed the proposed project and Taber report submitted by the applicant. Dr. Johnsson recommended several revisions to the project as originally proposed by the County, including installing the proposed downdrain below finished grade rather than along the surface of the slope, and installing an elbow energy dissipater at the outlet of the downdrain rather than a ¼ to ½ ton rock energy dissipater. The County incorporated Dr. Johnsson’s recommendations into the proposed project and submitted a revised set of design plans showing the changes to the downdrain. To ensure that the project is carried out consistent with the revised

plans as proposed, the Commission attaches Special Condition No. 1, which requires that project design and construction conform to the proposed design plans prepared by Humboldt County Department of Public Works dated March 11, 2008 and included as Exhibit No. 3.

Additionally, as discussed in detail in Finding #4 below, the Commission imposes Special Condition No. 2 that sets forth construction-related responsibilities and requires implementation of Best Management Practices (BMPs) including, in part, (1) installing a geoweb slope protection system, fiber rolls, and/or an erosion control blanket with weed-free straw, (2) maintaining on-site vegetation to the maximum extent possible during construction activities, and (3) replanting any disturbed areas with native vegetation immediately following project completion. The implementation of these types of Best Management Practices (BMPs) would result in the interception and containment of sediment during the construction of the project, reduce potential erosion prior to the full establishment of permanent vegetation on the exposed slope, and minimize geologic instability.

Notwithstanding the relative degree of insulation of the proposed project as designed from geologic hazards, the applicant is proposing to construct development that would be located on a steep slope that is actively eroding and has a history of episodic failures. Consequently, the development would be located in an area of high geologic hazard. Therefore, Special Condition No. 3 requires the applicant to assume the risks of extraordinary erosion and geologic hazards of the property and waive any claim of liability on the part of the Commission. Given that the applicant has chosen to implement the project despite these risks, the applicant must assume the risks. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards.

The Commission thus finds that the proposed development, as conditioned, is consistent with the policies of the Coastal Act regarding geologic hazards, including Coastal Act Sections 30235 and 30253, since the development as conditioned (1) will not contribute significantly to the creation of any geologic hazards, and (2) will not have adverse impacts on the stability of the coastal bluff or on erosion.

4. Protection of Water Quality

Section 30230 of the Coastal Act states, in applicable part:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will

maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Discussion

Coastal Act Sections 30230 and 30231 protect the biological productivity and quality of coastal waters, streams, and wetlands through, among other means, controlling runoff and maintaining natural vegetation.

As described above, the proposed project involves repairing and reconstructing a failed section of the roadway along Scenic Drive. Scenic Drive at the subject location is situated approximately 90 feet above Luffenholz Beach. Storm water runoff in the project area generally flows down the embankment toward the beach. As the proposed project involves a significant amount of grading and ground disturbance (5,720 cubic yards of material will be excavated from the approximately 6,000 square-foot slip-out area), potential adverse impacts to coastal water quality could occur in the form of increased turbidity from erosion and sedimentation.

Sediment and other pollutants entrained in runoff from the development that reaches the beach and ocean would contribute to degradation of the quality of marine waters and any intervening sensitive habitat. Sediment is considered a pollutant that affects visibility through the water, and affects plant productivity, animal behavior (such as foraging) and reproduction, and the ability of animals to obtain adequate oxygen from the water. Sediments may physically alter or reduce the amount of habitat available in a watercourse by replacing the pre-existing habitat structure with a stream-bottom habitat composed of substrate materials unsuitable for the pre-existing aquatic community. In addition, sediment is the medium by which many other pollutants are delivered to aquatic environments, as many pollutants are chemically or physically associated with these sediment particles.

To avoid such impacts, the applicant proposes to implement general erosion control measures during construction including the use of a geoweb slope protection system, fiber rolls, and/or an erosion control blanket with weed-free straw. The implementation

of these types of Best Management Practices (BMPs) would result in the interception and containment of sediment during the construction of the project and would also reduce potential erosion prior to the full establishment of permanent vegetation on the exposed embankment. The applicant also proposes that immediately after project completion, all disturbed ground will be seeded with a mix of fast-growing native grasses such as Cucamonga brome (*Bromus carinatus*), three-weeks fescue (*Vulpia microstachys*), and tomcat clover (*Trifolium wildenovii*) and mulched with 2-inches of weed-free straw. In addition, the applicant indicates that the contractor will be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for all areas of ground disturbance.

To ensure that Best Management Practices (BMPs) are implemented during the project, the Commission imposes Special Condition No. 2 that sets forth construction-related responsibilities. These required BMPs include (a) installing a geoweb slope protection system, fiber rolls, and/or an erosion control blanket with weed-free straw as proposed to prevent the entrainment of sediment and the entry of polluted stormwater runoff into coastal waters, (b) disposing of any excess excavated material and construction debris resulting from construction activities at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit; (c) maintaining on-site vegetation to the maximum extent possible during construction activities; (d) limiting all grading activity to the dry season between April 15th and October 31st; (e) containing all on-site stockpiles of soil and construction debris at all times; and (f) replanting any disturbed areas with native vegetation immediately following project completion as proposed.

Therefore, as conditioned, the Commission finds that the biological productivity and quality of coastal waters will be maintained and the project, as conditioned, is consistent with Sections 30230 and 30231 of the Coastal Act.

5. Public Access

Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 of the Coastal Act requires that access from the nearest public roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area. In applying Sections 30210, 30211, 30212, and 30214 of the Coastal Act, the Commission is also limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a

permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on public access.

The proposed project is located along Scenic Drive adjacent to Luffenholz Beach County Park. Scenic Drive provides access to several public beaches, trails, and facilities along its approximately three mile stretch west of Highway 101 and provides an important public access connection to the City of Trinidad. Scenic Drive has been closed to through traffic since the slip-out occurred in the winter of 2005-2006. The proposed project would repair and reconstruct the failed roadway and thus, would facilitate public access to and along this stretch of coast.

The project will not have significant adverse impacts on public access. As described above, Luffenholz Beach County Park includes two parking areas along Scenic Drive; an upper parking area located directly adjacent to the project site and a lower parking area located above a steeply descending staircase that leads to the beach. The upper (southern) parking area of Luffenholz Beach County Park will be temporarily closed during construction and used as a construction materials stockpiling and equipment staging area. However, the park and the lower (northern) parking area where the beach access stairway is located will remain open for public use. Proper signage and safety measures will be used to keep visitors away from the construction area and direct the public to open park facilities and trails. Moreover, the proposed project would not create any new demand for public access or otherwise create any other burdens on public access.

Therefore, the Commission finds that the proposed project does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

6. California Environmental Quality Act

The County determined that the proposed project is exempt from CEQA review pursuant to Section 15301 (Existing Facilities) and Section 15304 (Minor Alterations to Land) and prepared a Notice of Exemption accordingly.

Section 13096 of the Commission's administrative regulations requires Commission approval of a coastal development permit application to be supported by findings showing that the application, as modified by any conditions of approval, is consistent with any applicable requirement of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment. The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project

has been conditioned to be found consistent with the policies of the Coastal Act. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. Mitigation measures that will minimize or avoid all significant adverse environmental impact have been required. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

EXHIBITS:

1. Regional Location Map
2. Vicinity Map
3. Project Plans
4. Excerpts of Geological Report

ATTACHMENT A

STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

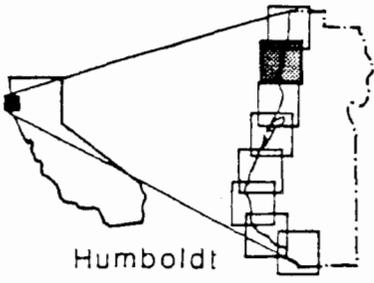
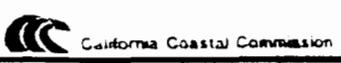
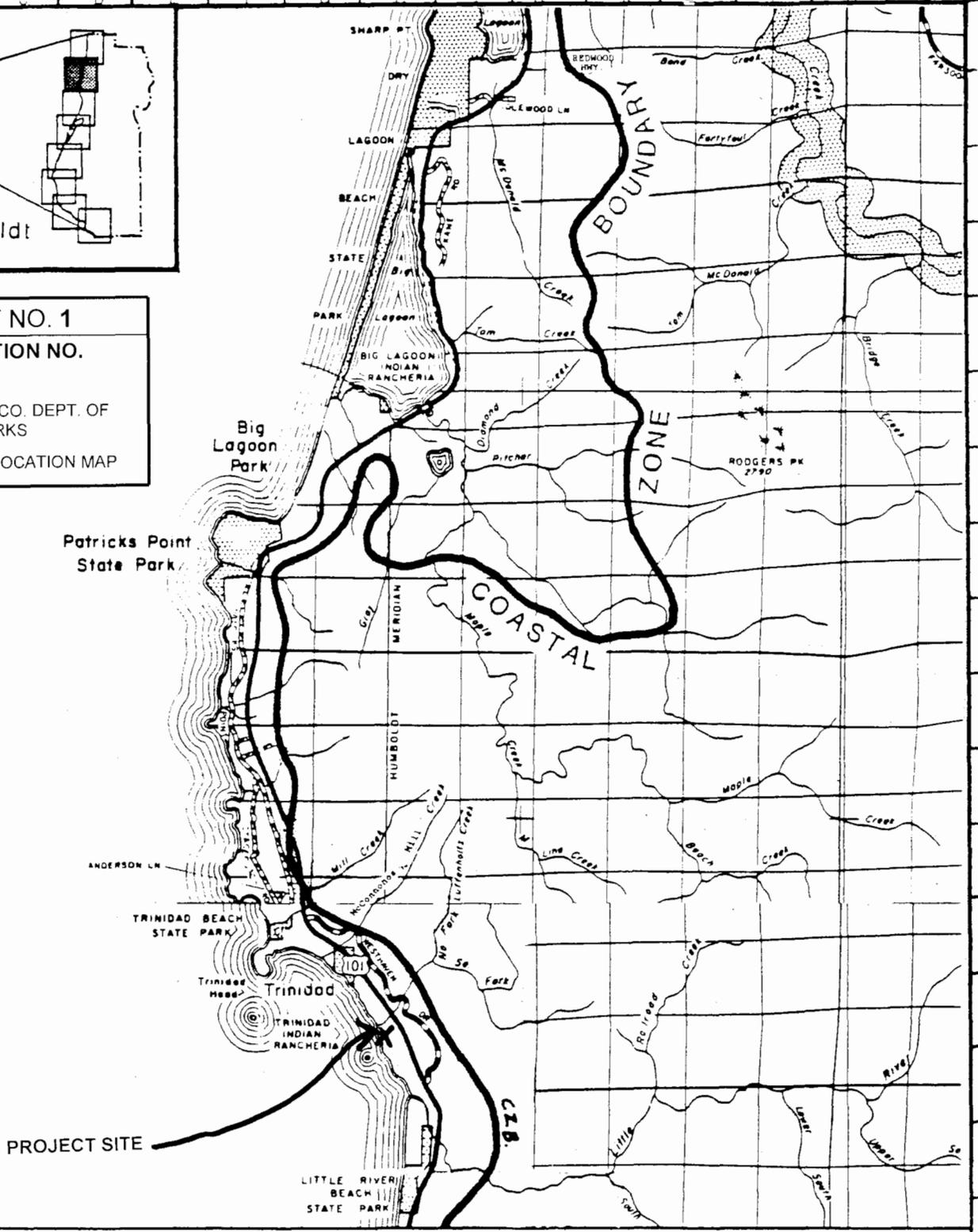


EXHIBIT NO. 1
APPLICATION NO.
 1-08-006
 HUMBOLDT CO. DEPT. OF
 PUBLIC WORKS
 REGIONAL LOCATION MAP



LOCATION MAP

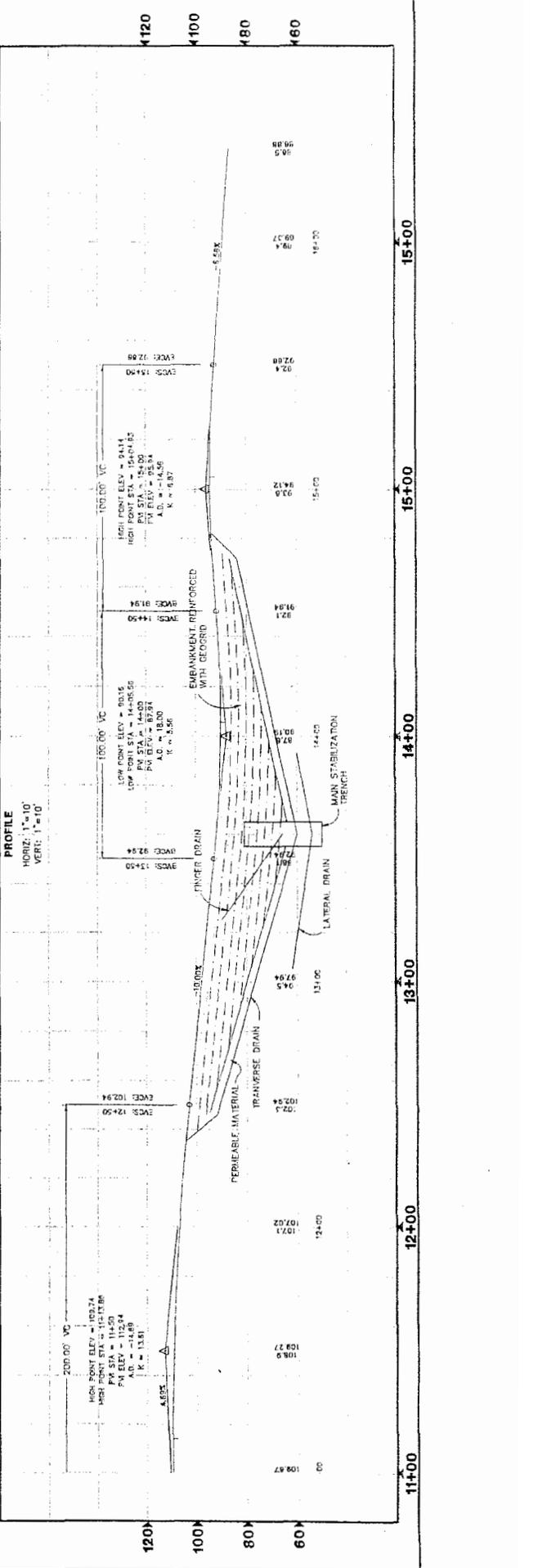
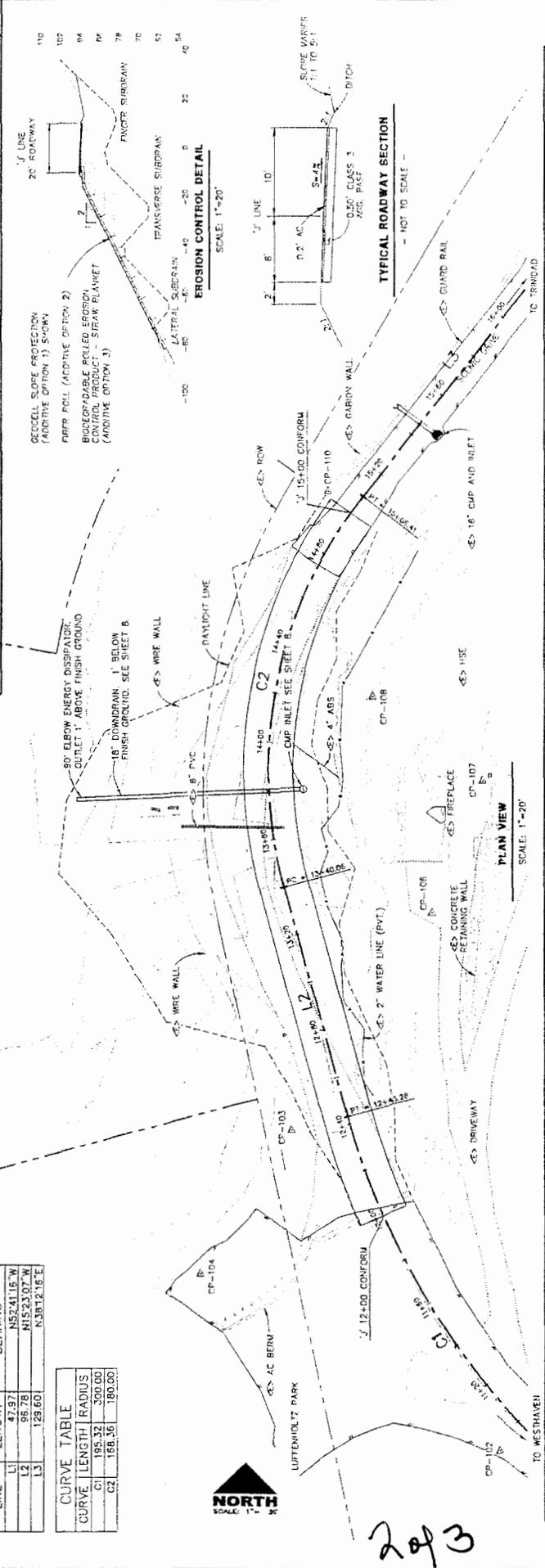


County of Humboldt

PRELIMINARY
NOT FOR CONSTRUCTION

LINE	LENGTH	BEARING
L1	47.97	N52°41'15" W
L2	95.78	N15°23'07" W
L3	123.60	N38°12'15" E

CURVE	LENGTH	RADIUS
C1	195.32	300.00
C2	168.36	180.00



2 of 3



536 Galveston Street
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SUBSURFACE INVESTIGATION

Trinidad Scenic Drive

Vicinity PM 1.25

4M310

Humboldt County, California

(41124-A1:148N:328W)

1P1/393/85-2

June, 1994

EXHIBIT NO. 4

APPLICATION NO.

1-08-006

HUMBOLDT CO. DEPT. OF
PUBLIC WORKS

EXCERPTS OF GEOLOGICAL
REPORT (1 of 10)

*Taber Consultants
Engineers and Geologists*



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slotted PVC pipe was inserted to depth 59 ft; fully-recovered, stabilized water levels were not measured. It is notable that the one boring (B-5) augered into rock encountered free water at the subsequently measured level--and near rock surface.

The indicated water levels are also consistent with the observed out-of-slope seepage (generally along subjacent slopes at/below elev. 70). Groundwater flow within the underlying rock unit is expected to be highly-variable; typically very limited, but likely locally significant along planes of weakness (shear zones, bedding/fracture planes, etc). The overlying terrace materials are considered relatively permeable and groundwater flow within this unit is likely rapid; seasonal saturation of these materials could be expected. The buildup of seepage pressures along the interface of the terrace and rock units, and at the interfaces of individual slide blocks, is considered probable during the wet season and a major factor in both overall and local slope instability. Direct influence of Trinidad Fault on the groundwater regime in the immediate vicinity is not clear, but disrupted and/or impaired drainage patterns as a result of faulting would not be unexpected.

Conclusions and Discussion

Based on the foregoing, it is concluded that the underlying basic cause of current slope events is (physical) slope over-steepening from toe-of-slope erosion by undercutting wave action in areas of weak rock materials; that the proximate cause of

current distress is storm-induced seepage-pressure surcharge-loading, creating an (hydraulically) over-steepened slope of surficial earth materials. Contributory causes of instability may include disrupted subsurface drainage patterns from faulting, mechanical defects in the rock and seepage surcharge-loading from upslope irrigation/septic systems.

An ultimate objective of remedial work could be a functional equivalent of the original roadway in terms of geometry and serviceability; it appears likely that to approach such an objective, extensive off-site work would be required and there would be direct involvement of existing improvements. The objective of an intermediate level of remedial work could be to maintain an improved approximation of the existing roadway at a substantially higher level of serviceability; such work would require extensive grading and subdrainage of the slope below the roadway--with significant construction period risk to upslope improvements, and would be susceptible to loss, damage or loss of function by off-site events. An objective of a "lower-end" level work would be to provide "minimal" roadway service---that is, a facility much the same as the existing, but with reduced probability of severance by sudden slope movements; such work is consistent with amelioration of the slope conditions most directly and clearly related to storm-effects, and with goals of the work being essentially within County right-of-way/ property without degradation of upslope conditions.

A functional equivalent of the original roadway is not considered reasonably-achievable on the existing roadway location. Retreat from the sea cliff is visualized to obtain isolation from on-going beach erosion and the most active part of the overall slope, and to provide for stabilizing construction both below and above roadway. Stabilization work would be visualized as likely to include deep, drained fill(s) buttressing both the roadway area and the area upslope from the roadway; construction period stabilization of the slope above remedial excavation could include a complex, extensive subdrainage system. Suitability of such work would be dependent in part on consistency with serviceability levels achievable on other adjacent/connecting portions of the route. Planning and design of such work should also be supported by extensive additional geotechnical exploration and evaluation.

An intermediate level of work would be directed toward achieving appropriate slope stability below the roadway consistent with a wider traffic-way and reduced maintenance for improved service at a high level of reliability with respect to subjacent slope conditions---and to improve upslope stability as possible without encroachment. Deep, drained buttress fills are visualized; the fills would of geometric-necessity encroach on the strand, and slope protection would be an essential element of embankment toes. In reduction of risks associated with upslope stability during construction (i.e., the buttress excavation backslopes), either a lower projected service level associated with limited extent of buttress/on slope work could be considered or a

complex subdrainage and/or grading scheme for backslope stability would be needed. The work would in any event be susceptible to significant damage or loss if slide-blocks upslope and east of roadway were activated; insufficient data is available to assess the probabilities of upslope activation. Justification of the level of this work might also well be linked with serviceability of other portions of the route.

"Lower-end" level of work would be closely-restricted to the current activity-areas impinging on roadway. At the northerly location it could be directed toward a "stiffening" of the most fragile portion of slope by means of limited subdrainage, slope trimming, surface drainage, select materials placement and nominal-dimension load-distribution elements. At the southerly site, reflecting apparent slide-block coherence and extent of roadway involvement, a comparable level of work would be expected to be levelling of a restricted roadway-width with load distribution elements and, possibly some subdrainage. This level of work anticipates significant subsequent roadway-site distortions; remedial elements must accommodate these without a loss of function which would contribute to stability degradation.

The following is basic to the foregoing discussion: The entire slope is likely "active"---albeit at different levels of activity; stability conditions at the roadway cannot be isolated from stability of the entire slope, and structural resolutions of roadway service deficiencies would be subject to extremely large earth loads and/or displacements. The slopes immediately above (particularly on the north) and below the

sites are demonstrably barely stable (at least seasonally), and essentially any incremental effective loading on-slope--i.e., cuts, fills, etc--would be adverse; walls or retention structures, etc with direct bearing loads exceeding effective-slope-load relief that can be achieved (by grading, subdrainage, etc.) would not be expected to have significant useful life.

Recommendations

Within perceived project criteria, the "lower-end"--or similar--work discussed above appears to be appropriate. The recommendations following are generally in order of perceived importance; modification or extension thereof is not precluded; supplemental recommendations are available and expected upon modification or further definition of goals. Figure-4, attached, graphically illustrates portions of recommendations below.

At the north site, a trenched drain down the axis of the active area is recommended; this drain is to serve to strengthen these materials and to provide relief for out of slope seepage. Dimensions and configuration have at least some flexibility within the objectives of penetrating to "stable" surface along the drain and minimizing backslope stability exposure.

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As shown, the head of trench (backslope) would reach the inner gutter at road level on a 1:1 slope. Trench construction is visualized as proceeding from the outlet upslope; the initial segment graded to drain and moving in to "stable" materials and thence following that surface to base of, say 1:1 trench-end backslope to gutter. Exposed conditions and slope monitoring above roadway might emergently dictate a flatter slope; or conversely, good conditions might allow slope-steepening or expansion of subdrain members.

The main drain-member should have substantial cross-section as shown, to maintain physical and hydraulic integrity with projected future slope (and drain) distortion; to a similar end, a flexible perforated pipe within the permeable materials drain should be laid out in "S" curves. Starting the trench at elevation $40\pm$ appears to provide reasonable opportunity for significant part of the drain to be on the slide-to-"stable"-material interface; a lower starting level would be incrementally advantageous. Discharge of the subdrain should be via solid pipe to well below end of subdrain.

Enhancement of the effectiveness of the axial subdrain could be achieved by back-hoe "finger-drains" herringboned from the trench and desirably intersecting the slide-"stable" materials interface. The sketch shows two pairs of such drains; emergent conditions could well suggest the suitability of additional drains, change in orientation, length, etc. Trench excavation side-slopes are shown at 1:1 as likely reasonably stable. All permeable material should be fully-wrapped in filter fabric; "finger"-drain perforated

pipes should have connections to axial pipe allowing for relative movement without rupture.

A trim and drain-backfill slope from toe to edge of roadway should not exceed 1.5:1. Backfill materials should be appropriately compacted, the uppermost 3+ft "earthy" to reduce surface infiltration. With such a cover, consideration might be given backfill consisting of lightweight materials--such as expanded shale, hardwood chips, etc--in reduction of slope loading. All excess material should be removed from the site and safely disposed of.

At both sites, roadway edge and subgrade reinforcement is recommended to distribute loads imposed by slope distortions; with at least some relief of slope driving forces and improvement of trafficway profile-surface variability. Suggested reinforcement areas are Stas. 0+60± to 1+30±, and 3+00± to 4+30± (as shown on plan sketch). For edge of re-established roadway at or close to existing, a section as shown on Figure-4 appears reasonable and limits added slope-loading. The reinforced section as shown would consist of 3±ft depth of roadbed material with at least 3 layers of reinforcement across the roadway supported at the outer edge by, and integrally tied to, a 3± x 3±ft aggregate filled "gabion"-type unit--"Hilfiker"-type units are expected to be available for both parts of this construction.

Control of surface drainage on-slope and along the roadway is important to reduce storm-infiltration of fragile slopes. As above, slope trimming would accompany

backfill of the axial subdrain at the northerly site; at the southerly site, whatever slope irregularity and potential ponding area reduction is feasible would be recommended. Roadway reinforcement will assist in roadway drainage control by ameliorating road surface slope changes with site distortion. At the southerly site, maintaining cross-slope drainage to the inner gutter appears feasible. At the northerly site, to account for expected cross-slope and gutter line sags, a closed pipe through the reinforced section at inner gutter is suggested; an alternative could be a flexibly-mounted overside drain at the axis of the sag.

* * * * *

Additional or other items of beneficial work could be considered at this service level. Placement of heavy RSP at beach level, keyed into extensively-exposed shale and extending up the re-shaped slope would slow the rate of trimmed slope undercutting from wave action, with enhanced security for edge-of-road support dependent on downslope stability. Subdrainage elements such as horizontal drains, drainage wells, etc limited to the goal of reducing seepage pressures within/between slide blocks (all above basal sliding surface) could have positive effect. Structural options such as framed shallow soldier-pile bents for support of low bulkheading or roadway decking--with the system being capable of substantial distortion without loss of system integrity--could also be considered.

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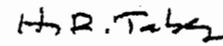
Supplemental discussion, comment and recommendations are available. An opportunity to review and comment upon plans and specifications for the work insofar as they rely upon this study and to make supplemental recommendations as appropriate is a condition of this report. Field review of construction exposures by the engineering geologist is a condition of recommendations.

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Attachments:

- Figure-1 "General Conditions"
- Figure-2 "Geologic Features"
- Figure-3 "Cross Section A-A"
- Figure-3 "Cross Section B-B"
- Figure-4 "Sketches of Remedial Work"

- "Log of Test Borings" (2 Sheets)

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