



**FINDINGS OF FACT
STAFF REPORT**

Date: March 20, 2007 OPRD Coastal Land Use Coordinator: Tony Stein

OPRD File Number: BA-616-07 County: Clatsop Applicants: City of Cannon Beach,
Richard Mays

Project Location: Between Nazina Street and Nenana Street, Cannon Beach
Clatsop County Assessor's Map #5N-10W-31 AA, tax lots 500, 700, 1000, 1100,
1200, 1300, 1400 and 1500.

Background: The project has been proposed by the City of Cannon Beach to address an active rotational slide named the "S-Curves Slide", which has experienced intermittent movements on an annual basis. According to the Geologist's report (Horning Geosciences), two factors that have contributed to the slide movement: 1) During the winter of 1997 and 1998, significant beach erosion occurred and up to 6 feet of sand was stripped away below the landslide area. This erosion event reduced the counter balancing mass of beach sand at the toe of the slope below the "S-Curves"; and 2) groundwater saturation has also contributed to slope failure by weakening the soils and weathered siltstone bedrock in the S-Curves area. An investigation by Geotech Solutions, Inc. (2003) reported that the groundwater table stands at 40 feet below the surface just down slope from the S-Curves, and can rise as much as 15 to 20 feet during and soon after heavy rains, to elevations of about 65 to 70 feet.

Brief Project Description: The proposed project involves the placement of a horizontal drain system consisting of approximately twelve 1 ½" diameter drain pipes drilled into the ocean bluff and hillside to dewater the "S-Curves Slide" area. The 12 pipes will extend west of the existing line of vegetation with approximately one foot of exposure. The pilot project proposes to reduce groundwater levels that will result in a reduction in the magnitude of slope movement. A track mounted drill rig will bore 4-inch holes perpendicular to the bluff face using rotary drilling techniques to install the 1.5 inch metal pipes. (For detailed specifications, see engineered drawings in the file.)

ADMINISTRATIVE RULE STANDARDS AND RELEVANT FACTS

I. GENERAL STANDARDS, OAR 736-020-0010

Project Need – There shall be adequate justification for a project to occur on and alter the ocean shore area.

Monitoring results from the pilot project may provide a long-term solution to reduce slope movement on the historic slide area referred to as the “S-Curves Slide”. The proposed repair method is a pilot project to help determine the effect of dewatering the hill slope and stabilizing the slide area. A geotechnical study conducted by Geotech Solutions in 2003 analyzed the effect that changes in groundwater elevation has on the slide movement and has determined that if ground water elevations can be reduced during the wet season, slope movement will be minimized. The area above the “S-Curve” consists of residential lots and the Hemlock Street right of way. Hemlock Street is the main road connecting the north and south sections of Cannon Beach. In the event of a road closure due to continued slope movement, the only detour would be Hwy 101.

A finding of project need follows the review of all other applicable standards and is included in the findings summary at the end of this report.

Protection of Public Rights – Public ownership of or use easement rights on the ocean shore shall be adequately protected.

The proposed project will not affect public ownership or use easement rights on the ocean shore.

Public Laws – The applicant shall comply with federal, state, and local laws and regulations affecting the project.

State of Oregon regulations are being addressed under the review of this permit. The City of Cannon Beach has indicated that the project has been reviewed and is consistent with the local comprehensive plan and zoning ordinance.

Alterations and Project Modifications – There are no reasonable alternatives to the proposed activity or project modifications that would better protect the public rights, reduce or eliminate the detrimental affects on the ocean shore, or avoid long-term cost to the public.

The primary purpose of the overall project is to implement a pilot drain system to study the effects of reducing slope movement by installing horizontal drain pipes into the hill slope. Information gathered will be used to determine future additional horizontal drainage needs. Other alternatives included relocation of the road and stabilizing the toe of the bluff slope. This proposed action will provide the most cost effective solution to address the slope failure issue and minimally alters the ocean shore. The project will result in no changes to the bluff profile and the addition of drain pipes, however, this is not expected to create any detrimental affects on the ocean shore, or long-term public costs.

Public Costs – There are no reasonable special measures, which might reduce or eliminate significant public costs. Prior to submission of the application, the applicant shall consider alternatives such as nonstructural solutions, provision for ultimate removal responsibility for structures when no longer

needed, reclamation of excavation pits, mitigation of project damages to public interests, or a time limit on project life to allow for changes in public interest.

The applicant has considered and selected a nonstructural solution, and aside from the initial investment to construct the pilot project and expected maintenance activities, there are no foreseen public costs associated with the horizontal pipe dewatering system. A maintenance plan has been submitted with the application to monitor pipe damage and bluff erosion. If in the event that the system is damaged or fails, the City or a contractor can work to repair or remove it as necessary.

Compliance with LCDC Goals – The proposed project shall be evaluated against the applicable criteria included within Statewide Planning Goals administered by the Department of Land Conservation and Development.

The City of Cannon Beach has certified that the project is in compliance with the local comprehensive plan and land use ordinance, which are acknowledged by LCDC as meeting the Statewide Planning Goal requirements.

II. SCENIC STANDARDS, OAR 736-020-0015

Projects on the ocean shore shall be designed to minimize damage to the scenic attraction of the ocean shore area.

Natural Features – The project shall retain the scenic attraction of key natural features, for example, beaches, headlands, cliffs, sea stacks, streams, tide pools, bedrock formations, fossil beds and ancient forest remains.

The natural features of the beach and the bluff will remain intact, and no significant landforms such as headlands, sea stacks, or streams will be affected. The subject site consists of a low bluff embankment within a developed urban setting.

Shoreline Vegetation – The project shall retain or restore existing vegetation on the ocean shore when vital to scenic values.

There may be some minimal vegetation disturbance, but it is not expected to alter the existing bluff vegetation to any measurable degree that would affect scenic values.

View Obstruction – The project shall avoid or minimize obstruction of existing views of the ocean and beaches from adjacent properties.

The project will not affect existing views from adjacent properties.

Compatibility with Surroundings – The project shall blend in with the existing shoreline scenery (type of construction, color, etc.).

The site is located within an urban beach environment, with existing seawalls, riprap, motel developments, vacation rentals, and single-family dwellings lining the shoreline. The proposed drainage pipes extending out onto the ocean shore area will be sheathed in a metal casing that will be allowed to oxidize and match the color of the surrounding bluff slope.

III. RECREATION USE STANDARDS, OAR 736-020-0020

Recreation Use – The project shall not be a detriment to public recreation use opportunities within the ocean shore area except in those cases where it is determined necessary to protect sensitive biological resources such as state or federally listed species.

This should have no adverse impacts on public recreation, as it will not create an obstruction to foot traffic or any recreational uses. The beach is generally quite wide and gently sloping at this site, with ample room for recreational use.

Recreation Access – The project shall avoid blocking off or obstructing public access routes within the ocean shore area except in those cases where it is determined necessary to protect sensitive biological resources such as state or federally listed species.

As discussed above, the project will not cause an obstruction to public access along the shoreline.

IV. SAFETY STANDARDS, OAR 736-020-0030

The project shall be designed to avoid or minimize safety hazards to the public and shoreline properties. The following safety standards shall be applied, where applicable, to each application for an ocean shore permit.

Structural Safety – The project shall not be a safety hazard to the public due to inadequate structural foundations, lack of bank stability, or the use of weak materials subject to rapid ocean damage.

The pipes will extend about 1 foot beyond the face of the bluff along the ocean shore, but should not present any structural hazards. The pipes will be maintained and should accelerated bluff erosion occur due to ocean wave surge, the exposed pipe can easily be shortened to design standards.

Obstructional Hazards – the project shall minimize obstructions to pedestrians or vehicles going onto or along the ocean shore area.

The project will minimally encroach onto the beach and will not impede access to north-south travel along the shoreline. Across the entire width of the ocean shore, the project is limited to a subsurface installation; therefore there will be no obstructions to beach access or to pedestrian or vehicle travel along the ocean shore. The beach drilling operation during construction will be located close to the bluff and should not affect pedestrian or vehicle use except during extreme high tides and large ocean swells.

Neighboring Properties – The project shall be designed to avoid or minimize ocean erosion or safety problems for neighboring properties.

The drain pipes will be drilled and located under the ocean bluff with only twelve 1 ½" inch pipes extending approximately 1 foot onto the beach area. There are no foreseen safety hazards to the public and surrounding property owners from this buried infrastructure and pipe extensions. It is hoped that the pilot horizontal drain system will benefit neighboring properties by reducing downhill slope movement over the entire slide area.

Property Protection – Beachfront property protection projects shall be designed to accomplish a reasonable degree of increased safety for the on-shore property to be protected.

The project is not specific to protecting beachfront properties, but homeowners may see a benefit by a decrease in slope movement.

V. NATURAL AND CULTURAL RESOURCE STANDARDS, OAR 736-020-0030

Projects on the ocean shore shall avoid or minimize damage to the following natural resources, habitat, or ocean shore conditions, and where applicable, shall not violate state standards:

Fish and wildlife resources including rare, threatened or endangered species and fish and wildlife habitats.

There are no reported fish and wildlife resources that will be impacted by the proposed project.

Estuarine values and navigation interests.

The project is not adjacent to an estuary, and does not affect navigable water on the ocean.

Historic, cultural and archeological sites.

According to the State Historic Preservation Office, the project area lies within an area generally perceived to have a high probability for possessing archaeological sites and/or buried human remains. Extreme caution has been recommended for any ground disturbing activities.

A standard condition of approval will require that all work cease immediately if any cultural material is discovered during construction activities, until an archeological permit is obtained.

Natural areas (vegetation or aquatic features).

There is no existing significant vegetation or aquatic features that will be impacted by the proposed project.

Air and water quality of the ocean shore area.

The project will take place above the ordinary high tide line, and will not cause foreign materials or pollutants to enter the water. Groundwater will flow from the pipes onto the beach during heavy rains, and there are no expected adverse water quality impacts to the ocean shore.

Areas of geologic interest, fossil beds, ancient forest remnants.

These features are not known to be present at the site.

When necessary to protect native plant communities or fish and wildlife habitat on the subject or adjacent properties, only native, non-invasive, plant species shall be used for revegetation.

The project may affect a small amount of existing vegetation, but seasonal re-growth in those areas should be sufficient to revegetate any disturbed areas.

VI. PUBLIC COMMENT

Notice of the proposed project was posted at the site for 30 days in accordance with ORS 390.650. Individual notification and a copy of the application were mailed to government agencies and individuals on OPRD's ocean shore mailing list. OPRD received no comments in opposition to the request

VII. Findings Summary

Project Need – The proposed project is needed to gather sufficient information that a horizontal drain system is the appropriate non-structural solution to slope movement. The alternative of road relocation would be expensive and may not provide a long term solution. No action may cause the need for shoreline stabilization by affected homeowners in the future.

Based on the above considerations, OPRD finds that there is adequate justification for the project to occur on and alter the ocean shore.

The following checklist summarizes whether the application satisfies the general, scenic, recreation, safety and natural and cultural resource standards as defined in OAR 736-020-0010 through 736-020-0030:

| Standard | Yes | No | Standard | Yes | No |
|--------------------------------------|-------------------------------------|--------------------------|--|-------------------------------------|--------------------------|
| Project Need | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Structural Safety | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Protection of Public Rights | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Obstructional Hazards | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Public Laws | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Neighboring Properties | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Alteration and Project Modifications | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Property Protection | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Public Costs | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Fish and Wildlife Resources | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Compliance with LCDC Goals | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Estuarine Values and Navigation Interests | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Natural Features | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Historic, Cultural and Archeological Sites | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Shoreline Vegetation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Natural Areas | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| View Obstruction | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Air and Water Quality of the ocean shore | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Compatibility with Surroundings | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Areas of Geologic Interest | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Recreation Use | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Use of Native Plant Species when Necessary | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Recreation Access | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

VIII. STAFF RECOMMENDATION:

Based on an analysis of the facts and in consideration of the standards evaluated under OAR-736-020-0005 through OAR 736-020-0030, I recommend the following action:

- Approval
- Approval with conditions
- Denial

Tony Stein
Coastal Land Use Coordinator