



## FINDINGS OF FACT STAFF REPORT

Date: December 12, 2008 OPRD Coastal Land Use Coordinator: Tony Stein

Project Location: Vacant Lot- located between 7215 and 7241 Neptune Ave., Gleneden Beach  
Lincoln County Assessor's Map #8S-11W-9 DD, tax lot 5800.

Brief Project Description: The proposed project involves the construction of a riprap revetment along 50 feet of shoreline fronting a vacant lot. Plans call for armor rock 1.4 to 4.3 feet in diameter, keyed into the beach sand and placed in an interlocking state approximately 25 feet in height above beach level, with a slope of 2H to 1V. The upper portions of the riprap will be backfilled with sand or pit run material and planted with beach grass. The proposed riprap revetment will project approximately 40 feet onto the ocean shore and tie into existing riprap revetments to the north (BA# 527-01) and south (BA# 381-96) of the subject property.

### 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.**

During the winter of 2006 and 2007, strong storms removed the beach sand and eroded bluff material from the lower slope of the subject property. Active rip embayments along this stretch of beach have been continuously observed and have caused large and rapid changes in the near shore processes and beach profiles that control bluff erosion. According to the permit application and the accompanying geologic report (Ash Creek and Associates, Inc., September 15, 2008) the riprap structure is necessary to control ocean wave erosion and reduce the risk of rapid bluff retreat from existing riprap revetments (Tax Lots 5700 and 5900) adjacent to the subject property. In addition, erosion is also occurring from scattered hiking trails and individuals carving holes and caves on the bluff face which threaten to undermine the slope. The 60 foot high bluff is nearly vertical or has a negative slope, and will continue to fail because of episodic land sliding and bluff undercutting as the slope reverts to its normal angle of repose. These impacts are causing continual erosion below the proposed building area of the Kindrake property. A larger concern is the refraction of waves around and behind the adjacent riprap revetments that will gradually erode the toe of the bluff face and endanger the homes developed on those properties. Overall erosion rates have been estimated at approximately 0.27 to 0.30 feet per year based on the previous 60 year period.

This is an area of Gleneden Beach that has extremely steep, tall, eroding bluffs, and houses are built close to the bluff edge. The Kindrake property is the one remaining unprotected property along a contiguous line of shoreline structures, and if left unprotected, future wave attack and bluff erosion will steepen and undermine the bluff and accelerate sloughing and landsliding on the Kindrake property and adjacent Tax Lots 5700 and 5900.

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 riprap will occupy an average width of 40 feet of beach area along the base of the bluff. This encroachment onto the ocean shore is similar to the adjacent riprap revetments to the north and south of the subject site. In evaluating similar riprap projects, OPRD has found this amount of encroachment to be acceptable when the need for the project was considered justified. The project will occupy an estimated 2,000 square feet of beach area which was previously available for public use. The presence of the riprap will not affect public ownership or easement rights on the ocean shore.

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

The Lincoln County Planning Department has certified that the project is in compliance with the Lincoln County Comprehensive Plan and Land Use Code. State of Oregon regulations are being addressed under the review of this permit. Federal regulations could potentially involve a U.S. Army Corps of Engineers permit; however a Corps permit is usually not required for this type of project. A condition of the permit will require that the applicant obtain any required permits from the Corps, if applicable.

***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 geologic report rules out non-structural methods of shore protection, including vegetative stabilization, sand nourishment, and dynamic revetments, primarily based on the high energy wave environment along this section of coastline. Vegetative stabilization or sand alteration would not be sufficient to substantially slow or halt erosion, or stabilize the bluff slope. Dynamic revetments are not recommended for the site due to the frequent exposure to wave attack. The proposed riprap will not entirely eliminate all landslide risk, but will control erosion and undermining of the lower bluff slope, which is one of the primary causes of upper slope failure. The geologic report recommends a riprap revetment as the appropriate measure to protect the property.

Considering these factors, the use of riprap shore protection constitutes the most reasonable option as the initial step for controlling erosion at this site.

***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.***

Alternative shore protection methods other than riprap shore protection have been discussed above. These alternatives are not considered reasonable special measures, as they would fail to provide the needed long-term protection for the property. Public costs of the riprap include the loss of some upper beach area, heavy equipment activity on the beach during construction, and the visual presence of additional riprap. These costs can be reduced through careful and efficient construction practices. There will be no public costs to maintain the structure, as maintenance and needed repairs are the responsibility of the upland property owners.

***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.***

Lincoln County has certified that the project is in compliance with the Lincoln County Comprehensive Plan and Land Use Code, which are acknowledged by LCDC as meeting the Statewide Planning Goal requirements. The subject property is a vacant lot with adjacent homes on developed properties to the north (TL 5700) and south (TL5900) that were built prior to 1977. Based on the submitted engineering geologic report, The Lincoln County Department of Planning and Development has determined that active shoreline erosion threatens the adjacent properties and the proposed project is necessary to protect development that existed on January 1, 1977.

## **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 in the general vicinity will remain intact, and no significant landforms such as headlands, sea stacks, or streams will be affected. The riprap will only be placed to about 25 feet in height above beach level. The scenic quality of the bluff face above the riprap will remain unaltered under the current proposal.

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

Little vegetation remains on the lower bluff face due to the recent erosion that has occurred in the past couple of winters. Vegetation exists along the upper bluff slope, which will be retained after construction of the riprap revetment. The project includes covering the area above the riprap with sand or appropriate soil and planting vegetation, which will restore vegetation to the lower bluff slope.

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

The riprap 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 applicant has proposed covering the riprap revetment with sand and infilling the bluff scarp area 10 feet above the structure. Both areas will be planted with vegetation, allowing it to blend in with the existing terrain and vegetative cover. If the riprap is washed clean of the sand and vegetation, then it will be more noticeable, however, the riprap will occupy only about one-half of the height of the bluff, leaving the rest of the natural bluff unaltered. There are existing riprap revetments on the adjacent properties and other properties to the north and south of the subject project. The proposed riprap will be similar to the existing revetments adjoining the subject site and will blend in reasonably well with the existing scenery.

## 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.***

The riprap will occupy some beach area, but will not significantly affect public recreation use opportunities. During storm events or winter high tides, wave run-up may reach the riprap structure. During normal conditions, however, the existence of the riprap will not be a detriment to typical recreation uses.

***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.***

The project will not extend out onto the ocean shore to cause an obstruction to public access along the shoreline during normal ocean conditions.

## III. 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 proposed rip rap design indicates that the riprap will be structurally safe under normal ocean conditions and will not be an obstructional hazard. The engineering and geologic report recommends riprap armor rock consisting of hard, durable, non-weathered basaltic rock, approximately 1.4 to 4.3 feet in diameter, placed in an interlocking state. The adjacent riprap revetments are built with much larger and consistently sized material, and the submitted design, although adequate, may not meet the long-term engineering stability required for increased wave heights and wave forces impacting these structures. Design changes for rock size will be addressed in the Permit Conditions.

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

The riprap will project out from the existing bluff toe approximately 40 feet. This normally will not affect lateral beach access, except during times of extreme high water. During these periods, however, wave run-up is likely to be hitting the riprap or unprotected shoreline on nearby properties, therefore the proposed riprap will not create a new obstruction to beach access.

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

In the past, neighboring properties have experienced similar erosion and over-steepening of the lower bluff face. Previous riprap permits were issued to protect those properties in 1996 (BA# 381-96) and in 2001 (BA# 527-01). Within the Findings of Fact for BA# 527-01, it states that it would have been advantageous to connect the riprap to the existing riprap to the south, thus creating a continuous shoreline protective structure.

The proposed riprap will tie into the flanked ends of the existing riprap revetments on adjacent properties and protect those structures from undermining and unraveling.

***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 purpose of the revetment is to provide protection to the upland property.

#### **IV. 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.***

Notice of the application was provided to the State Historic Preservation Office, and to the Confederated Tribes of Siletz and the Confederated Tribes of Grand Ronde. There were no reports of historic, cultural, or archeological sites at this location.

***Natural areas (vegetation or aquatic features).***

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

***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. Riprap placed at the site will be free of debris or foreign materials. The proposed project does not adversely affect water quality on the ocean shore. Air quality will not be affected, except for a negligible amount of exhaust from the use of heavy equipment during the construction period.

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

None of these features have been identified 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 site is within a developed residential area, and there are no known protected native plant communities or fish and wildlife habitat on or adjacent to the subject property.

#### **V. 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 requests for a public hearing. No comments were received in support or opposition to the proposed structure within the posting period.

**VI. FINDINGS SUMMARY**

**Project Need** – The proposed riprap is necessary to provide protection from ocean-caused erosion. There is evidence of active erosion at the site, resulting in accelerated end cutting of adjacent riprap revetments. The proposed shoreline protection structure will fill in the gap between these existing structures and provide long-term stability with a continuous riprap revetment. The property owner has no other reasonable options to help reduce erosion of the bluff and provide long-term protection to adjacent developed properties. Other types of less structural methods would not provide the protection necessary to control wave erosion at the toe of the slope, and the riprap project has been recommended by the project geologist. Need for the riprap is justified, and the proposed method of erosion control is appropriate, especially considering that the project will tie into existing riprap revetments to the north and south.

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

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"/>

**VII. 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

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Tony Stein  
Coastal Land Use Coordinator