



## FINDINGS OF FACT STAFF REPORT

Date: November 19, 2012 OPRD Coastal Land Use Coordinator: Tony Stein

OPRD File Number: BA-682-12 County: Lincoln Applicant: Jim Rehberg and Edith Clarke

**Project Location:** South half of Lorraine Street, Vacant Lot 3800, and 6315 Raymond Avenue, Gleneden Beach  
Lincoln County Assessor's Map #8S-11W-16DB, Lorraine Street and tax lots 3900 and 3800.

**Brief Project Description:** The proposed project involves the reconstruction of an existing riprap revetment along Tax Lot 3900 (Rehberg) and placement of new riprap along Tax Lot 3800 (Clarke) and the south half of Lorraine Avenue (Lincoln County). The total length of the project on the ocean shore is approximately 140 feet. Plans call for armor rock 3.0 to 7.0 feet in diameter, keyed into the beach sand and placed in an interlocking state approximately 14 feet in height above beach level, with a slope of 2H to 1V. The proposed riprap revetment will project from 20 to 23 feet onto the ocean shore and tie into existing riprap revetments to the north (BA# 295-87) and south (BA# 329-90) of the subject properties.

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### ADMINISTRATIVE RULE STANDARDS AND RELEVANT FACTS

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#### 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.**

Recent storm activity, especially during the winter of 2011-2012, has removed beach sand and undercut and steepened the bluff which has resulted in continuous bank sloughing and failures on Tax Lot 3800 and adjacent Tax Lot 3900. A riprap revetment was approved for all of the subject properties under BA# 295-87, but the record is unclear as to whether or not any material was placed on Tax Lot 3800 at that time. In the application for BA 295-87, the property owner of Tax Lot 3900 notes that riprap was placed some years ago, and was covered by sand or falling dirt. There is also a photograph taken in 1990 that shows evidence of a small layer of riprap at the base of tax lot 3800 and the southern half of Lorraine Avenue. Tax lot 3800 is the only remaining lot in the nearby vicinity that does not have a riprap structure that meets today's engineering standards for shoreline protection in the high energy environment of Gleneden Beach.

Existing riprap structures to the north and south of Tax Lot 3800 have experienced structural damage and unraveling due to end flanking from wave attack and the associated bluff scour. There also appears to be water piping from the mid-bluff area on Tax Lots 3800 and 3900 that may have also contributed to active bluff failures. Active rip embayments along this stretch of beach have been continuously observed and have caused large and rapid changes in the nearshore processes and beach profiles that control bluff erosion.

According to the permit application and the accompanying geologic report (H.G. Schlicker & Associates, Inc., dated July 31<sup>st</sup>, 2012) the riprap structure is necessary to control ocean wave erosion along the bluff on the unprotected Tax Lot 3800, the southern part of Lorraine Avenue, and stop the end flanking of existing riprap revetments. The 30 foot high bluff is nearly vertical or has a negative slope, and will continue to fail because of episodic sloughing and bluff undercutting as the slope reverts to its normal angle of repose. There is concern regarding the refraction of waves around and behind the adjacent riprap revetments that will continue to erode the toe of the bluff face and cause additional damage to the riprap structures. Overall erosion rates for bluffs not protected by oceanfront structures have been estimated at approximately 0.62 to 0.76 feet per year.

This is an area of Gleneden Beach that has extremely steep, active, eroding bluffs, and houses are built close to the bluff edge. The vacant lot (TL 3800) is one of the few remaining unprotected properties along a contiguous line of shoreline structures, and if left unprotected, future wave attack and bluff erosion will steepen and undermine the bluff, accelerate sloughing and damage existing shoreline protective structures.

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 21.5 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 total project will occupy an estimated 3,010 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 improving storm water control, vegetative stabilization, beach filling or 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 on a high energy beach. 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 the use of a static structure such as 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 for controlling bluff erosion and stabilizing existing riprap structures 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 tax lots 3800 and 3900 were reviewed by the Lincoln County Department of Planning (LCDP) and Development and qualify for shoreline protection. The subject properties were determined to be developed prior to January 1<sup>st</sup>, 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 be placed to about 14 feet in height above beach level. The scenic quality of the upper half 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.**

No vegetation remains on the vertical bluff face due to the recent erosion that has occurred in the past couple of winters. Vegetation exists along the edge of 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 and planting vegetation.

**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 with sand above the wave-splash elevation with a minimum of 1 foot thick layer of material and planting it with beach grass to establish a 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.

### **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.***

The riprap will occupy some beach area, but will not significantly affect public recreational 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.***

An unpermitted metal stairway has provided beach access for many years on the western end of Lorraine Street down to the beach. It was seriously damaged in the last couple of years and became a public safety hazard. The owner of Lorraine Street is Lincoln County, and there was no requirement to provide public access at this location. The application included a letter from the Lincoln County Public Works informing the owner of Tax Lot 3900 that they will be only responsible for future maintenance of riprap on the southern portion of Lorraine Street.

### **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 proposed rip rap design indicates that the riprap will be structurally safe under normal ocean conditions and will not be a public safety hazard. The engineering and geologic report recommends riprap armor rock consisting of hard, durable, non-weathered basaltic rock, approximately 3.0 to 7.0 feet in diameter, placed in an interlocking state. The proposed project will rebuild the damaged and unstable riprap revetments on adjacent properties to the north and south and provide a contiguous and stable structure.

***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 20 to 23 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 1987 (BA# 295-87) and in 1990 (BA# 329-90). The proposed repair to Tax Lot 3900 and a new riprap structure on Tax Lot 3800 will tie into the flanked ends of the existing riprap revetments on the 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 shoreline protection proposal is designed to provide protection to the upland and adjacent properties and prevent revetment flanking.

**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.***

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.

## **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 requests for a public hearing. One comment in support of the project was received by the adjacent property owner to the south. No comments were received in opposition to the project within the posting period.

## **VII. FINDINGS SUMMARY**

**Project Need** – The proposed riprap is necessary to provide upland property protection and to stabilize adjacent riprap structures to the north and south from ocean-caused erosion. There is evidence of active erosion at the site, resulting in continuous bluff failure and accelerated end-cutting of adjacent riprap revetments. The proposed repair and new shoreline protection structure will fill in the gap between these existing structures and provide long-term stability with a continuous riprap revetment. There are no other reasonable options to help reduce erosion of the bluff on TL 3800 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"/>

**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  
 Ocean Shores Coordinator