



FINDINGS OF FACT STAFF REPORT

Date: December 7, 2013 OPRD Coastal Land Use Coordinator: Tony Stein

OPRD File Number: BA-690-13 County: Lincoln Applicant: Scott Smith, Daniel Knapp, and Barbara Labuhn

Project Location: 7325, 7315 and 7305 Neptune Avenue, Gleneden Beach
Lincoln County Assessor's Map # 8S-11W-9 DD, Tax Lots 4800 (Smith), 4900 (Knapp), and 5000 (Labuhn).

Brief Project Description: The proposed project involves the construction of a riprap revetment along 217 feet of shoreline fronting 3 individual tax lots. Due to severe bluff erosion and bank retreat, the necessary riprap and fill material required to stabilize the bluff beneath the subject homes will also extend onto adjacent tax lot 5100 to the south, and tax lot 4700 in the north. Plans call for armor rock 4.0 to 5.0 feet in diameter, keyed in 8 feet below the existing beach sand level. The riprap structure will be placed in an interlocking state approximately 25 feet in height above beach level, with a slope of 2H to 1V. The buttress above the riprap revetment will be backfilled with pit run material at a 1.5H:1V slope to provide lateral bank stability to elevations of approximately 40 and 50 feet to protect the home structures. A two-foot thick layer of sand will be placed over the face of the revetment and planted with beach grass. The proposed riprap revetment will project approximately 50 feet onto the ocean shore and tie into the existing riprap revetment to the south (Emergency Permit BA# 660-10) of the subject properties.

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.

From December 2012 to February 2013, a series of ocean storms created the formation of a large rip current embayment just north of Sijota Street in Gleneden Beach. This resulted in rapid sand erosion along this section of the beach fronting the subject properties. Active rip embayment's along this stretch of beach have been continuously observed over the years, and have caused large and rapid changes in the near shore processes and beach profiles that control bluff erosion. Long period ocean swells and extreme high tides have subjected the ocean bluff to continuous wave attack, as waves prefer to attack the upper beach through the deeper areas along the rip channels. As sand has eroded, significant block failure and sloughing has occurred at the base and mid-section of the ocean bluffs. On February 15, 2013, the south corner of the Labuhn home foundation to the edge of the bluff was measured at 46 feet. The Labuhn property has lost an estimated 10-15 feet of ocean bluff over the last few months with a near vertical scarp estimated at 60 feet from beach level to

mid-bluff. To the north, the Knapp and Smith home foundations were estimated at 70 feet from the top of the bluff face, with slope movement observed between the top of the bluff and the home foundations. Due to the height, steepness and severity of the bluff erosion and continuous bank retreat, the riprap and fill material required to stabilize the bluff beneath the subject homes will need to be extended onto adjacent tax lot 5100 to the south, and tax lot 4700 in the north.

The geologic report by Richard Larrett, Engineering Geologist, dated May 19, 2013, states that several areas of recent slope movement were mapped on the portion of slope above the bluff face. Larrett states that construction of the riprap shoreline protection system will reduce toe erosion for this site, and a buttress above the riprap will stabilize the upper slope and reduce the potential of mass slope movement (landslides). A previous Ocean Shore Alteration Permit application (BA# 671-10) was submitted for the same properties and denied by OPRD staff because the general standard of project need at that time was not justified. Ash Creek and Associates Inc., completed a geologic report (June 30, 2010) for subject properties at that time, and reported that the bluff had recently retreated approximately 20 to 30 feet. Ash Creek also reported that recent landslide scarps were visible in the middle and upper slope areas.

According to the permit application and the accompanying geologic report the riprap structure is necessary to reduce the risk of rapid bluff retreat from ocean erosion. The 60 foot high bluff fronting the Labuhn home 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. Overall erosion rates have been estimated at approximately 0.27 to 0.30 feet per year based on the previous 60 year period.

The adjacent property and home to the south of Labuhn (TL 5000) is owned by Sherrie Norris (TL 5100) which has also experienced accelerated erosion with an estimated bluff loss of 10 to 15 feet. The property does not meet the requirements of the Lincoln County Comprehensive Code (LCCP), which only allows for beachfront protective structures where development existed on January 1, 1977. The Heidt residence (TL 5200) to the south of Norris has also completed an emergency riprap structure that incidentally protects the southern portion of the Norris property. The proposed riprap revetment and buttress will blend into the adjacent Heidt and Norris revetment structure thus providing continuous shoreline protection from tax lot 4800 in the north to tax lot 5200 in the south.

This is an area of Gleneden Beach that has extremely steep, tall, eroding bluffs, and houses are built close to the bluff edge. The subject properties are several of the 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 and accelerate sloughing and land sliding on the Smith, Knapp and Labuhn properties.

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 estimated 217 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 10,850 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 Department of Planning and Development (LCDPD) have 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 dynamic processes present on this beach. Vegetative stabilization or sand alteration would not be sufficient to substantially slow or halt erosion, or stabilize the steep bluff slope. The geologic report recommends a riprap revetment and bank stabilization structure as the appropriate measure to protect the properties.

Considering these factors, the use of riprap shore protection and bluff stabilization constitutes the most reasonable option for controlling erosion on these properties.

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.

In February, 2013, OPRD issued Emergency Permit BA# 685-13 for Barbara Labuhn (TL 5000), and BA# 686-13 for Scott Smith (TL 4800) and Daniel Knapp (TL 4900) as an interim measure to protect the subject properties. Based on the location and proximity of the existing homes, a pattern of continuous erosion, extreme site conditions, safety concerns for recreational beach users and the possibility of severely damaged or destroyed homes, OPRD issued the temporary emergency permits for tax lots 5000, 4900, and 4800. The Lincoln County Department of Planning and Development (LCDPD) determined that the Labuhn residence was threatened by active erosion, and based on the date of construction was eligible for shoreline protection. LCDPD also determined that it was necessary to extend the proposed revetment to the south of TL 5000 (Labuhn) onto TL 5100 (Norris), and that this action would be incidental to the primary purpose of providing shoreline protection for the Labuhn residence. Based on the submitted engineering geologic report, the LCDPD has determined that active shoreline erosion threatens the eligible Goal 18 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 project would cover a significant portion of the bluff face at the Labuhn property because of the steep and vertical bluff, and the lower to mid bluff area on the Knapp and Smith properties. This level of scenic alteration has been acceptable for other riprap projects where the need for the project has been justified and where alternatives have been adequately considered.

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

Vegetation exists along the mid to upper bluff slope of the Smith and Knapp property, and the upper bluff of the Labuhn property, which will be retained after construction of the riprap and bluff stabilization. In order to establish vegetation, the finished project includes planting vegetation over a two foot layer of sand, which will restore vegetation to the altered 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 and upper bank stabilization fill area with sand and restoring vegetation. The revetment structure will be planted with beach grass, allowing it to blend in with the existing terrain and vegetative cover. If the riprap revetment is washed clean of the sand and vegetation, then it will be more noticeable. However, the mid and upper bluff areas of the structure will remain vegetated as proposed. There are existing riprap revetments just north of the subject project, and adjacent riprap revetments to the south. 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 would occupy some beach area, but would not significantly affect public recreation use opportunities. The proposed structure, including the pit run fill and the revetment, will occupy an area of approximately 10, 850 square feet (0.24 acre). During high tides in the winter, wave run-up often reaches the upper areas of the beach, and may cover the entire beach at times. The loss of additional beach area will increase the chance of this occurring. During normal conditions, however, the existence of the riprap would 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 revetment structure will not block or obstruct any important public access routes within the ocean shore area. During winter storms and periods when the beach sand is removed, lateral access along the shoreline may be further restricted by the riprap revetment. However, access along the beach in general is hazardous and constricted during these times, even on the areas without riprap shore protection.

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 safety hazard. The engineering and geologic report recommends riprap armor rock consisting of hard, durable, non-weathered basaltic rock, approximately 1.4 to 5.0 feet in diameter, placed in an interlocking state, as is the standard practice for revetment design.

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

The project will not extend out onto the ocean shore to cause an obstruction to public access along the shoreline during normal ocean conditions. However, large rip embayment's can form rapidly along this stretch of beach, building open channels that may cause increased wave run-up to the base of the riprap. This can also occur in areas where segments of riprap protrude further westward than the natural bluff line along the ocean shore. This may temporarily obstruct public access along the beach, especially during very high tides and large storm surf. According to the geologic report, the shoreline protection structure will have no further impact on the beach by closely maintaining the line of the existing riprap revetment to the south of this property, and, on average, encroaching no further seaward that the base of the bluff prior to the erosion.

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

In order to minimize the chance of enhanced erosion or flank scour on adjoining properties, the riprap design includes a tapering of the riprap height and width at the north end, to help minimize the possibility of end effects or localized scour. At the south end, the riprap will be tied into the existing riprap structure (BA# 666-10) which will provide continuous shoreline protection for the subject and adjacent properties.

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 a reasonable degree of increased safety and protection to the upland properties.

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. No comments were received in support or opposition to the proposed structure within the posting period.

VII. FINDINGS SUMMARY

Project Need – The proposed riprap is necessary to provide protection to the Smith, Knapp and Labuhn properties from ocean-caused erosion. There is evidence of active erosion at the site, resulting in accelerated end cutting of the adjacent riprap revetment to the south, upper bluff slope movement and extensive bank failure along the length of the project. The proposed shoreline protection structure will protect the subject properties and provide long-term stability with a continuous riprap revetment. The property owners have no other reasonable options to help reduce erosion of the bluff and provide long-term protection to the 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 the existing riprap revetment to the south.

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.

Constructing individual shoreline structures only on the eligible tax lots under Goal 18 would not provide the protection necessary to stop damage or loss to the existing homes. Due to the height and steepness of the bluff and unstable soil characteristics found at this site, this action would not stop erosion at the toe of the bluff or continual sloughing of the vertical bluff faces found on adjacent tax lots. This action would seriously undermine the structural stability of individual structures and pose a safety hazard for recreational beach users. The riprap revetment needs to extend onto the adjacent tax lots to provide a continuous measure of structural stability to adequately protect eligible Goal 18 properties.

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