FINDINGS OF FACT
STAFF REPORT

Date:	February 8, 2008	OPRD Coastal Land Use Coordinator:	Tony Stein		
OPRD File Number:	BA-629-07	County:	Lincoln	Applicant:	Brad Cameron, Darlene Glass

Project Location:	5743 and 5753 NW Jetty Avenue, Lincoln City, OR Lincoln County Assessor's Map #6S-11W-34DA, tax lots 5500, 5599, 5600 and 5699.
Brief Project Description:	The proposed project involves the construction of a riprap revetment, approximately 102 feet in length, and approximately 18 feet in height above beach level, with a slope of 2H to 1 V. The proposed riprap revetment will project approximately 17 feet onto the ocean shore, tying into the existing riprap revetment to the north and blending into the Glass 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.

According to the permit application and the accompanying geologic report (H.G. Schlicker and Associates, August 28, 2007) the riprap revetment is necessary to control ocean wave erosion and reduce the risk of future landsliding along the bluff. The upper and middle bluff segments are very steep (65 to 70 degrees) and will likely fail because of bank sloughs, block fall, and small to moderate landslides. This activity may damage the two homes which are currently as close as 28 feet (TL 5500) and 45 feet (TL 5600) east of the 35-foot high bluff. Overall erosion rates have been estimated at approximately 0.24 to 0.30 feet per year since 1939. Because bluff top erosion is directly related to removal of the bluff toe by wave action, the reduction in the lower bluff support may result in future landsliding of the upper bluff, causing a threat to the existing homes.

The geologic report states that the Glass residence (TL 5600) has a greater setback, and is not subject to imminent threat as a result of bluff recession, but localized erosion immediately west of this tax lot could increase the hazards to the adjacent lots to the north and south. The report also states that future wave erosion at the site would steepen and undermine the bluff and likely cause sloughing and landsliding that could fail back 5 feet to 20 feet at a time. "End effects" at the ends of the existing revetments could locally worsen the erosion, increasing hazards at the site. The site is within one of the remaining segments of unarmored shoreline left in the Lincoln City/Roads End area, and OPRD recognizes that there are other nearby properties that may be subject to an equal or greater risk of catastrophic erosion. This is a stretch of coastline with extremely steep, tall, eroding bluffs, and houses are built close to the bluff edge. Additional applications for protective structures are inevitable in this area due to these conditions, and some cumulative impacts such as the loss of the sand contribution from bluff erosion, can be expected.

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 approximate 17-foot width of beach area along the base of the bluff. This encroachment onto the ocean shore is similar to the adjacent riprap north of the project site, and other riprap revetments just south of the subject site. Normally the beach at this site is quite wide, so public recreational uses should not be affected under normal conditions. 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 Division 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 applicant investigated the alternative of moving the Cameron house to the east; however this alternative was discarded due to the relatively small amount of room available and physical constraints of moving the house. A letter from Mr. Cameron indicates that his home, which is built on a concrete slab foundation, could not be moved because of lack of support to jack it up. The Glass house could possibly be relocated, but side yard setbacks of less than 2.5 feet maybe too small for equipment access. OPRD agrees with the applicant that these options are impractical in this situation, and relocation if possible, will not reduce the future threat of damage to either residence due to continued bank sloughing and land sliding.

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 to 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. Erosion from wind, rain, and larger failures could impact the homes, and additional measures such as an upper bluff retaining wall, or underpinning of the homes could be required at some point in the future**.** The geologic report, however, recommends a riprap revetment as a necessary initial step to controlling erosion.

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. Moving the Cameron home is not an option, due to the physical constraints in moving a house built on a concrete slab foundation.

A potential public cost from shoreline stabilization projects is the "locking up" or prevention of beach sand supply that would have been contributed from the eroding bluff. The geologist, in his report, calculated the total amount of sand that would be expected to erode onto the beach without the riprap. This amount totals approximately 2,140 cubic yards over a 60 year period, or 36 cubic yards per year. Because the riprap revetment will not prevent continued weathering of the upper bluff slope, the actual loss of sand supply is expected to be much less, probably about 1,170 cubic yards. This amount of sand is insignificant when compared to the millions of cubic yards of sand within the littoral cell.

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.

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 18 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.

Very little vegetation exists along the lower bluff slope. This vegetation will be removed or covered up by the riprap revetment. The project includes covering the riprap with sand 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 revetment with sand and planting vegetation, allowing it to blend in with the existing terrain and vegetation. 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. Existing riprap extends onto the Glass property from the north, and other riprap revetments are located south of the property. 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 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.

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 design indicates that the riprap will be structurally safe and not an obstructional hazard. Rocks will be placed individually to form an interlocking structure, 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 beach at this site is typically quite wide, and the proposed riprap is not expected to obstruct pedestrians or vehicles during normal ocean conditions.

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

The proposed riprap will tie into the existing riprap that extends onto the property from the north. In the geologic report under Figure 6, it depicts an existing riprap structure to the south. This is an error and the riprap referred to is actually two lots south of the Cameron property. Generally, in designing riprap revetments, engineering geologists will propose a curving riprap revetment landward and a tapering of the height down on the end with no protection. This is a typical design element intended to reduce the amount of wave reflection or “end effects” on adjoining properties. This design will not prevent erosion from continuing on nearby properties that are not protected with riprap or other types of shoreline armoring; however, it is a method of minimizing impacts on adjacent lands to the extent possible, while providing adequate protection to the threatened residence.

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 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 from ocean-caused erosion. There is evidence of active erosion at the site, and the property owners have no other reasonable options to help reduce erosion of the bluff and provide long-term protection to the home. Relocating the Cameron house is not a reasonable alternative due to the physical constraints in moving a house with a slab foundation. Relocating the Glass house is not a practical option considering the location of riprap to the north and the location of the Cameron residence.. 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 to the north.

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	☒	☐	Structural Safety	☒	☐
Protection of Public Rights	☒	☐	Obstructional Hazards	☒	☐
Public Laws	☒	☐	Neighboring Properties	☒	☐
Alteration and Project Modifications	☒	☐	Property Protection	☒	☐
Public Costs	☒	☐	Fish and Wildlife Resources	☒	☐
Compliance with LCDC Goals	☒	☐	Estuarine Values and Navigation Interests	☒	☐
Natural Features	☒	☐	Historic, Cultural and Archeological Sites	☒	☐
Shoreline Vegetation	☒	☐	Natural Areas	☒	☐
View Obstruction	☒	☐	Air and Water Quality of the ocean shore	☒	☐
Compatibility with Surroundings	☒	☐	Areas of Geologic Interest	☒	☐
Recreation Use	☒	☐	Use of Native Plant Species when Necessary	☒	☐
Recreation Access	☒	☐		☒	☐

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