



FINDINGS OF FACT STAFF REPORT

Date: August 12, 2009 OPRD Coastal Land Use Coordinator: Tony Stein

OPRD File Number: BA-656-09 County: Lincoln Applicant: Charles and Theresa Baker

Project Location: Vacant Lot- located between 13824 and 13872 S. Coast Highway,
South Beach, OR
Lincoln County Assessor's Map #12S-11W-07 CC, tax lot 3300.

Brief Project Description: The proposed project involves the construction of a riprap revetment along 100 feet of shoreline fronting a vacant lot. Plans call for armor rock 2.6 to 4.4 feet in diameter, keyed into the siltstone at the toe of the slope and placed in an interlocking state approximately 25 feet in height above beach level, with a slope of 1.5H to 1V. Above the proposed riprap structure, the upper bluff will be covered with 5 feet of sand and planted with native beach plants. The proposed riprap revetment will project approximately 35 feet onto the ocean shore and tie into existing riprap revetments to the north (BA# 482-99) and south (BA# 345-92) 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.

At the present time there is no structure on the property, however, there was a residential home on the site in the past. According to the Findings of Fact addressed in BA# 482-99, a home previously existed on the property, which was destroyed by slide activity. Residential homes are built on adjacent parcels to the north and south, and have been subject to landslides with multiple slip faces above and below the bluff. The same slip faces that currently run across the top of the bluff on the subject property resulted in slides on these adjacent properties.

According to the geologic report by Oregon Technical Services, March 6, 2009, the bluffs are subject to chronic erosion and episodic sloughing of the bluff face that has been exacerbated by a series of severe winter storms that have occurred over the past number of years. The properties to the north and south have been protected by riprap, and as a result, wave energy has been deflected toward the subject property (TL3300), causing increased erosion and recession of the bluff. The subject property occupies a 100 foot gap in existing riprap shoreline protection structures. Based on observations at the lot including evidence of active bluff erosion/recession and the presence of large surface cracks and slumps on the upper bench, the bluff/slope has been a chronic problem during the past century. Efforts to reduce erosion and stabilize the adjacent properties with construction of riprap buttresses have proved to be generally effective (the bluff is less steep and vegetated behind the shoreline protection structures.)

Oregon Technical Services states that based on the published rates of erosion, development on the bluff is subject to a 2.15 to 1 setback from the base of the cliff/average higher water mark. Based on these criteria, if being developed today, without shoreline protection and structural support of the upper bluffs, and/or unconventional structural support for the foundation (piles or piers), the site would be subject to structural setback of approximately 38 feet from the top of the existing bluff. The existing bench area on the lot is approximately 75 to 85 feet from Highway 101 to the top of the bluff. This makes the available area extremely limited for a home footprint (as small as 17 feet) for residential construction.

Oregon Technical Services concludes that “Considering bank height and steepness, material characteristics and erosion at the toe of the bluff and results of our preliminary slope stability analysis, including wave action and toe undercutting, in our opinion, additional protection is needed to protect the toe of the bank in order to provide a reasonable building site that can be assured a design life of at least 50 years for the existing structure”.

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 35 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 3,500 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 non-structural dynamic revetments, primarily based on erosion of the near-vertical high sea cliff and steep bank with an excessive localized erosion rate. Vegetative stabilization or sand alteration would not be sufficient to substantially slow or halt erosion, or stabilize the bluff slope. The report states that the site does have the appropriate combination of beach physiography, source of material and similar dynamic revetments in the area, but that there is significant uncertainty associated with dynamic stabilization methods. 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 3200) and south (TL3400) that were built prior to 1977. A home previously existed on the property, and according to the Findings of Fact addressed in BA# 482-99, a slide resulted in the destruction of the residence. Based on the submitted engineering and geologic reports, The Lincoln County Department of Planning and Development has determined that 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 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.

Vegetation exists on the lower bluff face, established on the remains of an earlier slide deposited on the beach. Native vegetation including salal and shore pine exists along the top edge of the bluff slope, which will be retained after construction of the riprap revetment. The proposed project includes covering the top of the riprap with beach sand and planting with native 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 top of the riprap revetment with sand and sloping the fill at 3:1 on the bluff scarp area 8 to 15 feet above the structure. This area will be planted with native vegetation, allowing it to blend in with the existing terrain and vegetative cover found on adjacent properties. The riprap and sand infill area will occupy about three-quarters of the height of the bluff, leaving the rest of the natural bluff unaltered. There are existing riprap revetments on 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.

During normal conditions, the existence of the riprap will not be a detriment to typical recreation uses. During high tides in the winter, however, 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.

Recreational use including fishing and clamming will not be directly affected by this proposal. These activities can occur year round, but normally take place during the spring and summer months when ocean and wave conditions have moderated. The beach is normally quite wide here, and only during extreme high tides and heavy ocean swells, is the beach submerged with waves hitting the base of the bluffs, thus limiting any type of recreational activity. Recreational crabbing off the beach is an activity not normally found along this particular stretch of shoreline.

There is no state or federally listed species within this ocean shore area. In addition, there are no Oregon State Sensitive species found utilizing this area of shoreline.

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 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 fine-grained igneous rock such as granite, approximately 2.6 to 4.4 feet in diameter, placed in an interlocking state.

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 35 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 wave surge erosion, over-steepening of the bluff face, and slip faces behind the top of the bluff, causing bank slumping and slide activity. Previous riprap permits were issued to protect those properties in 1992 (BA# 345-92) and in 1999 (BA# 482-99). 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, thus creating a continuous shoreline protective structure.

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.

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.

Oregon Department of Fish and Wildlife (ODFW) asked that the application be denied based the public's right to use and enjoy the beach (including fishing), outweighing the rights of individual landowners to protect their beachside properties known to be actively eroding. ODFW requested a denial based on the negative effects of shoreline armoring on beach nourishment and sand transport. ODFW states that sand beaches are a prominent habitat in Oregon's nearshore zone that supports ecological processes and popular fisheries such as Dungeness crab, Surf perch and Razor clams. ODFW believes that the application will affect the physical processes that facilitate maintenance of this sandy beach habitat by: 1) cutting off the sand supply to the beach from the bluffs; 2) interrupting sediment transport in the longshore current; and 3) re-directing wave energy to adjacent properties. ODFW further states that these disruptions to natural processes result in the eventual narrowing or removal of the sandy beach habitat directly offshore of shoreline armoring structures, especially at high tide, resulting in the eventual loss of recreation and fishing/shell fishing opportunities for future citizens.

Oregon Geotechnical Services states (Pg.9) that, in their opinion, this project will not adversely impact the sand source, supply and movement on the affected beach area, and within the Newport Littoral Cell due to the area of the project being significantly small compared to the 27 miles of the Newport Littoral Cell within which the project lies. The Department of Geology and Minerals Industries (DOGAMI) has undertaken the Oregon Beach and Shoreline Mapping and Analysis Program, which includes a beach monitoring program that will undertake biannual surveys of beach profiles (58 sites) established in the Newport Littoral Cell. Beach state data (i.e. beach slope and beach crest elevation etc.) will be extracted from the beach profiling and surface mapping to enhance a conceptual understanding of the Newport Littoral Cell and refine existing predictions of future coastal change and hazards. Beach profiles has been recorded from LIDAR topographic data flown by

the USGS and NASA in October 1997 (pre EL Niño), April 1998 (post EL Niño), and September 2002, while more recent data have been measured using on-the-ground GPS surveying system.

Using the most current data available, OPRD concludes that there is insufficient long-term information at this specific location to conclude that the sandy beach habitat has been significantly impacted by the existing adjacent riprap structures and other riprap structures in the near vicinity. ODFW did not comment on previous permits BA # 345-92 or BA# 482-99, and did not submit documents or information that supports the assertion that these adjacent structures have impacted or had an effect on beach nourishment and sand transport, or have made significant impacts to ecological processes or loss to recreational fishing opportunities.

No known marine species including Razor Clams, Dungeness Crab and Surf Perch are currently listed as rare, threatened or endangered species and/or their habitats that are found within the Newport Littoral Cell. Without additional supporting information, research, or studies, OPRD has no process to evaluate specific fish and wildlife impacts to the nearshore area, and/or cumulative effects within the overall Newport Littoral Cell. ODFW did not provide any information with regards to stock status, distribution and abundance of any marine species and their habitats along the proposed project shoreline area or within the Newport Littoral Cell.

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 11 requests for a public hearing. A public hearing was held on July 1, 2009 and 4 individuals testified. The testimony raised a variety of issues, including project need and supporting evidence, historical observations, non-structural alternatives, visual and recreational impacts from the proposed riprap, inaccurate and insufficient application data, and the presence of existing cobble berm protection. Several of the individuals supported ODFW's comments regarding recreational use impacts and shoreline processes being affected by the proposal. Most of the major issues raised from the public comments received at the July 1st hearing have been addressed in this report.

In addition, a letter was received from the Oregon Shores Conservation Coalition (OSCC) acknowledging the property having a history of erosion, and that the proposed riprap will affect recreational uses. OSCC also commented that the proposed riprap will narrow the beach at high tide, affect nearshore wildlife, shunt wave action to adjacent properties which will eventually reduce sand accumulation on the beach and starve the sand bluffs of nourishment.

VII. FINDINGS SUMMARY

Project Need – The proposed riprap is necessary to provide protection from ocean-caused erosion. Although the beach profile and adjacent bluff slope has not changed significantly in recent years, there is evidence of steady and/or episodic erosion events impacting the bluffs and adjacent properties. Photographs that were taken at the site in 1992 (BA# 345-92), document a steep vertical face fronting TL 3300, and photographs taken in 1999 (BA# 482-99) document what appears to be additional slide material deposited on the beach. It is apparent from the photo record that this property sustains extensive ocean caused bank erosion during episodic storm and rain events. Some of the erosion and tension cracks observed on the property may be attributable to poor upland drainage or an abandoned septic field, however, the majority of the loss of the property is the result of wave action.

Currently, there are large tension cracks approximately 20 and 30 feet back from the top of the bluff in the ground surface that is generally indicative of active slope movement. The property is subject to landslides and has multiple slip faces above the existing bluff. The base of the bluff is subject to direct wave energy which reduces the bluff stability and likely contributes to the slide activity along the slip faces. During extended periods of intense rainfall coupled with high tides and heavy storm surf, toe erosion and subsequent mass failure at the identified surface tension crack sites is expected to continue. Slide action would eventually result 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, protect a reasonable building footprint, and provide long-term protection to adjacent developed properties.

The amount of erosion occurring is not so severe that it is causing a threat to upland property or buildings on adjacent properties, and this amount of erosion would not necessarily constitute adequate justification for such a project if the adjacent areas were not already protected with riprap. However, in this particular situation, OPRD finds that the need for the riprap project is justified, considering that the site is immediately adjacent to existing riprap revetments.

Alterations and Project Modifications: Although a cobble berm is found at the toe of the slope at the site, it is not of significant size and scope to stop the release of the cracking of observed slip faces and eventual sloughing on the top of the bluff. Non-structural alternatives to riprap are not feasible or practical at this site due to the existing riprap immediately adjacent to both sides of this site. The placement of riprap will add structural integrity to the area's shoreline protection by connecting a 100-foot gap between existing revetments.

Neighboring Properties The adjacent properties north and south are protected with riprap shore protection; therefore there will be no adverse impacts on erosion rates to nearby properties.

Fish and Wildlife Oregon Department of Fish and Wildlife (ODFW) asked that the application be denied based on the public's right to use and enjoy the beach (including fishing), outweighing the rights of individual landowners to protect their beachside properties known to be actively eroding. OPRD recognizes that some limited razor clamming and surf perch fishing occur on the nearshore area fronting the subject property. No recreational crabbing occurs along this shoreline, and commercial crabbing is conducted significantly offshore. However, ODFW provided no basic information on the distribution, abundance, localized fishing effort, catch rates, habitat associations and direct impacts to marine species along the adjacent shoreline or within the Newport Littoral Cell that would support an application denial. When evaluating Ocean Shore Alteration Permits, OPRD's Administrative Rules require an analysis of all the standards for shoreline protection in evaluating permit applications and when considered together, the factors listed assist in the overall decision for granting, an ocean shore permit, or denying, or modifying the ocean shore permit application when the level of impact is determined to be unacceptable.

In previous reviews of Ocean Shore Alteration Permits, ODFW has never denied an application based on fishing rights outweighing homeowner's rights to protect their properties, or impacts to recreational opportunities. Recreational use including fishing and clamming will not be directly affected by this proposal. The beach is normally quite wide here, and during extreme high tides and heavy ocean swells, the beach is submerged with waves hitting the base of the bluffs, limiting any type of recreational activity. Crabbing is not normally a recreational activity done from the beach.

The ODFW denial raises important questions regarding the overall impacts of shoreline protection structures within the Newport Littoral Cell on coastal beach processes and potential impacts to fish and wildlife resources. This application and geologic report cannot address or evaluate the broader concerns raised about ocean shore alterations, in addition to cumulative impacts from upland, riverine and coastal development on natural beach processes within the Newport Littoral Cell. In reviewing past erosion cycles and the most current data available, OPRD concludes that there is insufficient long-term information along this particular shoreline to conclude that the sand budget and beach profile will be significantly impacted by the proposed riprap structure. OPRD has evaluated the project application and determined that the project represents significant but acceptable environmental impacts, considering the availability of past and current information.

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