FINDINGS OF FACT
STAFF REPORT

Date:	November 18, 2011	OPRDOceanShoresCoordinator:	Tony Stein		
OPRD File Number	BA # 674-11	County:	Lincoln	Applicant:	Surfrider Resort
Project Location:	Lincoln County Assessor's Map # T8S, R11W, Section 29 DD, tax lot400, andT8S, R11W, Section 32, tax lot 100. The Surfrider Resort is located at 3115 NW Highway 101, Depoe Bay				

Brief Project Description:

The proposed project is a request for permanent authorization of a riprap revetment that was installed under an OPRD emergency ocean shore alteration permit. The project involves the construction of a riprap revetment along 135 feet of shoreline fronting 2 individual tax lots. Due to severe bluff erosion and bank retreat, the proposed riprap and fill material is required to stabilize the toe of the bluff and a previously constructed "cast auger wall" situated belowa38' X 205' two story building. Plans call for armor rock 8-10 feet in diameter, keyed into the existing mudstone platform and placed in an interlocking state approximately 30 feet in height above beach level, with a slope of 1.5H to 1V. The area above the riprap revetment will be backfilled with pit run material at a 1.5H:1V slope to provide lateral bank stability to an elevation of approximately 40 feet. A layer of soil will be placed over the face of the pit run material and planted with native vegetation. The proposed riprap revetment and upland fill will tie into the base of the existing cast auger wall and project approximately 35 feet onto the ocean shore.

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.

The Surfrider Resort property is a large parcel of land atop an elevated sea terrace, located on the west side of Highway 101 north of the Fogarty Creek State Recreation Area. Since the late 1990's, winter storm activity with increased wave energy has resulted in the water shoreline position in the Fogarty Creekarea toerodesignificantlylandward.Since that time, buffering beach sand has been removed with the beach continuing to narrow, offering little storm surge protection to the bluffs along this section of shoreline.The geologic report by G2Associates, Inc. dated January 14, 2011, reports that "The net result of heavy erosion events over the past year have been heavy destruction of the long-standing rock and protuberant sandstone rock fingers that have acted to protect the land by their extension into the ocean. These features have protected the sea cliff from being undermined by frontal erosion in most areas. The erosion protection is now gone having been rapidly destroyed overnight in a matter of months".Recent and accelerated bluff erosion has subjected the toe of the ocean bluff to continuous wave run-up causing significant block failure and sloughing on the bluff.

This is the second application OPRD has received from the Surfrider Resort to stop erosion and protect the subject building at risk. In 2003, an application for a proposed “mechanically stabilized earth embankment structure”was submitted to OPRD and subsequentlywithdrawn following a public hearingon the project. At that time the subject building was measured at 45 feet from the edge of the bluff. Shortly thereafter, a Lincoln County building permitwas issued to the property owner to construct acast auger wall structure to protect the building foundation. At that time, the cast auger structure was built an estimated 30 feet behind the line of vegetation and outside of OPRD’s jurisdictional authority. During the fall of 2008, bluff erosion exposed the cast auger wall, and the structure was now located within OPRD’s jurisdictional boundaries. Prior to the emergency riprap installation, the Surfrider Resort property lost an estimated 15-20 feet of ocean bluff on the north side of the cast auger wall. On March 13, 2010, the southwest corner of the building foundation to the edge of the bluff was measured at 15 feet. An emergency permit was issued, and in discussions with the property owner and contractor, an agreement was made to not exceed the placement of riprap beyond the outer edges of the mudstone features on the north and south sides of the proposed revetment footprint. This option was submitted earlier to OPRD as Option “B” in a site plan designed by OGD Consulting, P.C., dated December 4th, 2009, to reduce and minimize encroachment on the ocean shore and preserve the beach area.

In the April 10, 2009 “Geologic Hazard Review of Sea Cliff Condition Preparatory for Application for Seawall Feature” report by G2 Associates, Inc., it states that “the existing piers /pylons that form the existing underground structure were bored some 30 feet into the mudstone formation clarifying that undermining of this feature is not an issue of jeopardy in this discussion. It is our observation that the cast structure continues to perform as the rigid reinforced elements they were intended to be based on the original design and construction. The intent with this new buttress addition would be for the added protection of the pylons and the provision for lateral support of the partially protected terrace sand unit which is again being routed by wave attack and erosion south of the structure.”

Uncontrolled groundwater near the base of the bluff and rainwater runoff from building drainpipes also appear to be a contributing factor to the failure of the mid bluff and upper bluff sand formation. G2 Associates Inc. states a concern of rainfall and groundwater from within the sand strata traveling the unit contacts and increasing erosion. This is a continuing concern as the erosion appears to be accelerating at the southern end of the cast auger wall within the upper sand unit. A survey and evaluation of existing drainage routes will be addressed in the permit conditions.

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 60 foot high bluff. The encroachment would only reduce a small amount of usable beach area, and the presence of riprap would not affect public ownership or easement rights on the ocean shore. The beach area fronting the proposed riprap structure is narrow and is limited or totally inaccessible forpublic access and recreational use during medium to high tides as normal wave run-up reaches the base of the bluff. The area north of the proposed structure is available for public access only during low tides.The project will occupy an estimated 4, 725 square feet of beach area which was previously available for public use.

During the emergency permit process, it was recognized that public access would need to be addressed and not significantly impacted with any proposed riprap design at the site. The property owner, consulting geologist and engineer proposed two options called Option “A” and Option “B”, and it was agreed that Option “B” with its reduced westward footprint would not significantly impact north and south public beach access during medium and low tides. The Option “B revetment structure would also be in line with the existing mudstone features still remaining on the beach and would not interfere with beach access.The Option “B” structure as completed during the emergency permit process will be addressed in the permit conditions.

In evaluating similar riprap projects, OPRD has found this amount of encroachment to be acceptable when the need for the project was considered justified.

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 application states that the property could not accommodate the relocation of the 38' X 205' building due to limited available land area and existing limited parking area required by code. The applicant provided costs of relocating the structure, but no additional information or analysis as to the feasibility of such an action and where the building would be moved to. It appears that moving the building directly east of its present position would only allow an estimated 15 feet of additional setback from the bluff, as another building sits directly eastof the structure. Relocation(or removing a portion) of the subject building, if possible, would not reduce the future threat of damage to the building due to the potential continued high rate of bank erosion and bluff failure.

The application does not specifically address non-structural solutions, but other geologic reports in areas similar to Fogarty Creek have ruled out non-structural methods of shore protection. These solutions including vegetative stabilization, sand nourishment, and dynamic revetments, have been eliminated as viable options 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. The proposed riprap will not entirely eliminate all block failure and 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 upper slope area is now protected from wind, rain, wave overtopping and larger marine terrace failures due to the placement of the cast auger wall. The geologic report recommends a riprap revetment as the appropriate measure to protect the property.

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. As previously discussed, moving the subject building is not areasonable option, due to the large building size, removal costs and constraints on the available land and parking area on the bluff top.

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

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

***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 revetment will only be placed to about 30 feet in height above beach level with a vegetated fill structure located above it. The cast auger wall structure retains some of the sand and soil material and coloration found naturally in the bluff face and this provides a small measure of blending into the adjacent bluffs. This is a developed area with a nearby riprap structure, concrete and wood stairway, highway bridgeand other landscape alterations found just to the south of the project site, with other developed buildings and homes located to the north.

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

Vegetation exists on the adjacent bluffs to the north and south of the project site and the fill material above the riprap structure has some established vegetation. A condition of a permit will require soil maintenance and replanting of the area above the riprap to restore vegetation to the middle bluff area.

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 soil and and planting vegetation, allowing it to blend in with the existing terrain and vegetation. There are extensive riprap revetments just to the south of the subject property that protect the Highway 101 bridge approaches and piers at Fogarty Creek. The proposed riprap will be similar to the existing revetments near 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. The beach area fronting the proposed project is only available during medium and low tides, as high water and wave run-up reaches the base of the riprap during high tides and thus eliminates all use of the area. To the north of the revetment, the beach is only accessible during low tides as the beach narrows considerably and steep bluffs protrude onto the ocean shore. During storm events or winter high tides, wave run-up will reach up to the middle or higher on the riprap structure. During normal conditions, however, the existence of the riprap will not be a detriment to typical recreation.

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.

Historically, public access has been limited in this specific area because of the steep sandy beach, narrow beach profile and the prominence of ocean bluffs extending close to the nearshore area. The project will not extend significantly out onto the ocean shore to cause an obstruction to public access along the shoreline during low to medium tides.

IV. SAFETY STANDARDS, OAR 736-020-0030

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 rock revetmentwas designed with the placement of large rocks 8-10 feet in diameter within the eroded pockets of the cliff face and secured into the mudstone formation on the beach. The structure was built with each rock interlocked to provide a solid foundation to prevent building undermining and aid in reducing wave surge action on the fragile upper bluff.

Future failure and erosion of the mudstone formation features found at beach level, as well as upper bluff terraceis expected to continue on the north and south corners of the riprap revetment and cast auger wall. The cast auger wall structure and adjacent banks may be compromised, and any future requests for repair or modification will require an analysis of the original design and structural components and its intended use and function.

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

The beach at this location is typically quite narrow, and the proposed riprap is not expected to obstruct pedestrians or vehicles during low to medium tides. As discussed previously, the beach area is limited or unusable during high tides or during significant storm conditions.

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

The project is located within the owner's property and is approximately 200 feet from the adjacent north and south properties. The ends of the riprap structure are designed to taper in at the ends where they meet the native sea cliff and will therefore minimize erosion at the interface. A rock toe or "key" was excavated into the mudstone at a depth of 4 to 5 feet to minimize scour at the base of the project. The adjacent property to the south is owned by the Oregon Parks and Recreation Department (OPRD) and there is an existing riprap revetment running the complete length of the property on the adjoining Oregon Department of Transport right-of-way along Highway 101.

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

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 near the ordinary high tide line, and no foreign materials or pollutants are expected 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.

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 commercial and 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

OPRD posted notice of the proposed projectat the site for 30 days in accordance with ORS 390.650. OPRD mailed individual notification and a copy of the application to government agencies and individuals on OPRD's ocean shore mailing list.

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. During this initial comment period, more than ten requests were received for a public hearing. A public hearing was held on October 4, 2011, and 8 people attended the hearing. No one testified or submitted written comments during the public hearing. Three written comments were submitted during the

open comment period with two expressing opposition, and the third favoring other alternatives to the proposed project request. The comments expressed a general concern that the riprap structure would impact the beach, causing additional sand volume and beach width to be lost. Other comments included the following themes: 1) insufficient evidence of project need in addition to the cast auger wall,2) insufficient analysis of moving the building or removing a portion of the building 3) the project would block off and significantly obstruct public access, and 4) the applicant failed to analyze reasonable alternatives to the riprap revetment.The issues raised in written comments are all valid concerns, most which have been addressed in this findings document.

VII.
FINDINGS SUMMARY

Project Need –
OPRD recognizes the need to protect the property based on the location and proximity of the existing building to the edge of the bluff, geologic site conditions, and persistent bank toe erosionand bluff failure. The riprap revetment will reduce the amount of energy from storm surges and wave attack that impact the toe and lower face of the bluff. The cast auger structure will continue to prevent the subject building from undermining due to bluff failure, by retainingthe upper bluff soils fronting the building.

Alterations and Project Modifications
There is evidence of active erosion at the site, and the property owner has no other reasonable options to help reduce erosion of the bluff and provide long-term protection to the building. Relocating the subject building is not a reasonable alternative due to the physical constraints in moving the structure and the close location of an adjacent structure. 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 cast auger wall.

Structural Safety
The riprap revetment has been designed to meet or exceed standard engineering requirements for shoreline protection by utilizing large diameter riprap rock. The revetment will cover up and protect the toe of the bluff and lower portion of the cast auger wall from wave attack. The geologic reports submitted with the application maintain that the cast auger wall is functioning in a stable condition, but OPRD has observed some damage occurring, with sections of the unreinforced soil-cement columns buckling and falling off the face of the structure. In addition, unabated bluff erosion continues on each side of the cast auger wall due to the placement of drainpipes. The long term stability and integrity of the exposed portion of the cast auger wall remains unclear due to the lack of detailed construction plans and information on life expectancy. Any future repairs and/or modifications to the cast auger wall will be addressed in the permit conditions.

Property Protection
The geologic report, G2 Associates Inc, January 14, 2011, recommends that the riprap revetment be extended by 5 feet in height to provide better lateral stability within the upper sand cliff, with additional plantings at the completed fill height. OPRD concurs with the additional protection measure to ensure that the final height of the structure will be above any potential wave surge and over wash. Any other future repairs and/or modifications to the existing riprap revetment structure will be addressed in the permit conditions.

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:

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

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
OceanShores Coordinator