



FINDINGS OF FACT STAFF REPORT

Date: January 20, 2009

OPRD Coastal Land Use Coordinator: Tony Stein

OPRD File Number: BA-652-08

County: Tillamook

Applicant(s):

Oregon Parks and Recreation Department

Project

Location:

Northwest of the vehicle turnaround at Cape Lookout State Park
Tillamook County Assessor's Map T2S, R10W, Section 31, Tax Lot 6100

Background:

Cape Lookout State Park is an important recreational destination for sightseers, hikers, beachcombers and campers. Over the past two decades, chronic shoreline and dune erosion has impacted Cape Lookout State Park (CLSP) located at the south end of Netarts Spit. During the period of December 2007 to mid-January 2008 a series of large storm events resulted in accelerated beach erosion and foredune scouring along the shoreline fronting CLSP. OPRD issued Emergency Permit (BA# 639-08) on January 28th, 2008, as Septic Drain Field #1 infrastructure was compromised and there was an immediate threat to the upland structure, main sewer pipeline and the main access road.

A previous dynamic cobble revetment approximately 1800 feet long by 40 feet wide (BA# 483-99) was constructed in 1999, just south of the proposed project site to prevent foredune breaching, storm surge flooding, and deposition of debris into the CLSP group camping area.

The depletion of sand and cobbles along the beach has resulted in increasing annual storm damage to the 1999 dynamic revetment, adjacent foredunes and campground infrastructure which parallels the shoreline. In early December of 2007 and January 2008, high tides and storm surges caused an estimated loss of 20-30 feet of foredune fronting CLSP. The foredune erosion exposed and destroyed Septic Drain field # 2 and threatened the operation of primary Septic Drain Field # 1 which services the CLSP campground.

**Brief Project
Description:**

The applicant is requesting the placement of a dynamic rock berm, approximately 740 foot long by 20 foot wide, using rock material imported from a local source. The dynamic rock will extend along the property line fronting tax lot 6100. The rock material consists of a total volume of 4,000 cubic yards of clean rock with 80% of the cobble consisting of 12"minus and 20% of the cobble ranging from 12"to 24" inches in diameter. This sizing of material reflects the existing cobble berm at this location and adjacent cobble fields along the ocean shore. The rock material will be placed on the ocean shore and will blend into the adjacent cobble fields to the north and south of the project area. The system will have an estimated height of 10 feet against the base of the foredune and gradually slope down approximately 20 feet in a westward direction at a 2:1 slope. In addition, a beach access ramp will be incorporated into the revetment.

The additional cobble material effectively raised the crest elevation of the remaining cobble berm by approximately 9.8 ft while the seaward face of the berm was pushed seaward by about 15 ft near the toe of the cobble berm and about 3 ft at its reconstructed crest.

DOGAMI staff made recommendation that OPRD add about 15,000 cubic yards of cobble to the affected area in order to provide sufficient protection to the remaining dune and the adjacent drain field. Due to funding concerns, OPRD made the decision to only protect the immediate area fronting Septic Drain Field #1. The proposed mitigation effort is only a temporary fix and offers CLSP sanitation facilities minimal protection from long term dune erosion due to storm activity.

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.

Northwest of the vehicle turnaround area and south of Septic Drain field # 2, are the main service road and the main pipeline that links the three drain fields for CLSP, and the infrastructure for Septic Drain field # 1. These three components provide critical sanitation services to park, and damage to the remaining sewer system infrastructure would have shut down the park, or significantly reduced park operations.

OPRD was concerned that additional erosion during the winter and spring of 2008 and subsequent 2008-2009 winter season would compromise the remaining sewer drain fields (#1 and #3) as well as the main pipeline that links the three drain fields together. OPRD is currently reviewing options to remove the existing drain fields and the main pipeline and develop a new upland sanitation system away from the ocean shore. Due to required permitting, design, construction, and funding constraints, OPRD was unable to complete a new plan and facility operation prior to the 2008/2009 winter season.

The Department of Geology and Mineral Industries (DOGAMI) has proposed the interim solution of several thousand cubic yards of gravel (a.k.a. an expansion of the existing dynamic revetment constructed to the south and adjacent to the campground) to get the park through the remainder of the winter. The proposed project is intended to limit the advance of this erosion and protect critical CLSP infrastructure and the recreational uses on OPRD property along the ocean shore.

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 rock berm will occupy approximately 0.34 acres of sandy beach area, and will be derived of rock material from a local source to mimic naturally occurring beach cobble. The placement of rock material will not prevent access to the beach, or along the beach in a north-south direction, although the area of sandy beach will be reduced in width, replaced by mix of naturally occurring cobbles and angular placed rock.

Public Laws – The applicant shall comply with federal, state, and local laws and regulations affecting the project.

State of Oregon regulations are being addressed under the review of this permit.

A determination that the project is consistent with the local comprehensive plan and zoning ordinance is required from the local planning official prior to final authorization from OPRD. The Tillamook County Department of Community Development has indicated that a development permit is required for the project, and that an application has been made. A condition of approval will require that the County Development permit be finalized, and that a certification of plan consistency be submitted from the County prior to construction of the project.

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.

A “no action” approach would lead to continued dune erosion and the potential loss of the remaining sanitation facilities and park access road and trails, possibly even the eventual breaching of Netarts Spit. CLSP is an outstanding park with many recreational opportunities for residents and visitors alike, and receives up to 250,000 visitors annually. For these reasons, this option was rejected.

The retreat and relocation option involves moving sanitation facilities further inland to avoid ocean hazards. OPRD is currently seeking funding to pursue this option, as well as updating its current Cape Lookout Master Plan to address a changing ocean environment and future options for the park and it’s operation ..

Beach nourishment would involve the importation of large quantities of sand to the beach, to widen the beach and create a better buffer from wave erosion. This option was deemed too expensive for Cape Lookout, and the one obvious source of dredged sand, Netarts Bay, would have generated significant opposition, because the bay is identified as a conservation estuary in the Oregon Estuary Plan.

Structural alternatives have been utilized in the past, with only limited success. A seawall built of logs, vertical I-beams and riprap was built in the 1960's. The seawall failed due to heavy storm activity in the winter of 1987/88. In January 1998, an emergency riprap revetment was installed for shore protection, to protect a restroom building. Strong winter storms and wave overtopping in the subsequent winter months led to erosion around the sides of the revetment, and the building was later demolished.

A cobble berm, or “dynamic revetment” and man-made sand dune were installed by OPRD in 1999 fronting the campground area. This project served as a demonstration project and provided an example of an alternative design to traditional structural solutions such as riprap or seawalls. The dynamic revetment mimics natural cobble beaches found in the area, and this alternative can also be considered a form of beach nourishment. For the last eight years, the cobble berm has performed well and maintenance was recently completed (July 2008) to re-strengthen portions of the revetment. OPRD has selected this design as the preferred option, as

the cobble berm revetment has responded as expected after years of monitoring and analyses by DOGAMI staff.

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.

Public costs associated with the dynamic revetment system will be the conversion of sandy beach areas into a naturally appearing cobble beach. This type of beach is common on nearby areas however, and will be traversable by foot traffic. Accreting beach and dune sand in summer months may cover portions of the rock berm which will allow easy travel across the revetment. The public costs will be offset by the areas of the upland State Park which will be preserved and protected by the dynamic revetment system.

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.

Statewide Planning Goal 18 states that permits for beachfront protective structures shall be issued only where development existed on January 1, 1977. Development is defined as houses, commercial and industrial buildings, and vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lot. The project involves a non-structural means of shore protection in the form of a dynamic rock revetment. Development and infrastructure existed on the property prior to 1977; therefore the structural component of this project is in compliance with the LCDC Goals.

Statewide Planning Goal 17 states that non-structural solutions shall be preferred to structural solutions: The proposal constitutes a non-structural means of shore protection in the form of a dynamic rock revetment. More structural solutions such as riprap and solid seawalls have not been chosen, due to their “structural” appearance, and because of the desire to protect the upland areas with a system that more closely resembles a natural shoreline. Goal 17 also states that erosion control structures shall be designed to minimize adverse impacts on water currents, erosion, and accretion patterns. The project is expected to have no adverse impacts on water currents, erosion, and accretion patterns.

As a condition of approval, certification of local plan consistency will be required from the Tillamook County Department of Community Development. Because the county’s comprehensive plan and zoning ordinance were acknowledged under the LCDC Planning Goals, this certification will also affirm compliance with these goals.

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 will result in some modifications to the existing beach contours, but is designed to retain the natural features of a cobble beach, and vegetated foredune. In the natural State Park setting, these features are preferred to other methods of shore protection methods such as rock riprap or solid seawalls.

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

Erosion of the shoreline has resulted in the loss of shoreline vegetation, from small shrubs and beach grass to large Sitka spruce trees. The project will occupy some sandy beach area, but will not result in removal of vegetation. No vegetation currently exists within the proposed project area.

View Obstruction – The project shall avoid or minimize obstruction of existing views of the ocean and beaches from adjacent properties.

The dynamic rock berm will mimic adjacent cobble fields in height and width and will not affect or obstruct ocean or beach viewing opportunities from adjacent areas or properties.

Compatibility with Surroundings – The project shall blend in with the existing shoreline scenery (type of construction, color, etc.).

The project is designed to restore a natural appearance to the shoreline, including a natural cobble berm, similar to the beach on nearby areas, and under the right conditions allow for sand and beach grass to revegetate the foredune.

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 dynamic rock berm will reduce the area of flat sandy beach, so that at higher tides, beach users will need to traverse the smooth cobblestones and newly placed rock material in order to walk up and down the beach. This change in beach characteristics will also provide for protection and preservation of sanitation facilities and upland recreational areas. This coastal campground is considered an important recreational resource, and during the busy months, daily park visitors and campers utilize the beach and upland access road to enjoy the northern section of the park on Netarts Spit. In 2007, prior to the recent erosion damage, an estimated 250,000 people visited the Cape Lookout State Park campground and day-use areas.

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.

Access to the beach is very important in this area due to the number of campers at the park, as the beach is the main focus of recreation for campers and other park visitors. Currently, many people in the immediate area of the overnight camp access the beach near the south end of the proposed project, near the site of the vehicle turnaround. Recognizing that an access route in this area is a necessity, park management staff will seasonally maintain this existing access route within the dynamic rock berm to provide safe and reasonable access.

The graded beach access will utilize rock material similar to the dynamic rock berm and occupy approximately 180 square feet of beach area, and will not cause an obstruction to public access to and from the shoreline.

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 dynamic rock berm and foredune will resemble and function as a natural landform, and will not pose an increased risk to beach users. The proposed rock berm will intermix with existing cobblestones and over time will follow a natural process of rounding out the rock to match the cobble found in this area. The dynamic rock berm is designed to shift and move when subject to wave energy, as do the naturally occurring cobble berms on other beach areas.

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

During high water events during the winter, wave run-up can cover the entire beach, washing up the face of the dynamic rock revetment and foredune. This is similar to other natural cobble areas to the north and south of the project area.

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

Cape Lookout State Park ownership extends for approximately five miles north to the end of Netarts Spit, and several miles to the south, around the major headland of Cape Lookout. Property owned by adjoining landowners will therefore be unaffected by the proposed dynamic revetment system.

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.

Despite the addition of some 4000 cubic yards of rock material for the proposed project, DOGAMI reports that the current mitigation is a temporary fix and is unlikely to survive a major storm or series of storms. DOGAMI staff had recommended that OPRD add about 15, 000 cubic yards of cobble to the affected area in order to provide sufficient protection to the remaining dune and the adjacent drain field. The interim solution involved the addition of four thousand cubic yards of gravel (a much smaller version and expansion of the existing dynamic revetment constructed to the south and adjacent to the campground) to get the park through the remainder of the winter.

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 the Siletz and Grand Ronde Indians. There were no reports of historic, cultural, or archeological sites at this location.

Natural areas (vegetation or aquatic features).

There is no existing vegetation or aquatic features that will be impacted by the proposed project.

Air and water quality of the ocean shore area.

The proposed project will not adversely affect air or water quality on the ocean shore.

Areas of geologic interest, fossil beds, ancient forest remnants.

These features are not known to be present 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.

There are no native plant communities or fish and wildlife habitat in the area that will be affected by this proposal.

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 comments in support or opposition to the request.

VII. FINDINGS SUMMARY

Project Need –

OPRD is currently in a planning process to replace the sewer system in an upland area within Cape Lookout State Park. The proposed dynamic rock berm is an interim measure that is expected to protect the existing sanitation facilities while still preserving a natural looking beach and shoreline.

There is a need to control erosion on the site. Since 1982, severe erosion has affected Cape Lookout State Park. This threat was heightened during the winters of 1997/98, 1998/99, and during the winter of 2007 and 2008. Losses include the destruction of Septic Field #2 and the potential loss of Septic Drain #1 and the main pipeline and access road. The proposed dynamic rock berm and beach nourishment system is an attempt to reduce erosion and facilities damage to the park.

The dynamic rock berm and beach nourishment system was chosen because of the need to maintain a naturally appearing shoreline in this park setting. Other structural solutions such as riprap or seawalls are considered inappropriate by OPRD for this shoreline. Past attempts at structural solutions have not been successful over the long-term.

Public access to and along the beach will not be substantially affected by the proposed rock berm and beach nourishment system. Areas of the sand beach will be replaced by natural rock stones, but the beach areas will still be traversable by people on foot. Over time, the small angular rock will become rounded and will be similar to other cobble beaches nearby, and on other areas of the Oregon coast.

The erosion protection for the sewer system, main pipeline and access road at Cape Lookout State Park will provide public benefits by preserving the recreational resource of the State Park, an important recreational facility for visitors and area residents.

The project was designed with input from a variety of coastal experts. This project will constitute another attempt to replicate the success of the first natural dynamic revetments placed just south of the subject project. The dynamic rock berm will be used as an example of non-structural shoreline protection that can provide an alternative to structural means of shoreline protection. An existing monitoring program by DOGAMI will help to provide information on the success of this design to control erosion in the short term.

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

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"/>			

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