

**WAC 220-660-370 ((Bank protection)) Shoreline stabilization in saltwater areas.** Appropriate methods to assess the need for marine ((bank protection)) shoreline stabilization and, if needed, to design marine ((bank protection)) shoreline stabilization are available in the department's *Marine Shoreline Design Guidelines*, as well as other published manuals and guidelines.

(1) **Description:** A broad spectrum of ((bank protection)) shoreline stabilization techniques can be applied to protect property. These range from ((natural)) passive techniques that require minimal or no engineering ((to)), engineered soft shore protection ((to)), and hard ((shore)) shoreline armor. ((Natural)) Passive techniques include planting native vegetation, improving drainage, and relocating ((structures. Natural)) buildings, roads, and improvements (e.g., wells, utilities, septic fields, and the like). Passive techniques typically preserve the natural condition of the shore and have few to no negative impacts on fish life. Soft shore techniques ((include)) such as log placement, beach nourishment, resloping the bank, and re-vegetation can provide erosion protection using strategically placed natural materials while allowing beach processes and fish habitat to remain intact. Conventional hard techniques include bulkheads, seawalls, revetments and ((retaining walls)) related structures, which are designed to preclude shoreline migration and bank erosion. Each type of approach has varying degrees of impact. In general, ((natural)) passive techniques result in the fewest impacts to fish life and hard ((armor)) techniques have the most impacts.

(2) **Fish life concerns:** Conventional hard techniques as well as some soft shore techniques can physically alter the beach and disrupt beach processes. This alteration can cause a loss of the beach spawning habitat for Pacific sand lance and surf smelt. These forage fish species are a primary food source for some adult salmon species. This alteration can also reduce beach complexity, the presence of marine riparian vegetation including overhanging vegetation alongshore that produces terrestrial insects that are eaten by juvenile salmon. To protect fish life, the department protects both beaches where saltwater habitats of special concern occur and the beach processes that form and maintain this habitat.

(3) ((Bank protection)) **Alternative selection:**

(a) To ensure the protection of fish life, a person must use the least impacting technically feasible shoreline stabilization alternative. For the purpose of this section, "feasible" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. A person should propose a hard armor technique only after considering site characteristics such as the threat to major improvements, wave energy, and other factors in an alternatives analysis.

(b) Common alternatives for both new shoreline stabilization and the replacement or rehabilitation of shoreline stabilization that extends waterward of an existing shoreline stabilization structure are, from most preferred to least preferred:

- (i) Remove any existing shoreline stabilization structure and restore the beach;
- (ii) Control upland drainage;
- (iii) Protect, enhance, and replace native vegetation;

(iv) Relocate buildings and improvements;  
(v) Construct a soft structure;  
(vi) Construct upland retaining walls;  
(vii) Construct a hard structure landward of the ordinary high water line; and  
(viii) Construct a hard structure at the ordinary high water line.

(c) Common alternatives for replacement or rehabilitation of residential shoreline stabilization are, from most preferred to least preferred:

(i) Remove the existing shoreline stabilization structure and restore the beach;

(ii) Remove the existing shoreline stabilization structure and install native vegetation;

(iii) Remove the existing shoreline stabilization structure and control upland drainage;

(iv) Remove the existing shoreline stabilization structure and replace it with a soft structure constructed of natural materials, including bioengineering;

(v) Remove the existing hard structure and construct upland retaining walls;

(vi) Remove the existing hard structure and replace it landward with another hard structure, preferably at or above the ordinary high water line; or

(vii) Remove the existing hard structure and replace it in the same footprint with another hard structure.

(d) Except as provided in (f) of this subsection, HPA applications for the following types of projects must include a site assessment, alternatives analysis and design rationale for the proposed method(s) prepared by a qualified professional (Qualified Professional's Report):

(i) New shoreline stabilization;

(ii) Replacement or rehabilitation of shoreline stabilization that extends waterward of an existing shoreline stabilization structure; and

(iii) Replacement or rehabilitation of residential shoreline stabilization.

(e) The applicant must submit the Qualified Professional's Report to the department as part of a complete application for an HPA that includes:

(i) An assessment of the level of risk to existing buildings, roads, or services being threatened by the erosion;

(ii) Evidence of erosion and/or slope instability to warrant the stabilization work;

(iii) Alternatives considered and the technical rationale specific to the shoreline stabilization technique proposed;

(iv) An analysis of the benefits and impacts associated with the chosen protection method; and

(v) An explanation of the method chosen, design parameters, types of materials, quantities, staging, and site rehabilitation.

(f) The department may grant an exemption to the Qualified Professional's Report required under (d) and (e) of this subsection based on the scale and nature of the project for the following:

(i) Projects for the removal of an existing shoreline stabilization structure and restoration of the beach.

(ii) Projects employing passive techniques such as controlling upland drainage or planting native vegetation.

(iii) Other projects as assessed by the department.

(g) Emergency or expedited applications submitted under RCW 77.55.021 (12), (14), or (16) that do not include a site assessment and alternatives analysis report should identify the work necessary to address the immediate situation authorized under RCW 77.55.021. A site assessment and alternatives analysis report must be submitted within 90 days from the permit issuance unless the department issues an exemption. After consideration of the assessment and analysis report, if the department determines that shoreline stabilization work conducted under the emergency or expedited permit is not the least impactful technically feasible alternative, the applicant may be required to replace the structure with one that is the least impactful technically feasible alternative.

**(4) Shoreline stabilization design:**

(a) If the ordinary high water line (OHWL) has changed since an existing hard (~~bank protection~~) shoreline stabilization structure was built, and OHWL reestablishes landward of the structure, the department will consider this reestablished OHWL to be the existing OHWL for permitting purposes. If an HPA application is submitted for repairs within three years of the breach, the (~~bank protection structure may be repaired or replaced in the original footprint~~) prior OHWL may be considered for permitting purposes.

(b) (~~A person must use the least impacting technically feasible bank protection alternative. A person should propose a hard armor technique only after considering site characteristics such as the threat to major improvements, wave energy, and other factors in an alternatives analysis. The common alternatives below are in order from most preferred to least preferred:~~

- ~~(i) Remove the bank protection structure;~~
- ~~(ii) Control upland drainage;~~
- ~~(iii) Protect, enhance, and replace native vegetation;~~
- ~~(iv) Relocate improvements or structures;~~
- ~~(v) Construct a soft structure;~~
- ~~(vi) Construct upland retaining walls;~~
- ~~(vii) Construct hard structure landward of the OHWL; and~~
- ~~(viii) Construct hard structure at the OHWL.~~

~~(e)) The construction of all (~~bank protection~~) shoreline stabilization must not result in a permanent loss of surf smelt or Pacific sand lance spawning beds.~~

~~((d) An HPA application for new bank protection, or the replacement or rehabilitation of bank protection that extends waterward of an existing bank protection structure must include a site assessment, alternatives analysis and design rationale for the proposed method prepared by a qualified professional. The department may grant an exemption depending on the scale and nature of the project. The applicant must submit the qualified professional's report to the department as part of a complete application for an HPA that includes:~~

- ~~(i) An assessment of the level of risk to existing buildings, roads, or services being threatened by the erosion;~~
- ~~(ii) Evidence of erosion and/or slope instability to warrant the stabilization work;~~
- ~~(iii) Alternatives considered and the technical rationale specific to the bank protection technique proposed;~~
- ~~(iv) An analysis of the benefits and impacts associated with the chosen protection method; and~~
- ~~(v) An explanation of the method chosen, design parameters, types of materials, quantities, staging, and site rehabilitation.~~

~~(e-))~~ (c) The department may require the design of hard (~~bank protection~~) shoreline stabilization structures to incorporate beach nourishment, large woody material or native vegetation as mitigation.

~~((4) Bank protection)~~ **(5) Shoreline stabilization location:**

(a) Locate the waterward face of a new hard (~~bank protection~~) shoreline stabilization structure at or above the OHWL. Where this is not feasible because of geological, engineering, or safety concerns, the hard (~~bank protection~~) structure may extend waterward of the OHWL the least distance needed to excavate for footings or place base rock, but no greater than six feet. Soft shoreline methods that allow beach processes and habitat to remain intact may extend waterward of the OHWL.

(b) Do not locate the waterward face of a replacement or repaired hard (~~bank protection~~) shoreline stabilization further waterward than the structure it is replacing. Where removing the existing hard (~~bank protection~~) structure will result in environmental degradation such as releasing deleterious material or problems due to geological, engineering, or safety concerns, the department will authorize the replacement (~~bank protection~~) shoreline stabilization to extend waterward of, but directly abutting, the existing structure. In these instances, a person must use the least-impacting type of structure and construction method.

~~((5) Bank protection)~~ **(6) Shoreline stabilization construction:**

(a) The department requires that plans submitted as part of a complete application show the horizontal distances of the structure(s) from permanent local benchmark(s) (fixed objects). Each horizontal distance shown must include the length and compass bearing from the benchmark to the waterward face of the structure(s). The benchmark(s) must be located, marked, and protected to serve as a post-project reference for at least ~~(ten)~~ 10 years from the date the HPA application is submitted to the department.

(b) A person must not conduct project activities when tidal waters cover the work area including the work corridor, except the area occupied by a grounded barge.

(c) No stockpiling of excavated materials containing silt, clay, or fine-grained soil is approved waterward of the OHWL.

(d) The department may allow stockpiling of sand, gravel, and other coarse material waterward of the OHWL. Place this material within the designated work corridor. Remove all excavated or stockpiled material from the beach within ~~(seventy-two)~~ 72 hours of construction.

(e) Backfill all trenches, depressions, or holes created during construction that are waterward of the OHWL before they are filled by tidal waters.