

Chapter 4 Policies and Regulations for Shoreline Modifications

4.1 Beach Access Structures

4.1.0 Applicability

Beach Access Structures, as defined in Chapter 11, shall be consistent with the following policies and shall conform to the following regulations.

4.1.1 Policies

1. Efforts to enable pedestrian access to beach areas must be balanced with the need to protect shoreline ecological functions and ensure public safety.
2. Beach access structures should be located, designed, and maintained in a manner that minimizes adverse effects on shoreline ecology. Proposals for new or expanded beach access structures should consider existing topography, shoreline aesthetics, and minimize clearing and grading to the maximum extent feasible.
3. Neighboring property owners are encouraged to combine resources to collectively propose beach access structures in appropriate locations for shared use.
4. Beach access structures should not be permitted until and unless their adverse effects on stream, lake or marine shoreline functions and processes, including any adverse effects on adjoining lands and properties, are fully evaluated and mitigated.
5. Beach access structures may not be appropriate in some areas because of safety hazards or sensitive ecological conditions. These structures should not be permitted in areas where there are expected risks to human health and safety or adverse effects on shoreline functions and processes. Some properties will have view-only access to the adjoining waters.
6. Beach access structures should not be permitted if there is a reasonable likelihood that they will require erosion control structures or armoring in the future.

4.1.2 Regulations

1. Beach access structures may be permitted in all environment designations, except the Natural designation, through a substantial development permit or conditional use permit as indicated in Section 2.9, Tables 2-1 and 2-2 when they are consistent with this Program. Beach access structures shall be prohibited in the Natural designation.
2. New beach access structures shall comply with the applicable provisions of Chapters: 6, Buffers; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
3. When consistent with this Program, beach access structures may be located within a shoreline buffer, provided that:
 - a. The width of any walkway, staircase, tower or tram shall not exceed six (6) feet; and

- b. The structure shall not extend more than twelve (12) vertical feet above the bank or slope; and
 - c. There is no other available public beach access within five hundred (500) feet of the proposed access site; and
 - d. Compensatory mitigation is provided to offset impacts on shoreline process and/or functions. The mitigation shall include enhancement of the buffer vegetation through planting and/or other appropriate measures needed to achieve no net loss.
4. No portion of a beach access structure shall be constructed in a wetland or wetland buffer or waterward of the ordinary high water mark of any waterbody unless there is no other feasible alternative.
 5. When in-water or over-water construction is permitted in accordance with this section it shall be limited to a small pier or pile-supported pedestrian landing platform of twenty-five (25) square feet or less that is otherwise consistent with the provisions of this Program.
 6. Existing lawfully constructed beach access structures may be repaired or replaced in-kind consistent with other provisions of this Program.
 7. New land divisions shall include provisions for joint-use of beach access structures. Single use structures shall be prohibited in new subdivisions. All necessary access easements shall be recorded at the time of permitting.

4.1.3 Application Requirements

1. Applications for beach access structures shall provide all of the information required in Section 10.3.0 of this Program plus any additional information that may be required pursuant to the critical areas regulations in Chapter 7 of this Program.
2. Before approving a permit for a new beach access structure on a steep slope, marine bluff or other landslide or erosion hazard area, the County may require a report prepared by a state licensed geotechnical engineer or engineering geologist and/or a qualified biologist demonstrating that all of the following conditions are met:
 - a. The structure is located in the least environmentally damaging location on the subject parcel; and
 - b. The structure is designed to minimize the amount of clearing, grading, and excavation; and
 - c. Construction or use of the structure will not destabilize slopes or increase landslide or erosion hazards; and
 - d. The structure is located outside of areas mapped as Feeder Bluff, Feeder Bluff – Talus, or Exceptional Feeder Bluff. Beach access structures (including any stairway, tram, stair tower, platform and/or elevated walkway anchored to the ground surface by structural means) are prohibited within areas mapped as Feeder Bluff, Feeder Bluff – Talus or Exceptional Feeder Bluff; and
 - e. The structure will not substantially interfere with natural erosion and accretion processes; and

- f. The placement of the structure is likely not to require structural shoreline stabilization in the foreseeable future; and
- g. Unavoidable significant adverse impacts on shoreline processes and ecological functions are mitigated to achieve no net loss.

4.2 Boating Facilities and Moorage

4.2.0 Applicability

Boating Facilities and Moorage, as defined in Chapter 11, shall be consistent with the following policies and shall conform to the following regulations.

4.2.1 Policies

1. Boating and moorage facilities should be located, designed, constructed, and operated to avoid adverse effects on shoreline functions and processes and to prevent conflicts with other permitted uses.
2. Boating facilities should not be located or expanded where they would:
 - a. Substantially interfere with net-shoreline drift.
 - b. Cause adverse effects on aquatic habitat, water quality, aesthetics, navigation, and/or neighboring uses.
3. Boating facilities and moorage associated with commercial, industrial, and port uses should include public access in accordance with Section 5.3 of this Program.
4. Boating facilities and moorage should be sited and designed to avoid or, if that is not possible, to minimize the need for new and maintenance dredging.
5. New marinas and other public boating facilities should be co-located with other compatible water-dependent uses where feasible. The Administrator should seek comment from public recreation providers, adjacent cities/counties, port districts, Washington State Parks, affected Native American Tribes, and the Washington State Departments of Ecology, Fish and Wildlife, Health, and Natural Resources, to ensure that local as well as regional recreation needs are addressed.
6. The County should review proposals for boating facilities and moorage to determine if any such development would thwart or substantially compromise planned restoration actions in the vicinity of the project. The County should work with the proponents of each project to resolve likely conflicts between the proposed development and planned restoration.

4.2.2 Regulations – Marinas

1. New marinas may be permitted in all environment designations, except the Resource Conservancy and Natural designations where they are prohibited, through a substantial development permit or conditional use permit as indicated in Section 2.9, Table 2-2, when they are consistent with this Program and when the proponent demonstrates that all of the following conditions are met:
 - a. The marina is located in the least environmentally damaging location; and

- b. The proposed location will not require dredging or excavation/filling of wetlands; and
 - c. The proposed location does not restrict the use of commercial and recreational shellfish beds; and
 - d. The marina complies with the Washington Department of Health Environmental Health Guidelines for Marina Development and Operation; and
 - e. Suitable public infrastructure is available or can be made available to support the marina; and
 - f. The area has adequate water circulation and flushing action to prevent water quality degradation; and
 - g. Unavoidable adverse impacts on ecological processes and functions are mitigated to achieve no net loss.
2. New marinas and expansions of existing marinas shall be designed, constructed, and operated according to the following:
- a. Open pile or floating breakwater designs shall be used unless the proponent demonstrates that there are specific safety considerations that warrant alternative approaches or unless riprap or other solid construction is shown to have fewer impacts on shoreline ecology over the short and long term.
 - b. Structural shoreline stabilization/armoring shall be limited to the minimum necessary to protect marina infrastructure and shall consist of soft-shore bioengineered stabilization unless soft stabilization is demonstrated by a geotechnical analysis to be infeasible or inadequate to protect the site.
 - c. Floating structures shall be designed to prevent grounding on tidelands. Floats shall only be used where there is sufficient water depth to prevent grounding at low tide.
 - d. Piers and other structures shall be located, sized, and designed to minimize shading of aquatic habitats and species.
 - e. Solid structures shall be designed to provide fish passage through and along the shallow water fringe.
 - f. Floating piers shall be required in rivers unless the proponent can demonstrate that fixed piers will cause substantially less impact on geohydraulic processes.
3. New marinas and expansions of existing marinas shall with the applicable provisions of Chapters: 6, Shoreline Buffers and Vegetation Conservation; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
4. Every marina shall have appropriate equipment and operational procedures on hand to store fuels and related chemicals, prevent accidental spills, and facilitate containment and collection of chemicals should spillage occur.

5. New marinas shall include public access amenities. Consistent with Section 5.3 of this Program, public access siting and design shall be determined based on what is appropriate to a given location and the needs/desires of the surrounding community.
6. Live-aboard vessels may occupy up to twenty (20) percent of the slips at a marina. Marinas that accommodate live-aboards shall provide and maintain adequate facilities and programs to address waste disposal and sanitary disposal.
7. New or expanded marinas may include fill waterward of the ordinary high water mark only when necessary for the water-dependent portions of the marina facility. Filling for the creation of marina parking areas shall be prohibited.
8. If new or expanded marina facilities adversely affect net sediment transport or other coastal processes to the detriment of nearby beaches or habitats, the marina operator shall be required to periodically replenish the substrate in these areas to offset adverse impacts.
9. New or expanded development accessory to marinas including parking, open air storage, waste storage and treatment, stormwater management facilities, and utilities shall be designed and constructed to avoid significant adverse impacts on shoreline functions and processes. The following standards shall apply to new or expanded development accessory to marinas:
 - a. Accessory structures and facilities shall be clustered and located so as to reduce clearing and grading impacts.
 - b. Water-oriented accessory uses reasonably related to marina operation may be located over water or near the water's edge by conditional use permit if an overwater or water's-edge location is essential to the operation of the use and if public access is provided.
 - c. Parking shall be located away from the water's edge and landward of shoreline buffers prescribed by this Program.
 - d. Pump-out, holding, and/or waste treatment facilities and services shall be provided at all marinas. Pump-out facilities shall be conveniently located and sited to ensure easy access, prevent lengthy queues, and allow full compliance with waste disposal regulations. Vessel-mounted pump-out services and hard-plumbed stations at each slip shall be preferred over portable pump-out equipment.
 - e. Marinas shall provide adequate restroom and sewage disposal facilities in compliance with applicable health regulations. Restrooms shall be available twenty-four (24) hours a day for use by any patron of the marina facility; the need for restrooms shall be determined based on the number of slips and percentage of live-aboard vessels within the marina.
 - f. Garbage and recycling receptacles shall be provided and maintained by the marina operator at several locations convenient to users.
 - g. Marina operators shall post all regulations pertaining to handling and disposal of waste, sewage, fuel, and oil or toxic materials where all users may easily read them.
 - h. Boat washing facilities shall be provided to minimize transfer of invasive aquatic species between water bodies.

4.2.3 Regulations – Boat Launches

1. Public boat launches may be permitted in all environment designations through a substantial development permit or conditional use permit as indicated in Section 2.9, Table 2-2, when they are consistent with this Program and when the proponent demonstrates that the boat launch:
 - a. Is located in areas where there is adequate water mixing and flushing action to prevent water quality impacts; and
 - b. Is designed so as not to retard or reduce natural shoreline flushing characteristics; and
 - c. Is constructed using methods/technology that have been recognized and approved by state and federal resource agencies as the best currently available; and
 - d. Will not block or interfere with existing or potential public access along beaches or otherwise impair public use of public surface waters; and
 - e. Incorporates mitigation to offset unavoidable adverse impacts and achieve no net loss.
2. New boat launches shall comply with the applicable provisions of Chapters: 6, Shoreline Buffers and Vegetation Conservation; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
3. No more than one private boat launch facility or structure shall be permitted on a single parcel or residential lot.
4. Public boat launches shall include adequate restroom and sewage and solid waste disposal facilities in compliance with applicable health regulations.
5. When overwater development is proposed in association with a public boat launch facility, it may be permitted only where such use requires direct water access, and/or where such facilities will substantially increase public opportunities for water access.
6. Public boat launches shall be located and designed to prevent traffic hazards and minimize traffic impacts on nearby access streets.
7. Public boat launch sites shall include parking spaces for boat trailers commensurate with projected demand.

4.2.4 Regulations – Piers, Docks, and Floats, Non-residential

1. Docks, piers, and floats associated with commercial, industrial, port, or public or private recreational developments may be permitted in all environment designations through a substantial development permit or conditional use permit as indicated in Section 2.9, Table 2-2 when they are consistent with this Program and when the proponent demonstrates that:
 - a. The dock/pier/float is required to accommodate a water-dependent use; and
 - b. The dock/pier/float is designed to avoid or, if that is not possible, to minimize the impacts to nearshore habitats and processes.

2. New boat launches shall comply with the applicable provisions of Chapters: 6, Buffers; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
3. Joint-use piers shall be preferred for commercial and industrial developments which are in close proximity to one another.
4. Covered moorage associated with non-residential docks, piers, and floats shall be prohibited.
5. New and substantially expanded non-residential docks, piers and floats shall be constructed of materials that will not adversely affect water quality or aquatic plants and animals over the long term. Materials for any portions of the dock, pier, float, framing, or decking that come in contact with water shall be approved by Washington Department of Fish and Wildlife (WDFW) and Ecology for use in water.
6. To minimize adverse effects on nearshore habitats and species caused by overwater structures that reduce ambient light levels, the length, width and height of non-residential docks, piers and floats shall be no greater than that required for safety and practicality for the primary use. The Administrator shall defer to the dimensional requirements imposed in the project-specific permit conditions issued by the U.S. Army Corps of Engineers and Washington Department of Fish and Wildlife and shall require adherence to the following:
 - a. Materials that will allow light to pass through the deck may be required where width exceeds four (4) feet; and
 - b. Grating to allow light passage or reflective panels to increase light refraction shall be used on walkways or gangplanks in nearshore areas.
7. Commercial, industrial, port or public recreational docks, piers and floats shall be spaced and oriented to shoreline in a manner that avoids or minimizes:
 - a. Hazards and obstructions to navigation, fishing, swimming and pleasure boating; and
 - b. Shading of beach substrate below; and
 - c. Impediments to alongshore sediment transport and/or movement of fish and other aquatic species.
8. Fill waterward of the ordinary high water mark shall be limited to the minimum necessary to match the upland with the elevation of the non-residential dock or pier.
9. Dredging shall be limited to the minimum necessary to allow boat access to a non-residential dock or pier.

4.2.5 Regulations – Piers, Docks, Floats, and Lifts, Accessory to Residential Development

1. Docks, piers, floats and lifts accessory to residential development/use may be permitted in all environment designations, except the Natural designation where they are prohibited, through a substantial development permit or conditional use permit as indicated in Section 2.9, Table 2-1, when they are consistent with this Program and when the proponent demonstrates that they are:

- a. Designed and constructed to avoid or, if that is not possible, to minimize shading and other impacts on nearshore habitats and processes.
 - b. Constructed of materials that will not adversely affect water quality, or aquatic plants and animals, over the long-term. Materials for portions of the dock, pier, float, framing and decking in contact with water shall be approved by applicable state agencies for use in water.
 - c. Spaced and oriented to the shoreline in a manner that minimizes hazards and obstructions to navigation, fishing, swimming, and pleasure boating.
 - d. Designed to avoid the need for maintenance dredging. The moorage of a boat larger than provided for in original moorage design shall not be grounds for approval of dredging.
 - e. Designed to avoid impediments to alongshore, sediment transport and/or movement of fish and other aquatic species.
2. New residential piers, docks and floats shall comply with the applicable provisions of Chapters: 6, Shoreline Buffers and Vegetation Conservation; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
 3. If permitted under this Program, no more than one (1) dock/pier and one (1) float and one (1) watercraft lift may be permitted on a single lot owned for residential use or private recreational use.
 4. In-water fixed platform structures supported by piles that do not abut the shoreline shall be prohibited.
 5. Floats accessory to residential use shall not exceed two hundred (200) square feet in area or three (3) feet in height as measured from mean lower low water.
 6. Floats shall only be used where there is sufficient water depth to prevent grounding at low tide. The County may require the use of stoppers or other measures to ensure compliance with this standard.
 7. Private single-family residential piers and docks shall not extend over water farther than fifty (50) feet as measured perpendicular from the shoreline or, in tidal waters, shall not extend more than fifteen (15) feet from the minus six (6.0) foot mark as referenced from mean lower low water. Shared residential piers and docks may extend an additional ten (10) feet for each single-family residence sharing the pier.
 8. To avoid and minimize adverse effects on nearshore habitats and species caused by overwater structures, the length, width and height of residential docks, piers and floats shall be no greater than that required for safety and practicality for the primary use. The Administrator shall defer to the dimensional requirements imposed in the project-specific permit conditions issued by the U.S. Army Corps of Engineers and Washington Department of Fish and Wildlife and shall require adherence to the following:
 - a. Materials that will allow light to pass through the deck shall be required where width exceeds four (4) feet; and

- b. Grating to allow light passage or reflective panels to increase light refraction shall be used on walkways or gangplanks in nearshore areas.
9. Residential developments creating four (4) or more new lots or new dwelling units may be granted permits for community docks to be shared by two or more lot owners or dwelling units. No more than one (1) dock/pier or float may be permitted for each three (3) adjoining waterfront lots, with necessary access easements to be recorded at the time of permitting. Single-user docks, piers and floats for individual residential lots may be permitted in subdivisions existing prior to June 16, 1992, only where a shared facility has not already been developed.
10. Single-user moorage for private float planes may be permitted as a conditional use in certain environment designations as indicated in Table 2-1 where construction of such moorage:
 - a. Is limited to the smallest size necessary to accommodate the float plane; and
 - b. Will not adversely affect shoreline functions or processes, including wildlife use; and
 - c. Includes mitigation to compensate for the greater intensity of use associated with the float plane moorage.
11. Covered moorage associated with single-family residential development shall be prohibited, except that the County may allow a small covered area up to one hundred (100) square feet in size, maximum height of ten (10) feet, and with vertical walls on up to three (3) sides on the overland portion of a dock/pier only.
12. Single-user docks/piers/floats may not be located within sideyard setbacks for residential development (both onshore and offshore); a shared dock/pier may be located adjacent to or upon a shared side property line upon filing of an agreement by the affected property owners.
13. Fill waterward of the ordinary high water mark shall be limited to the minimum necessary to match the upland with the elevation of the residential dock or pier.
14. Dredging for construction or maintenance of docks, piers and floats accessory to residential use shall be prohibited waterward of the ordinary high water mark.
15. Boating facilities shall be marked with reflectors, or otherwise identified to prevent unnecessarily hazardous conditions for water surface users during day or night. Exterior finish shall be non-reflective.
16. No dock, pier, float, or watercraft moored thereto shall be used as a residence.
17. Docks, piers and floats shall be prohibited in wetlands.
18. Piers and docks should be limited to the areas in front of their ownership unless there is a written agreement with the parties affected, including the subtidal property owner that will allow for said encroachment. The configuration of a pier and dock should not limit the adjacent upland owner's ability to access the aquatic area immediately in front of their ownership. (RCW 79.105.430 and 460)

4.2.6 Regulations – Mooring Buoys

1. Mooring buoys may be permitted in all environment designations through a substantial development permit or conditional use permit as indicated in Section 2.9, Tables 2-1 and 2-2,

when they are consistent with this Program and when the proponent demonstrates that the buoy:

- a. Will be located to avoid significant adverse impacts to eelgrass beds and other valuable aquatic and nearshore habitat areas; and
 - b. Will not impede the ability of other landowners to access private property; and
 - c. Will not pose a hazard to or obstruct navigation or fishing; and
 - d. Will not adversely impact water quality; and
 - e. Will not pose a threat to shellfish beds or an existing aquaculture operation.
2. The installation and use of mooring buoys in marine waters shall be consistent with all applicable state and federal laws and permit requirements, including standards of the state Departments of Natural Resources, Health, and Fish and Wildlife and the U.S. Army Corps of Engineers.
 3. Recreational mooring buoys on state-owned aquatic lands shall not be used for permanent residential (living on the boat) or commercial purposes; limitations shall not interfere with use of mooring buoys for scientific research purposes.
 4. Wherever appropriate, mooring buoys shall use neutral buoyancy rope, mid-line float, helical anchors, or other Washington Department of Natural Resources (WDNR)-approved designs that have minimal adverse effects on aquatic ecosystems and fish; where specific WDNR-designs are inappropriate or ineffective given the proposed mooring buoy location, reasonable and effective designs shall be used that minimize adverse effects on aquatic ecosystems and fish.
 5. Mooring buoys shall be clearly marked and labeled with the owner's name and contact information and permit number(s).
 6. Placement and number of mooring buoys within bays and other areas shall not exceed a density of four (4) buoys per acre.
 7. During the installation of the mooring buoy, the location of the mooring buoy may be adjusted to minimize impacts to sensitive habitat areas (i.e. eelgrass beds), provided that revised location complies with all rules and regulations. If the location of the mooring buoy is significantly modified, an amended site map with the amended longitude and latitude shall be submitted to the County for review and approval.
 8. Mooring buoys should be generally limited to the areas in front of their ownership, unless there is a written agreement with the parties affected, including the subtidal property owner that will allow for said encroachment. If it is determined that the location of the proposed mooring buoy interferes with a proposal for a mooring buoy by the adjacent landowners, the mooring buoy of the non-adjacent shall be located further away from the shore in compliance with all rules and regulations. (SEE RCW 79.105.430(3)).
 9. Mooring buoys shall be located no closer than 100 feet from another mooring buoy, dock, pier, float, or other fixed navigational obstruction, unless there is a written agreement with the parties affected, including the subtidal property owner that will allow for said encroachment. If it is determined that the proposed mooring buoy interferes legally established buoys,

moored boats, or private tidelands it shall be removed or moved to a location that complies with all rules and regulations.

10. No more than two (2) boats shall be secured by a mooring buoy. Mooring buoys that are placed by exemption shall not be rented or leased.
11. Boats that are occupied shall not be permitted to moor at private docks, piers, and floats longer than three (3) days unless pump-out facilities are available in the immediate vicinity.

4.2.7 Application Requirements

1. Applications for boating and moorage facilities shall provide all of the information required in Section 10.3.0 of this Program plus any additional information that may be required pursuant to the critical areas regulations in Chapter 7 of this Program.
2. Proposals for new or expanded marina facilities shall include appropriate technical studies and plans that are not already required via another regulatory review process. Examples of studies and plans that may be required include, but are not limited to:
 - a. A Maintenance Plan for maintaining pump-out and waste/sewage disposal facilities and services.
 - b. A Spill Response Plan for oil and other spilled products. Compliance with federal or state law may fulfill this requirement.
 - c. An Operational Plan that, at a minimum, describes procedures for fuel handling and storage; measures including signage, for informing marina users of applicable regulations; measures for collecting garbage and recyclables; measures and equipment for ensuring public safety.
 - d. A visual assessment of views from surrounding residential properties, public viewpoints, and the view of the shoreline from the water surface.
 - e. An analysis of fish and shellfish resources which may be affected.
 - f. An assessment of existing water-dependent uses in the vicinity, including but not limited to navigation, fishing, shellfish production and harvest, swimming, beach walking, and picnicking and shall document potential impacts and mitigating measures.
3. An assessment or assessments necessary to ensure the proposed new or expanded marina is consistent with Section 4.2.2 of this Program, including documentation that all unavoidable adverse impacts on ecological processes and functions are mitigated as part of the proposal in order to achieve no net loss.

4.3 Dredging and Dredge Material Disposal

4.3.0 Applicability

Dredging and Dredge Material Disposal, as defined in Chapter 11, shall be consistent with the following policies and shall conform to the following regulations.

4.3.1 Policies

1. Dredging should be permitted only when alternatives are infeasible and when the dredging/dredge disposal is necessary to support an existing legal use, an approved water-dependent use, an essential public facility, or an approved restoration project.
2. When permitted, dredging and disposal operations should be planned, timed, and implemented to minimize:
 - a. Adverse impacts to shoreline ecology; and
 - b. Adverse impacts to in-water and adjacent upland uses; and
 - c. Interference with navigation.
3. The County should review proposals for new dredging activities to determine if any such activity would thwart or substantially compromise planned restoration actions in the vicinity of the project. The County should work with the proponents of each project to resolve likely conflicts between the proposed dredging and planned restoration

4.3.2 Regulations – Dredging

1. Dredging may be permitted in all environmental designations, except the Natural designation where it is prohibited, through a conditional use permit as indicated in Section 2.9, Table 2-2, only when the activity is consistent with this Program and when there are no feasible alternatives to dredging.
2. Dredging shall only be permitted when necessary to support the following uses and developments; dredging for other purposes is prohibited:
 - a. Approved harbors, marinas, ports, and water-dependent industries;
 - b. Development or maintenance of essential public infrastructure and facilities;
 - c. Environmental cleanup activities required under the Model Toxics Control Act or Comprehensive Environmental Response, Compensation, and Liability Act;
 - d. Trenches required for underground utility installation when boring, directional drilling, and other installation methods are not feasible;
 - e. Maintenance dredging for the purpose of restoring a lawfully established use or development, except for a residential dock;
 - f. Maintenance dredging for the purpose of restoring previously permitted or authorized hydraulic capacity of a stream or river;
 - g. Maintenance of existing legal irrigation reservoirs, drains, canals, or ditches;
 - h. Establishing, expanding, relocating, or reconfiguring navigation channels and basins where necessary to assure the safety and efficiency of existing navigation uses;
 - i. Ecological restoration and enhancement projects benefitting water quality and/or fish and wildlife habitat;
 - j. Approved beach nourishment projects; or

- k. Public access and public water-oriented recreational developments/uses, including construction of public piers and docks that benefit substantial numbers of people.
3. Maintenance dredging of established navigation channels and basins shall be restricted to maintaining previously dredged and/or existing authorized location, depth, and width.
4. Dredging for flood management purposes shall be permitted only when the project proponent demonstrates that:
 - a. The dredging is a required component of a County-approved comprehensive flood management plan; or
 - b. The dredging has a long-term benefit to public health and safety and will not cause a net loss of ecological functions and processes.

4.3.3 Regulations – Dredge Material Disposal

1. Dredge disposal may be permitted in all environmental designations, except the Natural designation where it is prohibited, through a conditional use permit as indicated in Section 2.9, Table 2-2, only when the activity is consistent with this Program.
2. All unconfined, open water dredge disposal activities in the Strait of Juan de Fuca shall comply with Washington's Dredged Disposal Management Program criteria and guidelines and other applicable local, state, and federal regulations.
3. Dredge disposal activities shall comply with the applicable provisions of Chapters: 6, Shoreline Buffers and Vegetation Conservation; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
4. When dredge material is deposited on land, it shall be considered fill and subject to all applicable fill regulations in Section 5.2 of this Program.
5. When consistent with this Program, disposal of dredged materials in water areas other than Puget Sound Dredged Disposal Analysis sites may be permitted only for the following reasons:
 - a. To restore or enhance habitat; or
 - b. To reestablish substrates for fish and shellfish resources; or
 - c. To nourish beaches that are starved for sediment; or
 - d. To remediate contaminated sediments.

4.3.4 Application Requirements

1. Applications for dredging and dredge disposal shall provide all of the information required in Section 10.3.0 of this Program plus any additional information that may be required pursuant to the critical areas regulations in Chapter 7 of this Program.
2. When reviewing dredging proposals, the County shall first consider how the proposed activity has been regulated by other agencies, note same as a reference, and then establish whether

additional review or regulation is needed. The Administrator may require information to ensure:

- a. The project is designed, located, and timed to mitigate impacts on legally established neighboring uses and developments; and
 - b. Appropriate measures are taken to ensure the activity will not interfere with fishing or shellfishing; and
 - c. Appropriate measures are taken to minimize adverse effects on recreation, public access, and navigation; and
 - d. The activity shall not adversely impact natural processes such as channel migration, marine bluff erosion, and/or net-shoreline drift; and
 - e. Appropriate best management practices are employed to prevent water quality impacts or other forms of environmental degradation; and
 - f. Upstream and upgradient sediment sources that create the need for dredging have been investigated and where feasible, mitigated; and
 - g. Appropriate measures are employed to protect public safety and prevent significant adverse impacts on other approved shoreline uses; and
 - h. The proposed activity complies with applicable federal, state, and other local regulations.
3. When reviewing proposals for dredge disposal, the Administrator shall first consider how the proposed activity has been regulated by other agencies, note same as a reference, and then establish whether additional review or regulation is needed. The Administrator may require information to ensure:
- a. The proposed action will not cause significant and/or ongoing damage to water quality, fish, shellfish, and/or other biological resources; and
 - b. The proposed action will not adversely alter natural drainage, water circulation, sediment transport, currents, or tidal flows or significantly reduce floodwater storage capacities; and
 - c. The proposed action includes all feasible mitigation measures to protect marine, estuarine, freshwater, and terrestrial species and habitat.

4.4 Flood Hazard Management and Flood Control Structures

4.4.0 Applicability

Flood Hazard Management and Flood Control structures, as defined in Chapter 11, shall be consistent with the following policies and shall conform to the following regulations.

4.4.1 Policies

1. When managing floodplains, the County should balance the need to protect life and property with the need to maintain fish and wildlife habitat and other floodplain functions.

2. The need for new flood control structures should be avoided by limiting new development and new uses, including subdivision of land, in flood-prone areas.
3. Structures built within floodplains should be designed in accordance with the Frequently Flooded Areas regulations in Sections 7.15 and 7.16 of the Program and should not obstruct the passage of water, inadvertently cause a stream to be diverted to a new channel, or otherwise adversely impact fish habitat or floodplain functions.
4. Information about flood hazards should be made readily available to existing and prospective shoreline property owners so they are informed about the risks of living in areas that are prone to flooding, erosion, channel migration, and other hazards.
5. New flood control structures should be permitted only where there is a documented need to protect an existing structure and where appropriate measures are implemented to minimize impacts on floodplain functions including fish and wildlife.
6. New flood control structures should not unduly interfere with navigation, water-related recreation or public access to public waters.
7. When evaluating the need for flood control structures such as levees and/or dams, opportunities to remove or relocate existing developments and structures out of flood-prone areas should be pursued as a first course of action. Alternative measures, such as overflow corridors and setback levees, that may have less adverse impact on shoreline and floodplain functions and processes should be implemented before structural flood control measures are approved.
8. Non-regulatory methods to protect, enhance, and/or restore shoreline ecological functions and processes should be encouraged as an alternative to flood control structures. Non-regulatory methods may include acquisition of land or easements; education; voluntary protection and enhancement projects; and incentive programs.
9. Long-term, comprehensive flood hazard management plans should be developed and implemented in cooperation with other applicable agencies and persons to prevent flood damage, maintain the natural hydraulic capacity of streams and floodplains, and conserve or restore valuable, limited resources such as fish, water, soil, and recreation and scenic areas.
10. Planning and design of flood control structures within the Puget Sound basin should be consistent with the National Oceanic and Atmospheric Administration's (NOAA) recommendations in the 2008 Biological Opinion on the Federal Flood Insurance Program, or any successor thereto and should incorporate elements from adopted watershed management plans, restoration plans and/or surface water management plans.
11. Voluntary relocation of existing developments that are located in flood-prone or other hazardous areas is encouraged when doing so will substantially reduce human health and safety hazards and improve ecological conditions.
12. The County should review proposals for floodplain management plans and food control structures to determine if any such development would thwart or substantially compromise planned restoration actions in the vicinity of the project. The County should work with the proponents of each project to resolve likely conflicts between the proposed activities and planned restoration.

4.4.2 Regulations

1. Flood control structures may be permitted through a conditional use permit as indicated in Section 2.9, Table 2-2, when consistent with Sections 7.15 (Frequently Flooded Area Designation and Mapping) and 7.16 (Frequently Flooded Area Protection Standards), and other applicable provisions of this Program and when there is credible engineering and scientific evidence that:
 - a. They are necessary to protect existing, lawfully established development; and
 - b. They are consistent with Clallam County Code Title 32 and the County Comprehensive Plan; and
 - c. Non-structural flood hazard reduction measures are infeasible; and
 - d. Impacts on Endangered Species Act-listed Puget Sound Chinook salmon, Puget Sound steelhead, Hood Canal summer-run chum salmon, and Southern Resident killer whales, and/or designated critical habitat for those species can be effectively mitigated consistent with NOAA's 2008 Biological Opinion, or any successor thereto, on the Federal Flood Insurance Program; and
 - e. Proposed measures are consistent with an adopted comprehensive flood hazard management plan if available.
2. Flood hazard management and flood control structures shall comply with the applicable provisions of Chapters: 6, Shoreline Buffers and Vegetation Conservation; 7, Critical Areas; 8, Mitigation and No Net Loss; and with the applicable sections: 5.2, Clearing, Grading and Filling; 5.3, Public Access; 5.4, Water Quality/Water Management and 5.5, Archeological, Historical and Cultural Resources.
3. When permitted, flood control structures shall be:
 - a. Constructed and maintained in a manner that provides the highest degree of protection to shoreline ecological functions or processes and does not degrade the quality of affected waters or the habitat value associated with the aquatic and riparian area; and
 - b. Placed landward of the ordinary high water mark except for weirs, current deflectors and similar structures whose primary purpose is to protect public bridges, roads, and other public infrastructure; and
 - c. Placed landward of associated wetlands and channel migration zones except for structures whose primary purpose is to improve ecological functions; and
 - d. Designed to allow for normal groundwater movement and surface runoff. Natural features such as snags, uprooted trees, or stumps should be left in place unless they are actually causing bank erosion or higher flood stages; and
 - e. Designed to allow maintenance of bars and associated aquatic habitat through normal accretion. Flood control structures on streams shall not disrupt the normal meander progression nor lessen the stream's natural storage capacity.
4. When permitted, flood control structures shall be limited to the height required to protect adjacent lands from the predictable annual flood unless it can be demonstrated through

hydraulic modeling that a greater height is needed and will not adversely impact shoreline ecological functions and processes.

5. Solid waste such as motor vehicles, derelict vessels, appliances, or demolition debris shall not be used as part of any flood control structure.
6. Flood control structures shall be professionally engineered and designed by a state licensed engineer prior to final approval. The design shall be consistent with the Department of Fish and Wildlife Aquatic Habitat Guidelines and other applicable guidance and regulatory requirements.
7. No flood control structure shall be installed or constructed without the developer having obtained all applicable federal, state, and local permits and approvals, including but not limited to a Hydraulic Project Approval (HPA) from the Department of Fish and Wildlife.

4.4.3 Application Requirements

1. Applications for flood control structures shall provide all of the information required in Section 10.3.0 of this Program plus any additional information that may be required pursuant to the critical areas regulations in Chapter 7 of this Program.
2. To determine that the provisions of this section are fully addressed, the Administrator may require one or more technical studies/reports at the time of permit application for flood control structures unless the Administrator determines that issues are adequately addressed via another regulatory review process. Technical reports required pursuant to this section may include any of the following:
 - a. An analysis of the flood frequency, duration and severity and expected health and safety risks as a rationale and justification for the proposed structure.
 - b. A hydraulic analysis prepared by a licensed professional engineer that describes anticipated effects of the project on stream hydraulics, including potential increases in base flood elevation, changes in stream velocity, and the potential for redirection of the normal flow of the affected stream.
 - c. A biological resource inventory and analysis prepared by a qualified professional biologist that describes the anticipated effects of the project on fish and wildlife resources, include species and habitats protected by the federal Endangered Species Act.
 - d. Proposed provisions for accommodating public access to and along the affected shoreline, as well as any proposed on-site recreational features.
 - e. A description of proposed plans to remove vegetation and revegetate the site following construction.
3. To ensure compliance with the no net loss provisions of this Program, the Administrator may require the proponent to prepare a mitigation plan consistent with Section 8.3 of this Program that describes measures for protecting shoreline and in-stream resources during construction and operation of a flood control structure. The required mitigation shall be commensurate with the value and type of resource or system lost. Mitigation activities shall be monitored by the proponent to determine the effectiveness of the mitigation plan. In instances where the existing mitigation measures are found to be ineffective, the proponent shall take corrective action that satisfies the objectives of the mitigation plan.

4.5 In-stream and In-water Structures

4.5.0 Applicability

In-stream and In-water structures, as defined in Chapter 11, shall be consistent with the following policies and shall conform to the following regulations. In-stream/in-water structures associated with boating facilities/moorage are covered in Section 4.2 of this Program. In-stream/in-water structures associated with large utilities such as hydroelectric or wind/tidal power generation are covered in Section 3.12 of this Program.

4.5.1 Policies

1. Recognizing the large number of physical variables to be considered in properly locating and designing in-stream and in-water structures, and the high probability that poorly located and inadequately designed structures will fail and/or adversely affect properties and shore features, such structures should be sited and designed by the project proponent consistent with appropriate engineering principles and guidelines of the Natural Resources Conservation Service, the U.S. Army Corps of Engineers, and the Washington Department of Fish and Wildlife.
2. Project proponents shall give due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring priority habitats and species when locating and planning in-stream and in-water structures.
3. In-stream structures should be planned and designed to be compatible with navigation and recreation, especially in shorelines of statewide significance, provided that public safety and ecological protection are fully addressed.
4. Proposals for new in-stream and in-water structures should be evaluated by the Administrator for their potential adverse effects on the physical, hydrological, and biological characteristics as well as effects on species that inhabit the shoreline, riparian area, or nearshore area.
5. The County should review proposals for new in-stream/in-water developments to determine if any such development would thwart or substantially compromise planned restoration actions in the vicinity of the project. The County should work with the proponents of each project to resolve likely conflicts between residential development and planned restoration.

4.5.2 Regulations

1. In-stream and in-water structures may be permitted in all environmental designations, except the Natural designation where they are prohibited, through a substantial development or conditional use permit as indicated in Section 2.9, Table 2-2, when consistent with this Program and when associated with and necessary for an ecological restoration project, a fish passage project, or a permitted shoreline use/development such as a transportation facility.
2. In-stream and in-water structures shall not impede upstream or downstream migration of anadromous fish. All new and replacement structures, including culverts, must be made fish passable in accordance with the most recent Washington State Department of Fish and Wildlife requirements or with the National Marine Fisheries Service guidelines for Endangered Species Act-listed species.

3. All in-water diversion structures shall be designed to permit the natural transport of bedload materials. All debris, overburden, and other waste materials from construction shall be disposed of in such a manner that prevents their entry into a water body.
4. All in-stream and in-water structures shall be designed and installed by a licensed, professional engineer.
5. In-stream and in-water structures shall be constructed and maintained in a manner that does not degrade the quality of affected waters.
6. In-stream structures and their support facilities shall be located and designed to avoid and minimize the need for structural shoreline stabilization.
7. In-stream and in-water structures shall be located and designed to preserve or enhance aquatic habitat and to minimize impacts on the visual and aesthetic quality of the shoreline.
8. During construction in-stream and in-water, all heavy construction equipment and fuel storage, repair, and construction material staging areas shall be located as far landward as necessary to avoid and minimize impacts to shoreline functions.
9. Natural in-stream and in-water features such as snags, uprooted trees, or stumps should be left in place unless it can be demonstrated that they are not enhancing shoreline function or are a threat to public safety.
10. In-stream structures such as, but not limited to, high-flow bypasses, dams, and weirs, may be permitted in Type S, F, Np, Ns Waters when they are part of a watershed restoration project or identified in watershed planning documents prepared and adopted under Chapter 90.82 RCW, the salmonid recovery plan or Salmon Recovery Board Habitat Project List, and the County's shoreline restoration plan and upon acquisition of any required state or federal permits. The structure shall be designed to avoid adverse effects on stream flow, water quality, or other habitat functions and values.

4.5.3 Application Requirements

1. Applications for in-stream/in-water structures shall provide all of the information required in Section 10.3.0 of this Program plus any additional information that may be required pursuant to the critical areas regulations in Chapter 7 of this Program.
2. The County shall require the proponent of any in-stream or in-water structure to provide the following information prior to final approval unless the County determines that the issues are adequately addressed via another regulatory review process:
 - a. A description and analysis of alternative sites, and a thorough discussion of the environmental impacts of each; and
 - b. A hydraulic analysis prepared by a licensed professional engineer that describes anticipated effects of the project on stream hydraulics, including potential increases in base flood elevation, changes in stream velocity, and the potential for redirection of the normal flow of the affected stream; and
 - c. A biological resource inventory and analysis prepared by a qualified professional biologist that describes the anticipated effects of the project on fish and wildlife resources; and

- d. A cultural resources assessment if there are known or suspected cultural, archeological or historic resources in the vicinity of the site; and
- e. For hydropower facilities, the proposed location and design of powerhouses, penstocks, accessory structures and access and service roads; and
- f. Proposed provisions for accommodating public access to and along the affected shoreline, as well as any proposed on-site recreational features; and
- g. A description of any plans to remove vegetation and/or revegetate the site following construction; and a proposed mitigation plan that describes, in detail, provisions for protecting in-stream resources during construction and operation, and measures to compensate for impacts that cannot be avoided; and
- h. A description of sites proposed for the depositing of debris, overburden, and other waste materials generated during construction; and
- i. Long-term management plans which describe, in sufficient detail, provision for protection of in-stream resources during construction and operation. The plan shall include means for monitoring its success.

4.6 Shoreline Stabilization

4.6.0 Applicability

Shoreline stabilization including structural and non-structural stabilization, as defined in Chapter 11, shall be consistent with the following policies and shall conform to the following regulations.

4.6.1 Policies

1. The County should take active measures to preserve unarmored shorelines and prevent the future proliferation of bulkheads and other forms of structural shoreline stabilization.
2. The need to protect shorelines from the effects of erosion should be balanced with the need to protect fish and wildlife habitats and maintain sediment delivery and transport processes, which sustain healthy river and marine nearshore ecosystems.
3. Information about shoreline erosion hazards should be made readily available to existing and prospective shoreline property owners so they are informed about the risks of living in areas that are prone to erosion, channel migration, landslides and other hazards.
4. New development should be located and designed to avoid the need for future shoreline stabilization to the extent feasible. Land subdivisions should be designed to assure that the created lots will not require shoreline stabilization in order for reasonable development to occur. New development on steep slopes or bluffs shall be set back sufficiently to ensure that structural shoreline stabilization will not be needed to protect structures during their design life, as demonstrated by a geotechnical analysis. New development that would require shoreline stabilization which causes significant adverse impacts to adjacent or down-current properties and shoreline areas should not be allowed.
5. Unarmored shorelines should be preserved to prevent the future proliferation of bulkheads and other forms of structural shoreline stabilization.

6. Over time, the amount of existing armoring on Clallam County's shores should be reduced in accordance with the targets established by the Puget Sound Partnership. The total amount of armoring removed should be greater than the total amount of new armoring. Feeder bluffs should be a priority for removal of existing armoring and avoidance of new armoring.
7. Non-structural shoreline stabilization measures should be encouraged as a means of protecting structures from erosion. Non-structural shoreline stabilization measures include relocating structures away from the water, enhancing vegetation, managing drainage and runoff, and other measures.
8. New structural shoreline stabilization should be permitted only when necessary to protect existing primary structures, single-family residence, public infrastructure, and/or for essential public facilities when other alternatives are infeasible.
9. New structural and non-structural shoreline stabilization measures should be located, designed, and maintained in a manner that minimizes adverse effects on shoreline ecology, including effects on the project site, adjacent properties, and down-drift or downstream areas.
10. Stabilization structures should be designed based on an understanding of long-term physical shoreline processes. Structural and non-structural shoreline stabilization structures should fit the physical character and hydraulic energy of a specific shoreline reach, which may differ substantially from adjacent reaches.
11. Structural shoreline stabilization should not interfere with existing or future public access to public shorelines nor with other preferred shoreline uses.
12. Voluntary relocation of existing developments that are located in erosion-prone or other hazardous areas should be encouraged when doing so will substantially reduce human health and safety hazards and improve ecological conditions.
13. The County should review proposals for new shoreline stabilization to determine if any such development would thwart or substantially compromise planned restoration actions in the vicinity of the project. The County should work with the proponents of each project to resolve likely conflicts between the proposed stabilization and planned restoration.

4.6.2 Regulations – Existing Structural Shoreline Armoring

1. Existing structural shoreline armoring may be replaced in kind, pursuant to a statement of exemption, if there is a demonstrated need to protect primary uses or structures including residences, public transportation infrastructure, or essential public facilities from erosion caused by currents, tidal action, or waves and all of the following apply:
 - a. The replacement structure performs the same stabilization function of the existing structure and does not require additions to or increases in size.
 - b. The replacement structure shall not encroach waterward of the ordinary high water mark or the existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
 - c. The replacement structure is designed, located, sized, and constructed to minimize effects on shoreline processes and fish and wildlife habitat.

2. Removal of older structures shall be required as replacement structures are put in place if leaving the existing structure in place would cause a net loss of ecological functions. Exceptions may be made by the County in cases where removal would cause more ecological disturbance to critical saltwater or critical freshwater habitats than leaving the remnant structure in place.
3. For those shoreline protection structures common to existing single-family residences that qualify as a shoreline exemption, the Administrator shall allow for up to a ten percent (10%) increase for any fill placement or removal for the purposes of maintenance for a period of one (1) year from the date of approval of the request; provided that the project complies with Chapter 43.21C RCW, State Environmental Policy Act and all other applicable regulations.
4. Bank stabilization may be permitted on Type S, F, Np, Ns Waters for the purpose of retarding erosion and protecting legally placed, existing residential structures or essential public facilities/infrastructure which cannot be moved, subject to all of the following criteria:
 - a. The bank stabilization shall be designed by a civil engineer licensed in the State of Washington with sufficient expertise in hydraulics, hydrology, and/or geomorphology, along with a biologist to assess habitat impacts; and
 - b. The civil engineer shall consider and implement bioengineered stabilization measures unless hydraulic analysis indicates that hard structural stabilization is necessary due to the site conditions; and
 - c. Avoidance or relocation of the structure or improvement that needs protection has been reviewed and is not feasible or practical; and
 - d. Stabilization activities shall minimize any potential negative impacts to the natural functions and processes of the stream; and
 - e. The effects of the stabilization to upstream and downstream properties are clearly disclosed and taken into consideration during the design of the structure; and
 - f. The materials used in or near surface waters shall not contain petroleum-based treatments or preservatives, including creosote, copper and arsenic.

4.6.3 Regulations – Subdivisions and Existing Lots without Structures

1. Land subdivisions shall be designed to assure that structural shoreline armoring will not be required to allow reasonable development or use of the established lots to occur in the foreseeable future.
2. Use of a bulkhead, revetment or similar shoreline armoring to protect a platted lot where no primary use or structure presently exists shall be prohibited.
3. Structural shoreline stabilization for the sole purpose of leveling or extending property or creating or preserving residential lawns, yards, or landscaping shall be prohibited.
4. Non-structural shoreline stabilization measures shall be the preferred means of protecting structures from erosion. Non-structural shoreline stabilization measures include relocating structures away from the water, enhancing vegetation, managing drainage and runoff, and other measures.

4.6.4 Regulations – New or Expanded Shoreline Stabilization

1. New or expanded structural shoreline stabilization including bulkheads, revetments, seawalls, breakwaters, and jetties may be permitted in all environment designations, except the Natural designation where they are prohibited, through a statement of exemption, substantial development permit, or conditional use permit as indicated in Section 2.9, Tables 2-1 and 2-2 when consistent with this Section and Program and when necessary to protect any one of the following:
 - a. A project whose primary purpose is enhancing or restoring ecological functions or remediating hazardous substances pursuant to RCW 70.105.
 - b. A water-dependent development when the erosion is not being caused by upland conditions, such as the loss of vegetation and drainage; when nonstructural measures, such as planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient; and when the erosion control structure will not result in a net loss of shoreline functions.
 - c. An existing primary structure, including a residence, when there is conclusive evidence, documented by a geotechnical analysis that the structure is in danger from shoreline erosion caused by tidal action, currents, or waves. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.
2. Structural shoreline armoring, including new armoring and expansions of existing armoring, is prohibited on shorelines mapped as feeder bluff, feeder bluff- talus and exceptional feeder bluff. Proponents of new development in mapped feeder bluffs, feeder bluff- talus and exceptional feeder bluffs must sign a statement acknowledging the structural armoring is prohibited for the life of the structure and the presence of the feeder bluff must be recorded on title pursuant to Section 7.3 of this Program.
3. When any structural shoreline stabilization measures are demonstrated to be necessary, pursuant to above provisions all of the following shall apply:
 - a. The size of stabilization measures shall be limited to the minimum necessary.
 - b. Soft approaches shall be used to assure no net loss of shoreline ecological functions, unless such approaches are demonstrated to be inadequate to protect primary structures.
 - c. Adverse effects of new stabilization structures, including replacement structures, on critical habitat for Endangered Species Act-listed species or other shoreline processes or functions shall be avoided and, if that is not possible, minimized to the maximum extent possible. Compensatory mitigation shall be required for impacts that are unavoidable consistent with Section 8.3 of this Program.
4. Proponents of new or expanded structural shoreline stabilization may be required to provide an assessment of on-site drainage and vegetation characteristics and their effects on slope stability to ensure the requirements of this section are met.

4.6.5 Regulations – Design Standards for New or Expanded Shoreline Stabilization

1. New or expanded shoreline stabilization shall be designed by a state licensed professional geotechnical engineer and/or engineering geologist and constructed according to applicable U.S. Army Corps of Engineers requirements and/or state Department of Fish and Wildlife Aquatic Habitat Guidelines.
2. The size of structural shoreline stabilization shall be limited to the minimum necessary to protect the primary use or structure that it is intended to protect.
3. Shoreline stabilization shall be designed to take into account sea level rise, storm surges and other climate induced effects.
4. Shoreline stabilization shall be designed and constructed with gravel backfill and weep holes so that natural downward movement of surface or groundwater may continue without ponding or saturation that could compromise the surrounding soil stability.
5. Publicly financed or subsidized shoreline erosion control measures shall be designed to not restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. Where feasible, ecological restoration and public access improvements shall be incorporated into the stabilization project.
6. Shoreline stabilization structures shall not be constructed with waste materials such as demolition debris, derelict vessels, tires, concrete or any other materials which might have adverse toxic or visual impacts on shoreline areas.
7. Gabions are prohibited as a means of stabilizing shorelines because of their limited durability and the potential hazard to shoreline users and the shoreline environment.

4.6.6 Regulations – Bulkheads

1. Where permitted, bulkheads shall meet all of the following criteria in addition to the other regulations in this section:
 - a. They shall be located generally parallel to the shoreline. Adequate bank toe protection shall be provided to ensure bulkhead stability without relying on additional riprap; and
 - b. They shall be located so as to tie in flush with existing bulkheads on adjoining properties, except when adjoining bulkheads do not comply with the design or location requirements set forth in this Program.

4.6.7 Regulations – Revetments

1. Where permitted, revetments shall meet all of the following criteria in addition to the other regulations in this section:
 - a. They shall be placed landward of associated wetlands; and
 - b. They shall be located sufficiently landward of the stream channel to allow streams to maintain point bars and associated aquatic habitat through normal accretion; and

- c. They shall be prohibited on estuarine shores, in wetlands, on point and channel bars, and in channel migration zones.
2. When requesting a permit for a revetment along a stream or river, the proponent shall provide a geotechnical analysis of stream geomorphology both upstream and downstream of the proposed revetment site to assess the physical character and hydraulic energy potential of the specific stream reach and adjacent upstream or downstream reaches. The purpose of such analysis is to assure that the physical integrity of the stream corridor is maintained, that stream processes including channel migration are not adversely affected, and that the revetment would not cause significant damage to other properties or shoreline functions and processes.

4.6.8 Regulations – Breakwaters, Jetties, and Seawalls

1. Breakwaters, jetties, and seawalls shall be permitted when consistent with the Program and they meet all of the following:
 - a. They are shown to be necessary for purposes of navigation or habitat enhancement.
 - b. They are required to protect from strong wave action against existing public water-dependent uses such as a harbor, marina, or port that are located seaward of the existing shoreline.
 - c. Adverse impacts on water circulation, sediment transport, fish and wildlife migration, shellfish, and aquatic vegetation can be effectively mitigated.
2. Open-pile, floating, portable, or submerged breakwaters, or several smaller discontinuous structures that are anchored in place, shall be preferred over fixed breakwaters.

4.6.9 Application Requirements

1. Applications for shoreline stabilization shall provide all of the information required in Section 10.3.0 of this Program plus any additional information that may be required pursuant to the critical areas regulations in Chapter 7 of this Program.
2. Proposals for new or expanded structural or non-structural shoreline stabilization must provide documentation that demonstrates all of the following:
 - a. The erosion is not being caused by upland conditions, such as the loss of vegetation or poor drainage; and
 - b. The erosion is not due to landslides, sloughing or other forms of shoreline erosion unrelated to water action at the toe of the slope; and
 - c. Alternatives to structural shoreline armoring are determined to be infeasible or insufficient; and
 - d. The structural shoreline stabilization design is the least environmentally damaging alternative; and
 - e. Unavoidable adverse impacts are mitigated according to the prescribed mitigation sequence such that there is no net loss of shoreline ecological functions or processes.
3. Geotechnical reports pursuant to this section shall demonstrate the need for shoreline stabilization by estimating time frames and rates of erosion and describing the urgency

associated with the specific situation. As a general matter, hard armoring solutions shall not be authorized except when a report confirms that there is a significant possibility that such a structure will be damaged within three (3) years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting until the need is that immediate, would foreclose the opportunity to use measures that avoid impacts on ecological functions. Thus, where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three (3) years, the report may still be used to justify more immediate authorization to protect against erosion using soft measures.

4. To verify that the provisions of this section are fully addressed, the Administrator may require information to support a permit application for any type of shoreline stabilization. The Administrator shall consult with the appropriate state and federal natural resources agencies to determine the type and level of information that should be provided. Application information required pursuant to this section shall address the urgency and risks associated with the specific site characteristics and shall include:
 - a. A scaled site plan showing: (1) existing site topography, and (2) the location of existing and proposed shoreline stabilization structures, and any fill including dimensions indicating distances to the ordinary high water mark; and
 - b. A description of the processes affecting the site and surrounding areas, including but not limited to tidal action and/or waves; slope instability or mass wasting; littoral drift; channel migration; and soil erosion, deposition, or accretion; and
 - c. A description of alternatives to structural approaches, and a thorough discussion of the environmental impacts of each alternative; and
 - d. A description of any proposed vegetation removal and a plan to revegetate the site following construction; and
 - e. A hydraulic analysis prepared by a qualified hydrologist, professional engineer, geotechnical engineer or engineering geologist that describes anticipated effects of the project on water and wave elevations and velocities; and
 - f. A biological resource inventory and analysis prepared by a qualified professional biologist that describes the anticipated effects of the project on fish and wildlife resources; and
 - g. A cultural resources assessment if there are known or suspected cultural, archeological or historic resources in the vicinity of the site; and
 - h. A description of opportunities for providing public access to and along the affected shoreline, as well as any proposed on-site recreational features, if applicable; and
 - i. A description of any waste and debris disposal sites for materials generated during construction; and
 - j. Any other information that may be required by the Administrator to demonstrate compliance with the review criteria referenced in this section.