WAC 220-660-380 Residential and public recreational docks, piers, ramps, floats, watercraft lifts, and buoys in saltwater areas. This section applies to the design and construction of permanent, seasonal or temporary docks, piers, ramps (gangways), floats, watercraft lifts, and mooring systems.

(1) **Description:** Docks are structures that are fixed to the shoreline but floating upon the water. Piers are fixed, piling-supported structures. Floats (rafts) are floating structures that are moored, anchored, or otherwise secured in the water that are not directly connected to the shoreline. A ramp is a gangway that connects a pier or shoreline to a float and provides access between the two. Pilings usually associated with these structures are timber, steel, reinforced concrete, or composite posts that are driven or jacked into the bed. A watercraft lift is a structure that lifts boats and personal watercraft out of the water. A mooring buoy is a structure floating on the surface of the water that is used for private and commercial vessel moorage.

(2) **Fish life concerns:**

(a) Over-water and in-water structures can alter physical processes that create or maintain habitat that supports fish life. These processes include light regime, hydrology, substrate conditions, and water quality. Light reduction is the main impact to fish life at critical life stages. Light reduction or shading by over-water or in-water structures reduces survival of aquatic plants. Aquatic plants provide food, breeding areas, and protective nurseries for fish life.

(b) Shallow water provides juvenile fish a refuge from predators like larger fish. Over-water and in-water structures can alter movement of juvenile salmon, steelhead and other fish species. Structures grounding on the bed can physically block migration and damage forage fish spawning beds. The light/dark contrast of shading/no shading caused by over-water and in-water structures can affect migration behavior. Fish respond by moving into deeper water which increases the risk of predation.

(3) **Residential and public recreational pier, ramp, float, watercraft lift and buoy design - Generally:**

(a) The department requires that new structures are designed with a pier and ramp to span the intertidal beach, whenever feasible.

(b) The design and location of structures must follow the mitigation sequence to protect salt water habitats of special concern.

(i) Design and locate structures to protect juvenile salmonid migration, feeding, and rearing areas.

(ii) Design and locate structures to protect documented Pacific herring, Pacific sand lance, and surf smelt spawning beds; and rockfish and lingcod settlement and nursery areas.

(iii) The department will require a seagrass/macroalgae habitat survey for all new construction unless the department can determine the project will not impact seagrass and kelp beds, and in herring spawning beds other macroalgae used as spawning substrate. A survey is not required for replacement of an existing structure within its original footprint.

(A) Structures must be located at least 25 feet (measured horizontally from the nearest edge of the structure) and four vertical feet away from seagrass and kelp beds (measured at extreme low water).

(B) In documented herring spawning areas, structures must be located at least 25 feet (measured horizontally from the nearest edge of the structure) and four vertical feet from macroalgae beds on which herring spawn (measured at extreme low water).

(iv) If artificial nighttime lighting is used in the project, use low-intensity lights that are located and shielded to prevent light from attracting fish or disrupting fish migration behavior, unless there are safety constraints.

(v) The design must not include skirting including batter fencing constructed around piers, docks, or floats unless approved by the department. The design should not use treated wood for the decking of the structure. The design may use treated wood for structural elements. Treated wood structural elements subject to abrasion by vessels, floats, or other objects must incorporate design features such as rub strips to minimize abrasion of the wood.

(c) The structure must have been usable at the site within the past 12 months of the time of application submittal to be considered a replacement structure. Usable means no major deterioration or section loss in critical structural components is present.

(d) Replacement of more than 33 percent or 250 square feet of decking or replacement of decking substructure requires installation of functional grating in the replaced section only. The grating must conform to the requirements in this section.

(4) **Pier and ramp design:**

(a) Design piers to maximize height over the bed to improve light transmission. The bottom of the pier must be at least six feet above the bed at the landward end.

(b) Limit the width of residential piers to no more than six feet wide. Limit the width of recreational piers to the minimum width needed to accommodate the intended use.

(c) North/south oriented piers (338 to 22 degrees, or 158 to 202 degrees) greater than four feet in width must have at least 30 percent of the entire deck surface covered in functional grating. The grating must be installed parallel to the length of the pier for the entire length of the pier.

(d) Northeast/southwest, northwest/southeast, and east/west oriented piers (23 to 157 degrees, 203 to 337 degrees) must have at least 50 percent of the entire deck surface covered in functional grating regardless of width. The grating must be installed parallel to the width of the pier, evenly spaced along the entire length of the pier.

(e) If only the minimum pier deck surface described in (c) or (d) of this subsection is covered, the grating material's open area must be at least 60 percent open area unless grating covers more than the minimum pier deck area of the pier. If the grating covers more than the minimum deck surface area, the grating material's open area can be reduced down to at least 40 percent open area.

(f) Limit the width of residential ramps to four feet wide. Limit the width of public recreational ramps to the minimum width needed to accommodate the intended use. Cover the entire ramp surface with grating.

(5) **Float design (floats connected to a pier):**

(a) Whenever feasible, place float so that the largest dimension is oriented north/south.

(b) Limit the width of residential floats to eight feet. Limit the width of public recreational floats to the minimum width needed to accommodate the intended use.

(c) Whenever feasible, limit the length of single-family dock floats to 30 feet and joint-use dock floats to 60 feet.

(d) If the design has a float positioned perpendicular to the ramp to serve as a ramp landing, this float must not be more than six feet wide and 10 feet long.

(e) Design floats in intertidal areas with stoppers or support pilings that keep the bottom of the floats at least one foot above the substrate so that the structure will not rest on the bottom.

(f) A float six feet wide or less must have at least 30 percent of the entire deck surface covered in functional grating. A float between six and eight feet wide must have at least 50 percent of the entire deck surface covered in functional grating. Orient grating so the lengthwise opening maximizes the amount of light penetration. Any objects that are not part of the structure on, above, or below the grating should not block light penetration. Flotation must be located under the solid decked area only.

(g) The grating material's open area must be at least 60 percent.

(h) Flotation for the structure must be fully enclosed and contained in a shell. Flotation containing expanded or extruded plastic foam must be enclosed in a shell made of plastic with a minimum thickness of 0.15 inches, concrete, aluminum, or steel. The shell must prevent breakup or loss of the flotation material into the water. The shell must not be readily subject to damage by ultraviolet radiation and abrasion.

(i) Embedded anchor(s), pilings (with stops), and float support/stub pilings may be used to hold floats in place.

(j) If a project uses anchors to hold the float in place, the anchor lines must not rest on the substrate at any time.

(6) **Piling design:**

(a) Use the smallest diameter and number of pilings required to construct a safe structure.

(b) Steel piling used to construct residential docks should not exceed 12 inches in diameter. Limit the diameter of steel piling used to construct public recreational docks to the minimum diameter needed to accommodate the intended use.

(c) The use of creosote or pentachlorophenol piling is prohibited. New and replacement piling can be steel, concrete, recycled plastic, or untreated or treated wood approved by the department.

(d) Treated wood piling must incorporate design features to minimize abrasion of the piling from contact with vessels, floats, or other objects.

(e) Fit all pilings with devices to prevent perching by fish-eating birds.

(7) **Watercraft lift/grid design:**

(a) Design the watercraft lift/grid to minimize shading caused by the structure.

(b) The bottom of the watercraft lift/grid must be at least one foot above the bed.

(c) Use the minimum number of piling needed to support the watercraft lift/grid.

(8) **Buoy design:** In water bodies where buoy systems might damage submerged aquatic vegetation, locate and design the buoy system to minimize damage.

(a) Whenever feasible, use an embedded anchor.

(i) A seagrass/macroalgae habitat survey is not required if an embedment-style mooring anchor is installed. The department will require the diver/installer to locate the anchor so the mooring buoy system will not damage seagrass and kelp beds, and in herring spawning beds other macroalgae used as spawning substrate.

(ii) A seagrass/macroalgae habitat survey is required if a surface style mooring anchor is installed. The survey is needed to ensure the mooring buoy system is installed at a location where seagrass,

kelp, and in herring spawning beds other macroalgae used as spawning substrate will not be damaged.

(b) Place the buoy deep enough to prevent vessel grounding.

(c) Locate the buoy to avoid damage from vessel propellers to submerged aquatic vegetation.

(d) Design and install the buoy system with a mid-water float so that anchor lines do not drag.

(e) Adequately size the mooring to prevent the anchor from shifting or dragging along the bed.

(f) If the department authorizes the use of a concrete anchor, use a precast concrete anchor.

(g) The buoy must have a shell that is resistant to ultraviolet radiation (sunlight) and abrasion caused by rubbing against vessels, the bed, and/or waterborne debris.

(9) **Replacement floating docks:** The department will authorize replacement floating docks, if:

(a) The area of replaced floating dock structure is not expanded;

(b) The replaced floating dock is not relocated within waters of the state without written authorization from the department. The replaced structure must be removed and disposed of upland so it will not reenter state waters;

(c) Floats are designed with stoppers or support pilings that keep the bottom of the floats at least one foot above the substrate so that the structure will not rest on the bottom;

(d) A float six feet wide or less must have at least 30 percent of the entire deck surface covered in functional grating. A float between six and eight feet wide must have at least 50 percent of the entire deck surface covered in functional grating. Orient grating so the lengthwise opening maximizes the amount of light penetration. Any objects that are not part of the structure on, above, or below the grating should not block light penetration. Flotation must be located under the solid decked area only;

(e) The grating material's open area must be at least 60 percent;

(f) Flotation for the structure must be fully enclosed and contained in a shell. Flotation containing expanded or extruded plastic foam must be enclosed in a shell made of plastic with a minimum thickness of 0.15 inches, concrete, aluminum, or steel. The shell must prevent breakup or loss of the flotation material into the water. The shell must not be readily subject to damage by ultraviolet radiation and abrasion.

(10) **Residential and public recreational dock, pier, ramp, float, floating dock, watercraft lift, and buoy construction:**

(a) The dock or pier centerline must be reestablished during construction using the same methodology used to establish the centerline during the seagrass/macroalgae habitat survey.

(b) When installing steel piling, use of a vibratory hammer is preferred.

(c) If impact pile driving is used, set the drop height to the minimum needed to drive the piling.

(d) Use appropriate sound attenuation to minimize harm to fish from impact pile-driving noise.

(e) To avoid attracting fish to light at night, limit impact pile driving to daylight hours whenever feasible.

(f) The department may require the following during piling removal:

(i) Use of a vibratory system to dislodge piling whenever feasible;

(ii) Place the piling on a construction barge or other dry storage site after the piling is removed. The piling must not be shaken, hosed off, left hanging to dry or any other action intended to clean or remove adhering material from the piling;

(iii) If a treated wood piling breaks during extraction, remove the stump from the water column by fully extracting the stump or cutting it three feet below the substrate and cap all buried stumps with clean sediment that matches the native material;

(iv) Fill holes left by piling extraction with clean sediment that matches the native material whenever feasible;

(v) When removing creosote piling:

(A) Containment booms and absorbent booms (or other oil absorbent fabric) must be placed around the perimeter of the work area to capture wood debris, oil, and other materials released into marine waters as a result of construction activities to remove creosote pilings. All accumulated debris must be collected and disposed upland at an approved disposal site; and

(B) Creosote logs and timbers must be fully suspended during removal so no portion of the log drags through the water or onto the beach.

(g) Securely anchor dock, floats, and mooring buoys.

(h) Dispose of replaced piers, ramps, floats, docks, lines, chains, cables, or mooring anchors in an upland disposal site; and

(i) Place floats and buoys removed seasonally in an upland area. Do not store on the beach.

[Statutory Authority: RCW 77.04.012, 77.04.055, 77.04.020, 77.55.021, 77.55.091, 77.55.181, 77.12.047, and 34.05.328. WSR 26-15-073 (Order 26-13), s 220-660-380, filed 7/15/26, effective 8/15/26. Statutory Authority: RCW 77.04.012, 77.12.047, 77.55.021, and 34.05.328. WSR 24-12-003 (Order 24-05), § 220-660-380, filed 5/22/24, effective 6/22/24. Statutory Authority: RCW 77.04.012, 77.04.020, and 77.12.047. WSR 15-02-029 (Order 14-353), § 220-660-380, filed 12/30/14, effective 7/1/15.]