

## SECTION 3.140: ESTUARY DEVELOPMENT STANDARDS

- (1) **AQUACULTURE FACILITIES:** Aquaculture facilities in estuary zones shall be subject to the following standards:
  - (a) Evidence shall be provided by the applicant and findings made by the County that aquaculture facilities do not prevent access to navigation channels, and that obstruction of access to publicly-owned lands and recreation use areas is minimized.
  - (b) Aquaculture facilities should be designed to minimize their visual impact (view obstruction). Whenever feasible, submerged structures are preferred over floating structures.
  - (c) In the design and construction of aquaculture facilities, reclamation and reuse of waste water should be considered.
  - (d) Water diversion structures or man-made spawning channels shall be constructed so as to maintain required stream flows for aquatic life in adjacent streams and avoid significant reduction or acceleration of average water flow in an associated marsh. Water Quality policies shall apply.
  - (e) Shellfish culture facilities shall either be located more than 2,000 feet away from sanitary sewer outfalls so that there will be no potential health hazard, or shall make provision for purification of water used in the aquaculture operation.
  - (f) Water discharge from an aquaculture facility shall meet all Federal and State water quality standards and any conditions attached to a waste discharge permit. Water Quality policies shall apply.
  - (g) All State and Federal laws governing environmental quality, resource protection, public health and safety, and engineering standards shall be met in the design, siting, construction and operation of aquaculture facilities. This determination shall be made by the Oregon Department of Fish and Wildlife or other State or Federal agencies with regulatory authority over aquaculture facilities.
  - (h) Aquaculture facilities in Estuary Conservation (EC) Zones, Estuary Development (ED) Zones, and Estuary Natural (EN) Zones shall be permitted only if evidence can be provided by the applicant and findings made by the County that:
    - (1) Aquaculture facilities in Estuary Conservation (EC) Zones will require a resource capability determination where dredging, fill or other alterations of the estuary is needed, other than incidental dredging for harvest of benthic species or removal of in-water structures.

- (2) Aquaculture facilities in Estuary Development (ED) Zones will not preclude the provision or maintenance of navigation or other needs for commercial and industrial water dependent uses, and will not preempt the use of shorelands especially suited for water-dependent development.
  - (3) Aquaculture facilities in Estuary Natural (EN) Zones will be consistent with the resource capabilities and purpose of the management unit(s) in which they are to be located. The Oregon Department of Agriculture shall provide these findings for oyster culture and the Oregon Department of Fish and Wildlife shall provide them for other types of aquaculture in instances when Tillamook County finds that it does not have the technical expertise or resources to make them.
  - (4) Aquaculture facilities in Estuary Natural (EN) Zones will not require dredging or fill other than incidental dredging for harvest of benthic species or removal of in-water structures.
    - (i) Leasing of publicly-owned estuarine waters, intertidal areas or tidal wetlands for aquaculture shall be subject to the requirements of the Division of State Lands.
    - (j) Dredge, fill, shoreline stabilization, piling/dolphin installation or other activities in conjunction with an aquaculture facility shall be subject to the respective standards for these activities.
- (2) DIKING: Siting, design, construction, maintenance or expansion of dikes in estuary zones, shall be subject to the following standards:
- (a) Diking policy requirements in the Tillamook County Comprehensive Plan shall be met.
  - (b) Proposals for new dike construction or dike maintenance or repair shall be accompanied by a brief statement from the local Soil and Water Conservation Service or a certified engineer stating that:
    - (1) The project is in conformance with good engineering practices and any applicable rules and regulations set forth by the Oregon Division of State Lands and the U. S. Army Corps of Engineers.
    - (2) Provides for suitable erosion protection for the dike face.
    - (3) Will produce no appreciable flood and erosion potential upstream or downstream of the proposed project.

- (c) When temporary dikes are constructed in intertidal areas or tidal wetlands, notice must be given to the D. S. L. within 24 hours following the start of such activity and their approval for continuation of the project must be obtained (ORS 541.615 (4)). Intertidal areas and tidal wetlands shall be restored by the sponsor of the dike to predike conditions after the removal of temporary dikes.
  - (d) Fill, shoreline stabilization or other activities in conjunction with dike construction, maintenance or repair shall be subject to the respective standards for these activities.
  - (e) Repair and maintenance of existing dikes, and construction of new dikes involving fill in intertidal areas and tidal wetlands are subject to the requirements of the State Fill and Removal Law (ORS 541.605 - 541.665) and the Clean Water Act of 1977 (P.L. 95217). (Applies to fill only).
- (3) DOCKS AND MOORAGES: Siting, design, construction, maintenance or expansion of new docks and moorages in estuary zones, Water-Dependent Development (WWD) Shoreland Zones or other areas within the Shoreland Overlay Zone shall be subject to the following standards:
- (a) Docks and moorages policy requirements in the Tillamook County Comprehensive Plan shall be met.
  - (b) When new construction or expansion of docks and moorages is proposed, evidence shall be provided by the applicant and findings made by the County that:
    - (1) The size of the facility is the minimum necessary to accommodate the number and size of boats using the facility. The maximum size limit for a single purpose private dock (excluding walkways) shall be 200 square feet. Larger docks may be permitted subject to the Conditional Use provisions of Article VI of this Ordinance.
    - (2) Alternatives such as dryland storage, launching ramps or mooring buoys are impracticable.
  - (c) To ensure that consideration is given to the beneficial economic and social impacts of moorages on local communities, proposals for new or expanded moorages should include statements on the impacts to local communities derived from increases in employment or increases in commercial or recreational activity.
  - (d) Open pile piers or secured floats shall be used for dock construction. Piers and floats shall extend no further out into the water than is needed to provide navigational access.
  - (e) Floating docks shall be designed so that they do not rest on the bottom at low water.

- (f) Single purpose docks shall be permitted if evidence is provided by the applicant and findings made by the County that cooperative use facilities (marinas or community docks or mooring buoys) are unavailable, impractical or will not satisfy the need.
  - (g) Covered or enclosed moorages shall be limited to not more than 30 percent (in number) of the total moorage spaces of a given moorage.
  - (h) To avoid contamination of estuarine waters, intertidal areas or tidal wetlands, public docks and moorages should provide enclosed facilities on shorelands for public dumping of oil and emptying of holding tanks.
  - (i) When docks and moorages are proposed in Estuary Conservation 1 or Estuary Conservation 2 Zones, evidence shall be presented by the applicant and findings made by the County that the proposed dock or moorage is consistent with the resource capabilities of the area and the long term use of renewable resource and does not constitute a major alteration to the estuary. In assessing the resource capabilities of an area, consideration shall be given to the size or intensity of the proposed facility, and its location with respect to adjacent resources.
  - (j) Docks and moorages in Water-Dependent Development (WDD) Shoreland Zones or other areas within the Shoreland Overlay Zone shall be subject to Shoreland Development standards.
  - (k) Moorages with a capacity greater than 25 boats shall be subject to Shallow Draft Port Facility and Marina standards.
  - (l) Dredging, fill, piling/dolphin installation, shoreline stabilization or other activities in conjunction with the construction of docks and moorages shall be subject to the respective standards for these activities.
- (4) **DREDGED MATERIAL DISPOSAL:** Dredged material disposal in estuary zones, Water-Dependent Development (WDD) Shoreland Zones or other areas within the Shoreland Overlay Zone shall be subject to the following standards:
- (a) Dredged material disposal shall occur only in approved dredged material disposal sites, or for fill of development sites which have received appropriate local, State and Federal permits. All Dredged Material Disposal policy requirements and Fill Standards shall apply.
  - (b) State and Federal water quality standards shall be met during all phases of dredged material disposal. Water Quality policies shall apply.

- (c) The timing of dredged material disposal shall be coordinated with State and Federal resource agencies to ensure adequate protection of wildlife habitat, bird nesting areas, fish runs and fish spawning activity, and to minimize interference with fishing activities.
- (d) Ocean disposal of dredged material shall be permitted only in an ocean disposal site approved by the U.S. Army Corps of Engineers and the Environmental Protection Agency.
- (e) With regard to in-water disposal in the river, estuary and ocean:
  - (1) Consideration shall be given to the need for the proposed disposal, and the availability and desirability of alternate sites and methods of disposal that might be less damaging to the environment.
  - (2) The physical and chemical characteristics of the dredged material should be compared with those of the disposal site, and consideration should be given to matching the dredged material to the capabilities of the site.
  - (3) In-water disposal requires either an EPA/DEQ water quality certification or a short-term exemption. Polluted materials that cannot meet EPA/DEQ requirements for ocean disposal shall be disposed of on nonaquatic sites designed to properly settle out all pollutants prior to discharge back into the aquatic system. Dredged material disposal shall not be permitted in the vicinity of a public water supply intake.
- (f) Flow-lane disposal of dredged material shall be monitored to assure that estuarine sedimentation is consistent with the resource capabilities and purposes of affected natural and conservative management units.
- (g) Ocean disposal of dredged material shall be conducted to ensure that U. S. Corps of Engineers and Environmental Protection Agency standards are met, and that:
  - (1) The amount of material deposited at a site will not seriously impact local ocean resources.
  - (2) Interference with sport and commercial fishing is minimized.
  - (3) Disposal is confined to the authorized disposal site.
  - (4) The sediment transport of the materials after disposal will not return to the bar or the estuary. This determination shall be made by the U. S. Army Corps and the Environmental Protection Agency during their review of permit applications for ocean disposal of dredged material.

- (h) Disposal of dredged materials on ocean beaches for purposes of beach nourishment shall be conducted to ensure that:
  - (1) The volume and frequency of dredged material disposal is controlled to avoid excessive fluctuations in beach profile. A stable beach profile shall be maintained as nearly as possible.
  - (2) Adverse impacts on benthic productivity, and native plants and wildlife within, and downstream or, the disposal site shall be avoided or minimized. Particular care shall be taken to ensure that erosion or smothering of productive habitat areas does not occur.
  - (3) The dredged material is uncontaminated, and composed predominately of sand with a particle size compatible with material on the receiving shores.
- (i) Land disposal of dredged materials shall be conducted to ensure that the integrity of estuarine water, streams, underground springs and waterways is maintained. To ensure this:
  - (1) U. S. Army Corps of Engineers guidelines for design of containment areas at dredged material disposal sites shall be followed. The U. S. Army Corps of Engineers shall be responsible for determining that these guidelines have been met.
  - (2) All surface water runoff from disposed dredged materials shall be controlled and shall enter the waterway or estuary directly through an approved outfall. Outfalls shall be designed so that effluent is routed as directly as practicable to the main channel or deep water for dilution.
  - (3) When necessary, dikes shall be constructed around land dredged material disposal sites.
  - (4) Dredged material disposal settling ponds shall be designed to maintain at least one foot of standing water at all times to encourage proper settling of suspended solids. Secondary dredged material disposal settling ponds may be necessary to ensure the proper treatment of overflow waters, particularly in areas used for disposal of spoils containing toxic materials.
  - (5) Runoff from disposed dredged materials must pass over an appropriately designed and operated weir. Weir design and size shall be dependent upon the size of the disposal site and the physical and chemical characteristics of the dredged material.

- (j) The final height and slope after each use of a land dredged material site shall be such that:
    - (1) The site does not enlarge itself by sloughing and erosion at the expense of adjacent aquatic areas.
    - (2) Loss of material from the site during storms and freshets is minimized.
    - (3) Interference with the view from nearby residences, scenic viewpoints and parks is avoided.
  - (k) Revegetation of land disposal sites shall occur as soon as is practicable in order to retard water induced erosion and to restore agricultural or wildlife habitat value to the site. Native species or non-native species approved by the Soil Conservation Service shall be used, and reference shall be made to the Inter-Agency Seeding Manual prepared by the Soil Conservation Service.
  - (l) Disposal of dredged material should occur on the smallest practicable land area consistent with the use of the property and the characteristics of the dredged material. Clearing of land should occur in stages on an as-needed basis. Reuse of existing disposal sites is preferred over creation of new sites in order to minimize the total land area covered by dredged material.
  - (m) Before dredged materials are disposed on land areas for use as fill in approved fill projects, a determination shall be made that the structural characteristics of the material are suitable for this use.
  - (n) The use of agricultural lands for dredged material disposal shall occur only when the sponsor of the dredging project can demonstrate that the soils can be restored to agricultural productivity after disposal use is completed. In cases where this demonstration cannot be made, an exception to the Agricultural Lands Goal must be taken and included as an amendment to the Comprehensive Plan prior to the use of the site for dredged material disposal.
  - (o) Dredging project proposals shall provide at least a five-year program for disposal of dredging material, consistent with the standards listed above. Disposal programs shall provide a mechanism for establishing stockpile sites of fill material suitable for use in approved fill projects.
- (5) **DREDGING IN ESTUARINE WATERS, INTERTIDAL AREAS AND TIDAL WETLANDS:** These standards shall apply only to dredging in excess of 50 c.y. within a 12-month period or dredging of 50 c.y. or less which requires a Section 10 permit from the U. S. Army Corps of Engineers.

- (a) When dredging in estuarine waters, intertidal areas or tidal wetlands is proposed, evidence shall be provided by the applicant and findings made by the County that:
  - (1) The dredging is necessary for navigation or other water dependent uses that require an estuarine location, or is specifically allowed by the management unit or zone; and,
  - (2) A need (i.e. a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights;
  - (3) If no feasible alternative upland locations exist; and,
  - (4) If adverse impacts are minimized.
- (b) Dredging projects shall meet all requirements of the State Fill and Removal Law (ORS 541.605 - 541.665), Section 10 of the Rivers and Harbors Act of 1899, and other applicable State and Federal laws. These requirements shall be enforced by State and Federal agencies with regulatory authority over dredging projects.
- (c) Existing water quality, quantity and rate of flow shall be maintained or improved. Minimum stream flow requirements shall be maintained. Water Quality policies shall apply.
- (d) Flushing capacity of estuaries shall be maintained. A hydrologic report from a professional registered hydrologist or engineer may be required by the Planning Department to ensure that this standard has been met.
- (e) Dredging shall be timed in order to minimize the effects of sedimentation and turbidity and to minimize impacts on fish, shellfish, and recreational and commercial fishery activities. The work periods specified in the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources (ODFW, 2000) shall be followed unless approval of alternative work periods has been obtained from the O.D.F.W.
- (f) Evidence shall be provided by the applicant and findings made by the County that projects requiring dredging are sited and designed so that initial and maintenance dredging are minimized.
- (g) Dredging proposals shall provide at least a five-year program for disposal of dredged materials. Programs for disposal of dredged material shall be consistent with Dredged Material Disposal standards.
- (h) Dredging proposals requiring mitigation shall include a mitigation plan consistent with Mitigation Standards.



- (i) New dredging projects shall not be allowed in areas where insufficient data are available to assess the relative biological value. Under these circumstances, the applicant may arrange to provide the necessary information with the technical assistance of State and Federal resource agencies.
- (j) When dredging for the purpose of on-site maintenance of existing facilities is proposed, evidence shall be presented by the applicant and findings made by the County that:
  - (1) The dredging is necessary to maintain proper operation of the facility.
  - (2) The amount of dredging proposed is confined to the geographic area of the existing facility, and is the minimum amount necessary to fulfill the need.

In cases where dredging or ditching for the purpose of tidegate or land drainage network maintenance is proposed, this findings requirement may be met by a brief statement from the local Soil and Water Conservation Service stating that:

- (1) Dredging or ditching is necessary to maintain proper operation of the tidegate and/or the associated land drainage network behind the dike.
  - (2) The amount of dredging or ditching proposed is confined to the geographic area of the tidegate or drainage new work, and is the minimum amount necessary to fulfill the need.
- (k) Excavation to create new water surface area shall be subject to the standards listed above and to the following standards:
    - (1) Provision shall be made for stabilization of new bank lines prior to the connection of the new water body to existing water bodies. Excavation of as much as is practical of the new water body shall be completed before it is connected to existing water bodies.
    - (2) Toxic substances or other pollutants shall not leak into the water as a result of the excavation.
    - (3) Erosion of adjacent shoreland areas and excessive sedimentation and turbidity in adjacent aquatic areas shall be avoided.
    - (4) Excavation shall occur at a time that will minimize its impact on aquatic life.
    - (5) Excavated materials shall not be disposed of in estuarine waters, intertidal areas, or tidal wetlands, except as part of an approved fill project subject to fill standards.

- (l) Dredging for the purpose of bankline or stream alteration (i.e. realignment of a stream bank or the entire stream, either within or without its normal high water boundaries) shall be subject to the standards listed above and to following standards:
  - (1) Alignments should make maximum use of natural or existing deep water channels provided that pockets of stagnant water are not created.
  - (2) Erosion of adjacent shoreland areas and excessive sedimentation and turbidity in adjacent aquatic areas shall be avoided.
  - (3) Temporary stabilization (mulching or sodding), sediment basins or other performance equivalent structures may be required at the discretion of the Planning Department.
  - (4) Provision shall be made for stabilization of new banklines. Shoreline Stabilization standards shall apply.
  - (5) Adverse impacts on fish spawning, feeding, migration and transit routes and wildlife habitat shall be evaluated and minimized.
- (m) An impact assessment shall be conducted during local, State and Federal review of permit applications for dredging in estuarine waters, intertidal areas or tidal wetlands. The impact assessment shall follow the procedures outlined in Section 3.020. Identified adverse impacts shall be minimized to be consistent with the resource capabilities and purposes of the area.
- (6) **ENERGY FACILITIES AND UTILITIES:** Siting, design, construction, maintenance or expansion of energy facilities and utilities in estuary zones, shall be subject to the following standards:
  - (a) When new energy facilities and utilities are proposed within estuarine waters, intertidal areas or tidal wetlands, evidence shall be provided by the applicant and findings made by the County that:
    - (1) A need (i.e. a substantial public benefit) exists and the use or alteration does not unreasonably interfere with public trust rights.
    - (2) Alternative non-aquatic locations are unavailable or impractical.
    - (3) Dredging, fill and other adverse impacts are avoided or minimized.
  - (b) Electrical or communication transmission lines shall be located underground or along existing rights-of-way unless economically infeasible.

- (c) Above-ground utilities shall be located to have the least adverse effect on visual and other aesthetic characteristics of the area. Interference with public use and public access to the estuary shall be minimized.
- (d) Whenever practicable, new utility lines and crossings within estuarine waters, intertidal areas or tidal wetlands shall follow the same corridors as existing lines and crossings.
- (e) Water discharge into estuarine waters, intertidal areas and tidal wetlands from an energy facility or utility shall meet EPA and DEQ standards, and shall not produce increases in temperature in the receiving waters which would have adverse impacts on aquatic life. Water Quality policies shall apply.
- (f) When new energy facilities and utilities are proposed in EN zones, evidence shall be provided by the applicant and findings made by the County that the proposed use is consistent with the resource capabilities of the area and the preservation of areas needed for scientific, research or educational needs.
- (g) When storm water and sewer outfalls are proposed in EC2 and EC1 zones, evidence shall be provided by the applicant and findings made by the County that the proposed use is consistent with the resource capabilities of the area and the long-term use of renewable resources, and does not cause a major alteration of the estuary.
- (h) When new energy facilities and utilities are proposed in Estuary Development (ED) zones, evidence shall be provided by the applicant and findings made by the County that the proposed facility will not preclude the provision or maintenance of navigation and other public, commercial and industrial water dependent uses.
- (i) Storm water and sewer outfalls shall go out to channels or areas where flushing will be adequate and shall not empty onto tideflats or intertidal wetlands. Effluent from outfalls must meet DEQ and EPA water quality standards. Water Quality policies shall apply.
- (j) Dredge, fill, shoreline stabilization or other activities in conjunction with construction of energy facilities or utilities shall be subject to the respective standards for these activities.
- (k) Energy facilities and utilities shall be sited so that they do not and will not require structural shoreline stabilization methods.

- (7) **FILL IN ESTUARINE WATERS, INTERTIDAL AREAS AND TIDAL WETLANDS:** These standards shall apply only to fill in excess of 50 c.y. or fill of less than 50 c.y. which requires a Section 10 or 404 Permit from the U.S. Army Corps of Engineers.
- (a) When fill in estuarine waters, intertidal areas or tidal wetlands is proposed, evidence shall be provided by the applicant and findings made by the County that:
    - (1) The fill is necessary for navigation or other water dependent uses that require an estuarine location, or is specifically allowed by the management unit or zone; and
    - (2) A need (i.e. a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights; and,
    - (3) If no feasible alternative upland locations exist; and,
    - (4) If adverse impacts are minimized.
  - (b) When fill for the purpose of on-site maintenance of existing facilities is proposed, evidence shall be provided by the applicant and findings made by the County that:
    - (1) There are no alternatives to fill to maintain proper operation of the facility.
    - (2) The amount of fill proposed is confined to the geographic area of the existing facility, and is the minimum amount necessary to fulfill the need.
  - (c) Where existing public access is reduced, suitable access as part of the development project shall be provided.
  - (d) The fill shall be placed at a time that will minimize sedimentation and turbidity. The work periods specified in the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources (ODFW, 1976) shall be followed unless approval of alternative work periods has been obtained from the ODFW.
  - (e) Only non-polluted materials may be used for fill. Materials which would create water quality problems are not permitted.
  - (f) The perimeters of the fill shall be provided with erosion prevention measures, consistent with Shoreline Stabilization standards.
  - (g) Fills shall be placed so that adjacent or nearby property is not adversely impacted by increased erosion, shoaling or flooding produced by changes in littoral drift or other changes in water circulation patterns. An affidavit from a professional registered engineer or hydrologist may impact assessment required in Section 3.120.

- (h) Fill proposals requiring mitigation shall include a mitigation plan consistent with Mitigation standards.
  - (i) Fill in estuarine waters, intertidal areas and tidal wetlands shall be subject to the requirements of the State Fill and Removal Law (ORS 541.605 - 541.665), The Rivers and Harbors Act of 1899, the Clean Water Act of 1977 (PL 95-217) and other applicable State and Federal laws. These requirements shall be enforced by State and Federal agencies with regulatory authority over fill projects.
  - (j) An impact assessment shall be conducted during the local, State, and Federal review of permit applications for fill in estuarine waters, intertidal areas, or tidal wetlands according to the provisions outlined in Section 3.120. Identified adverse impacts shall be minimized to be consistent with the resource capabilities and purposes of the area.
- (8) FORESTRY AND THE FOREST PRODUCTS INDUSTRY: The following standards shall apply to forestry, and to log handling, sorting, and storage areas in estuary zones.
- (a) Log storage, sorting and processing areas in shorelands adjacent to estuaries or waterways shall be designed, constructed, and operated to control leachates and prevent the loss of bark, chips, sawdust and other wood debris into public waters.
  - (b) Timber propagation and harvest on commercial forest lands shall be subject to the Oregon Forest Practices Act and Administration Rules for forest lands as defined in ORS 527.610, 527-730, and 572.990. The Oregon Department of Forestry shall be responsible for determining that these standards have been met.
  - (c) In-water log handling, sorting, and storage areas, and log storage, sorting and processing areas in shorelands adjacent to estuaries or other water bodies shall be subject to the requirements of the water quality program administered by the Department of Environmental Quality under the Clean Water Act of 1977 (PL92-500). The DEQ, in conjunction with other affected resource agencies, shall be responsible for determining that the flushing characteristics of in-water log handling, sorting and storage areas, the number of logs and duration of storage, and the bark and debris controls for both in-water and shoreland sites are such that State and Federal clean water standards are met.
  - (d) Leasing of publicly-owned aquatic areas for the purpose of in-water log handling, sorting and storage shall be subject to the requirements of the Division of State Lands.

- (e) When new in-water log handling, sorting and storage areas are proposed in estuarine waters, evidence must be presented by the applicant and findings made by the County that:
  - (1) The proposed use is an integral part of the process of water-borne transportation of logs (i.e. is water-dependent).
  - (2) There is a need (i.e. a substantial public benefit) for the proposed use and the use or alteration does not unreasonably interfere with public trust rights.
  - (3) Alternative non-aquatic locations are unavailable, impracticable or do not meet the need.
  - (4) Conflicts with navigation, aquaculture and commercial and recreational fishing have been avoided or minimized.
  - (5) Easy let-down facilities for transfer of logs from land to water have been provided for (free-fall lot dumps shall not be permitted).
  - (6) Sites are located to avoid shellfish beds, shallow spawning areas, or areas where grounding of logs will occur.
  
- (9) INDUSTRIAL AND COMMERCIAL USES IN ESTUARINE WATERS, INTERTIDAL AREAS AND TIDAL WETLANDS: Siting, design, construction, maintenance or expansion of industrial and commercial uses within estuary zones shall be subject to the following standards:
  - (a) Evidence shall be provided by the applicant and findings made by the County that:
    - (1) The amount of estuarine surface area occupied is the minimum required to meet the need.
    - (2) Provision has been made for public access, view-points and recreational use, consistent with safety and security considerations.
    - (3) Multipurpose and cooperative use of piers, wharves, parking areas or handling and storage facilities has been provided for, or is impracticable.
    - (4) Floating structures are designed so as not to rest on the bottom at low water, and are protected against currents and waves.
    - (5) Alteration of productive intertidal areas and tidal marshes has been avoided or minimized.

- (6) Adverse impacts on the following have been avoided or minimized to be consistent with the resource capabilities and purposes of the area:
  - (i) Water quality.
  - (ii) Hydrographic characteristics.
  - (iii) Aquatic life and habitat.
  - (iv) Bird and wildlife habitat.
  - (v) Fish transit and migration routes.
- (b) Removal of riparian vegetation shall be permitted only if direct access to water is required in conjunction with a water-dependent use. Replacement of riparian vegetation, or enhancement of existing riparian vegetation shall be required, where consistent with water-dependent use, to enhance attractiveness or assist in bank stabilization.
- (c) Visual access to the water shall not be impaired by the placement of signs. When feasible, signs shall be constructed on or against buildings to minimize visual obstruction of the shoreline and water bodies. Off-premise outdoor advertising signs shall not be allowed within estuarine waters, intertidal areas or tidal wetlands.
- (d) The design and construction of new industrial and commercial facilities should consider reclamation and re-use of waste water.
- (e) Provision for the prevention and control of contaminants from entering the water shall be made. A contingency plan to provide for containment and clean-up of spills of contaminants shall be provided.
- (f) Industrial outfalls, sewer outfalls, and storm water outfalls shall go out to channels or areas where flushing will be adequate and shall not empty onto tideflats or salt marshes. Effluent from outfalls must meet DEQ and EPA water quality standards. Water Quality policies shall apply.
- (g) When water-dependent industrial and commercial uses are proposed in Estuary Conservation 2 (EC2) zones, evidence shall be provided by the applicant and findings made by the County that the proposed use is consistent with the resource capabilities of the area and the long-term use of renewable resources, and would not cause a major alteration of the estuary.

- (h) When water-related nor non-dependent, non-related industrial or commercial uses are proposed in Estuary Development (ED) zones evidence must be presented that:
  - (1) The use will not preclude the provision or maintenance of navigation and other needed public, commercial and industrial water-dependent uses.
  - (2) The use will not preempt the use of shorelands especially suited for water-dependent development.
  - (3) Non-water-dependent and non-water-related uses which permanently alter estuarine resources and values shall include evidence of the public benefits derived from the project, which shall include:
    - (i) The beneficial economic impacts to local communities derived from increases in employment; and/or
    - (ii) Indirect economic impacts generated by increases in commercial, industrial or recreational activity within the area.
  - (i) All State and Federal laws governing the use, handling, storage, treatment and disposal of toxic materials, petroleum, waste water and organic wastes and other State and Federal laws governing environmental quality, resource protection or public health and safety shall be met. This determination shall be made by appropriate State or Federal agencies with regulatory authority.
  - (j) Dredging, fill, piling/dolphin installation, shoreline stabilization, disposal of dredged material or other activities in conjunction with industrial and commercial uses shall be subject to the respective standards for these activities.
- (10) LAND TRANSPORTATION FACILITIES: Siting, design, construction and maintenance of bridges, roads or railroads in estuary zones shall be subject to the following standards:
  - (a) Proposals for new County or State highways, or for railroads, shall provide an evaluation of the proposed project on the following:
    - (1) Land use patterns.
    - (2) Energy use.
    - (3) Air and water quality.
    - (4) Estuarine habitat, functions and processes.
    - (5) Existing transportation facilities.



- (6) Physical and visual access to estuaries and shorelands.
  - (b) Evidence shall be provided by the applicant and findings made by the County that the siting, design, construction and maintenance of land transportation facilities will be conducted to avoid mass soil wasting or excessive surface erosion.
  - (c) Land transportation facility proposals shall include a rehabilitation plan specifying the method and timing of necessary site rehabilitation. Site rehabilitation plans shall provide for replacement of riparian vegetation.
  - (d) Vegetated buffer strips shall be maintained, whenever practicable, along roadways to manage storm drainage runoff.
  - (e) When culverts are used in association with bridge crossings, spring line natural bottom culverts are preferred over box culverts.
  - (f) All bridge crossings and culverts shall be positioned and maintained to allow fish passage, avoid interference with anadromous fish runs and to prevent any constriction of natural streams which would result in increases in flood or erosion potential. When culverts are used, no fill shall be allowed in streams, rivers or estuaries.
  - (g) When new bridge crossing support structures are proposed in Estuary Natural (EN) zones, evidence shall be provided by the applicant and findings made by the County that the proposed use is consistent with the resource capabilities and purposes of the area.
  - (h) When land transportation facilities are proposed in Estuary Development (ED) zones, evidence shall be presented by the applicant and findings made by the County that the proposed use will not preclude the provision or maintenance of navigation and other needed public, commercial and industrial water-dependent uses.
  - (i) Dredging, fill, piling/dolphin installation, shoreline stabilization, dredged material disposal or other activities in conjunction with land transportation facilities shall be subject to the respective standards for these activities.
- (11) **MINING AND MINERAL EXTRACTION:** Mining and mineral extraction in estuary zones shall be subject to the following standards:
- (a) Mining and mineral extraction policy requirements in the Tillamook County Comprehensive Plan shall be met.

- (b) Mining and mineral extraction proposals shall include a mining plan and a rehabilitation plan specifying the method and timing of necessary site rehabilitation. Any necessary rehabilitation plan specifying the method and timing of necessary site rehabilitation. Any necessary rehabilitation of mining and/or mineral extraction sites shall be completed within two years of the completion of the mining or mineral extraction operation.
- (c) Evidence shall be provided by the applicant and findings made by the County that mining and mineral extraction projects are sited, designed, operated and maintained to ensure that adverse impacts on the following are minimized:
  - (1) Aquatic life and habitat, including but not limited to the spawning, rearing and passage requirements of anadromous fish.
  - (2) Bird and wildlife habitat.
  - (3) Hydrographic characteristics, including but not limited to the alteration of local currents that may affect adjacent properties by causing erosion, accretion or increased flooding.
  - (4) Water quality. (Water Quality policies shall apply).
- (d) Temporary removal of riparian vegetation shall be permitted in cases where direct water access is required as part of a mining or mineral extraction operation. Site rehabilitation plans shall provide for replacement of riparian vegetation.
- (e) Spoils and stockpiles shall not be placed within estuarine waters, intertidal areas or tidal wetlands, unless as part of an approved fill project, subject to Fill standards.
- (f) When mining and mineral extraction projects are proposed in Estuary Conservation 1 (EC1) and Estuary Conservation 2 (EC2) Zones, evidence shall be provided by the applicant and findings made by the County that the proposed project is consistent with the resource capabilities of the area and the long-term use of renewable resources, and does not cause a major alteration of the estuary.
- (g) When mining and mineral extraction projects are proposed in Estuary Development (ED) Zones, evidence shall be presented by the applicant and findings made by the County that the project is consistent with the maintenance of navigation and other needed public, commercial and industrial water-dependent uses.
- (h) Dredging, fill, or other activities in conjunction with mining and mineral extraction shall be subject to the respective standards for these activities.

- (i) The location and operation of mining and mineral extraction projects shall be in conformance with the requirements of the Division of State Lands, (ORS 541.605 - 541.665; ORS 273.551; ORS 273.775 - 273.780), the Department of Geology and Mineral Industries (ORS 520.005 - 520.095) and other applicable State and Federal laws governing environmental quality, resource protection and public health and safety. These requirements shall be enforced by State and Federal agencies with regulatory authority over mining and mineral extraction projects.
- (12) MITIGATION: Mitigation projects in estuary zones, Water-Dependent Development (WDD) Shoreland Zones or other areas within the Shoreland Overlay Zone shall be subject to the following standards:
- (a) Mitigation for dredge or fill within intertidal areas or tidal wetlands shall be required by the Director of the Division of State Lands (under the provisions of ORS 541.605 - 541.665). The suitability of a mitigation proposal for a given proposed project shall be determined by the Director of the Division of State Lands, according to the procedure established in Administrative Rule 85-245 (Chapter 141).
  - (b) Mitigation projects shall go into effect prior to or at the same time as the development project.
  - (c) Mitigation projects in Water-Dependent Development (WDD) Shoreland Zones or other areas within the Shoreland Overlay Zone shall be subject to Shoreland Development Standards.
- (13) NAVIGATIONAL STRUCTURES AND NAVIGATIONAL AIDS: Navigational structures and navigational aids in estuary zones shall be subject to the following standards:
- (a) When navigational structures are proposed, evidence shall be provided by the applicant and findings made by the County that:
    - (1) The amount of estuarine surface area occupied is the minimum necessary to accomplish the proposed use.
    - (2) The project will not interfere with the normal public use of fishery, recreation, or water resources.
    - (3) The proposed project will not adversely impact adjacent or nearby property through increased erosion, shoaling, or flooding produced by changes in littoral drift or other changes in water circulation patterns. An affidavit from a professional registered engineer or hydrologist may be required by the Planning Department as a result of the impact assessment required in Section 3.120.

- (4) Non-structural solutions are unavailable, impractical, or do not meet the need.
  - (b) When floating breakwaters are proposed in Estuary Conservation 1 (EC1) and Estuary Conservation 2 (EC2) Zones, evidence shall be provided by the applicant and findings made by the County that the proposed use is consistent with the resource capabilities of the area and the long-term use of renewable resources, and does not cause a major alteration of the estuary.
  - (c) Navigational structures shall meet all applicable U. S. Army Corps of Engineers engineering standards. The U. S. Army Corps of Engineers shall be responsible for determining that these engineering standards have been met.
  - (d) An impact assessment shall be conducted during local, State and Federal review of permit applications for navigational structures. The impact assessment shall follow the procedures outlined in Section 3.120. Identified adverse impacts shall be minimized to be consistent with the resource capabilities and purpose of the area.
  - (e) Dredging, fill, or other activities in conjunction with navigational structures and navigational aids shall be subject to the respective standards for these activities.
- (14) PILING/DOLPHIN INSTALLATION: Piling/dolphin installation in estuary zones shall be subject to the following standards:
- (a) When piling or dolphin installation is proposed, evidence shall be provided by the applicant and findings made by the County that:
    - (1) The amount of estuarine surface area occupied is the minimum necessary to accomplish the proposed use.
    - (2) The project will not unduly interfere with the normal public use of fishery, recreation or water resources.
    - (3) The proposed project will not adversely impact adjacent or nearby property through increased erosion, shoaling or flooding produced by changes in littoral drift or other changes in water circulation patterns. An affidavit from a professional registered engineer or hydrologist may be required by the Planning Department as a result of the impact assessment required in Section 3.120.
  - (b) When new piling or dolphin installation is proposed in Estuary Natural (EN), Estuary Conservation 2 (EC2) or Estuary Conservation 1 (EC1) zones, evidence shall be provided by the applicant and findings made by the County that the project is consistent with the resource capabilities of the area and the purposes of the management area.

- (c) When proposals for new piling or dolphin installation in conjunction with a non-water-dependent or non-water-related use within Estuary Development (ED) zones are made, evidence shall be presented by the applicant and findings made by the County that the project is consistent with the maintenance of navigation and other needed public, commercial and industrial water-dependent uses.
  - (d) Piling/dolphin replacement and new installation shall meet all applicable U. S. Army Corps of Engineers engineering standards and permit requirements. The U. S. Army Corps of Engineers shall be responsible for determining that these engineering standards and permit requirements have been met.
  - (e) An impact assessment shall be conducted during local, State and Federal review of permit applications for piling/dolphin installation. The impact assessment shall follow the procedure outlined in Section 3.120. Identified adverse impacts shall be minimized to be consistent with the resource capabilities and purposes of the area.
- (15) RESTORATION AND ENHANCEMENT: Restoration and enhancement projects in estuary zones, Water-Dependent Development (WDD) shoreland zones or other areas within the Shoreland Overlay zone shall be subject to the following standards:
- (a) Restoration and enhancement policy requirements in the Tillamook County Comprehensive Plan shall be met.
  - (b) Proposals for restoration projects shall present evidence that:
    - (1) The restored area is a shallow subtidal or an intertidal or tidal marsh area after alteration work is performed; and
    - (2) The restored area may not have been a functioning part of the estuarine system when alteration work begins; and
    - (3) The restored area is revitalizing, returning or replacing original attributes and amenities which have been diminished or lost by past alterations, activities or catastrophic events.
  - (c) Estuarine enhancement project proposals shall identify:
    - (1) The original conditions to be enhanced.
    - (2) The cause of the loss or degradation.
    - (3) The location and extent of actions necessary to achieve the enhancement objective.

- (d) Estuarine enhancement project proposals shall present evidence that the project will result in an overall improvement in the cultural, historic, economic or navigation features of an estuary, which will outweigh any adverse impacts.
  - (e) When active restoration and enhancement projects are proposed in Estuary Natural (EN) or Estuary Conservation Aquaculture (ECA) zones, evidence shall be provided by the applicant and findings made by the County that the project is consistent with the protection of significant fish and wildlife habitats, biological productivity, and scientific, research and educational needs.
  - (f) When active restoration or enhancement projects are proposed in Estuary Conservation 1 (EC1) or Estuary Conservation 2 (EC2) zones, evidence shall be provided by the applicant and findings made by the County that the proposed use is consistent with the resource capabilities of the area and the long-term use of renewable resources, and does not cause a major alteration of the estuary.
  - (g) When passive or active restoration or enhancement projects are proposed in Estuary Development (ED) zones, evidence shall be provided by the applicant and findings made by the County that the project will not interfere with the provision or maintenance of navigation and other needed public, commercial and industrial water-dependent uses, and will not interfere with the use of adjacent shorelands especially suited for water-dependent development.
  - (h) When active restoration projects are proposed in Water-Dependent Development (WDD) shoreland zones, evidence shall be provided by the applicant and findings made by the County that the proposed project does not preclude or conflict with existing or reasonable potential water-dependent use on the site or in the vicinity. Shoreland Development standards shall apply.
  - (i) Dredge, fill, shoreline stabilization, shoreland development, installation of energy facilities or utilities, dredged material disposal and other uses and activities proposed as part of (an active) a restoration or enhancement project shall be subject to the respective standards for these uses and activities.
  - (j) Restoration and enhancement projects in Water-Dependent Development (WDD) shoreland zones or other areas within the Shoreland Overlay zone shall be subject to Shoreland Development standards.
- (16) **SHALLOW DRAFT PORT FACILITIES AND MARINAS:** Siting, design, construction and maintenance of shallow draft port facilities and marinas in estuary zones shall be subject to the following standards:

- (a) Evidence shall be provided by the applicant and findings made by the County that:
- (1) Facilities have been sited and designed to minimize initial and maintenance dredging.
  - (2) Dryland boat storage has been provided for, or is impracticable.
  - (3) Provision has been made for public access, view-points and recreation use, consistent with safety and security considerations.
  - (4) Multipurpose and cooperative use of piers, wharves, parking areas and cargo handling and storage has been provided for, or is impracticable.
  - (5) Floating structures are designed so as not to rest on the bottom at low water, and are protected against currents and waves.
  - (6) The amount of water surface occupied is the minimum required to meet the need.
  - (7) Provision has been made for maintenance of riparian vegetation, except where direct access to water is required.
  - (8) Natural or man-made protection from wind, waves, storm or tidal currents or ship wakes has been provided for.
  - (9) Adverse impacts on the following have been avoided or minimized to be consistent with the resource capabilities and purposes of the area:
    - (i) Navigation.
    - (ii) Water quality.
    - (iii) Hydrographic characteristics.
    - (iv) Natural processes of erosion and sedimentation.
    - (v) Aquatic life and habitat.
- (b) Marina access channels shall be designed to maximize water circulation and avoid dead spots. Dead-end channels or confined basins should be avoided. Demonstration shall be made that State and Federal clean water standards can be maintained. A field study of water circulation patterns may be required by the Planning Department as a result of the impact assessment required in Section 3.120.

- (c) Safe navigation access to port facilities and marinas shall be provided and maintained.
- (d) Covered or enclosed moorages shall be limited to not more than 50 percent (in number) of the total moorage spaces of a given port facility or marina.
- (e) The following provisions for the prevention and control of contaminants from entering the water shall be made:
  - (1) Enclosed shoreland facilities for public dumping of oil and emptying of holding tanks shall be provided.
  - (2) A contingency plan to provide for containment and cleanup of spills of contaminants shall be provided.
- (f) Proposals for expansion or creation of port and marina facilities shall be accomplished by a demonstration of the public benefits derived from the project, which shall include:
  - (1) Information on why the capacity of existing facilities is inadequate.
  - (2) The beneficial economic impacts to local communities derived from increases in employment; and/or
  - (3) Indirect economic impacts generated by increases in commercial, industrial or recreational activity within the area.
- (g) All State and Federal laws governing the use, handling, storage, treatment and disposal of toxic materials, petroleum, waste water and organic wastes, and other State and Federal laws governing environmental quality, resource protection or public health and safety shall be met. This determination shall be made by appropriate State or Federal agencies with regulatory authority.
- (h) When marina expansion or development is proposed in Estuary Conservation 2 (EC2) zones, evidence shall be provided by the applicant and findings made by the County that the project is consistent with the resource capabilities of the area and the long-term use of renewable resources and does not cause a major alteration of the estuary.
- (i) Dredge, fill, piling/dolphin installation, navigational structures, shoreline stabilization or other activities in conjunction with expansion or creation of new port facilities and marinas shall be subject to the respective standards for these activities.



- (17) **SHORELINE STABILIZATION:** Shoreline stabilization projects in estuary zones, Water-Dependent Development (WDD) shoreland zones or other areas within the Shoreland Overlay Zone shall be subject to the following standards:
- (a) Within estuarine waters, intertidal areas and tidal wetlands, and along Water-Dependent Development Zones and other shoreland areas, general priorities for shoreline stabilization for erosion control are, from highest to lowest:
    - (1) Proper maintenance of existing riparian vegetation.
    - (2) Planting of riparian vegetation.
    - (3) Vegetated riprap.
    - (4) Non-vegetated riprap.
    - (5) Groins, bulkheads or other structural methods. Shoreline protection proposals shall include justification for the use of a lower priority method over a higher priority method.
  - (b) Vegetative shoreline stabilization shall utilize native species, or non-native species approved by the Soil Conservation Service. Reference shall be made to the Inter-Agency Seeding Manual prepared by the Soil Conservation Service.
  - (c) When structural shoreline stabilization methods are proposed, evidence shall be presented by the applicant and findings made by the County that:
    - (1) Flooding or erosion is threatening an established use on a subject property or a need (i.e. a substantial public benefit) is demonstrated in conjunction with navigation or a water dependent use, and
    - (2) Land use management practices or nonstructural solutions are inappropriate or will not meet the need, and
    - (3) The proposed structural stabilization method is the minimum size needed to accomplish the desired stabilization, and
    - (4) The proposed project will not restrict existing public access to publicly-owned lands or interfere with navigation or the normal public use of fishery, recreation or water resources, and

- (5) The proposed project will not adversely impact adjacent aquatic areas or nearby property through increased erosion, sedimentation, shoaling or flooding produced by changes in littoral drift or other changes in water circulation patterns. An affidavit from a professional registered engineer, hydrologist, or geologist may be required by the Planning Department as a result of the impact assessment required in Section 3.120.
- (6) A brief statement from the local Soil and Water Conservation Service may serve as evidence that standards (c) (2) and (c) (3) have been met.
- (d) Shoreline stabilization projects shall be timed to minimize impacts on aquatic life.
- (e) Proposals for riprap shall include evidence that the rock to be used will be effective, and provide justification for use of a slope steeper than 1 1/2 feet horizontal to one foot vertical.
- (f) When bulkheads are proposed, evidence shall be provided by the applicant and findings made by the County that the other forms of structural stabilization are inappropriate or will not meet the need. Bulkheads should be designed to be permeable to ground water and runoff. Fill policies and standards shall apply to bulkhead projects which involve fill within estuarine waters, intertidal areas or tidal wetlands.
- (g) When riprap is proposed in Estuary Natural (EN) zones, a resource capability determination shall be required for purposes other than the protection of unique natural resources, historical and archaeological values, public facilities and uses existing as of October 7, 1977.
- (h) When structural shoreline stabilization is proposed in Estuary Conservation Aquaculture (ECA), Conservation 1 (EC1) and Estuary Conservation 2 (EC2) zones, evidence shall be presented by the applicant and findings made by the County that the project is consistent with the resource capabilities of the area and the long-term use of renewable resources, and does not cause a major alteration of the estuary.
- (i) When structural shoreline stabilization is proposed in Estuary Development (ED) zones, evidence shall be presented by the applicant and findings made by the County that the project is consistent with the maintenance of navigation and other needed public, commercial and industrial water-dependent uses.
- (j) Structural stabilization along ocean shorelands west of the Beach Zone Line shall be subject to the requirements of the Oregon Department of Transportation ocean shore permit and regulatory program.

- (k) An impact assessment shall be conducted during local, state and federal review of permit applications for structural shoreline stabilization seaward of the line of non-aquatic vegetation or the Mean Higher High Water (MHHW) line. The impact assessment shall follow the procedure outlined in Section 3.120. Identified adverse impacts shall be avoided or minimized to be consistent with the resource capabilities and purposes of the area.