

# CITY OF PUYALLUP Shoreline Master Program (SMP)

*Locally adopted December, 2014*



# CHAPTER 1 INTRODUCTION

## A. PURPOSE AND INTENT

1. The purposes of this Shoreline Master Program are:
  - a. To guide the future development of shorelines in the City of Puyallup in a positive, effective, and equitable manner consistent with the Washington State Shoreline Management Act of 1971 (the "Act") as amended (RCW 90.58).
  - b. To promote the public health, safety, and general welfare of the community by providing long range, comprehensive policies and effective, reasonable regulations for development and use of Puyallup's shorelines; and
  - c. To ensure, at minimum, no net loss of shoreline ecological functions and processes and to plan for restoring shorelines that have been impaired or degraded by adopting and fostering the following policy contained in RCW 90.58.020, Legislative Findings for shorelines of the State:

*"It is the policy of the State to provide for the management of the shorelines of the State by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner, which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest. This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the State and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto..."*

*In the implementation of this policy the public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the State shall be preserved to the greatest extent feasible consistent with the overall best interest of the State and the people generally. To this end uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment or are unique to or dependent upon use of the State's shoreline. Alterations of the natural condition of the shorelines of the State, in those limited instances when authorized, shall be given priority for single family residences, ports, shoreline recreational uses including but not limited to parks, marinas, piers, and other improvements facilitating public access to shorelines of the State, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the State, and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the State.*

*Permitted uses in the shorelines of the State shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water."*

**B. GOVERNING PRINCIPLES OF THE SHORELINE MASTER PROGRAM GUIDELINES**

1. The following Governing Principles, along with the policy statements of RCW 90.58.020, Legislative Findings, establish the basic concepts upon which the goals, policies and regulations of this Program are based.
  - a. Any inconsistencies between this Program and the Act must be resolved in accordance with the Act.
  - b. The policies of this Program may be achieved by diverse means, one of which is regulation. Other means, authorized by the Act, include but are not limited to: acquisition of lands and/or easements by purchase, or gift; and implementation of capital facility and/or non-structural programs.
  - c. Regulation of private property to implement Program goals such as public access and protection of ecological functions and processes must be consistent with all relevant constitutional and other legal limitations. These include, but are not limited to civil rights guaranteed by the U.S. and State constitutions, recent federal and state case law, and state statutes, such as RCW 43.21C.060, Conditioning or Denial of Governmental Action and 82.02, General Provisions on excise taxes.
  - d. Regulatory or administrative actions contained herein must not unconstitutionally infringe on private property rights or result in an unconstitutional taking of private property.
  - e. The regulatory provisions of this Program are limited to shorelines of the state, whereas the planning functions of this Program may extend beyond the designated shoreline boundaries.
  - f. The policies and regulations established by the Program must be integrated and coordinated with those policies and rules of the Puyallup Comprehensive Plan and development regulations adopted under the Growth Management Act (RCW 36.70A) and RCW 34.05.3281, Significant Legislative Rules.
  - g. Protecting the shoreline environment is an essential statewide policy goal, consistent with other policy goals. This Program protects shoreline ecology from such impairments in the following ways:
    - i. By using a process that identifies, inventories, and ensures meaningful understanding of current and potential ecological functions provided by shorelines.
    - ii. By including policies and regulations that require mitigation of adverse impacts in a manner that ensures no net loss of shoreline ecological functions. The required mitigation shall include avoidance, minimization, and compensation of impacts in accordance with the policies and regulations for mitigation sequencing in WAC 173-26-201(2)(e)(i), Comprehensive Process to Prepare or Amend Shoreline Master Programs. By including policies and regulations to

address cumulative impacts, including ensuring that the cumulative effect of exempt development will not cause a net loss of shoreline ecological functions, and by fairly allocating the burden of addressing such impacts among development opportunities.

- iii. By including regulations and regulatory incentives designed to protect shoreline ecological functions, and restore impaired ecological functions where such functions have been identified.
- h. In light of other relevant local, state, and federal regulatory and non-regulatory programs, Puyallup should balance the policy goals of this Program to the extent consistent with the policies of the Act, per RCW 90.58.020, Legislative Findings, and these Governing Principles.

#### **C. TITLE OF THIS DOCUMENT**

1. This document shall be known and may be cited as the **Puyallup Shoreline Master Program** ("this Master Program", "SMP" or "the Master Program").

#### **D. ADOPTION AUTHORITY**

1. This Master Program is adopted under the authority granted by the Act and Chapter 173-26 of the Washington Administrative Code (WAC).

#### **E. RELATIONSHIP TO OTHER PLANS AND REGULATIONS**

1. The Puyallup Shoreline Master Program is a planning document that outlines the goals and policies for the use, development, protection and restoration of the major shorelines of the city (Puyallup River, Clarks Creek). It is also a regulatory ordinance with regulations for development intended to implement the goals and policies.
2. In order to preserve and enhance the shorelines of the City of Puyallup, it is important that all development proposals and modifications relating to the 200' regulatory shoreline area be evaluated in terms of the Shoreline Master Program, and that the Shoreline Administrator be consulted. The Shoreline Master Program provides the regulatory parameters within which development may occur, or it states that the community considers a certain type of use, development, or activity is unacceptable within the City's shoreline jurisdiction, or it states that a use or activity may be considered (if a conditional review is applied for), but that the community should be able to ensure that the development is carried out in such a way that the public's interest in protecting the shoreline is retained.
3. Uses, developments and activities regulated by this Master Program may also be subject to the provisions of the Puyallup Comprehensive Plan, the Washington State Environmental Policy Act ("SEPA," Chapter 43.21C RCW and Chapter 197-11 WAC), other provisions of the Puyallup Municipal Code, including Title 20 Zoning and Title 19 Environment, and various other provisions of local, state and federal law, as may be amended.
4. This Shoreline Master Program adopts by reference the following City ordinances, which

are attached to this document:

- a. PMC 21.06 (Ord. 3076, (December 26, 2014), Environmentally Critical Areas (CAO), as adopted concurrently with this master program's final adoption.
  - b. PMC 21.07 (Ord. 2888, 2007), Flood Damage Protection Ordinance, as in force on the date of this master program's final adoption.
5. Project proponents shall comply with all applicable laws prior to commencing any use, development or activity.
  6. Where this Program makes reference to any RCW, WAC, or other state, or federal law or regulation the most recent amendment or current edition shall apply.

**F. APPLICABILITY**

1. All proposed uses and development occurring within shoreline jurisdiction must conform to Chapter 90.58 RCW, the Shoreline Management Act, and this Program. The Shoreline Management Act's provisions are intended to provide for the management of all development and uses within shoreline jurisdiction, whether or not a shoreline permit is required because many activities that may not require a substantial development permit, such as clearing vegetation or construction of a residential bulkhead, can, individually or cumulatively, adversely impact adjacent properties and natural resources.
2. This Master Program shall apply to all of the lands and waters in the City of Puyallup that fall under the jurisdiction of the Act. This generally includes portions of Clarks Creek below Maplewood Springs within the City of Puyallup; and all of the Puyallup River within the City of Puyallup.
3. This Master Program shall apply to every person, individual, firm, partnership, association, organization, corporation, local or state governmental agency, public or municipal corporation, or other non-federal entity which develops, owns, leases, or administers lands, wetlands, or waters that fall under the jurisdiction of the Act.
4. Federal agency actions on shorelines of the state are required to be consistent with this Master Program and the Act, as provided by the Coastal Zone Management Act (Title 16 United States Code §1451 et seq.; and §173-27-060(1) WAC, Applicability of chapter 90.58 RCW [Shoreline Management Act] to federal lands and agencies).
5. The permit requirements established under this Master Program apply to non-federal activities undertaken on lands subject to non-federal ownership, lease, or easement, even though such lands may fall within the external boundaries of federally owned lands (e.g., private in-holdings in the National Forest).
6. The permit requirements established under this Master Program apply to development and uses undertaken on lands not federally owned but under lease, easement, license, or other similar property right of the federal government.
7. Any conflicts between the referenced ordinances and the SMP are resolved in favor of the regulation that is most protective of the shoreline ecological functions.

#### **G. SHORELINE JURISDICTION**

1. The SMA applies to all rivers and streams and their associated wetlands downstream from a point where the mean annual flow is 20 cubic feet per second or greater. In the City of Puyallup, this includes the Puyallup River and Clark's Creek (downstream of Maplewood Springs). The SMA also applies to adjacent "shorelands" located 200 feet from the ordinary high water mark (measured on a horizontal plane) and all wetlands directly connected to or within the 200' area of the rivers and streams listed herein.

#### **H. LIBERAL CONSTRUCTION**

1. As provided for in RCW 90.58.900, Liberal Construction, the Act is exempted from the rule of strict construction; the Act and this Program shall therefore be liberally construed to give full effect to the purposes, goals, objectives, and policies for which the Act and this Program were enacted and adopted.

#### **I. SEVERABILITY**

1. If any provision of this Master Program, or its application to any person or circumstance is held invalid, the remainder of the Master Program, or the application of the provision to other persons or circumstances, shall not be affected. Any conflicts between the referenced ordinances and the Master Program are resolved in favor of the regulation that is most protective of the shoreline ecological functions.

## CHAPTER 2 DEFINITIONS

In addition to the definitions contained in the Puyallup Zoning Code (PMC 20.15) and Critical Areas (PMC 21.06), the following definitions shall apply for purposes of administering the Puyallup SMP.

### “A”

#### **Act**

The Washington State Shoreline Management Act, chapter [90.58](#) RCW.

#### **Administrator**

The Shoreline Administrator, which shall be the Puyallup Director of Planning or his or her designee.

#### **Agricultural activities**

Agricultural uses and practices including, but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation.

#### **Agricultural equipment and agricultural facilities**

Equipment and facilities including, but not limited to:

1. The following used in agricultural operations: equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including, but not limited to, pumps, pipes, tapes, canals, ditches, and drains;
2. Corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands;
3. Farm residences and associated equipment, lands, and facilities; and
4. Roadside stands and on-farm markets for marketing fruit or vegetables.

#### **Agricultural land**

Those specific land areas on which agricultural activities are conducted as of the date of adoption of the master program pursuant to the Ecology guidelines 173-26 WAC as evidenced

by aerial photography or other documentation. After the effective date of the master program, land converted to agricultural use is subject to compliance with the requirements of the master program.

### **Agricultural products**

Includes, but is not limited to, horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including, but not limited to, meat, upland finfish, poultry and poultry products, and dairy products.

### **Amendment**

A revision, update, addition, deletion, and/or reenactment to the Puyallup SMP.

### **Approval**

An official action by the City of Puyallup agreeing to submit a proposed shoreline master program or amendments to the Department of Ecology for review and official action pursuant to the act.

### **Appurtenance**

An associated use which is connected to the use and enjoyment of a single-family residence and is located landward of the ordinary high water mark and the perimeter of a wetland. Normal appurtenances include a garage; detached accessory buildings over 200 square feet in floor area; deck; driveway; utilities; fences; installation of a septic tank and drainfield and grading which does not exceed one-hundred (100) cubic yards and which does not involve placement of fill in any wetland or waterward of the ordinary high water mark.

### **Aquaculture**

The culture or farming of fishery resources in freshwater areas which may require development of fish hatcheries, rearing pens and structures, as well as use of natural spawning and rearing areas. Activities include the hatching, cultivating, feeding, and raising of fisheries and the maintenance and construction of necessary equipment, buildings and growing areas.

### **Associated Wetlands**

Those wetlands which are in proximity to and either influence or are influenced by tidal waters or a lake or stream subject to the Shoreline Management Act.

### **Average grade level**

The lower of the existing or finished topography of the portion of the lot, parcel, or tract of real property which will be directly adjacent to the proposed building or structure. For structures located on sloping sites, calculation of the average grade level shall be made by averaging the ground elevations at the midpoint of all exterior walls of the proposed building or structure. In

the case of structures to be built over water, average grade level shall be the elevation of the ordinary high water mark.

## **“B”**

### **Bank**

A steep rise or slope at the edge of a body of water or water course.

### **Berm**

A ledge or shoulder consisting of mounded earth or rock.

### **Best management practices (BMPs)**

Conservation practices, or systems of practices and management measures, that:

1. Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics, and/or sediment;
2. Minimize adverse impacts to surface water and ground water flow, circulation patterns, and to the chemical, physical, and biological characteristics of wetlands and streams;
3. Protect trees and other vegetation designated to be retained during and following site construction; and
4. Provide standards for proper use of chemical herbicides and pesticides within critical areas.

### **Bioengineering**

Project designs or construction methods which use live woody vegetation or a combination of live woody vegetation and specially developed natural or synthetic materials to establish a complex root grid within the existing bank which is resistant to erosion, provides bank stability, and maintains a healthy riparian environment with habitat features important to fish life. Use of wood structures or limited use of clean angular rock may be allowable to provide stability for establishment of the vegetation.

### **Boating facilities**

Non-motorized boat launch ramps and structures providing public recreational access to the waters of the state, including, but not limited to, public docks/piers, docks/piers in private residential development projects with five or more single family residential lots where public access easements/signage provide public access and use of the dock or pier; etc. Boating facilities does not refer to docks, piers or non-motorized boat launch ramps that serve four or fewer single family residences.

### **Buffer or buffer area**

The area or zone contiguous to a critical area that protects the integrity or functions and values of a critical area from potential adverse impacts, or areas that are an integral part of an affected resource's ecosystem.

**Building**

A structure built for the support, shelter or enclosure of persons, animals or property of any kind, in conformance with the adopted Uniform Building, Plumbing and Mechanical Codes as adopted by Puyallup Municipal Code Title 17.

**Bulkhead**

A wall-like structure normally constructed parallel to the shore and near the high water mark to protect the shore and uplands from erosion by current and wave action. They may also be constructed to retain uplands and fills that are prone to sliding, mass movement or erosion. For purposes of this Program, the former shall be known as normal protective bulkheads when constructed to protect single-family residences and properties.

**“C”****Channel migration zone (CMZ)**

The area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes (e.g. stream bank destabilization and erosion, rapid stream incision, aggradation, avulsions, and shifts in location of stream channels) when considered with the characteristics of the river and its surroundings.

**Channelization**

The straightening, deepening or lining of river and stream channels, or preventing natural meander progression of streamways, through artificial means such as relocating channels, dredging and placing of continuous levees or bank revetments along portions of the river or stream. Channelization does not include dredging sediment or debris without further construction.

**Clearing**

The removal of timber, brush, grass, ground cover or other vegetative matter from a site, which exposes the earth's surface of the site.

**Commercial use**

A use that involves the purchase, sale, lease, rental, repair or other transaction involving the handling of any article, service, substance or commodity commonly used for consumer or household use. Typical uses include arcades, art specialty and retail shops, consumer services enterprises (laundries, dry cleaners, shoe repair, appliance and electronic repair, tailoring, printing shops and photo finishing, etc.), shopping centers or malls, food stores and supermarkets, health spas and studios, hotels and motels, indoor theaters, and restaurants (including sale of alcoholic beverages). Commercial uses may be for profit or nonprofit and are typically conducted entirely within an enclosed building and do not involve outdoor storage of materials. The term does not include “road service uses.”

**Conditional use**

A use or development that is conditionally permitted pursuant to Chapter 7 of this Program.

**Conservation**

The prudent management of rivers, streams, wetlands, wildlife and other environmental resources in order to preserve and protect them. This includes the careful use of natural resources to prevent depletion or harm to the environment.

**Critical area(s)**

Wetlands, fish and wildlife habitat areas, critical aquifer recharge areas, geologically hazardous areas, and frequently flooded areas as defined in Puyallup Municipal Code Chapter 21.06, Critical Areas.

**“D”**

**Date of filing**

Date of filing of a local government final decision involving approval or denial of a substantial development permit is the date of actual receipt by the department of a local government's final decision on the permit. Date of filing involving approval or denial of a variance or conditional use permit, is the date of transmittal of the department's final decision on the variance or conditional use permit to local government and the applicant.

**Development**

A use within shoreline planning areas consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of piling; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to this chapter at any state of water level.

**Development regulations**

The controls placed on development or land uses by the City of Puyallup, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under chapter 90.58 RCW, planned development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto.

**Dike**

An artificial embankment or revetment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.

**Docks**

Structures generally built from the shore extending over the water to for publically accessible water-oriented recreational use. Docks may be either anchored and floating or permanently fixed to pilings. They do not include floats or launch ramps.

**Document of record**

The most current shoreline master program officially approved or adopted by rule by the Department of Ecology for the City of Puyallup, including any changes resulting from appeals filed pursuant to RCW 90.58.190.

**Dredge spoil**

The material removed by dredging.

**Dredging**

The removal, displacement, and disposal of material such as gravel, sand, mud, silt, debris or other material from the Puyallup River, Clark's Creek or associated wetlands. Dredging is normally done for a specific purpose such as constructing and maintaining submarine pipelines or cable crossings, obtaining material for fill or construction, as part of an aquacultural operation or for dike repair and maintenance.

**"E"****Ecological functions or shoreline ecological functions**

The work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem. See WAC 173-26-200 (2)(c).

**Ecosystem-wide processes**

The suite of naturally occurring physical and geologic processes of erosion, transport, and deposition; and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat and the associated ecological functions.

**Emergency**

An unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time too short to allow full compliance with this SMP. Emergency construction does not include development of new permanent protective structures where none previously existed.

**Excavation**

The mechanical removal of earth material such as silt, sand, gravel, soil, rock or other material from all areas landward of the ordinary high water mark.

**Exempt developments**

Those development activities set forth in Appendix H of the Puyallup SMP which are not required to obtain a Substantial Development permit but which must otherwise comply with applicable provisions of the act and the SMP. Permit-exemptions are established in the

Shoreline Management Act at WAC 173-27-040, RCW 90.58.030(3)(e), RCW 90.58.140(9), 90.58.147, 90.58.355, and 90.58.515.

## **“F”**

### **Fair market value**

The open market bid price for conducting the work, using the equipment and facilities, and purchase of the goods, services and materials necessary to accomplish the development. This would normally equate to the cost of hiring a contractor to undertake the development from start to finish, including the cost of labor, materials, equipment and facility usage, transportation and contractor overhead and profit. The fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials.

### **Feasible**

An action, such as a development project, mitigation, or preservation requirement, which meets all of the following conditions:

1. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
2. The action provides a reasonable likelihood of achieving its intended purpose; and
3. The action does not physically preclude achieving the project's primary intended legal use.

### **Fill**

The addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land.

### **Filling**

The process of creating, extending or raising land area by filling with materials such as sand, soil, gravel, dredge spoils or other material on a shoreline and also refers to the resulting land, as indicated by the context. Landfill does not refer to dikes, levees or compacted fill flood retention or floodproofing structures.

### **Flood or flooding**

A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

**Flood control works and flood protection**

All structures and works on the Puyallup and Clark's Creek designed to prevent bank erosion, to reduce flooding of adjacent lands, to control or divert stream flow or to create a reservoir, including but not limited to revetments, dikes, levees, channelization, dams, vegetative stabilization, weirs, and flood and tidal gates. Excluded are water pump facilities. Flood protection may also include techniques of floodplain, river basin and watershed management applied alone or in combination with structural measures.

**Floodplain**

Synonymous with one hundred-year flood plain and means that land area susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon flood ordinance regulation maps or a reasonable method which meets the objectives of the act.

**Floodway**

The channel of a river or other watercourse and the adjacent land area that must be reserved in order to discharge the base flood without cumulatively increasing the surface water elevation more than one foot. Also known as the "zero-rise floodway." This area shall be identified as established in federal emergency management agency flood insurance rate maps or floodway maps.

**Freestanding sign**

A sign erected on a self-supporting structure erected and supported from the ground.

**"G"****Geologically hazardous areas**

Areas that may not be suited to development consistent with public health, safety or environmental standards, because of their susceptibility to erosion, sliding, earthquake, or other geological processes as designated by WAC 365-190-080(4). Types of geologically hazardous areas include: erosion, landslide, seismic, and volcanic hazards.

**Geotechnical report or geotechnical analysis**

A scientific study or evaluation conducted by a qualified expert that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts of the proposed development, including the potential adverse impacts to adjacent and down-current properties.

**Grading**

The movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.

### **Guidelines**

Those standards adopted by the Department of Ecology to implement the policy of chapter 90.58 RCW for regulation of use of the shorelines of the state prior to adoption of master programs. Such standards shall also provide criteria for local governments and the Department of Ecology in developing and amending master programs.

### **“H”**

#### **Height, Building or Structure**

Defined as a measurement from average grade level to the highest point of a structure: Provided, that television antennas, chimneys, overhead utility lines/poles and similar non-habitable appurtenances shall not be used in calculating height, except where such appurtenances obstruct the view of the shoreline of a substantial number of residences on areas adjoining such shorelines, or the applicable master program specifically requires that such appurtenances be included: Provided further, that temporary construction equipment is excluded in this calculation.

#### **Historic, cultural, scientific, and educational resources**

All scientific, archaeological, historic and cultural areas, sites, objects, structures and traces that are or may be of educational and scientific value to citizens of the city, state, or nation.

#### **Historic site**

Those sites that are eligible or listed on the Washington Heritage Register or National Register of Historic Places.

### **“I”**

#### **Impervious surface**

A hard surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development or that causes water to run off the surface in greater quantities or at an increased rate of flow compared to natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of storm water. Impervious surfaces do not include surface created through proven low impact development techniques.

#### **Industrial Use**

The manufacture, assembly, processing or treatment of parts, materials, goods, foodstuffs and products intended for general distribution. Production processes may not employ the extensive

use of hazardous or volatile materials or chemicals, or continuous high levels of noise. Typical uses include contractors shops, metal fabrication, custom boat building, indoor storage of bulk materials and machinery, nonflammable gas production, warehouse and distribution facilities, publishing plants, or vehicle repair facilities.

**Inland**

The land area that lies beyond the geographic jurisdiction of this Program or two hundred (200) feet from the ordinary high water mark, whichever is farther.

**In-stream structure**

A structure placed by humans within a stream or river waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose.

“L”

**Landscaping**

Landscape elements including plant materials (grass, ground cover, annuals, perennials, shrubs, vines and trees), landscape light fixtures, trash receptacles, benches, fountains and other street furniture and including paving or decking used for ornamental purposes.

**Levee**

A natural or man-made embankment on the bank of a river or stream to keep floodwaters from inundating adjacent land. Some levees have revetments on their sides.

“M”

**Master Program**

The City of Puyallup Shoreline Master Program.

**May**

The action is acceptable, provided it conforms to the provisions of this chapter.

**Mixed-use development**

A tract of land, building or structure with a variety of complementary and integrated uses, such as, but not limited to, residential, office, manufacturing, retail, public or entertainment, in a compact urban form.

**Mixed-use structure**

A single structure containing at least two complementary, integrated, or mutually supporting uses (such as housing, offices, manufacturing, retail, public service, or entertainment). The structure must achieve physical and functional integration within itself.

**Must**

A mandate; the action is required.

**“N”****Native vegetation**

Plant species that are indigenous to the Puget Sound area.

**No Net Loss**

A standard intended to ensure that shoreline development or uses, whether permitted or exempt, are located and designed to avoid loss or degradation of shoreline ecological functions that are necessary to sustain shoreline natural resources. The standard is met when proposed uses or developments are in compliance with the provisions of this master program. In cases where unavoidable loss results from allowed uses or developments, the standard is met through appropriate mitigation, consistent with the provisions of this master program.

**Nonconforming structure**

An existing structure lawfully erected and maintained which does not conform to the density, coverage, height, setback or other requirements of the applicable regulations and policies of this Program, either as of the effective date of adoption or amendment, or as a result of prior subsequent regulations and policies which make such structures nonconforming.

**Nonconforming use**

An existing use lawfully established and continued which is not listed as a permitted use in the applicable city zoning code classifications, either as of the effective date of the ordinance, or as a result of prior or subsequent ordinances which make such use nonconforming.

**Nonwater-oriented uses**

Those uses that are not water-dependent, water-related, or water-enjoyment.

**Normal Maintenance**

Those usual acts to prevent a decline, lapse-or cessation from a lawfully established condition.

**Normal protective bulkhead**

Structural and nonstructural developments installed at or near, and parallel to, the ordinary high water mark for the sole purpose of protecting an existing single-family residence and appurtenant structures from loss or damage by erosion

**Normal Repair**

To restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment.

**“O”**

**Open Space**

Land, including wetlands, that retains its natural or semi-natural character because it has not been developed.

**Ordinary high water mark (OHWM)**

That mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by City of Puyallup or Ecology: provided, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water;

**“P”**

**PMC**

Puyallup Municipal Code

**Priority habitat**

A habitat type with unique or significant value to one or more species. An area classified and mapped as priority habitat must have one or more of the following attributes: comparatively high fish or wildlife density; comparatively high fish or wildlife species diversity; fish spawning habitat; important wildlife habitat; important fish or wildlife seasonal range; important fish or wildlife movement corridor; rearing and foraging habitat; important marine mammal haul-out; refugia habitat; limited availability; high vulnerability to habitat alteration; unique or dependent species; or shellfish bed. A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to fish and wildlife (such as oak woodlands or eelgrass meadows). A priority habitat may also be described by a successional

stage (such as, old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (such as a consolidated marine/estuarine shoreline, talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain priority and/or nonpriority fish and wildlife.

### **Priority species**

Species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels. Priority species are those that meet any of the criteria listed below.

1. *Criterion 1.* State-listed or state proposed species. State-listed species are those native fish and wildlife species legally designated as endangered (WAC 232-12-014), threatened (WAC 232-12-011), or sensitive (WAC 232-12-011). State proposed species are those fish and wildlife species that will be reviewed by the Department of Fish and Wildlife (POL-M-6001) for possible listing as endangered, threatened, or sensitive according to the process and criteria defined in WAC 232-12-297.
2. *Criterion 2.* Vulnerable aggregations. Vulnerable aggregations include those species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to congregate. Examples include heron colonies, seabird concentrations, and marine mammal congregations.
3. *Criterion 3.* Species of recreational, commercial, and/or tribal importance. Native and nonnative fish, shellfish, and wildlife species of recreational or commercial importance and recognized species used for tribal ceremonial and subsistence purposes that are vulnerable to habitat loss or degradation.
4. *Criterion 4.* Species listed under the federal Endangered Species Act as either proposed, threatened, or endangered.

### **Program**

The City of Puyallup Shoreline Master Program.

### **Project area**

A proposed development site and the lands within fifty (50) feet of the area proposed to be disturbed, altered, or used by the proposed activity.

### **Protected Area**

The lands that lie within the boundaries of the floodway, the riparian habitat zone, and the channel migration area.

### **Provisions**

Policies, regulations, standards, guideline criteria or environment designations.

### **Public interest**

The interest shared by the citizens of the state or community at large in the affairs of government, or some interest by which their rights or liabilities are affected including, but not limited to, an effect on public property or on health, safety, or general welfare resulting from a use or development.

### **Public Access**

The protection of the public's right to use navigable waters and the provision of both physical and visual access to and from the water.

### **“R”**

### **RCW**

Revised Code of Washington

### **Recreation**

The recreation and refreshment of body and mind through forms of play, sport, relaxation, amusement, education or contemplation. Water-oriented recreational uses include boating, fishing, floating, swimming, diving, and enjoying the natural beauty of the shoreline and/or its wildlife and aesthetic values through walking, biking, hiking, photography and wildlife observation. Water-oriented recreational uses vary in intensity from passive to active -

1. **Passive shoreline recreation** is light to moderate intensity recreational use of the shoreline, such as hiking, kayaking, fishing and non-sport bicycling.
2. **Active shoreline recreation** is recreational use of the shoreline that is more intensive or land consumptive by virtue of the activity or associated facilities. See “Recreation development.”

### **Recreation development**

Recreational development includes commercial and public facilities designed and used to provide recreational opportunities to the public.

### **Residential Development**

Buildings, subdivision and use of land primarily for human residence; including one-family, two-family and multiple dwellings, but not including hotels and motels, lodging houses, rooming houses, clubs and fraternity houses.

### **Restore, restoration or ecological restoration**

The reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.

### **Revetment**

A sloped wall constructed of riprap or other material placed on stream banks or other shorelines to retard bank erosion and minimize lateral stream movement. A revetment typically slopes waterward and has rough or jagged facing. The slope differentiates it from a bulkhead, which is a vertical structure.

### **Riparian habitat**

Areas adjacent to streams and rivers that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. Riparian habitat areas include those riparian areas severely altered or damaged due to human development activities.

### **Riprap**

Hard, angular quarry rock used for river or stream bank stabilization or other flood control works.

### **Road service use**

A highway-oriented use catering to the needs and convenience of motor vehicle operators. Typical uses include motor vehicle sales, rental, storage, service and/or repair, body shops, gasoline or diesel service stations, electric vehicle battery exchange stations and rapid charging stations, recreational vehicle parks, hotels and motels, and, when not part of a commercial center or business park, taverns, fast-food restaurants, and convenience markets. Such uses often involve outdoor storage as an integral but not predominant element of the use, as in the case of a retail building supply center, and often generate higher volumes of traffic than general commercial uses

### **“S”**

### **Setback levee.**

An embankment constructed to prevent flooding that is positioned some distance from the edge of the river or channel in order to allow the river to occupy a portion of its floodplain. Setback levees allow wildlife habitat to develop between the levee and the river or stream.

### **Shall**

A mandate; the action must be done.

### **Shoreline areas and shoreline jurisdiction**

All "shorelines of the state" and "shorelands" as defined in RCW 90.58.030.

### **Shoreline permit**

A permit issued by the City of Puyallup pursuant to RCW 90.58.140 as required for substantial development on shorelines of the state (also includes shoreline substantial development, conditional use and variance permits).

### **Shorelines of the state**

The total of all "shorelines" and "shorelines of statewide significance" within the state.

### **Shorelines**

All of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except for the following:

1. Shorelines of statewide significance;
2. Shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and
3. Shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes.

### **Shorelines of statewide significance**

As defined in RCW 90.58.030(2)(e), those natural rivers or segments where the mean annual flow is measured at one thousand (1,000) cubic feet per second or more. In the City of Puyallup the Puyallup River is a Shoreline of Statewide Significance.

### **Shorelands or shoreland areas**

Those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of the Act.

### **Shoreline master program (SMP)**

The comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.020.

### **Shoreline modifications**

Those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

### **Shoreline Stabilization**

Structural or non-structural modifications to the existing shoreline intended to reduce or prevent erosion of stream banks or adjacent uplands. Shoreline stabilization is generally located parallel to the shoreline at or near the OHWM. It is distinct from flood control works in that it is

intended to prevent bank erosion only, rather than protect upland property from overbank flood hazards.

### **Should**

The particular action is required unless there is a demonstrated, compelling reason, based on policy of the Shoreline Management Act and this chapter, against taking the action.

### **Sign**

A sign is any word, placard, board, notice, logo, insignia, symbol, flag, banner, balloon or inflatable device or pennant, which uses graphics, symbols, or written copy and is used to advertise or promote the interest of any person, institution, or business. Works of art, fountains, mosaics and building or structural design features that do not contain a commercial message, logo, symbol, or identification are not signs according to this definition.

### **Sign area**

The square footage of a sign measured from the outermost edge of the sign, including the frame. The square footage of a sign composed only of letters, words, or symbols shall be determined from imaginary straight lines drawn around the entire copy or group of such letters, words, or symbols. Double-faced signs shall be calculated as the area of one side only. Three-dimensional signs shall be calculated as the maximum area visible from any single direction at any point in time.

### **Sign height**

For residential properties, the vertical distance from the average adjoining grade level at the sign or supporting structure base to the highest point of the sign, including its supporting structure. For commercial properties, sign height is the vertical distance from the average grade level of the centerline of the adjoining street to the highest point of the sign, including its supporting structure.

### **Significant vegetation removal**

The removal or alteration of trees, shrubs, and/or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning, not including tree topping, where it does not affect ecological functions and in accordance with best management practices for pruning as defined by the International Society of Arboriculture (ISA), does not constitute significant vegetation removal.

### **Single-family residence**

A detached dwelling designed for and occupied by one (1) family, including those structures and developments within a contiguous ownership which are a normal appurtenance.

### **SMA**

Shoreline Management Act

## **SMP**

### Shoreline Master Program

#### **Special Flood Hazard Area**

Land subject to inundation by the base flood. Special Flood Hazard Areas are designated on Flood Insurance Rate Maps with the letters "A" or "V" including AE, AO, AH, A1-99 and VE. The Special Flood Hazard Area is also referred to as the area of special flood hazard, or SFHA.

#### **Statement of exemption**

A written statement by the Administrator that a particular development proposal is exempt from a Substantial Development permit requirement and is generally consistent with this program, including the Act, Chapter 90.58 RCW.

#### **Storm water conveyance facilities**

Biofiltration swales, dispersal trenches, storm water pipes, and other facilities that carry storm water from a detention or treatment facility to a discharge location.

#### **Storm water facility**

Structures or lands used for the specific purpose of treating or managing storm runoff. Storm water facilities include detention/retention ponds, wet ponds, media filtration facilities, vaults, lagoons, infiltration basins, and other approved facilities constructed in accordance with the city's storm water management regulations.

#### **Structure**

A permanent or temporary edifice or building, or any piece of work artificially built or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water (regardless of depth), except for vessels.

#### **Substantial development**

Any development of which the total cost or fair market value exceeds \$6,416 dollars, or any development which materially interferes with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection (3)(e) must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the bureau of labor and statistics, United States department of labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the Washington State Register at least one month before the new dollar threshold is to take effect.

#### **Substantially degrade**

To cause significant ecological impact.

## **“T”**

### **Transportation facilities**

Structures and developments that facilitate land and water surface movement of people, goods and services, and shall include:

1. All forms of roads and roadways, including bikeways and equestrian trails.
2. Parking areas for vehicles of all types
3. Bridges and causeways
4. Rail transportation

## **“U”**

### **Upland**

Those shoreline areas landward of the OHWM except backshores, wetlands and floodplains.

### **Utilities**

Facilities for generating, distributing, processing, or storage of water, sewage, solid waste, storm drainage, electrical energy including electronic communications, and their administrative structures, as well as pipelines for petroleum, fuel, oil and natural gas products, and fire suppression.

### **Utility line**

Pipe, conduit, cable or other similar facility by which services are conveyed to the public or individual recipients. Such services shall include, but are not limited to, water supply, electric power with an associated voltage of 55,000 volts or less, natural gas, communications and sanitary sewer.

## **“V”**

### **Variance**

A means to grant relief from the specific bulk, dimensional or performance regulations of this Program granted by the Hearing Examiner in accordance with the terms of Chapter 8 of this Master Program. Variances are not a means to vary a use of a shoreline.

### **Vegetation conservation**

Activities to protect and restore vegetation along or near marine and freshwater shorelines that contribute to the ecological functions of shoreline areas. Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and nonnative species.

## **“W”**

### **WAC**

Washington Administrative Code

#### **Water-dependent use**

A use that requires direct access to the water to accomplish its primary function. A use or portion of a use, which cannot exist in a location that is not adjacent to the water and which is dependent on the water by reason of the intrinsic nature of its operations. Possible examples include: marinas, aquaculture, boat launching facilities, viewing platforms, shoreline recreation and intakes or outfalls when allowed under relevant legislation.

#### **Water-enjoyment use**

A use that does not require access to the water, but is enhanced by a waterfront location. This includes uses that facilitate public access to the shoreline as a primary characteristic of the use; or uses that provide for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use. To qualify water-enjoyment, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment. Possible examples include: restaurants, aquariums.

#### **Water-oriented use**

A use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.

#### **Water quality**

The physical characteristics of water within shoreline jurisdiction, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics. Where used in this SMP, the term "water quantity" refers only to development and uses regulated under this SMP and affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this SMP, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340.

#### **Water-related use**

A use that does not require direct access to the water, but provides goods or services associated with water dependent uses. A use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:

1. The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water; or
2. The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers makes its services less expensive and/or more convenient.

Possible examples include: boater supply or kayak rental

### **Watershed restoration project**

A public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of the plan and consists of one or more of the following activities:

1. A project that involves less than ten (10) miles of streamreach, in which less than twenty-five (25) cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;
2. A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or
3. A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred (200) square feet in floor area and is located above the ordinary high water mark of the stream.

### **Watershed restoration plan**

A plan, developed or sponsored by the Department of Fish and Wildlife, the Department of Ecology, the Department of Natural Resources, the Department of Transportation, a federally recognized Indian tribe acting within and pursuant to its authority, a city, a county, or a conservation district that provides a general program and implementation measures or actions for the preservation, restoration, re-creation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to chapter 43.21C RCW, the State Environmental Policy Act.

### **Wetlands**

Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and

drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.

## **CHAPTER 3 SHORELINE INVENTORY AND RESTORATION PLANNING**

### **A. PURPOSE OF THE SHORELINE INVENTORY AND CHARACTERIZATION**

A first step in the comprehensive Master Program update process is development of a shoreline inventory and characterization, consistent with state guidelines (WAC 173-26-201, Comprehensive Process to Prepare or Amend Shoreline Master Programs). The inventory and characterization documents current shoreline conditions and provides a basis for updating the City's Master Program goals, policies, and regulations. The characterization identifies existing conditions, evaluates existing functions and values of shoreline resources and explores opportunities for conservation and restoration of ecological functions.

The report was reviewed and revised based on technical review comments from City staff, Department of Ecology, the Muckleshoot and Puyallup Tribes and state Department of Transportation.

### **B. PURPOSE OF SHORELINE RESTORATION PLANNING**

State guidelines require that local governments develop Master Program policies that promote "restoration" of damaged shoreline ecological functions and develop a "real and meaningful" strategy to implement restoration objectives. Planning for shoreline restoration includes identifying opportunities (both programmatic and site-specific), establishing goals and policies, working cooperatively with other regional entities, and supporting restoration through other regulatory and non-regulatory programs.

### **C. PUYALLUP RIVER – KEY FINDINGS AND ASSESSMENT OF SHORELINE FUNCTIONS**

The city of Puyallup (including the urban growth area (UGA)) lies between River Miles (RM) 5.7 and 11.4 on the Puyallup River in the lower Puyallup Watershed. "River Miles" refers to mileage measured along the river, with reference to river mile designations based on USGS mapping data. River miles begin at the mouth of the river and increase with distance upstream. Within Puyallup, the River extends generally from the Melroy Bridge and mouth of Clarks Creek to approximately 1.3 miles upstream of the confluence with the White River. The portion of the Puyallup River within the city and its UGA is approximately 10 percent of the total length of the river. Given the city's location in the lower watershed, conditions in the Puyallup River within the city are driven largely by activities and conditions upstream.

**Table 3-1. Puyallup River Shoreline**

<b><i>Puyallup River Shoreline</i></b>	
<b>Habitat</b>	<ul style="list-style-type: none"> <li>• ESA Protected Species: Salmon / Bull Trout / Steelhead (Critical Habitat designated for Chinook and Bull Trout)</li> <li>• Wetlands / Riparian Habitat between river and golf course</li> </ul>
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>• “Impaired” waterbody</li> <li>• Upstream Causes: development, logging, leaking septic systems, agriculture, channelization.</li> <li>• Fecal Coliform; Minimum Flows; Suspended Sediment (affects habitat)</li> <li>• June 2011 – Fecal coliform total maximum daily load (TMDL)</li> <li>• City improvements to Wastewater Treatment Plant</li> </ul>
<b>Flooding</b>	<ul style="list-style-type: none"> <li>• FEMA remapping floodplain (not adopted as of April, 2014)</li> <li>• Floodplain connectivity impaired throughout</li> <li>• Levees impair flow attenuation</li> <li>• Peak Flows – result of natural seasonal changes</li> </ul>
<b>Shoreline Modifications</b>	<ul style="list-style-type: none"> <li>• Pierce County Levees throughout</li> <li>• Historic floodplains and wetlands disconnected</li> <li>• Reduces riparian vegetation / habitat</li> </ul>
<b>Public Access and Recreation</b>	<ul style="list-style-type: none"> <li>• Recreation / Fishing</li> <li>• River Front Trail</li> <li>• Palmer Property</li> <li>• River Road Levees</li> </ul>
<b>Land Use</b>	<ul style="list-style-type: none"> <li>• Agriculture, open space, and vacant on eastern portion</li> <li>• Residential, commercial, light industrial on western portion</li> </ul>

The Puyallup River is a highly altered system as a result of major river and flood management practices as well as land use change in the watershed. Most impairment to ecological processes and shoreline functions are driven by practices and activities at a watershed or ecosystem scale. This includes major changes to hydrology from dams and withdrawals and construction of an extensive levee, dike, and revetment system. Such changes have affected channel migration, habitat, and wetland functions within the

watershed. Water quality impairments are driven by a variety of factors related to land use in the watershed. Runoff from agricultural areas, leaking septic systems, and stormwater runoff in urbanized areas are concerns.

**D. CLARKS CREEK - KEY FINDINGS AND ASSESSMENT OF SHORELINE FUNCTIONS**

Clarks Creek is approximately 3.8 miles in length, extending from its headwaters at Maplewood Springs to its confluence with the Puyallup River. Nearly all of Clarks Creek is in the city limits and/or the UGA. Clarks Creek originates from groundwater surfacing at Maplewood Springs, which is located on the upland plateau. It flows north, descending into the Puyallup River floodplain and entering the Puyallup River near RM 5.8, near the Melroy Bridge.

**Table 3-2. Clarks Creek Shoreline**

<i>Clarks Creek Shoreline</i>	
<b>Habitat</b>	<ul style="list-style-type: none"> <li>• Protected fish species: Chinook, coho, and chum salmon, and steelhead and cutthroat trout</li> <li>• Other Species: Herons, eagles, osprey</li> <li>• Wetlands / Riparian Habitat</li> <li>• WDFW Hatchery / State Owned Land</li> <li>• Clarks Creek Park and Open Space</li> </ul>
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>• “Impaired” Waterbody</li> <li>• Fecal Coliform; Temperature; Suspended Sediment (affects habitat)</li> <li>• Meeker Creek affects Clarks Creek</li> <li>• City studies underway</li> <li>• Clean-up (TMDL) Plan</li> </ul>
<b>Flooding</b>	<ul style="list-style-type: none"> <li>• FEMA remapping floodplain (not adopted as of April, 2014)</li> <li>• Floodplain connectivity impaired in lower reach</li> <li>• Peak Flows – result of increased flow volumes from Maplewood Springs</li> <li>• Summer flooding from weed growth in channel (high nutrients, minimal shade)</li> </ul>
<b>Shoreline Modifications</b>	<ul style="list-style-type: none"> <li>• Residential “armoring”</li> </ul>

	<ul style="list-style-type: none"> <li>• Increases peak flows (increases water velocity and limits channel migration/ impervious area increases peak flows)</li> <li>• Reduces riparian vegetation / habitat (limited ability to create or sustain wetland/side channel/backwater areas)</li> <li>• Reduces filtration and water quality</li> </ul>
<b>Public Access and Recreation</b>	<ul style="list-style-type: none"> <li>• Clarks Creek Park</li> <li>• DeCoursey Park</li> <li>• Open space near Maplewood Springs and fish hatchery</li> </ul>
<b>Land Use</b>	<ul style="list-style-type: none"> <li>• Significant open space, park, and public facility uses</li> <li>• Single-family, low-density residential uses predominant elsewhere</li> </ul>

Shoreline functions along Clarks Creek have been impaired on a smaller scale when compared to the Puyallup River. Native riparian vegetation has been affected by agricultural development and shoreline “armoring” (e.g., bulkheads or riprap). This has affected instream and riparian habitat conditions and limited connectivity with off-channel and riparian wetlands. Water quality issues of concern on Clarks Creek include fecal coliform and high pH levels. Excessive nutrients in the stream bed sediments are also a concern and are currently being studied.

**E. OPPORTUNITIES AND PRIORITIES FOR SHORELINE RESTORATION**

Based on the key ecosystem functions that are currently altered, there appear to be three specific types of restoration actions that will most benefit the Puyallup River and Clarks Creek. These actions are intended to address ecosystem and shoreline ecological functions that have been impaired or degraded. While these projects are intended to restore ecosystem functions, the restoration activities are not intended to achieve pre-development conditions. In addition, some restoration actions must occur at the watershed scale, which will restore ecosystem functions that cannot be addressed solely within the city. Opportunities identified thus far include programmatic actions (such as stormwater management techniques city-wide to address water quality) and site specific actions (such as levee setbacks, bulkhead replacements, or vegetation enhancement projects on individual properties).

1. **Reconnect channel to floodplain.** Actions in this category will increase flood storage, restore floodplain area, and provide a more natural transition from aquatic to upland habitats. For the Puyallup River, these actions could include the use of setback levees and revetments, and grading portions of the floodplain to create back channels and reconnect wetlands. On Clarks Creek, these actions could include the removal of bank armoring currently intended to prevent channel migration and/or bank erosion.
2. **Enhance existing habitats.** Actions in this category will improve the functioning of the existing aquatic, wetland, and riparian habitats that currently exist along the Puyallup River and Clarks Creek. These actions could include the removal of non-native invasive vegetation, installation of native riparian vegetation, replacement of traditional “hard” shoreline armoring with more natural alternative bank stabilization, replacement of culverts that impede fish passage, and installation of in-stream habitat structures intended to increase habitat complexity.
3. **Water quality improvements.** Actions in this category could take many forms. While the causes of water quality impairments may be numerous and not well understood, ongoing studies are underway to investigate and establish baseline thresholds. Programmatic and site-specific measures could focus on source control, retrofitting, and advanced treatment technologies. These measures may relate to regulations for land use and development, protection of wetlands, and enhanced stormwater treatment. Opportunities for restoration should be informed by TMDL studies, and basin plans and their associated Capital Improvement Projects.

Establishing restoration priorities should be informed by and support regional efforts. Regional efforts that are underway include the WRIA 10 planning process for salmon recovery, and the Lower Puyallup River Feasibility Study led by Pierce County to examine flood hazard issues in the valley. In evaluating its own options, the City could consider prioritizing its shoreline restoration efforts to distinguish the Puyallup River from Clarks Creek in the following manner:

**Puyallup River** – Most impairment to ecosystem processes and shoreline ecological functions has occurred at a watershed scale. Pierce County owns and maintains the levees in the city and is undertaking a comprehensive evaluation of flood management options in the lower Puyallup valley. The WRIA 10 salmon recovery planning process should continue to identify site-specific priority actions in the lower watershed. For these reasons, the City could pursue restoration along the river in two ways:

- First, the City could act as a partner to support regional efforts for shoreline restoration, such as those related to flood management, but not act as a lead entity in most cases.
- Secondly, the City could lead projects within its jurisdiction that address more local-scale issues, such as habitat improvements within and along the river channel. The restoration plan identifies six specific areas along the Puyallup River where such actions could be accomplished.

**Clarks Creek** – A significant portion of the stream and its contributing basin is in the city and its UGA, giving the City greater control for actions along Clarks Creek. Most impairment to processes and ecological functions has occurred at a reach scale or basin-wide scale. The issues related to Clarks Creek are on a smaller scale with more straightforward or standard solutions. For these reasons, it may be most feasible for the City to focus its resources on shoreline restoration efforts on Clarks Creek such as:

- Removal of bulkheads, revetments, and/or other “shoreline armoring” and replacement with more natural bank stabilization techniques and materials, using logs and root wads. Technical resources include WDFW’s Integrated Streambank Protection Guidelines.
- Removal of non-native vegetation along stream banks and replacement with native riparian vegetation. This could be accomplished in coordination with bank stabilization projects or in areas where native shoreline vegetation has been cleared during past development (for agriculture or residential lawns). This appears to be the best long-term, sustainable solution to protecting and restoring environmental functions to this watercourse as well as eliminating the elodea infestation in the stream bed. Attention should also be given to Meeker Creek in terms of re-establishing riparian vegetation along its banks.
- Continue to focus on stormwater reduction techniques to reduce overall storm inputs to Clarks Creek, focusing primarily on low impact development techniques such as rain gardens to accomplish this goal.

## **CHAPTER 4 SHORELINE PUBLIC ACCESS PLAN**

Public access to the shoreline is one of the three main goals described in the Shoreline Management Act (SMA). The State requires local governments to provide opportunities for shoreline recreational development (WAC 173-26-241(3)(i)) and to increase public access to publicly owned shoreline areas within Shorelines of Statewide Significance (RCW 90.58.020, WAC 173-26-191(1)(b)).

Local shoreline master programs are to include a public access element and a recreational element. The recreational element is to provide for “the preservation and enlargement of recreational opportunities, including but not limited to parks, tidelands, beaches and recreational areas” (WAC 173-26-191(1)(c)).

The requirement for local governments to develop a public access plan is significant when considering that the SMA requires public access provisions be provided when shoreline permits, recommended projects, public entity master plans, and/or actions are taken to develop public shoreline on public property (WAC 173-26-221 (4)). Additionally, public access may also be required as a condition of development when certain conditions exist

The State defines public access to the shoreline as “the ability of the general public to reach, touch, and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations” (WAC 173-26-221(4)(a)). Public access can include:

### **Viewing the shoreline:**

- View points and corridors
- Habitat observation points

### **Accessing and enjoying the shoreline:**

- Fishing piers
- Interpretive trail signage
- Kayak hand launches
- Motor boat facilities
- Boardwalks and natural trails
- Pocket parks
- Swimming beaches

This Shoreline Public Access Plan (SPAP) establishes goals and policies for shoreline public access. It provides a summary of existing shoreline public access and identifies potential public access opportunities along Puyallup’s shoreline. The SPAP also includes criteria for prioritizing public access projects. Finally, it includes a strategy for implementation that includes a Public Access Fund contribution program.

### **EXISTING POLICIES AND SHORELINE ACCESS PLANS**

The comprehensive plan recognizes and envisions a comprehensive trail system throughout the city that connects city parks and open space resources. Most of the city’s policies

regarding shoreline public access are contained with the city's Parks, Recreation and Open Space Plan Element.

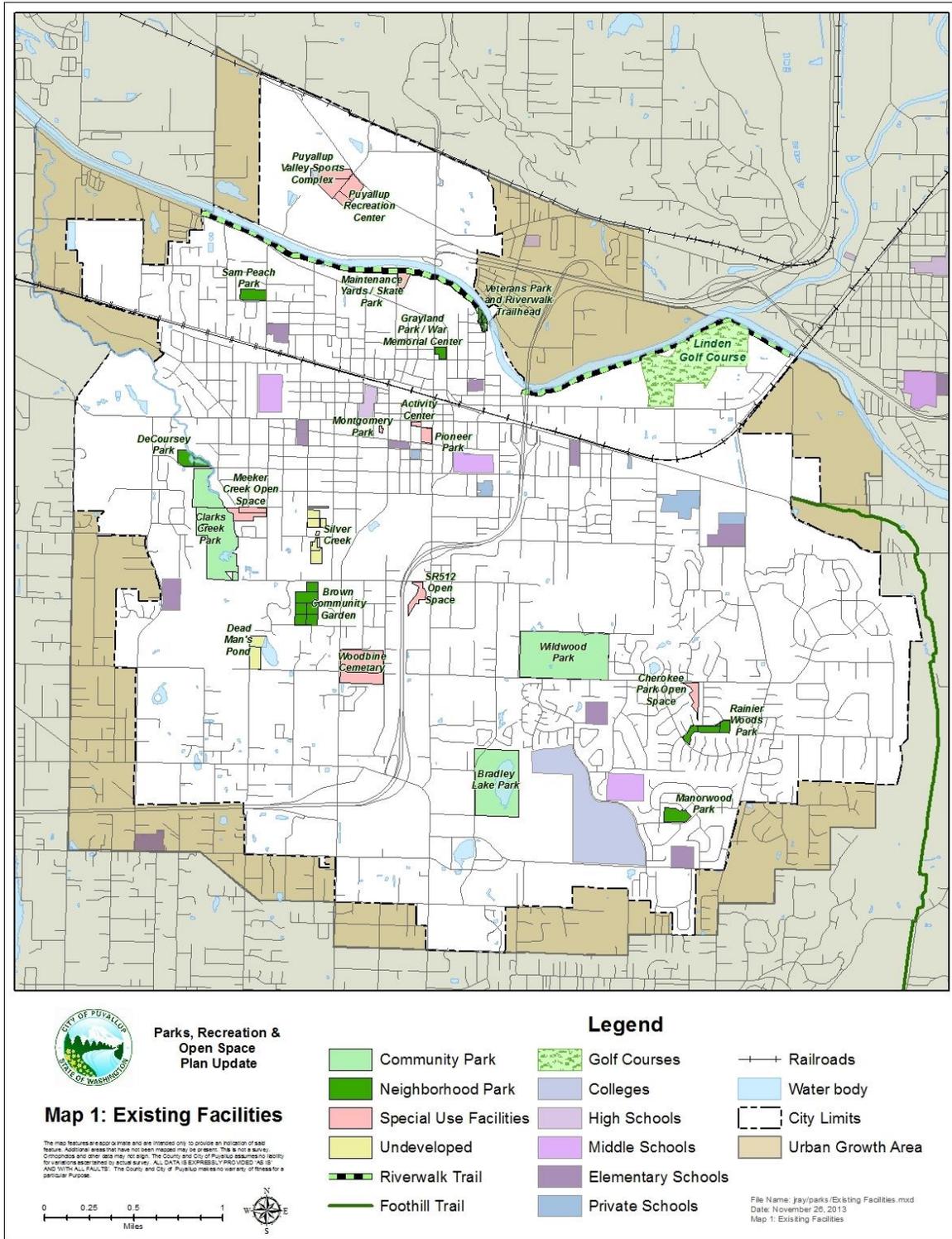
### **Parks, Recreation and Open Space Plan Element**

The Parks, Recreation and Open Space Plan Element provides the following vision and policies for parks, trails and open space as they relate to shoreline public access.

- ❖ *Puyallup's park and open space system offers a wide variety of recreation experiences; serves all age groups and abilities; and links parks through a system of trails (Vision statement)*
- ❖ *Provide for a broad range of park and recreation activities, programming and experiences for all users, addressing all community members. Include cultural programs and activities within the community (Goal 2)*
- ❖ *Promote the development of trails for bicycle and pedestrian recreational and commuter use, linking community activity areas and focusing on areas suited to interpretive activities and facilities (Objective 2c.)*
- ❖ *Provide a visual connection to the Puyallup River through the Riverwalk Trail, and opportunities for fishing and general access through the trails system (Objective 2d.)*
- ❖ *Promote acquisition of park land that provides maximum benefits through concurrent and compatible uses (Goal 3)*
- ❖ *Promote the development of a non-motorized circulation system providing access to park and recreation facilities (Objective 4b.)*
- ❖ *Promote a network of off-street trails using natural open space areas, parks, utility corridors, and other features. This network can be supplemented with on-street connections where needed to create a system of trail loops throughout the city (Objective 4g.)*

The Parks, Recreation and Open Space Plan Element provides the following map with possible improvements to the city's current trail system. This includes areas shown for shoreline trail access improvements, particularly the Riverwalk Trail system.

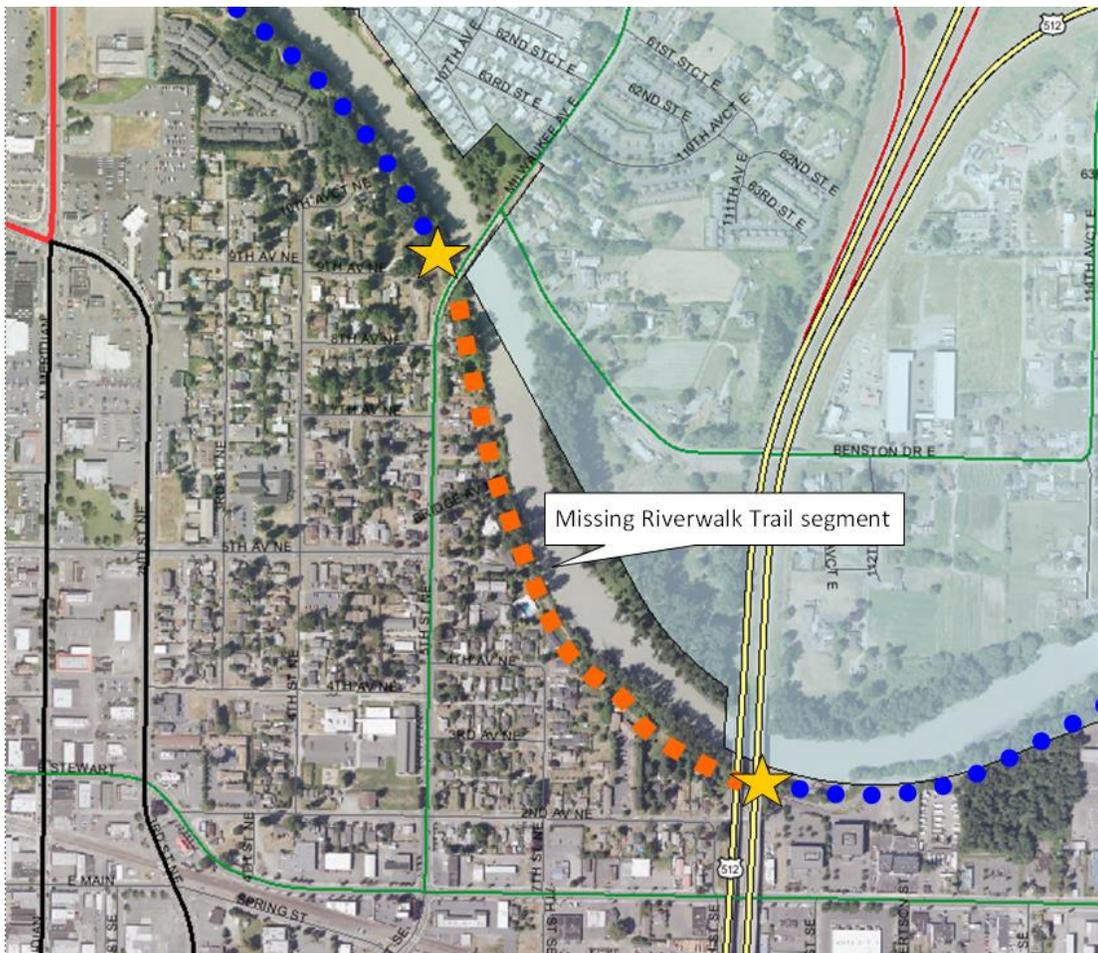
Figure 4-1. Facility map from Parks Element, Comprehensive Plan



One of the prime proposed trail improvements would be the establishment of a city-wide “loop” system that would parallel the current Riverwalk trail alignment along the southern shoreline of the Puyallup River.

Other shoreline access plans in the Parks, Recreation and Open Space Plan include the connection of missing segments of the trail and extensions beyond. One major gap in the Riverwalk Trail system is addressed in the comprehensive plan – the missing link between the trail head points at the Milwaukee Bridge overpass and the SR512 overpass.

**Figure 4-2. Missing link of Riverwalk Trail (Phase V – Riverwalk Trail)**



This missing segment should be a high priority for public access improvements along the Puyallup River as it would sync together the two continuous segments that currently exist in the city.

#### EXISTING PUBLIC ACCESS FACILITIES

Many improved facilities exist within the shoreline environments of the Puyallup River and Clarks Creek which provide public access and recreational opportunities to the public. These are described in both the comprehensive plan and the Shoreline Characterization and Inventory Report. The following descriptions represent an inventory of current shoreline public access points and facilities:

### Clarks Creek Upper

This 113 acres tract of state owned land is located entirely within the city and is located directly south and contiguous with Clarks Creek Park South. This land is owned and managed by the WDFW to protect the upstream watershed conditions – which provide critical spawning habitat for salmon – on Clarks Creek, given state fish hatchery inputs to this system at the Maplewood headwater facility. Portions of the hatchery are open to the public and it serves as an important educational resource for the Puyallup area with regard to conservation.

**Figure 4-3. Clarks Creek Park (South) Public Access**



In general, WDFW encourages public access to their lands to the extent that no resource degradation would occur as a result of such access. An unimproved dirt trail system connects the headwaters of Clarks Creek at Maplewood Springs (adjacent to the fish hatchery) to Clarks Creek / DeCoursey Parks and provides a light hiking experience through untouched old growth forest to users of this access facility.

Improvements to this trail system, including interpretive signs, wildlife viewing platforms, fencing, consistent trail grading and drainage improvements would provide additional accessibility to this trail for various users. It is not expected that this trail system be upgraded to be fully ADA accessible; this natural area is expected to remain in an

undeveloped state, with limited use relative to other shoreline access facilities, providing access to users able to traverse a more hiking-style of trail terrain.

### **Clarks Creek Park**

This park is a 62.8 acre park site located along Clarks Creek. The park is divided into two areas: Clarks Creek north and south. The northern portion of the park is a major activity area and includes facilities for softball, children's play equipment, tennis, picnicking, parking and restrooms. The southernmost portion of the park abuts the Clarks Creek upper area, owned by WDFW.

The majority of the southern park area functions as an important wildlife habitat and surrounds some active portions of the park which includes a fenced dog park area. It has areas of open water, wetlands, and typical northwest forestlands. Much of the natural riparian buffer areas along Clarks Creek are intact and serve as important habitat areas.

Shoreline access in both parks is facilitated by the extension of the trail system originating at Maplewood Springs. This trail provides some views of the stream, with locations that are close enough to touch and interact with the water itself. Kayaking and floating tubes downstream often originate in the Clarks Creek park area, although no formal launch facility is provided.

Improvements to this trail system, including interpretive signs, wildlife viewing platforms, view corridors and hand boat/kayak boat launch areas should be provided as access enhancements in this area.

### **DeCoursey Park**

This is a 8.1-acre community park immediately north of Clarks Creek Park. Park facilities consist of a man-made pond with fishing piers, a restroom building, a picnic shelter, play equipment and a path system around the pond's edge.

The man-made pond area has been a source of fecal bacteria inputs to Clarks Creek. Public access to the pond should be strategically limited to reduce incidents of duck feeding. Possible enhancements to the pond could include more native riparian plantings along the pond's edge to channel public access to specified points. These points should be enhanced further with informational signage that seeks to limit duck feeding by the public. The city has been in discussions with key stakeholders at the WSU extension campus and the community at large on implementing this public access/environmental quality enhancement project.

A neighborhood interest group – "Friends of DeCoursey Park" – has conducted extension outreach regarding the feeding of ducks and other wildlife in the park, holding a contest for school kids to design "Don't feed the ducks" signage, which is now permanently installed at various locations throughout the park. The Friends group also has conducted a number of pond edge restoration projects, utilizing soft-shore armoring techniques to establish new vegetation, thereby limiting duck access from the water landward.

## **Riverwalk Trail**

The Riverwalk Trail is the planned and partially phased multi-use trail along the south bank of the Puyallup River. It originates from the city's westerly limits and extends, generally, to its easterly limits. A key linkage is missing in the middle of the trail system, located between the trailhead point at the Milwaukee Bridge overpass (5<sup>th</sup> St NE) and the SR512 overpass trail head.

The trail will eventually serve as a key linkage to the existing Foothills Trail system. The vision for this connection would be to travel from Point Defiance Park in Tacoma to the eastern most extent of the county in Buckley. Once drafted and established, it is anticipated that this trail will be the 'backbone' to the City of Puyallup's non-motorized Transportation Plan.

The Riverwalk Trail was originally proposed as a part of the 1987 SMP update. The original proposal set out a 4 phase implementation plan. The first Riverwalk phase was completed in 1998. This trail section stretches 2/3 of a mile from near 4<sup>th</sup> Street NW east to 5<sup>th</sup> Street NE. The trail passes beneath Meridian via its own pedestrian bridge.

For the most part, the trail sits on top of the Puyallup River levee along the river's south bank. Future trail phases were built out from 1998 to the most recent extension in 2010. In some areas, the trail corridor widens, with trail rest stops that include benches, picnic tables and a lawn area. The trail provides access to the river for fishing. Some interpretive signage is also along sections of the trail; public art painted on large retaining walls serve to enhance public access.

No private development is oriented toward the trail; the 2011 River Road Corridor sub-area plan calls for specific development standards to be implemented that would require building entrance orientation toward the Riverwalk Trail. A Riverwalk trail design manual for the River Road mixed use district is also forthcoming.

Future improvements and enhancements should focus on connecting missing trail segments within the city, extending the trail to the west toward the edge of the city's UGA at the Melroy bridge, extending the trail to the southeast to connect with the Foothills trail head, interpretive water quality/habitat covered shelter 'stations' (coordinated with WSU), public esplanade trail improvements in the area of River Road, additional scenic viewing points, viewing corridors, hand-boat launch points and public art amenities.

## **Puyallup Skate Park**

The Puyallup skate park facility is located at the end of 4<sup>th</sup> Street NW in the River Road area. The facility was opened in 2001 and is a part of a larger Parks Maintenance Yard facility located along the same stretch of roadway. The Riverwalk trail provides access as does the 4<sup>th</sup> Street roadway, where some parking is available.

Some consideration should be made in eventually relocating the skate park facility as well as the Parks Maintenance yard to enhance the area as a pocket park with other amenities that serve water oriented recreational uses.

## **Riverfront Site**

The 12.81-acre undeveloped riverfront site lies between the future Riverfront Trail, the Linden Golf Course and Riverside Village, a residential apartment complex off East Main Street. This parcel is the site of the old City landfill. This site has been identified as a candidate for a small community park along the Puyallup River, although there are no current plans to develop such a facility.

Principal concerns over development of the property as an active park are associated with the former landfill. This site is currently identified as a restoration opportunity area, with plans to potentially create a setback levee with off-channel habitat. Public access, unless overriding ecological impact concerns persist, should be incorporated into such habitat restoration areas.

## **Other access areas**

A number of bridges cross over both the Puyallup River and Clarks Creek, providing unique publicly accessible overwater viewing points in the city's shoreline planning areas.

Important viewing points along the Puyallup River include the Melroy Bridge at the edge of the city's UGA, the Puyallup River bridge on Meridian and the East Main overpass on the eastern edge of town. Improvements to these access points should be made as these facilities are rebuilt. Such improvement should seek to improve the quality of the public access experience for non-motorized users and the educational amenities on the bridge. Extended view platforms with amenities like seating areas, covered observation points, educational signage and permanently installed telescopes should be incorporated in the rebuilding process. Public access should be provided in the form of multi-use lanes (with appropriate widths) to accommodate bicyclists and pedestrian travel alike.

Of particular interest are both the Melroy Bridge and the Meridian overpass, given their age and state of deterioration. The Meridian bridge – under replacement construction which began in 2014 – will provide an eight foot (8') walkway along on side of the bridge deck for viewing. Bridge replacement projects should incorporate such pedestrian amenities described above and should, at a minimum, incorporate multi-use lanes on one side, with both sides of access for non-motorized travel being comfortably separated from vehicular traffic.

Other open space properties that are in or near the shoreline planning area include the Linden Golf and County Club. The Linden Golf and Country Club is adjacent to the south bank of the Puyallup River near the confluence with the White River. This property is considered open space and provides recreational uses but is privately owned and does not provide public access to the shoreline.

## **PUBLIC ACCESS, VIEWS, RECREATION AND AESTHETICS**

### **1. Goal**

To provide all available opportunities for physical and visual public access to the city's shorelines to the maximum extent feasible. Public access should be provided when such access can be reasonably accommodated without human health, safety, and/or security risks, and without adverse effects on shoreline functions, processes, and private property rights. Public access improvements should follow, to the extent practicable, the priorities of the shoreline public access plan and should avoid access of fragmented or marginal utility. Furthermore, this plan seeks to encourage and promote quality design in new developments and modifications in shoreline areas. Uses and developments should complement and enhance rather than detract from the shorelines.

### **2. Policies**

#### **A. Public Access:**

- I. Establish a public access system that capitalizes on Puyallup's unique and varied shorelines with a combination of vistas, view areas, view corridors, scenic drives, trails, hiking paths and bike paths that connect to and along the City's shorelines to the maximum extent feasible
- II. Public access improvements shall be made as prioritized in this chapter. The city shall strive to provide enhancements, connect missing access linkages (both within the community and connections to other access areas) and provide educational opportunities by seeking grants and stable funding sources to initiate a public access improvement program
- III. Public access improvements should be established to provide recreational opportunities along the city's shoreline areas
- IV. Public access improvements should not result in adverse impacts to the natural character and quality of the shoreline and associated critical areas without restoration efforts in combination with the access improvements
- V. Public access facilities shall utilize, to the maximum extent that is technically feasible, low impact development techniques and surfacing materials (e.g. pervious concrete/asphalt, pin pier diamond foundations for boardwalks)
- VI. Recognizing that much of Puyallup's existing and planned trails follow the shoreline or connect shoreline and upland areas, partner to develop and maintain trails oriented to the shorelines. Development of trails should be coordinated with habitat restoration efforts.
- VII. Public access area and/or facility requirements should be commensurate with the scale and character of the development and should be reasonable, effective and fair to all affected parties including but not limited to the landowner and the public.

- VIII. Design public access improvements and amenities (such as view points, trails, etc.) to provide for public safety, respect individual privacy, and avoid or minimize visual impacts from neighboring properties. There should be a physical separation (combination of fencing and vegetation) or other means of clearly delineating public and private space in order to avoid unnecessary user conflict.
- IX. Public access facilities should provide auxiliary facilities, such as parking and sanitation facilities, when appropriate, and should be designed to be ADA accessible, where feasible.
- X. Public views from the shoreline upland areas should be enhanced and preserved. Enhancement of views should not be construed to mean excessive removal of existing native vegetation that partially impairs views.
- XI. Incorporate signage and informational kiosks into public access locations, where appropriate, to enhance public education and appreciation of shoreline ecology and areas of historic or cultural significance.
- XII. Incorporate public access into publicly funded restoration projects where significant ecological impacts can be avoided.
- XIII. Opportunities for public access should be identified on publicly owned shorelines. Public access afforded by shoreline street-ends, public utilities and rights-of-way should be preserved, maintained and enhanced.
- XIV. The Riverwalk Trail and, where applicable, the City's currently adopted Parks Plan Update should be implemented to provide a continuous waterfront multi-purpose trail located along the Puyallup River. Once completed, the trail will be part of a larger regional trail system that links Tacoma to Buckley.
- XV. Variety in non-motorized methods of travel is encouraged to and from shoreline areas and access points. These include trails, pathways or corridors for walking, and bicycling. Incorporate pedestrian walkways within developments that are outside of the shoreline planning area but provide important connections to the shoreline from adjacent rights of way.
- XVI. Continue to provide, and expand wherever possible, public mural art installations along the Puyallup River to enhance the public access experience and reduce long, blank walls that can attract graffiti.

**B. Recreation:**

- I. Public recreational facilities should be located, designed and operated in a manner consistent with the purpose of the environment designation in which they are located and in such manner that no net loss of shoreline ecological functions or ecosystem-wide processes results.
- II. Shoreline recreational development should be given priority for shoreline location to the extent that the use facilitates the public's ability to reach, touch, and enjoy the water's edge, to travel on the waters of the state, and to view the water and the

shoreline. Where appropriate, such facilities should be dispersed along the shoreline in a manner that supports more frequent recreational access and aesthetic enjoyment of the shoreline for a substantial number of people.

- III. Plan for a mix of both passive and active water oriented recreational uses that seek to enhance the shoreline access experience and improve public health through interconnected and varied recreational opportunities throughout the city's shoreline planning areas.
- IV. Locate water oriented recreational uses in the shoreline planning areas.
- V. Locate, design, manage and maintain recreational uses and facilities in a manner that protects shoreline ecological functions and processes.
- VI. Design and manage recreational facilities to best promote public health improvements through amenities which promote active movement and exercise opportunities to the public.
- VII. Provide recreational opportunities which meet the diverse and varied needs and demands of various user groups within the city, with particular focus on making public access opportunities to the shoreline ADA accessible to the extent feasible and desirable.
- VIII. Recognize that not all access opportunities are intended to be ADA accessible in all reaches and forms. Some access opportunities are intended to include hiking and nature trail observation, which are generally not always ADA accessible in design or intent.
- IX. Acquire additional lands and existing recreational opportunities which enhance, connect or complete planned public access improvements.
- X. Enhance recreational and active amenities along the city's shoreline trail system using innovative outdoor fitness equipment which create varied exercise opportunities and distance checkpoints to improve public health opportunities.
- XI. Ensure that sufficient recreational opportunities are available to serve future recreational needs as Puyallup grows and develops.
- XII. Incorporate educational materials, including diverse and interactive signage and resources, that inform and educate the public regarding the use of shoreline recreational amenities (e.g. calories burned walking, biking, running distances of the trail).
- XIII. Seek to partner with various public agencies, non-profits, advocacy organizations and private landowners, developers to diversify, increase and enhance public recreational opportunities and facilities along the city's shorelines.
- XIV. Recognize, protect and promote the interests of all people of the state by providing increased recreational opportunities within shorelines of statewide significance and associated Shoreland areas.

- XV. Encourage and promote a mixture of public and private investment in recreational opportunities and facilities.

**C. Views and Aesthetics:**

- I. Preserve and assure, to the greatest extent feasible, the public's opportunity to enjoy the physical and aesthetic qualities of the city's shorelines.
- II. Identify and protect areas with scenic vistas and areas where the shoreline has high visual aesthetic value.
- III. Minimize adverse impacts from new development on views from public property or views enjoyed by a substantial number of residents.
- IV. Enhance public view opportunities that improve the public access experience.
- V. Protect and enhance, to the greatest extent feasible, solar access to shoreline public access areas through creative positioning of site improvements and structures.
- VI. The shoreline areas should be planned and designed to preserve and enhance environmental characteristics. Examples of appropriate considerations are:
  - a. Preservation of shoreline area views and view corridors from within and outside the development;
  - b. Preservation of existing vegetation to the extent that such vegetation contributes to overall visual quality, is unique or furnishes valuable wildlife habitat; and,
  - c. Revegetation that contributes to visual diversity, provides attractive transitions between developed and shoreline areas, enhances wildlife values or otherwise accomplishes the purposes of this policy.
  - d. Arrangement, modulation, scale and overall relationship of site buildings and elements should be designed to achieve a balance of open space and development while protecting solar enjoyment from permanent shadowing impacts
  - e. Street furniture such as signs, lighting, and benches, etc, when used, and site circulation patterns should complement and reinforce the unique nature of riparian corridors and shoreline areas.
  - f. Shoreline-view vantage points such as viewing decks, terrace gardens or view points should be considered for public use when public or commercial multi-story structures are proposed.
  - g. Exterior surface colors and materials that harmonize with shoreline area vegetation and exposed soil and/or rock, should be used. Suggested colors are shades of grey and brown of values between black and white or shades of grey-greens or brown-greens of values between black and medium.
  - h. River crossings and entrances to river crossings should emphasize the scenic qualities of the river and its value as a resource in the community.

### 3. Regulations

#### A. Public Access

- I. Private pedestrian footbridges across Clarks Creek and the Puyallup River are prohibited. Public footbridges that would provide connections to existing public access or provide a critical future connection to planned public access improvements are allowed in accordance with the no net loss of ecological values or functions standard of Puyallup's SMP and state SMA.
- II. Public access provided by shoreline street ends, public utilities and rights-of way shall not be diminished pursuant to RCW 35.79.035, Limitations on Vacations of Streets Abutting Bodies of Water; and RCW 36.87.130, Vacation of Roads Abutting Bodies of Water Prohibited unless for Public Purposes or Industrial Use.
- III. Except as provided in regulations 3.d. and 3.e. below, shoreline substantial developments or conditional uses shall provide public access where commensurate and proportional to the development impacts, when any of the following conditions are present:
  - a. Where a development or use will interfere with an existing public access, the development or use shall provide public access to mitigate this impact. Impacts to public access may include blocking access or discouraging use of existing on-site or nearby public access;
  - b. When a development is likely to increase the need for public access or would be a public benefit as a part of a development project;
  - c. As part of development for non-water-dependent uses (including water-enjoyment and water-related uses);
  - d. Where the development is proposed or funded by a public entity or on public lands, except where public access improvements would adversely affect publicly funded restoration actions;
  - e. Where planned for under the Shoreline Public Access Plan
- IV. An applicant need not provide public access where the City determines that one or more of the following conditions apply.
  - a. Unavoidable health or safety hazards to the public exist which cannot be prevented by any practical means;
  - b. Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions;
  - c. The cost of providing the access, easement or an alternative amenity is unreasonably disproportionate to the total long-term cost of the proposed development, as determined by the Administrator and City Attorney;

- d. Significant adverse impacts to the natural character and quality of the shoreline and associated wetlands will result from the public access which cannot be mitigated; or
  - e. Significant undue and unavoidable conflict between any access provisions and the proposed use and/or adjacent uses would occur and cannot be mitigated.
- V. In order to meet any of the conditions listed (IV. (a)-(e)) above, the applicant must first demonstrate and the City determine in its findings that all reasonable alternatives have been exhausted, including but not limited to:
  - a. Regulating access by such means as maintaining a gate and/or limiting hours of use;
  - b. Designing separation of uses and activities (e.g. fences, terracing, use of one-way glazings, hedges, landscaping, etc.); and,
  - c. Developing provisions for access at a site geographically separated from the proposal such as a street end, vista or trail system.
- VI. Where on-site access is determined to be infeasible per the conditions above, off-site enhancements to public access— commensurate and proportionate to the development – shall be required. Off-site enhancements shall utilize the planned public access map and consider priority improvements.
- VII. Public access shall consist of a dedication of land or a physical improvement in the form of a walkway, trail bikeway, corridor, viewpoint, park or other area serving as a means of view and/or physical approach to the shoreline and may include informational kiosks. Public access sites shall be connected directly to the nearest public street or public right-of-way and shall include improvements that conform to the requirements of the Americans with Disabilities Act (ADA).
- VIII. Required public access sites shall be fully developed and available for public use at the time of occupancy of the use or activity.
- IX. At a minimum, public access easements and permit conditions shall be recorded on the deed of title and/or on the face of a plat, binding site plan or short plat as a condition running contemporaneous with the authorized land use. Said recording with the County Auditor's Office shall occur at the time of permit approval.
- X. The standard city approved signs that indicate the public's right of access and hours of access shall be constructed, installed and maintained by the applicant in conspicuous locations at public access site.

## **B. View and Aesthetics:**

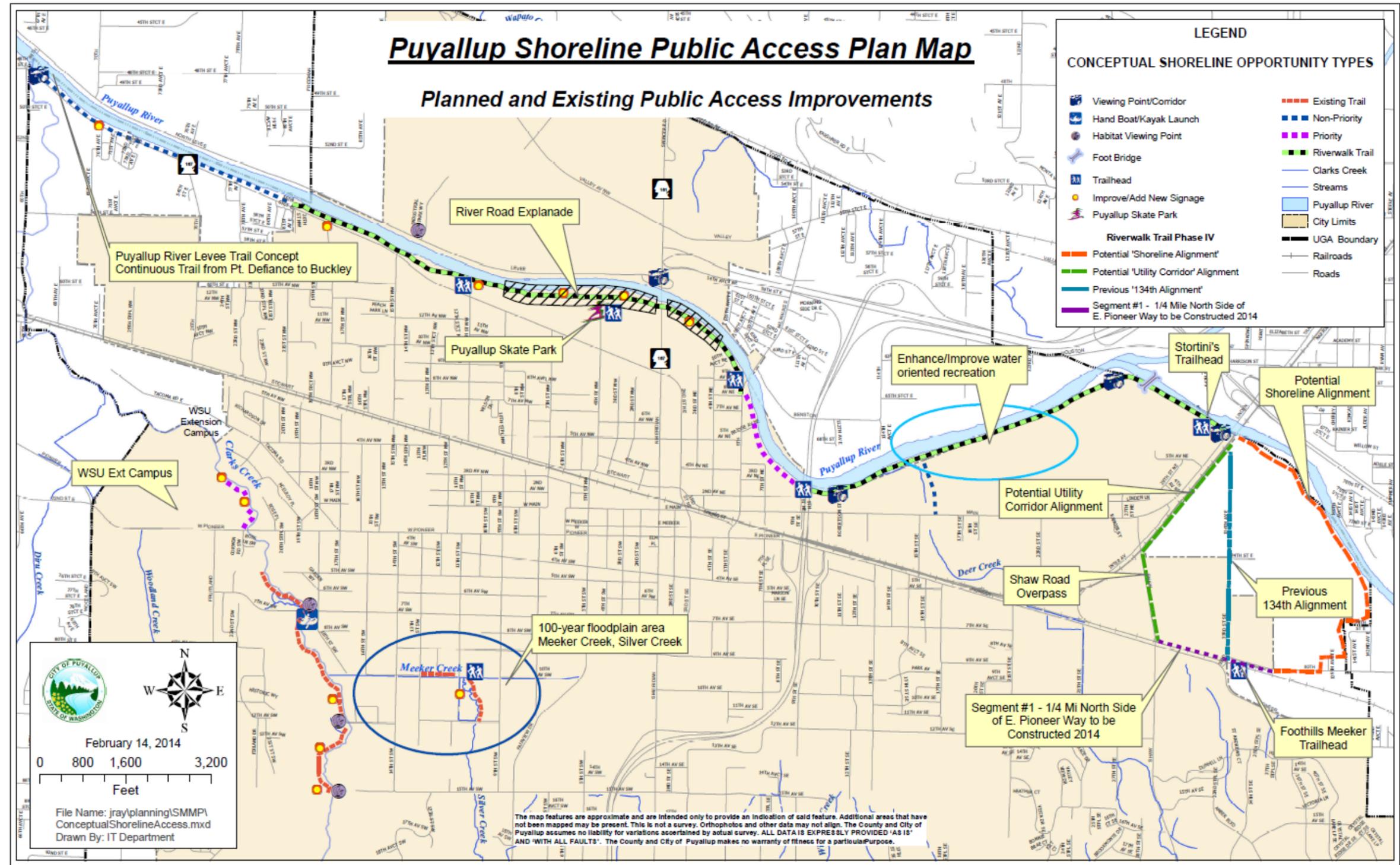
- I. Design of structures and improvements shall identify key view corridors and points of visual enjoyment and make measures in the design of the site to protect and enhance those resources.
- II. Design of structures shall meet or exceed the design intent and requirements of the Puyallup Municipal Code, where applicable
- III. In review of proposed development in the shoreline, whether such development requires a shoreline substantial development permit or statement of exemption, the Administrator shall review the proposal for compliance with the policies of this section and may establish conditions for approval.
- IV. As required by RCW 90.58.320, no permit shall be issued for any new or expanded building or structure more than thirty-five feet in height that will obstruct the view of a substantial number of residences on areas adjoining such shorelines. Height is measured according to Chapter 2, Definitions.

## **C. Recreational Development**

- I. Recreation development is allowed in all the shoreline environments as a permitted use. In the Natural environment such development shall only be low-intensity and in support of public access or scientific, educational or public service needs.
- II. Recreational activities and facilities located within shoreline jurisdiction must bear a substantial relationship to the shoreline, or provide physical or visual access to the shoreline. Facilities for water-dependent recreation such as fishing, swimming, boating, and wading, and water-related recreation such as picnicking, hiking, and walking shall be located near the shoreline, while non water-related recreation facilities shall be setback from the ordinary high water mark (OHWM) as set forth in the city's Critical Areas Ordinance (PMC 21.06).
- III. Paved trails shall be located on the outer fifty percent (50 %) of the riparian buffer, except for limited viewing platforms and crossings or where alignment with an existing trail segment within the inner 50% exists. Replacement of an existing access system or locating new public access trails within the inner 50% shall only be allowed through a shoreline conditional use permit. Impacts to existing riparian functions and values shall be mitigated in accordance with PMC 21.06.1080, 21.06.610 and 21.06.620.
- IV. Accessory development that does not require a shoreline location shall be located upland of the water-oriented portions of the development and setback from the ordinary high water mark (OHWM) in accordance with the PMC 21.06 – Critical Areas. For the purposes of this subsection, accessory development may include, but is not necessarily limited to the following: parking; restrooms; recreation halls and gymnasiums. These areas shall be linked to the shoreline by walkways.

- V. The removal of on-site native vegetation shall be limited to the minimum necessary for the development of picnic areas, selected views or other permitted structures or facilities.
- VI. Signs indicating the public's right of access to shoreline areas shall be installed and maintained in conspicuous locations at recreational facility points of access and entrances.
- VII. All new recreational development proposals will be reviewed by the City for ecological restoration and public access opportunities. When restoration and/or public access plans indicate opportunities exist, the City may require that those opportunities are either implemented as part of the development project or that the project design be altered so that those opportunities are not diminished.

Figure 4.05. Public Access Plan Map



## **CHAPTER 5 GENERAL GOALS, POLICIES AND REGULATIONS**

This chapter describes the overall goals, policies and regulations of the Master Program that apply to all uses and developments in the shoreline jurisdiction, regardless of the designated shoreline environment in which they occur. The purpose, intent, and governing principles of the state shoreline guidelines (WAC 173-26), as described in Chapter 1, provide the foundation for development of the shoreline goal statements. The policies and regulations are the means by which these goals are implemented. Policies and regulations that address specific shoreline uses and activities (e.g., agriculture, residential development, etc.) and specific shoreline modifications (e.g., dredging, landfill and excavation, etc.) are in Chapter 7.

### **A. SHORELINE USE**

#### 1. Goal

- i. To ensure healthy, orderly growth by allowing development and/or redevelopment activities which will be an asset to the community and local economy; which will result in no net loss of shoreline ecological functions; and will maintain or improve the health, safety and welfare of the public.

#### 2. Policies

- i. Preferred uses are those that are water-oriented, single family residential (where allowed by underlying zoning and comprehensive plan land use designation), enhance public access to the shoreline, or include elements of shoreline restoration.
- ii. Development in shorelines should reflect in both site configuration and structural design acknowledgement of the water's proximity and its value as an ecological and scenic resource.
- iii. Encourage uses that allow for or incorporate restoration of shoreline areas that have been degraded as a result of past activities or events.

#### 3. Regulations

- i. Shoreline use regulations for specific uses and associated shoreline modifications (e.g., agriculture, commercial, residential, recreational development, dredging, flood control, etc.) are in Chapter 7, Shoreline Use and Modification Policies and Regulations.

### **B. HISTORIC, CULTURAL, SCIENTIFIC AND EDUCATIONAL RESOURCES**

#### 1. Goal

To prevent the destruction of or damage to any site having historic, cultural, scientific, or educational value as identified by the appropriate authorities, including affected Indian tribes, and the Department of Archaeology and Historic Preservation.

## 2. Policies

- i. Work with tribal, federal, state, and local governments as appropriate to maintain an inventory of all known significant local historic, cultural, and archaeological sites. As appropriate, such sites should be protected, preserved, and/or restored for study and/or public education. The location of sensitive historic, cultural and/or archaeological sites should not be disclosed to the general public, consistent with applicable state and federal laws.
- ii. Development on sites having historic, cultural, or archaeological resources should be planned and carried out so as to avoid or minimize impacts to the resource.

## 3. Regulations

- i. Significant cultural, archaeological and historic resources shall be permanently preserved in situ or recovered for scientific study, education and public observation.
- ii. Upon receipt of application for a shoreline permit or request for a statement of exemption for development on properties known to contain an historic, cultural or archaeological resource(s), the City shall require a site inspection, evaluation, and written report by a professional archaeologist or historic preservation professional, as applicable, to determine the presence of cultural, historic or archaeological resource(s). The professional should meet qualification standards for cultural resource management professionals promulgated by the National Park Service, published in 36 CFR Part 61, and included on the DAHP approved consultant list. If it is determined that a site has a significant resource(s), shoreline permits or a statement of exemption shall not be issued until protection or mitigation is developed to the satisfaction of both DAHP and affected tribes. The City may require that development be postponed to allow for:
  - a. Coordination with potentially affected tribes and/or the Department of Archaeology and Historic Preservation; and/or
  - b. Investigation of potential to provide public access and educational opportunities; and/or
  - c. Retrieval and preservation of significant artifacts.
- iii. All shoreline permits and statements of exemption shall contain provisions which require developers to immediately stop work and notify the City, the State Department of Archaeology and Historic Preservation (DAHP), the Puyallup Tribe of Indians, and the Muckleshoot Indian Tribe if any artifacts of possible historic, cultural, or archaeological value are uncovered during excavations. In such cases, the developer shall be required to provide for a site inspection and evaluation by a professional archaeologist or historic preservation professional, as applicable, in coordination with the state and/or affected tribes.

## C. ECOLOGICAL PROTECTION AND CRITICAL AREAS

### 1. Goals

- i. To protect shoreline ecological functions through effective stewardship and management of shoreline uses and development.
- ii. To protect critical areas in the shoreline (e.g., wetlands and fish and wildlife habitats) for their ecological functions and values, as well as their aesthetic, scenic, and educational qualities.

### 2. Policies

- i. All shoreline use and development should be carried out in a manner that avoids and minimizes adverse impacts so that the resulting ecological condition does not become worse than the current condition. This means assuring no net loss of ecological functions and processes and protecting critical areas designated in Puyallup Municipal Code (PMC) Chapter 21.06 that are located in the shoreline. All incorporation by reference to PMC 21.06 relate to ordinance no. (December 26, 2014, ORD. #3076 and September 26, 2006, ORD. #2859). Shoreline ecological functions that should be protected include hydrology, water quality, riparian habitat, and in-stream habitat functions. Shoreline processes that should be protected include surface and groundwater flow; sediment delivery; water quality; and organics delivery.
- ii. Preserve, protect, and/or restore wetlands within and associated with the City's shorelines to achieve no net loss of wetland area and wetland functions.
- iii. In assessing the potential for net loss of ecological functions and processes, project-specific and cumulative impacts should be considered.
- iv. Allow activities in critical areas that protect and, where possible, restore the ecological functions and ecosystem-wide processes of the City's shorelines.
- v. Establish a public outreach and education program for property owners adjacent to the shoreline that promotes shoreline-friendly practices.

### 3. Regulations

- i. All shoreline development and uses shall be located, designed, constructed and maintained in a manner that results in no net loss of shoreline ecological processes and functions to the greatest extent feasible. Unavoidable impacts to shoreline ecological functions and processes shall be mitigated according to the provisions of this section to ensure no net loss of ecological functions.
- ii. Where required, mitigation measures shall be applied in the following sequence of steps listed in order of priority.
  - a. Avoiding the impact altogether by not taking a certain action or parts of an action;

- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
  - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  - d. Reducing or eliminating the impact over time by preservation and maintenance operations;
  - e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
  - f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.
- iii. In determining appropriate mitigation measures applicable to shoreline development, lower priority measures shall be applied only where higher priority measures are determined to be infeasible or inapplicable.
  - iv. Required mitigation shall not be in excess of that necessary to assure that development will result in no net loss of shoreline ecological functions.
  - v. Mitigation actions shall not have a significant adverse impact on other shoreline ecological functions and shall cause no net loss of ecological functions overall.
  - vi. When compensatory measures are appropriate pursuant to the mitigation priority sequence above, preferential consideration shall be given to measures that replace the impacted functions directly and in the immediate vicinity of the impact. However, alternative compensatory mitigation within the watershed that addresses limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans applicable to the area of impact may be authorized. Authorization of compensatory mitigation measures may require appropriate safeguards, terms or conditions as necessary to ensure no net loss of ecological functions.
  - vii. Buffer widths for wetlands shall follow the standards of PMC 21.06.930.
  - viii. Buffer widths for stream areas shall be established as follows:
    - a. Stream buffer widths shall be regulated by PMC 21.06.1050. The buffer area shall be provided for all uses and activities adjacent to a stream to protect the integrity and function of the stream. Per PMC 21.06.210 (111), riparian buffer areas include those buffer areas severely altered, degraded or damaged due to human development activities.
    - b. After mitigation sequencing has been applied and avoidance of disturbance is minimized the maximum extent practicable, a stream buffer may be reduced to accommodate a water-dependent use. Mitigation proposals shall follow the standards of PMC 21.06.1080, 21.06.610 and 21.06.620.

- c. Water-enjoyment, water-related and non-water oriented uses shall not reduce riparian buffer area vegetation, encroach further into a riparian buffer area or impact ecological functions/critical areas unless no other feasible alternative exists to locate outside these areas. Impacts may only be allowed through a shoreline variance permit process. See Chapter 7, Residential Uses, for options for single family residential use expansions in riparian buffer areas. The developed envelope shall be located outside of the prescribed buffer area to the maximum extent feasible. Mitigation shall be provided in accordance with PMC 21.06.1080, 21.06.610 and 21.06.620.
- d. Areas within the prescribed buffer area for the adjacent stream which do not contain functioning riparian habitat and that do not include any other critical areas (e.g. previously developed sites within buffer area, upland area separated by road/levee, etc) may be developed by water-enjoyment and water-related uses in a manner that is consistent with the control of pollution and prevention of damage to the shoreline environment.
- e. Improvements for shoreline public access – as a stand alone use – should only be located only in the outer 50% of the riparian buffer area. Exceptions may be made for shoreline recreational uses – such as beaches or viewing platforms – to encroach further into the buffer area. Replacement of an existing access system or locating new public access trails within the inner 50% shall only be allowed through a shoreline conditional use permit. Impacts to existing riparian functions and values shall be mitigated in accordance with PMC 21.06.1080, 21.06.610 and 21.06.620.
- f. Non water-oriented uses may only locate within the city’s shoreline planning area if mitigation plantings are provided in the adjacent or nearest riparian buffer area (if no riparian area is available on site).
- x. Any application to develop within the regulatory floodplain of the City’s shoreline planning area shall be accompanied by a biological assessment of the impact of the project on federal, state or locally protected species and habitat, water quality and aquatic/riparian habitat. The assessment shall be:
  - i. A biological assessment or evaluation developed by a qualified wildlife biologist with experience and background in ESA listed fish and terrestrial animals
  - ii. Prepared in accordance with all federal rules included in the Endangered Species Act, the city’s critical areas ordinance and with the *Regional Guidance for Floodplain Habitat Assessment and Mitigation*, FEMA region X, 2010. Such a report shall specifically address the potential impacts on:
    - a. Species that are federal, state or locally listed as threatened or endangered;
    - b. The primary constituent elements for critical habitat, when designated;
    - c. Essential fish habitat designated by the National Marine Fisheries Service;
    - d. Fish and wildlife habitat conservation areas; and,

- e. Other protected areas and elements necessary for species conservation
- iii. Impacts to critical area habitat shall be in accordance with PMC 21.06.1080, 21.06.610 and 21.06.620.
- xi. Subject to the exceptions listed below in this section of the SMP, the Critical Areas provisions of the Puyallup Municipal Code (PMC Chapter 21.06) are herein incorporated and shall apply to any use, alteration, or development where designated critical areas are physically located within the shoreline jurisdiction, whether or not a shoreline permit or written statement of exemption is required. Unless otherwise stated, no development shall be constructed, located, extended, modified, converted, or altered, or land divided without full compliance with PMC 21.06 and this Program, except that water-oriented uses and development that enhances public access to shorelines shall be allowed in accordance with applicable Program policies and regulations. Designated critical areas that may be located in the shoreline include wetlands, fish and wildlife habitat areas, critical aquifer recharge areas, geologically hazardous areas and frequently flooded areas. Any conflicts between the referenced ordinances and the SMP are resolved ***in favor of the regulation that is most protective of shoreline ecological functions***. The following are exceptions to the city's critical areas ordinance when located in the shoreline jurisdiction(s) of the City of Puyallup:
  - a. The provisions of Puyallup Critical Areas regulations do not extend shoreline jurisdiction beyond the limits specified in this SMP. For regulations addressing critical areas that are outside shoreline jurisdiction, see Puyallup Critical Areas regulations (PMC 21.06).
  - b. When definitions per PMC 21.06.210 conflict with SMP definitions per Chapter 2, SMP definitions shall apply.
  - c. Activities that are exempt from the provisions of Puyallup's Critical Areas per PMC 21.06.410 shall be governed by this Program.
  - d. In the event an applicant wishes to adjust standards and provisions for designated critical areas per the Reasonable Use Exception provisions of the PMC 21.06.430, such application shall be processed as a Shoreline Variance Permit process, per the provisions of this Program and WAC 173-27, Shoreline Management Permit and Enforcement Procedures.
  - e. PMC 21.06.960 sub-section 2 and 3 shall not apply, in that a net loss of wetland function or area in the shoreline jurisdiction is prohibited.
  - f. PMC 21.06.440, pertaining to exceptions for minor new development in buffers, shall not apply as the development will either be considered nonconforming and should be addressed as such, or in other circumstances shall require a variance. In all cases, no net loss of shoreline ecological functions should be the goal.
  - g. PMC 21.06.910(4), pertaining to exemptions for wetlands associated with a shoreline of the state, shall not apply. A wetland's association with a riparian

corridor is not equivalent to association with a shoreline of the state. Wetlands associated with a shoreline of the state are those that are included within the 100 year floodplain of the shoreline waterbody.

- h. PMC 21.06.1050 (3) pertaining to averaging of stream buffers shall not apply as a net loss of stream buffer area in the shoreline jurisdiction is prohibited.
- i. PMC Article VII Enforcement shall be applied in addition to the provisions of the WAC 173-27 Part II, Shoreline Management Act Enforcement.
- xii. Buildings, fencing, walls, hedges and similar features shall be designed, located, and constructed in a manner that does not preclude or significantly interfere with wildlife movement to/from habitat areas consistent with the applicable provisions of PMC 21.06, provided that the Administrator may exempt security fencing associated with residential, industrial and/or commercial developments from this requirement on a case-by-case basis.

#### **D. FLOOD HAZARD REDUCTION**

- 1. Goal
  - i. To reduce flood damage or hazards to shoreline uses and developments as well as limit shoreline modifications that may increase flood hazards.
- 2. Policies
  - i. Ensure that new development in areas prone to periodic flooding complies with the Flood Damage Protection standards, Puyallup Municipal Code Title 21.07, in an effort to minimize health hazards and property damage due to flooding.
  - ii. Assure that flood hazard protection measures result in no net loss of ecological functions.
- 3. Regulations
  - i. All shoreline development shall comply with Puyallup Municipal Code, Title 21.07 Flood Damage Protection.
  - ii. All shoreline development in floodplains connected to Clarks Creek or the Puyallup River shall protect hydrologic connections between water bodies, water courses, and associated wetlands to the extent feasible.
  - iii. Removal of gravel for flood control shall be consistent with 7(h) – Filling, Grading and Excavation and 7(e) – Dredging and Dredge Material Disposal.

## **E. VEGETATION CONSERVATION**

### **1. Goals**

- I. To protect and restore the ecological functions and ecosystem-wide processes provided by vegetation along shorelines.

### **2. Policies**

- i. Where new developments and/or uses are proposed, native shoreline vegetation should be conserved consistent with the city's Vegetation Management Standards manual, PMC 21.06.930 and 21.06.1050 to maintain shoreline ecological functions and/or processes and mitigate the direct, indirect and/or cumulative impacts of shoreline development, wherever feasible. Regulation of microclimate in the stream-riparian and intertidal corridors; and
- ii. Limit removal of native vegetation on development sites within the city's shoreline planning areas and establish landscape regulations that reflect low impact storm water management techniques.
- iii. Recognize that aquatic weed management requires preventative measures, such as added riparian canopy cover over stream to prevent growth through solar access, in addition to mechanical cutting. Where active removal or destruction is necessary, it should be the minimum to allow water dependent activities to continue, minimize negative impacts to native plant communities, and include appropriate handling or disposal of weed materials.
- iv. Prohibit clearing, grading, or vegetation removal within the shoreline jurisdiction when not related to a use permitted under the provisions of this Master Program.
- v. Limit alteration of the natural landscape within the shoreline jurisdiction to the minimum necessary to accommodate the shoreline development or to remove invasive vegetation.
- vi. Restrict clearing and grading within shoreline jurisdiction in order to maintain shoreline functions.
- vii. Permit clearing activities associated with levee maintenance as necessary to provide protection from flood hazards.

### **3. Regulations**

- i. Clearing, grading, or vegetation removal within the required shoreline environment is prohibited unless associated with a use permitted under the provisions of this master program or considered exempt under WAC 173-27-040.

- ii. During construction, shoreline vegetation shall be protected by placement of a temporary barricade/fencing at the edge of existing vegetation to be retained and implementation of appropriate erosion and sedimentation controls. All uses and developments permitted under this master program shall observe all applicable critical area buffers/existing shoreline vegetation to the maximum extent possible and shall establish 65% native vegetation landscaping coverage between permitted uses/structures and the OHWM to the extent feasible.
- iii. Invasive and/or noxious plant species within the shoreline jurisdiction may be removed using minimally invasive processes, such as hand clearing. Cleared areas should be replanted with native vegetation to prevent erosion and suppress re-growth of invasive plants.
- iv. Selective pruning of tree limbs for view protection is allowed in accordance with ANSI A300 standards and city approval. Removal of hazard trees is allowed in accordance with PMC 21.06.410 (1)(e) and/or all standards contained in the city's Vegetation Management Standards (VMS) manual.
- v. Removal of noxious weeds and/or invasive species shall be incorporated in vegetation management plans, as necessary, to facilitate establishment of a stable community of native plants.
- vi. Aquatic weed control shall only occur when native plant communities and associated habitats are threatened or where excessive weed growth creates a flood hazard by restricting flow. All aquatic weed control activities shall conform to the requirements of applicable state rules and regulations and should generally be accompanied by native riparian plantings to help mitigate the problem long term.
- vii. In accordance with RCW 77.55 and WAC 220-110-150, natural instream features such as snags, uprooted/felled trees, or stumps shall be left in place unless it can be demonstrated that they threaten personal safety, critical infrastructure, or create flood hazard for downstream properties. In such cases where debris poses a threat, it should be dislodged and repositioned to assure safety to adjacent or downstream structures/life, but shall not be removed from the river or stream unless authorized by Washington Department of Fish and Wildlife (WDFW). Restoration projects should seek to include placement of large woody debris along banks and in-stream to provide habitat complexity and structure.

## **F. WATER QUALITY AND QUANTITY**

### **1. Goal**

- i. To treat and infiltrate all storm water runoff in shoreline planning areas within the city using best management practices. To maintain or enhance the quantity and quality of surface and ground water over the long term by effectively managing the

location, construction, operation, and maintenance of all shoreline uses and developments.

2. Policies

- I. The City should manage stormwater through the City's Comprehensive Plan, Storm Drainage and Basin Modeling plan and storm water management regulations.

3. Regulations

- i. All shoreline development shall comply with Puyallup Municipal Code, regulations related to water quality, including but not limited to relevant sections of title 21.

## **CHAPTER 6 SHORELINE JURISDICTION AND ENVIRONMENT DESIGNATIONS**

### **A. DESIGNATION OF SHORELINES OF STATEWIDE SIGNIFICANCE**

In accordance with the criteria of RCW 90.58.030(2)(e), Definitions and Concepts, the legislature designated specific shorelines of the state, including the shorelands and associated wetlands as therein defined, as having statewide significance. This includes all portions of the Puyallup River and associated shorelands within the City of Puyallup. Clarks Creek does not meet the criteria of RCW 90.58.030(2)(e) for designation as a shoreline of statewide significance.

### **B. ADOPTION OF POLICY**

In accordance with RCW 90.58.020, Legislative Findings, the following management and administrative policies are hereby adopted for shorelines of statewide significance in Puyallup as defined in RCW 90.58.030(2)(e), Definitions and Concepts and identified in WAC 173-18-310, Pierce County. Consistent with the policy contained in RCW 90.58.020, preference shall be given to the uses that are consistent with the statewide interest in such shorelines. These are uses that:

1. Recognize and protect the statewide interest over local interest.
2. Preserve the natural character of the shoreline.
3. Result in long term over short term benefit.
4. Protect the resources and ecology of the shoreline.
5. Increase public access to publicly owned areas of the shoreline.
6. Increase recreational opportunities for the public in the shoreline.
7. Provide for any other element as defined in RCW 90.58.100, Programs as Constituting Use Regulations, deemed appropriate or necessary.

Uses that are not consistent with these policies should not be permitted on shorelines of statewide significance.

### **C. POLICIES FOR SHORELINES OF STATEWIDE SIGNIFICANCE**

The statewide interest should be recognized and protected over the local interest in shorelines of statewide significance. The Act states that local master programs addressing shorelines of statewide significance shall provide “the optimum implementation of the policy of this chapter to satisfy the statewide interest” (RCW 90.58.090(5), Approval of Master Program or Segments or Amendments). To ensure that statewide interests are protected over local interests, the City shall review all development proposals within shorelines of statewide significance for consistency with RCW 90.58.020, Legislative findings, and the following policies:

1. Consult with and consider recommendations from applicable state agencies, affected tribes, and statewide interest groups for specific development proposals and proposed amendments to the Master Program that have the potential to affect statewide or regional resources, such as anadromous fisheries.
2. Redevelopment of shorelines should be encouraged where it restores or enhances shoreline ecological functions and processes impaired by prior development activities.
3. The range of options for shoreline use and public access should be preserved to the maximum possible extent for succeeding generations. Development that consumes valuable, scarce or irreplaceable natural resources should not be permitted if alternative sites are available.
4. Potential short term economic gains or convenience should be measured against potential long term impairment of natural shoreline ecological functions.
5. Protection or enhancement of aesthetic values should be actively promoted in design review of new or expanding development.
6. Public and private developments should be encouraged to provide trails, viewpoints, water access points and shoreline related recreation opportunities whenever possible. Such development is recognized as a high priority use.

#### **D. SHORELINE JURISDICTION**

The provisions of this Program shall apply to all shorelines of the state and shorelines of statewide significance in the city of Puyallup, including all shorelands as defined in Chapter 2 and herein referred to as “shorelines.” This includes the Puyallup River and Clarks Creek downstream of Maplewood Springs in the city of Puyallup. The location and extent of such shorelines are based on the following criteria and are shown on the Official Shoreline Map appended to this document (Figure 6-1):

1. All rivers and streams and their associated wetlands downstream from a point where the mean annual flow is 20 cubic feet per second or greater.
2. Shorelands and associated uplands extending 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with their streams, lakes, and tidal waters subject to the provisions of the Shoreline Management Act (Chapter 90.58 RCW).

#### **E. OFFICIAL SHORELINE MAP**

1. **Shoreline Environment Designations.** A set of designations for shorelines called Shoreline Environments have been developed as a part of this Program and are delineated on a map, hereby incorporated as a part of this Program (Figure 6-1) that shall be known as the Official Shoreline Map. The purpose of the Environment Designations is to provide a systematic, rational, and equitable basis upon which to guide and regulate development within specific shoreline areas. These designations apply to areas of the shoreline that have similar ecological conditions and similar land

uses or potential development patterns. Shoreline Environment Designations have been determined after consideration of:

- a. The ecological functions and processes that characterize the shoreline, together with the degree of human alteration as determined by the 2007 Shoreline Inventory and Characterization Report and any subsequent investigations or analyses as may be required by this program;
- b. The City's goal of having coordinated planning for open space, public access and other aspects of shoreline management, and
- c. Existing development patterns together with the Puyallup Comprehensive Plan designations and other officially adopted plans; and
- d. The requirements outlined in WAC 173-26-211, Environment Designation System.

The City may, from time to time as new or improved information becomes available, modify the Official Shoreline Map consistent with state guidelines to more accurately represent, clarify, or interpret the true limits of the shorelines defined herein.

Areas found to be within shoreline jurisdiction that are not mapped and/or designated are automatically assigned the "Urban Conservancy" designation until re-designated through a master program amendment process.

2. **Shoreline Jurisdictional Limits.** The purpose of the Official Shoreline Map is to identify shoreline environment designations. The Official Shoreline Map does not necessarily identify or depict the lateral extent of shoreline jurisdiction or all associated wetlands. The lateral extent of the shoreline jurisdiction shall be determined on a case by case basis based on the location of the Ordinary High Water Mark, floodway, and the presence of associated wetlands. If disagreement develops as to the exact location of a Shoreline Environment Designation boundary line, the Administrator shall interpret the boundaries and the following rules shall apply:
  - a. Boundaries indicated as approximately following lot, tract, or section lines shall be so construed.
  - b. Boundaries indicated as approximately following roads, railways, or waterbodies shall be construed to follow their centerlines.
  - c. Boundaries indicated as approximately parallel to or extensions of features indicated in (a) or (b) above shall be so construed.
  - d. Whenever existing physical features are inconsistent with boundaries on the Official Shoreline Map, the Administrator shall interpret the boundaries.
3. **Confluence of Clarks Creek and Puyallup River.** For the purposes of determining the applicable shoreline environment at the confluence of Clarks Creek and Puyallup River, it is hereby established that the Puyallup River Urban Conservancy shall apply to all shoreline areas within 200' of the OHWM of the Puyallup River at this point of intersection and overlap.

4. **Environmental designations in areas waterward of OHWM.** This Master Program does not include Aquatic environmental designations for areas waterward of the OHWM. The landward environmental designation therefore extends into areas waterward of the OHWM. In the event that the environmental designations on opposite landward areas are differing, the environmental designations shall apply to the mid-way point of the stream at the time of OHWM determination by the applicant (ex. The applicant shall determine the OHWM on each side of the stream body, measure the waterward width between those opposing OHWM locations and split the environment designation at the centerline of the stream).

**F. PUYALLUP RIVER URBAN CONSERVANCY**

1. Purpose. The purpose of the Puyallup River Urban Conservancy designation is to protect and restore ecological functions of open space, flood plain and other sensitive lands along the Puyallup River where they exist in urban and developed settings. This designation should allow a variety of compatible urban uses, including appropriate flood hazard prevention measures, public access and recreational uses.
2. Designation Criteria. Assign the Puyallup River Urban Conservancy designation to shoreline areas of the Puyallup River having both designated critical areas and existing or planned urban development that is compatible with maintaining or restoring ecological functions. This designation should be applied to shoreline areas in city limits or in designated urban growth areas if any of the following characteristics apply:
  - a. They are not generally suitable for high-intensity water-dependent uses, but are suitable for water-related or water-enjoyment uses;
  - b. They are open space, flood plain or other sensitive areas that should not be more intensively developed;
  - c. They have potential for ecological restoration;
  - d. They retain important ecological functions, even though partially developed; or
  - e. They have the potential for development that is compatible with ecological restoration.
3. Shorelines Designated. Based on the criteria above, the Puyallup River shoreline is designated Puyallup River Urban Conservancy, as shown on the Official Shoreline Map and described herein:
  - a. All Puyallup River shorelines (both banks) in the city of Puyallup; and,
  - b. All Puyallup River shorelines (both banks) in designated Urban Growth Areas (UGA) of the city shall be designated Puyallup River Urban Conservancy at the time of annexation.

4. Management Policies. In addition to the other applicable policies and regulations of this Program the following management policies shall apply:
  - a. Manage designated critical areas along the Puyallup River shoreline, including fish and wildlife habitat areas, wetlands, and frequently flooded areas to protect or restore ecological functions provided by such areas.
  - b. Utilize buffers, setbacks, water quality measures, and vegetation conservation or enhancement measures to regulate and inform the design of proposed development along the Puyallup River shoreline.
  - c. Allow a variety of urban uses as established by the Comprehensive Plan and zoning code, where the development of such uses is done in a manner that protects or enhances ecological functions and/or public access.
  - d. Prioritize uses and development that are water-oriented or incorporate public access, recreation, or shoreline restoration elements.
  - e. Work cooperatively with Pierce County, neighboring cities, tribes, and state natural resource agencies in development of flood control and/or habitat restoration along the Puyallup River.
5. Allowed Uses. The following uses and development may be permitted subject to the applicable policies, regulations, and permitting procedures of this Program and the underlying zoning code requirements:
  - a. Allowed only where permitted by the underlying zoning designation of “agriculture, recreation and open space” (ARO).
  - a. Boating facilities and docks\* (\*see “Boating facilities and Docks”, 7-7 for conditionally permitted boating facilities and docks)
  - b. Commercial and industrial development
  - c. Flood control works
  - d. In-stream structures
  - e. Parking facilities when associated with an allowed use
  - f. Recreational development
  - g. Residential development\* (\*Allowed only when the use is permitted by the underlying land use and zoning designation)
  - h. Restoration actions
  - i. Shoreline stabilization when associated with an allowed use
  - j. Signs
  - k. Transportation facilities
  - l. Utility development
  - n. Filling, Grading and Excavation

- o. Aquatic weed management
- 6. Conditional Uses. The following uses and development may be permitted as conditional uses subject to the applicable policies, regulations, and permitting procedures of this Program and the underlying zoning code requirements:
  - a. Freshwater aquaculture facilities (hatcheries or hatchery related facilities)
  - b. Boating facilities and docks\* (\*see “Boating facilities and Docks”, 7-7 for conditionally permitted boating facilities and docks)
  - c. Dredging and dredge material disposal
  - d. Unclassified uses
- 7. Prohibited Uses. The following uses and developments are prohibited:
  - a. Motorized boating
  - b. Forest practices
  - c. Mining
  - d. Parking facilities as a primary use

**G. CLARKS CREEK URBAN CONSERVANCY**

- 1. Purpose. The purpose of the Clarks Creek Urban Conservancy designation is to protect and restore ecological functions of open space, flood plain and other sensitive lands along Clarks Creek where they exist in urban and developed settings. This designation should allow a variety of compatible urban uses, including residential, public access, and recreational uses and appropriate flood hazard prevention measures.
- 2. Designation Criteria. Assign the Clarks Creek Urban Conservancy designation to shoreline areas of Clarks Creek having both designated critical areas and existing or planned urban development that is compatible with maintaining or restoring ecological functions. This designation should be applied to shoreline areas in city limits or in designated urban growth areas if any of the following characteristics apply:
  - a. They are not generally suitable for high-intensity water-dependent uses, but are suitable for water-related or water-enjoyment uses;
  - b. They are open space, flood plain or other sensitive areas that should not be more intensively developed;
  - c. They have potential for ecological restoration;
  - d. They retain important ecological functions, even though partially developed; or
  - e. They have the potential for development that is compatible with ecological restoration.

3. Shorelines Designated. Portions of Clarks Creek are designated Clarks Creek Urban Conservancy, as shown on the Official Shoreline Map and described herein:
  - a. The left bank (facing downstream) from 12<sup>th</sup> Avenue SW downstream to the confluence with the Puyallup River; and
  - b. The right bank (facing downstream) from 15<sup>th</sup> Avenue SW downstream to the confluence with the Puyallup River.
  - c. For the purposes of determining the applicable shoreline environment at the confluence of Clarks Creek and Puyallup River, it is hereby established that the Puyallup River Urban Conservancy shall apply to all shoreline areas within 200' of the OHWM of the Puyallup River at this point of intersection and overlap.
4. Management Policies. The following management policies shall apply in addition to the other applicable policies and regulations of this Program:
  - a. Manage designated critical areas along the Clarks Creek shoreline, including fish and wildlife habitat areas, wetlands, and frequently flooded areas to protect or restore ecological functions provided by such areas.
  - b. Utilize buffers, setbacks, water quality measures, and vegetation conservation or enhancement measures to regulate and inform the design of proposed development along the Clarks Creek shoreline.
  - c. Allow a variety of low intensity urban uses as established by the Comprehensive Plan and zoning code, such as residential, recreational, and public facility uses, where the development of such uses is done in a manner that protects or enhances ecological functions and/or public access.
  - d. Prioritize uses and development that are water-oriented or incorporate public access, recreation, or shoreline restoration elements.
  - e. Evaluate development proposals on Clarks Creek for their potential to affect downstream properties by increasing flood hazards or degrading water quality.
  - f. Work cooperatively with Pierce County, tribes, and state natural resource agencies in development of habitat restoration along Clarks Creek.
5. Allowed Uses. The following uses and development may be permitted subject to the applicable policies, regulations, and permitting procedures of this Program and the underlying zoning code requirements:
  - a. Agriculture when the underlying comprehensive plan land use designation is "agriculture overlay" (AGO)
  - d. Boating facilities and docks\* (\*see "Boating facilities and Docks", 7-7 for conditionally permitted boating facilities and docks)
  - b. Freshwater aquaculture facilities (hatcheries or hatchery related facilities, including in-stream structures)
  - c. Non-motorized boating or boat access facilities

- d. Flood control works
  - e. In-stream structures when associated with a watershed restoration project or a water dependent use, including but not limited to fish hatcheries and public drinking water supply facilities
  - f. Parking facilities when associated with an allowed use
  - g. Recreational development
  - h. Residential development
  - i. Restoration actions
  - j. Shoreline stabilization
  - k. Signs
  - l. Transportation facilities
  - m. Utility development
  - n. Filling, Grading and Excavation
  - o. Aquatic weed management
6. Conditional Uses. The following uses and development may be permitted as conditional uses subject to the applicable policies, regulations, and permitting procedures of this Program and the underlying zoning code requirements:
- e. Dredging and dredge material disposal
  - f. Boating facilities and docks\* (\*see “Boating facilities and Docks”, 7-7 for conditionally permitted boating facilities and docks)
7. Prohibited Uses. The following uses and developments are prohibited:
- a. Boating, motorized
  - b. Forest practices
  - c. Mining
  - d. Parking facilities as a primary use
  - e. Commercial and industrial development

## H. NATURAL

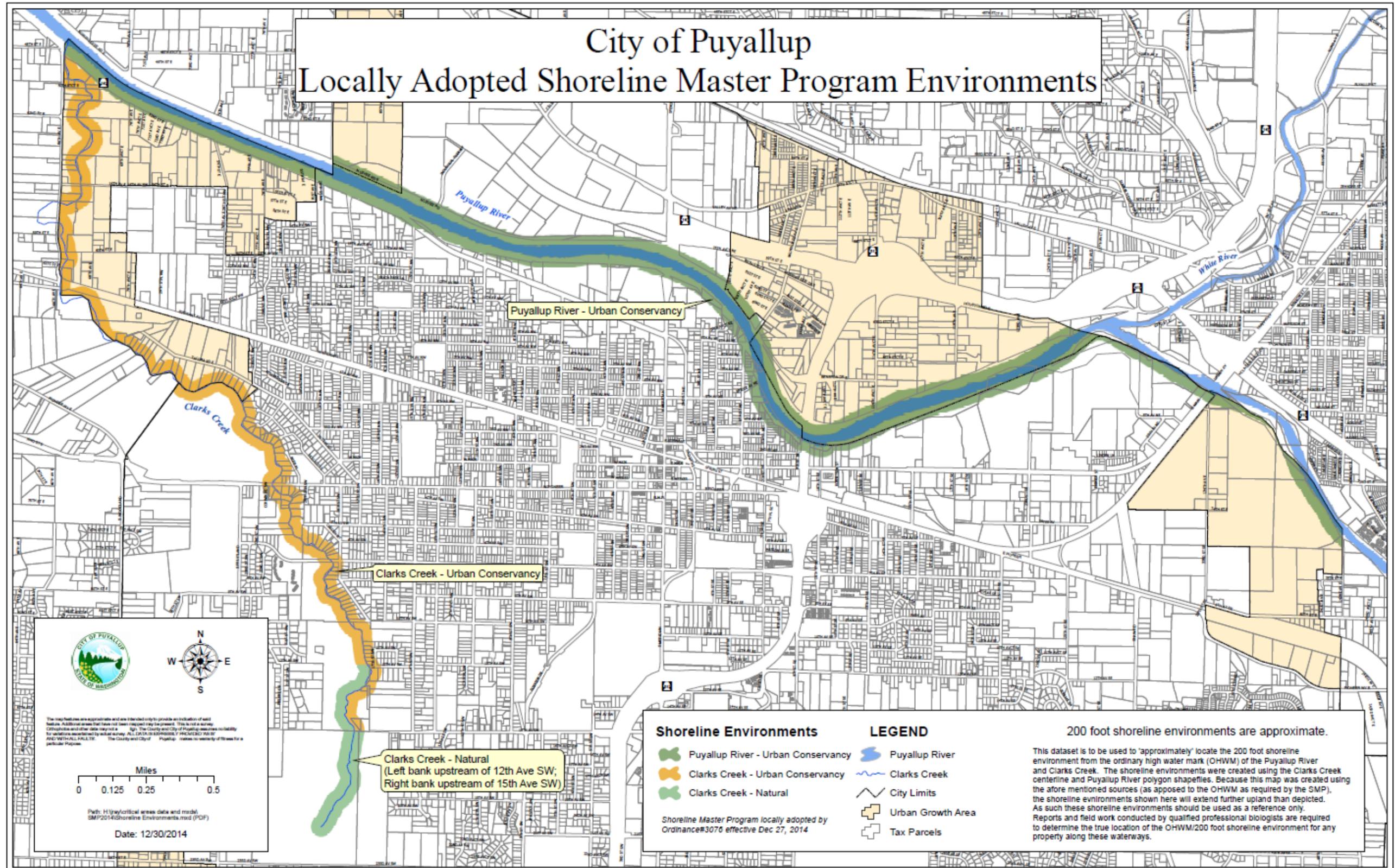
1. Purpose. The purpose of the Natural designation is to protect those shoreline areas that are relatively free of human influence and/ or that include intact or minimally degraded shoreline functions and processes. Structural development in the Natural Environment is strictly limited and in some cases prohibited outright.
2. Designation Criteria. Assign a Natural designation to shoreline areas if any of the following characteristics apply:
  - a. The shoreline is ecologically intact and therefore currently performing an important or irreplaceable function or ecosystem-wide process that would be damaged by human activity;
  - b. The shoreline whether disturbed or intact represents a type of ecosystem or geologic feature that is of particular scientific and/or educational interest;
  - c. The shoreline contains largely undisturbed wetlands;
  - d. The shoreline is unable to support new uses or development without significant adverse impacts to ecological functions or processes;
  - e. The shoreline has the potential to return to near natural conditions with minimal or restoration activity;
  - f. The shoreline possesses serious development limitations or human health and safety risks due to the presence of environmental hazards related to flooding, channel migration, erosion or landslides and similar occurrences.
3. Shorelines Designated. Portions of Clarks Creek are designated Natural, as shown on the Official Shoreline Map and described herein:
  - a. The left bank (facing downstream) from the upper limits of shoreline jurisdiction near Maplewood Springs downstream to 12<sup>th</sup> Avenue SW; and
  - b. The right bank (facing downstream) from the upper limits of shoreline jurisdiction near Maplewood Springs downstream to 15<sup>th</sup> Avenue SW.
  - c. The Natural designation on Clarks Creek begins at the Maplewood Springs facility.
4. Management Policies. The following management policies shall apply in addition to the other applicable policies and regulations of this Program:
  - a. Manage designated critical areas along the Clarks Creek shoreline, including fish and wildlife habitat areas, wetlands, and frequently flooded areas to protect or restore ecological functions provided by such areas.
  - b. Restrict the intensities and types of uses to protect the integrity of the shoreline environment so that valuable ecological functions are preserved and natural features or resources are allowed to change and evolve through natural processes.

- c. Allow low-intensity water-oriented recreational, public access, or educational/research uses provided they do not require significant vegetation removal or otherwise cause significant ecological impacts.
  - d. Prohibit subdivision of land or adjustment of lot boundaries except when needed to create public access to the shoreline where such access would not require extensive vegetation removal, shoreline modification, or other ecological impacts.
  - e. Prohibit roads and/or parking areas that can be located outside the shoreline jurisdiction.
  - f. Limit utility development to that necessary for maintenance of public drinking water supply wells and associated facilities.
5. Allowed Uses. The following uses and development may be permitted subject to the applicable policies, regulations, and permitting procedures of this Program and the underlying zoning code requirements:
- a. In-stream structures when associated with a watershed restoration project or a water dependent use, including but not limited to fish hatcheries and public drinking water supply facilities.
  - b. Low intensity recreational development in support of public access or scientific, educational or cultural uses, provided no significant ecological impact will result. Signs associated with such uses are allowed.
  - c. Restoration actions
  - d. Shoreline stabilization (soft shore only)
  - e. Utility development
6. Conditional Uses. The following uses and development may be permitted as conditional uses subject to the applicable policies, regulations, and permitting procedures of this Program and the underlying zoning code requirements:
- a. Freshwater aquaculture facilities (hatcheries or hatchery related facilities, including in-stream structures)
  - b. Flood control works
  - c. Dredging (no disposal of dredging spoils in Natural Environment)
  - d. Aquatic weed management
7. Prohibited Uses. The following uses and developments are prohibited:
- a. Agriculture
  - b. Boating facilities and docks
  - c. Commercial and industrial development
  - d. Dredge material disposal (stand-alone)
  - d. Forest practices

- e. Mining
- f. Parking facilities, primary and accessory
- g. Piers and docks
- h. Residential development
- i. Transportation facilities and parking
- j. Filling, Grading and Excavation

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Figure 6-1 – Shoreline Environment Map



## **CHAPTER 7 SHORELINE USE AND MODIFICATION – POLICIES AND REGULATIONS**

This chapter describes policies and regulations that apply to specific uses and proposed developments in the shoreline jurisdiction. The policies and regulations are intended to work in concert with the Master Program general goals and policies (Chapter 5). Use-specific policies and regulations apply in all shoreline environments that allow said uses. Policies and regulations that address specific activities in the shoreline (modifications such as dredging, landfill and excavation, etc.) that may be associated with, or accessory to, a specific use are also addressed. This chapter is organized alphabetically by shoreline use or activity:

- A. Agriculture
- B. Aquaculture
- C. Boating Facilities
- D. Commercial and Industrial Development
- E. Dredging and Dredge Material Disposal
- F. Flood Control Works
- G. In-Stream Structures
- H. Filling, Grading and Excavation
- I. Parking
- J. Residential Development
- K. Restoration
- L. Shoreline Stabilization
- M. Signs
- N. Transportation Facilities
- O. Utility Development

Table 7-1 summarize permitted uses and development standards in each environment designation:

**Table 7-1. Permitted Uses**

Shoreline Use and Modification	Shoreline Environment Designation		
	<i>Puyallup River Urban Conservancy</i>	<i>Clarks Creek Urban Conservancy</i>	<i>Natural</i>
Agriculture , FORESTRY AND MINING	p <sup>1</sup>	p <sup>1</sup>	X
Aquaculture (hatcheries)	C <sup>2</sup>	p <sup>2</sup>	C <sup>2</sup>
Aquatic weed management	p <sup>12</sup>	p <sup>12</sup>	C <sup>12</sup>
Boating Facilities and docks (non-motorized only)	p <sup>13</sup> , C <sup>13</sup>	p <sup>13</sup> , C <sup>13</sup>	X
Commercial and Industrial Development	p <sup>3</sup> , C <sup>3</sup>	X	X
Dredging and Dredge Material Disposal	C	C	C <sup>14</sup>
Forest Practices	X	X	X
Flood Control Works	P	P	C
In-Stream Structures	P	p <sup>4</sup>	p <sup>4</sup>
Filling, Grading and Excavation	p <sup>5</sup>	p <sup>5</sup>	X
Mining	X	X	X
Recreational	p <sup>3</sup>	p <sup>3</sup>	p <sup>3, 7</sup>
Residential Development	p <sup>3</sup>	p <sup>3</sup>	X
Restoration	P	P	P
Shoreline Stabilization	p <sup>8</sup>	p <sup>8</sup>	p <sup>8</sup>
Signs	p <sup>3</sup>	p <sup>3</sup>	p <sup>7</sup>
Transportation Facilities	P	C	X
Parking (Primary use)	X	X	X
Parking (Accessory use)	p <sup>5, 6</sup>	p <sup>5, 6</sup>	X
Utility Development	p <sup>10, 11</sup>	p <sup>10, 11</sup>	p <sup>9</sup>
Unclassified Uses	C	C	C

**P = Permitted** - Permitted uses may require Shoreline Substantial Development Permits and any other permits required by the Puyallup Municipal Code and/or other regulatory agencies.

**C = Conditional Use** - Conditional uses require Shoreline Conditional Use Permits and may require other permits required by the Puyallup Municipal Code and/or other regulatory agencies.

**X = Prohibited**

1. Allowed only where permitted by the underlying zoning designation of “agriculture, recreation and open space” (ARO).
2. Floating or submerged aquaculture facilities such as rearing pens are prohibited.
3. Allowed only when the use is permitted by the underlying land use and zoning designation. Non-water oriented commercial/industrial development requires a conditional use permit if proposed in shoreline environment.

4. Allowed only when associated with a watershed restoration project or a water dependent use, including but not limited to fish hatcheries and public drinking water supply facilities.
  5. Only in association with a use permitted through this program.
  6. Parking or storage of recreational vehicles and travel trailers as a primary use is prohibited.
  7. Low-intensity development only when supporting public access or scientific/educational/cultural/historic uses.
  8. When protecting new structures from future channel migration only bioengineering or soft armoring techniques can be used.
  9. Limited to public drinking water supply facilities associated with Maplewood Springs.
  10. Allowed only when typical and normal to support and serve a permitted shoreline uses, for example, typically new or relocated distribution lines and individual service lines.
  11. Utility production and processing facilities, transmission facilities for the conveyance of services, and stormwater detention and treatment facilities are prohibited unless no alternative location exists, and then, only when a conditional use permit is acquired
  12. See chapter 5, section E (Vegetation Conservation) for performance standards and regulations on aquatic weed management
  13. Boating facilities and docks shall be allowed for publically accessible water-recreational uses; see 7-7. Boating facilities are a permitted use when located on public land (e.g. public park); if a boating facility is proposed as part of a residential development in excess of 5 lots/dwelling units, it shall require a conditional use permit for its establishment and shall be dedicated for general public use. Boating facilities for developments with four (4) or fewer lots/dwelling units are prohibited.
  14. Dredge material disposal is not permitted in the Natural Environment.
- 

## **A. AGRICULTURE, FORESTRY AND MINING**

### **1. Definition**

- I. "Agricultural activity" means a condition or activity which occurs in connection with the production of farm products, either for personal consumption or sale, and includes, but is not limited to, marketed produce at roadside stands or farm markets; noise; odors; dust; fumes; operation of machinery and irrigation pumps; movement including, but not limited to, use of current road ditches, streams, rivers, canals, and drains, and use of water for agricultural activities; ground and aerial application of seed, fertilizers, conditioners, and plan protection products; employment and use of labor; roadway movement of equipment and livestock; protection from damage by wildlife; prevention of trespass; construction and maintenance of buildings, greenhouses, fences, roads, bridges, ponds, drains, waterways, and similar features and maintenance of stream banks and watercourses; and conversion from one agricultural activity to another.

### **2. Policies**

- I. This Program allows for ongoing agricultural activities and should protect agricultural lands from conflicting uses such as intensive or unrelated residential, industrial or commercial uses.

- II. Appropriate farm management techniques and new development construction should be encouraged to prevent contamination of nearby water bodies and adverse effects on valuable plant, fish, and animal life from fertilizer, herbicides and pesticide use and application.
- III. A vegetative buffer should be encouraged to be placed and maintained between agricultural lands and water bodies or wetlands in order to reduce harmful bank erosion and resulting sedimentation, enhance water quality, provide shade, reduce flood hazard, and maintain habitat for fish and wildlife.
- IV. Public access to the shoreline should be encouraged where it does not conflict with agricultural activities.
- V. New agricultural uses and development in support of agricultural uses should not be allowed in the shoreline.
- VI. Proposals to convert agricultural uses to other uses should comply with all policies and regulations established by the Comprehensive Plan and this Master Program for said uses.
- VII. Commercial forest practices should be prohibited within all shoreline environment designations due to incompatibility with adjacent land uses.
- VIII. Mining should be prohibited within all shoreline environment designations due to incompatibility with adjacent land uses.

### **3. Regulations**

- I. New agricultural activities are allowed in the Puyallup River Urban Conservancy and Clarks Creek Urban Conservancy environments as a permitted use where the underlying zoning designation is “agriculture overlay” (ARO). Agricultural activities are prohibited in the Natural environment.
- II. Existing and ongoing agricultural activities in the Puyallup River Urban Conservancy and Clarks Creek Urban Conservancy environments are allowed to continue. This program shall not require modification of or limit agricultural activities occurring on agricultural lands.
- III. The following agricultural developments and activities associated with new agricultural operations are prohibited within the shoreline jurisdiction:
  - a. Animal feedlot operations, including the collection of feedlot wastes, stockpiling of manure solids, and storage of noxious chemicals.
  - b. Aerial spraying of chemical pesticides or herbicides (related to existing and ongoing agricultural activities) over water bodies, wetlands, or within two hundred (200) feet of the ordinary high water mark, unless specifically permitted under the Washington Departments of Agriculture or Public Health
  - c. The disposal of inorganic farm wastes, chemicals, fertilizers, and associated containers and equipment.

- d. Any agricultural activity waterward of the ordinary high water mark.
  - e. Manure lagoons.
  - f. Manure and class B bio-solid spreading on agricultural fields.
- IV. A buffer of natural or planted permanent native vegetation shall be established and maintained between areas used for cultivation or intensive grazing and adjacent shorelines or wetlands prior to new agriculture uses commencing (where permitted), in accordance with buffer requirements contained in the CAO in relation to riparian buffers and the buffer requirements contained in PMC 21.06.
  - V. New livestock related activities shall avoid damage to stream banks and water bodies by providing the following:
    - a. Ample supplies of clean fresh water in tanks on dry land for stock watering.
    - b. Fencing or other grazing controls to prevent bank compaction, bank erosion, or the overgrazing of or damage to buffer vegetation. No flash grazing of any stream or native vegetation areas shall be permitted.
  - VI. Conversion of agricultural uses to other uses shall comply with the provisions of PMC 21.06 and this Program for the proposed use.
  - VII. Commercial forest practices are prohibited within all shoreline environment designations.
  - VIII. Mining activities are prohibited within all shoreline environment designations.

**B. AQUACULTURE**

**1. Definition**

- I. "Aquaculture" is the culture or farming of fishery resources in freshwater areas, and may require development of fish hatcheries, rearing pens and structures, as well as use of natural spawning and rearing areas. Activities include the hatching, cultivating, feeding, and raising of fisheries and the maintenance and construction of necessary equipment, buildings and growing areas.

**2. Policies**

- I. Aquaculture is a water-dependent use, and when consistent with control of pollution and avoidance of adverse impacts to the environment and preservation of habitat for resident native species, is an accepted use of the shoreline.
- II. Because locations for aquaculture activities are somewhat limited and require specific water quality, temperature, oxygen content, and adjacent land use conditions, and because the technology associated with some forms of aquaculture is still experimental, some latitude should be given when implementing the regulations of this section, provided that potential impacts on existing uses and shoreline ecological functions and processes are given due consideration. Experimental aquaculture projects should be monitored and adaptively managed to maintain shoreline ecological functions and processes.

- III. Aquaculture should not be permitted in areas where it would result in a net loss of ecological functions or significantly conflict with other water-dependent uses. Aquacultural facilities should be designed and located so as not to spread disease to native aquatic life, establish new non-native species which cause significant ecological impacts, or significantly impact the aesthetic qualities of the shoreline.
- IV. Consideration should be given to both the potential beneficial impacts and potential adverse impacts that aquaculture development might have on the physical environment; on other existing and approved land and water uses; and on the aesthetic qualities of a project area.
- V. Consideration should be given to new cumulative effects of aquacultural uses, on:
  - a. Water quality;
  - b. Sediment quality and sediment transport processes;
  - c. Benthic and pelagic organisms; and/or
  - d. Wild fish populations.
- VI. Given their water-dependent status, legally established fish hatcheries should be protected from incompatible uses that may seek to locate nearby.
- VII. When consistent with the Program, community restoration projects associated with aquaculture should be supported.

### **3. Regulations**

- I. Upland aquaculture developments and associated in-stream structures for water diversion are allowed in the Clarks Creek Urban Conservancy environment. Such development and structures may be permitted in the Puyallup River Urban Conservancy and Natural environments as a conditional use. Floating or submerged aquaculture facilities such as rearing pens are prohibited.
- II. Upland aquaculture developments shall be screened from view from adjacent residential or recreational areas by fences, berms, and/or vegetative buffers.
- III. Reflected glare or direct light generated by aquaculture developments shall be minimized to the greatest extent possible. Lighting fixtures shall be designed and hooded to prevent the light source from being directly visible from outside the boundaries of the property.
- IV. The operators of aquaculture developments shall control odor through the proper storage and disposal of feed and other organic materials and by maintaining a clean operation. A specific plan for identifying and controlling odors shall be developed and approved as part of the permit approval process.
- V. Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and/or wild fish populations through potential contribution of antibiotic resistant bacteria, or

escapement of non-native species, or other adverse effects on ESA-listed species shall not be permitted.

- VI. Aquaculture wastes shall be disposed of in a manner that will ensure strict compliance with all applicable governmental waste disposal standards, including but not limited to the Federal Clean Water Act, Section 401, and the Washington State Water Pollution Control Act (RCW 90.48).

## **C. BOATING FACILITIES AND DOCKS**

### **1. Definition**

- I. "Boating facilities" includes non-motorized boat launch ramps and structures providing public recreational access to the waters of the state, including, but not limited to, public docks/piers, docks/piers in private residential development projects with five or more residential lots/units where public access easements/signage provide public access and use of the dock or pier; etc. Boating facilities does not refer to docks, piers or non-motorized boat launch ramps that serve four or fewer residential lots/units.
- II. "Docks" includes structures generally built from the shore extending over the water to for publically accessible water-oriented recreational use. Docks may be either anchored and floating or permanently fixed to pilings. They do not include floats or launch ramps.

### **2. Policies**

- I. Boating facilities should be limited to those serving non-motorized watercraft (e.g., canoes, kayaks, etc.).
- II. Boating facilities and docks should be located only at publicly accessible sites with suitable environmental conditions and shoreline configuration.
- III. Design new boating facilities and docks to accommodate public access and enjoyment of the shoreline including provisions for walkways, viewpoints, and other recreational uses commensurate with the scale of the facility.
- IV. Private piers and docks are be prohibited within all shoreline environment designations.

### **3. Regulations**

- I. Publicly owned boating facilities and docks, as defined, are allowed in the Puyallup River and Clarks Creek Urban Conservancy environments as a permitted use. Publicly owned boating facilities are prohibited in the Natural environment.
- II. If a boating facility or dock is proposed as part of a residential development of five (5) units or more, it shall require a conditional use permit for its establishment and shall be dedicated for general public use. Boating facilities and docks as part of a residential development shall only be eligible for the conditional use process if part of a residential development of five (5) units or more. Before granting approval of a

permit to allow any boating facility or dock, the applicant must satisfactorily demonstrate that:

- a. Adequate facilities for the efficient handling of sewage and litter will be provided and maintained;
  - b. The boat ramp will minimize impediments to migrating fish and will not locate on sites important for salmonids, including spawning, feeding or rearing areas, and shall result in no net loss of ecological functions;
  - c. The boating facility will be located at a publicly accessible site and will incorporate public walkways, viewpoints and/or other recreational uses;
  - d. All applicable state and federal permits to allow a new in-water structure have been obtained;
  - e. The boating facilities will be designed so that structures are aesthetically compatible with, or enhance shoreline features and uses;
  - f. Appropriate critical area reports for disturbance of the associated critical areas and their buffers related to the installation are provided and any and all required mitigation is implemented. All mitigation plans shall prove, through a functional assessment of the critical area(s) disturbed as a part of the boating facility installation, that the mitigation actions will improve critical area functions in the area; and,
  - f. Privately owned piers and docks are prohibited within all shoreline environment designations.
- III. Paved boat launch facilities and associated parking areas for motorized watercraft are prohibited.
  - IV. Launch access for non-motorized watercraft shall use a permeable surfacing material, where technically feasible. Removal of vegetation for launch access should be limited to the minimum necessary.
  - V. Boating facilities encroaching into the regulated floodway, as identified by the Federal Emergency Management Agency (FEMA), shall comply with the no-rise requirements as established in the Puyallup Municipal Code (21.07).

#### **D. COMMERCIAL AND INDUSTRIAL DEVELOPMENT**

##### **1. Definitions**

- I. "Commercial development" includes the following: purchase, sale, lease, rental, repair or other transaction involving the handling of any article, service, substance or commodity commonly used for consumer or household use. Typical uses include arcades, art specialty and retail shops, consumer services enterprises (laundries, dry cleaners, shoe repair, appliance and electronic repair, tailoring, printing shops and photo finishing, etc.), shopping centers or malls, food stores and supermarkets,

health spas and studios, hotels and motels, indoor theaters, and restaurants (including sale of alcoholic beverages). Commercial uses may be for profit or nonprofit and are typically conducted entirely within an enclosed building and do not involve outdoor storage of materials.

- II. "Industrial development" means the manufacture, assembly, processing or treatment of parts, materials, goods, foodstuffs and products intended for general distribution. Production processes may not employ the extensive use of hazardous or volatile materials or chemicals, or continuous high levels of noise. Typical uses include contractors shops, metal fabrication, custom boat building, indoor storage of bulk materials and machinery, nonflammable gas production, warehouse and distribution facilities, publishing plants, or vehicle repair facilities.

## **2. Policies**

- I. In securing shoreline locations for commercial or industrial use, preference should be given first to water dependent uses, then to water-related and -enjoyment uses.
- II. Commercial and industrial development should not result in a net loss of shoreline ecological functions or have an adverse impact to other shoreline uses, resources and values such as recreation and public access.
- III. Restoration of impaired shoreline ecological functions and processes should be encouraged as part of commercial and industrial development.
- IV. Commercial development should ensure visual compatibility and appropriate buffering with adjacent noncommercial properties.
- V. Commercial and industrial development should be required to provide physical or visual access to the shoreline or other opportunities for the public to enjoy shorelines of statewide significance whenever possible, provided such access is commensurate and proportional to development impacts, does not cause significant ecological impact, interfere with operations, or create risk to public safety.

## **3. Regulations**

- I. Water-oriented commercial and industrial development is allowed in the Puyallup River Urban Conservancy environment as a permitted use where the underlying zoning designation allows such use; non-water oriented commercial and industrial development requires a conditional use permit to locate in the Puyallup River Urban Conservancy environment. Consistent with the city's Comprehensive Plan and zoning, commercial and industrial development is prohibited in the Clarks Creek Urban Conservancy and Natural environments.
- II. As required by RCW 90.58.320, no permit shall be issued for any new or expanded building or structure more than thirty-five feet in height that will obstruct the view of a substantial number of residences on areas adjoining such shorelines. Height is measured according to Chapter 2, Definitions.

- III. Non-water-oriented commercial and industrial uses located in the Puyallup River Urban Conservancy shoreline environment shall provide a significant public benefit with respect to providing public access and/or shoreline ecological restoration.
- IV. Commercial development compatible with and supporting recreational uses are allowed, provided they are located on the upland side of trails or other water-oriented recreational development.
- V. Accessory development that does not require a shoreline location shall be located upland of the water-oriented portions of the development and setback from the ordinary high water mark (OHWM) to the maximum extent feasible. For the purposes of this subsection, accessory development may include, but is not necessarily limited to the following: parking; warehousing; waste storage and treatment or stormwater detention facilities; utilities as well as other accessory uses to a permitted primary use.
- VI. Commercial and industrial developments shall not contain lighting fixtures that cast light in a manner that would be considered a nuisance, affect health or safety or significantly impact the ecological function of the river, wetland or any adjacent critical area.
- VII. All commercial and industrial development shall observe the applicable environmental protections and buffers prescribed by this Master Program and the city's critical areas ordinance to ensure no net loss of environmental functions in the following manner:
  - a. Non-water-oriented commercial/industrial uses should not locate in the shoreline environment unless no other feasible alternative exists on-site; non-water oriented uses shall only be located in the shoreline environment to the minimum extent needed to facilitate the development and shall not be located over water. Non-water-oriented commercial/industrial uses shall provide significant public benefit with respect to public access, in accordance with chapter 4 of this Master Program, and restoration goals of the Master Program Restoration Plan. Applications for non-water-oriented commercial/industrial uses shall demonstrate ecological restoration is undertaken to the greatest extent feasible in addition to any and all required compensatory mitigation as a result of critical area/buffer encroachments. Non-water oriented uses in the shoreline environment requires a shoreline conditional use permit.
  - ii. Water-related and –enjoyment commercial/industrial uses may locate in the shoreline environment, but in no case may any water-related or –enjoyment use locate in the adjacent stream or critical area buffer area unless no other alternative exists and shall not be located over water. Mitigation sequencing, in accordance with this Master Program and the city's adopted critical areas ordinance, shall be followed to the maximum

extent possible to ensure no net loss of environmental functions. Public access shall be provided by water-related and –enjoyment uses located in the shoreline environment, in accordance with chapter 4 of this Master Program. Non-water-dependent commercial/industrial uses are prohibited over water except where necessary to support water-dependent uses. Water-related and –enjoyment uses located in the shoreline environment (but outside of all critical areas and buffers) are permitted where allowed by underlying zoning; encroachments into critical area buffers, where absolutely unavoidable and minimized to the maximum extent possible, shall require a shoreline variance permit.

- iii. Water-dependent commercial/industrial uses may locate in the shoreline environment and associated buffer area to the minimum extent needed to facilitate the water-related use operations. The location, design, improvement and construction of water-dependent commercial/industrial development shall assure no net loss of ecological functions in accordance with this Master Program and the city’s adopted critical areas ordinance.

## **E. DREDGING AND DREDGE MATERIAL DISPOSAL**

### **1. Definition**

- i. “Dredging” means the removal, displacement, and disposal of material such as gravel, sand, mud, silt, debris or other material from the Puyallup River, Clark’s Creek or associated wetlands. Dredging is normally done for a specific purpose such as constructing and maintaining underwater pipelines or cable crossings, obtaining material for fill or construction, as part of an aquacultural operation, as part of a comprehensive flood hazard management plan or for dike repair and maintenance.

### **2. Policies**

- I. Dredging and dredge material disposal shall be done in a manner which avoids or minimizes significant ecological impacts. Where impacts cannot be avoided, mitigation measures are required that result in no net loss of shoreline ecological functions.
- II. Dredging of bottom materials for the primary purpose of obtaining material for fill material should not be allowed, except when the material is necessary for the restoration of ecological functions.
- III. Dredging to facilitate ecological restoration or enhancement, including restoration of channel capacity for flood flows, should be allowed if the proposed activity is consistent with this Program.
- IV. Dredge spoil disposal in water bodies, on shorelands, or wetlands within a river’s channel migration zone should be discouraged, except as part of a shoreline restoration or habitat improvement project.

- V. Dredge material disposal is preferred in upland locations away from the shoreline and other critical areas – including floodplains, where feasible – and should be coordinated with appropriate agencies. Where open-water dredge disposal is necessary, it should be coordinated with appropriate agencies (e.g., Army Corps of Engineers, Washington Department of Natural Resources, Washington Department of Ecology).

### **3. Regulations**

- I. Dredging and dredge material disposal is allowed in all Puyallup shoreline environments as a conditional use.
- II. Dredging shall only be permitted for the following activities:
  - a. Removal of gravel, sediment, or buried wood debris for flood management purposes consistent with an adopted flood hazard reduction plan and only after a biological and geomorphological study demonstrates that extraction has a long term benefit to flood hazard reduction, does not result in long-term degradation to fish/listed species habitat, minimizes impacts to fish habitat in the short term, does not result in a net loss of shoreline ecological functions and processes, meets the FEMA zero-rise floodway and biological opinion requirements, and is part of a comprehensive flood management solution developed by affected jurisdictions, tribes and interested parties.
  - b. Restoration or enhancement of shoreline ecological functions and processes benefiting water quality and/or fish and wildlife habitat.
- III. Dredge spoil disposal in water bodies, on shorelands, or wetlands within a river's channel migration zone or the channel migration zone itself shall be prohibited, except as part of a shoreline restoration or habitat improvement project, and only if the project meets the FEMA regulations on floodway encroachments and biological opinion requirements.
- IV. Spoil disposal in open waters may be approved only when coordinated with affected Tribes, the U.S. Army Corps of Engineers, Department of Natural Resources, Department of Fish and Wildlife, and Department of Ecology; and when found to meet the following conditions:
  - a. Land disposal is infeasible, less consistent with this Program, or prohibited by law.
  - b. Nearshore disposal as part of a program to restore or enhance shoreline ecological functions and processes is not feasible.
  - c. Offshore habitat will be protected, restored, or enhanced.
  - d. Adverse effects on water quality or biologic resources from contaminated materials will be mitigated.
  - e. Shifting and dispersal of spoil will be minimal.

- f. Water quality will not be adversely affected.
- V. Proposals for dredging and dredged material disposal shall be evaluated for their potential to cause significant adverse environmental impacts, with separate consideration given to the potential adverse effects of the initial dredging, subsequent maintenance dredging, and dredged material disposal. Dredging and dredged material disposal shall be permitted only when it is conclusively demonstrated that the proposed actions will not:
  - a. Result in significant and/or ongoing damage to water quality, fish and/or other aquatic biological elements; and
  - b. Adversely alter natural drainage and circulation patterns, or currents, or significantly reduce floodwater storage capacities.
- VI. Proposals for dredging and dredged material disposal shall include all feasible mitigation measures to protect freshwater habitats and to minimize adverse environmental impacts (e.g., turbidity, nutrient releases, heavy metals, sulfides, organic material or toxic substances, dissolved oxygen depletion, disruption of food chains, loss of benthic productivity and disturbance of fish runs and important localized biological communities).

## **F. FLOOD CONTROL WORKS**

### **1. Definitions**

- i. “Flood control works” means all structures and works designed to reduce flooding of adjacent lands, including but not limited to dikes, levees, channelization, dams, weirs, and flood gates. Excluded are water pump facilities. Flood hazard reduction may also include techniques of floodplain, river basin and watershed management applied alone or in combination with structural measures.
- ii. “Dike” means an artificial embankment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.
- iii. “Levee” means a natural or constructed embankment on the bank of a river or stream designed to keep floodwaters from inundating adjacent land. Some levees have revetments on their sides.
- iv. “Setback levee” means an embankment constructed to prevent flooding that is positioned some distance from the edge of the river or channel in order to allow the river to occupy a portion of its floodplain. Setback levees allow wildlife habitat to develop between the levee and the river or stream.

### **2. Policies**

- I. New or expanded development or uses in the shoreline, including subdivision of land, that would likely require flood control structures within a channel migration zone or floodway should not be allowed.

- II. Flood control works to protect existing development should be permitted only when the primary use being protected is consistent with this Program, and the works can be developed in a manner that protects shoreline ecological functions and processes.
- III. Flood control works should incorporate native vegetation to enhance ecological functions, create a more natural appearance, improve ecological processes, and provide more flexibility for long-term shoreline management.
- IV. Where feasible, flood control projects/plans should be developed in a coordinated manner among affected property owners and public agencies for entire river systems and basins to address ecological and geo-hydraulic processes, sediment conveyance and other floodplain management issues.
- V. Provisions for multiple use, restoration, and/or public access should be incorporated into the location, design and maintenance of flood control structures.
- VI. To minimize flood damages and maintain natural resources associated with streams, overflow corridors and other alternatives to traditional bank armoring, levees and/or dams should be considered. Setback levees and similar measures should be employed because they will result in lower flood peaks and velocities, and more effective conservation of resources than with high bank levees.

### **3. Regulations**

- I. Flood control works are allowed in the Puyallup River Urban Conservancy and Clarks Creek Urban Conservancy environments as a conditional use. Flood control works are conditionally permitted in the Natural environment.
- II. Normal maintenance and repair of existing flood control structures, such as levees and dikes, to a state comparable to their original condition, shall be allowed.
- III. Rehabilitation or replacement of existing flood control structures, such as levees and dikes, in which their primary purpose is to contain the 1-percent annual chance flood event, shall be allowed where it can be demonstrated by an engineering analysis that the existing structure:
  - a. Does not provide an appropriate level of protection for surrounding lands; or
  - b. Does not meet appropriate engineering design standards for stability (e.g., over-steepened side slopes for existing soil and/or flow conditions).
- IV. Rehabilitated or replaced levees or dikes shall maintain equal or lesser side slope angles to existing conditions, and shall not extend the toe of slope laterally into the channel.
- V. New structural flood hazard reduction measures shall be allowed only under the following circumstances:
  - a. When it can be demonstrated by a scientific and engineering analysis that they are necessary to protect existing development;

- b. That non-structural measures are not feasible;
  - c. That impacts to ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss; and
  - d. That appropriate vegetation restoration and conservation actions are undertaken consistent with chapter 5.E – Vegetation Conservation.
- VI. New structural flood hazard reduction measures, such as dikes, levees, berms and similar flood control structures shall be placed landward of the floodway as established in Federal Emergency Management Agency (FEMA) flood insurance rate maps or floodway maps.
  - VII. New structural flood hazard reduction measures, such as dikes, levees, berms shall be placed landward of associated wetlands, and designated vegetation conservation areas, except when the project includes increasing ecological functions as part of the design or as mitigation for impacts.
  - VIII. Dikes, levees, berms and similar flood control structures shall be shaped and planted with vegetation suitable for wildlife habitat.
  - IX. New structural flood hazard reduction measures, such as dikes and levees shall dedicate and provide or improve public access unless public access improvements would cause unavoidable health or safety hazards to the public, inherent and unavoidable security problems, significant ecological impacts that cannot be mitigated, unavoidable conflict with the proposed use, or a cost that is disproportionate and unreasonable to the total long-term cost of the development.

## **G. IN-STREAM STRUCTURES**

### **1. Definition**

- i. “In-stream structure” means a structure placed by humans within a stream or river waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, fish habitat enhancement, or other purpose.

### **2. Policies**

- I. Where feasible, failing, harmful, unnecessary, or ineffective in-stream structures should be removed, and shoreline ecological functions and processes should be restored using non-structural methods.
- II. Planning and design of flood control works and in-stream structures should be consistent with and incorporate elements from adopted watershed management plans, restoration plans and/or surface water management plans.
- III. In-stream structures should provide for the protection and preservation of ecological functions and processes such as fish passage.

### **3. Regulations**

- I. In-stream structures are allowed in the Puyallup River Urban Conservancy environment. In the Clarks Creek Urban Conservancy and the Natural environments in-stream structures shall only be allowed when associated with a watershed restoration project or a water dependent use, including but not limited to fish hatcheries and public drinking water supply facilities.
- II. In-stream structures shall be designed by a licensed professional engineer with experience in analyzing hydraulic information and systems. In-stream large woody debris, as a part of a restoration project, may be designed by either a licensed professional engineer, licensed landscape architect, qualified professional biologist or certified arborist with experience in placement and securing of large woody debris for habitat purposes.
- III. In-stream structures and their support facilities shall be located and designed to minimize the need for structural shoreline stabilization. All 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 so as to prevent their entry into a water body.
- IV. In-stream structures shall meet the no-rise floodway requirements per the code of Federal Regulations at 44CFR 60.3 (d)(3), OR meet the FEMA policy on Fish Enhancement Structures in the floodway.
- V. In-stream structures shall provide for adequate upstream or downstream migration of anadromous fish, where applicable. All heavy construction equipment, and fuel storage, repair and construction material staging areas shall be located outside of all critical area buffers.

### **H. FILLING, GRADING AND EXCAVATION**

#### **1. Definition**

- i. "Filling" means the addition of soil, sand, rock, gravel, sediment, earth retaining structure or other material to an area in shoreline jurisdiction in a manner that raises the elevation or creates dry land.
- ii. "Grading" means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.
- iii. "Excavation" means the disturbance, displacement and/or disposal of unconsolidated earth material such as silt, sand, gravel, soil, rock or other material from all areas landward of OHWM.

#### **2. Policies**

- I. Fill should not be allowed where shore stabilization works would be required to maintain the materials placed.

- II. Shoreline fill and excavation should be designed and located so there will be no degradation of water quality and no alteration of surface water drainage or flood waters which would result in a hazard to adjacent life, property, or natural resources.
- III. Clearing and grading should only be allowed in concert with permitted shoreline development.

### **3. Regulations**

- I. Fill and excavation is allowed in the Puyallup River Urban Conservancy and the Clarks Creek Urban Conservancy environments as a conditional use and only in association with a permitted use. Fill and excavation is prohibited in the Natural environment. Fill waterward of the OHWM shall require a Shoreline Conditional Use permit. Where allowed, fill and excavation shall be the minimum necessary to accommodate the development and shall cause no impacts to ecological functions, including protection of channel migration processes.
- II. Fill shall be permitted only where it is demonstrated that the proposed action will not:
  - a. Result in significant ecological damage to water quality, fish, and/or wildlife habitat; or
  - b. Adversely alter natural drainage and circulation patterns, currents, and river flows or significantly reduce flood water capacities.
- III. Fill in areas waterward of the ordinary high water mark shall not be allowed, except where necessary to support:
  - a. Water-dependent uses;
  - b. Public access improvements;
  - c. Cleanup and disposal of contaminated sediments as part of an approved interagency environmental clean-up plan;
  - d. Disposal of dredged material associated with an approved disposal plan;
  - e. Expansion or alteration of transportation facilities of statewide significance currently located in the shoreline, and then only when demonstrated that alternatives to fill are not technically feasible; or
  - f. Environmental mitigation, restoration, or enhancement projects.
- IV. Grading as a part of development for an authorized use, activity or shoreline modification should be as minimal as necessary and should seek to retain natural topography and native vegetation to the extent feasible. Grading of floodplain areas shall be in accordance with FEMA biological assessment requirements and should seek to retain existing contours and hydrologic features and functions to the extent feasible.

## **I. PARKING**

### **1. Definition**

- i. Parking is the use of land for the purpose of accommodating motor vehicles, motorized equipment, or accessory units, such as trailers. Land used for this purpose is leveled, cleared, and often covered with an impermeable surface.

### **2. Policies**

- I. Parking facilities in shorelines are not a preferred use and shall be allowed only as necessary to support an authorized use and then located as far from the shoreline as possible.
- II. Parking facilities in shoreline areas should be located and designed to minimize adverse impacts including those related to stormwater runoff, water quality, visual qualities, public access, and vegetation and habitat maintenance.
- III. Require the use of pervious materials in parking facilities, where technically feasible.
- IV. Landscaping should consist of native vegetation in order to enhance the habitat opportunities within the shorelines area.

### **3. Regulations**

- I. Parking as a primary use is prohibited in the shoreline jurisdiction.
- II. Parking or storage of recreational vehicles or travel trailers as a primary use shall be prohibited in all shoreline environment jurisdictions.
- III. Parking in shoreline areas must directly serve an approved shoreline use.
- IV. Parking areas within the shoreline jurisdiction shall be designed and landscaped to minimize adverse impacts upon adjacent shorelines and abutting properties. The landscaping shall preferably consist of native vegetation, to be planted during the appropriate months of installation of landscaping (e.g. July-September plantings should defer to fall/winter through assignment of funds) and provide an effective screening three (3) years after planting. All landscaping treatments outside of all critical area buffers shall follow the standards set forth in the Puyallup Municipal Code and the city's vegetation management standards manual.
- V. Landscaping adjacent to parking shall be designed to provide biofiltration functions for runoff from the parking area, where feasible or appropriate.
- VI. Alternatives to conventional storm water capture and detention, such as use of pervious surfacing materials, shall be used, where technically feasible, in order to minimize impervious surface runoff.
- VII. All landscaping must be maintained in a neat and orderly manner. In no event shall such landscape areas be used for the storage of materials or parking of automobiles, or recreational or other vehicles.
- VIII. Parking facilities shall not be permitted over the water.

- IX. Parking shall be located on the landward side of the development unless parking is contained within a permitted structure, or cannot otherwise be accommodated.
- X. Parking shall be located away from the waterward side of the development to the maximum extent feasible.

**J. RESIDENTIAL DEVELOPMENT**

**1. Definition**

- i. “Residential development” means buildings, subdivision and use of land primarily for human residence; including one-family, two-family and multiple dwellings, mixed use buildings, but not including hotels and motels, lodging houses, rooming houses, clubs and fraternity houses.

**2. Policies**

- I. Single family residences are a priority use when developed in a manner consistent with control of pollution and prevention of damage to the shoreline environment and where permitted by underlying land use designation and zoning. Residential development as a whole is considered a non-water oriented use.
- II. All residential development including subdivision of land should be planned and built to prevent the loss of ecological functions, prevent the need for shoreline stabilization and flood hazard reduction measures and be consistent with the standards of the environmental designation of which they are located.
- III. New residential and accessory structures and uses should be sufficiently set back from shorelines vulnerable to erosion or channel migration so that structural improvements and other stabilization structures are not required to protect such structures and uses.
- IV. Grouping of dwelling units in new residential developments shall be implemented to preserve natural features.
- V. Structures or development for uses accessory to residential use should preserve shoreline open space and be visually and physically compatible with adjacent shoreline features.

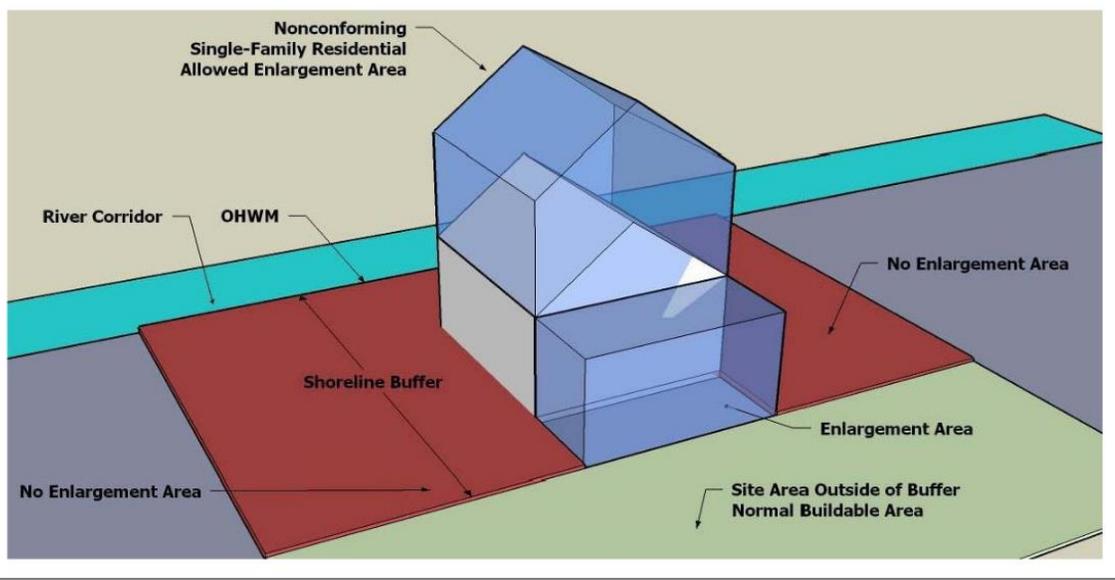
**3. Regulations**

- I. Residential development is allowed in the Puyallup River Urban Conservancy and Clarks Creek Urban Conservancy environments as a permitted use where the underlying zoning designation allows such use. In the Natural environment, new residential development is prohibited.
- II. Residential development, including accessory structures, is prohibited waterward of the floodway.
- III. Residential development shall not be approved if flood control or shoreline protection measures are necessary to create a residential lot or site area.

Residential development shall be located and designed to avoid the need for structural shoreline stabilization and flood control works in the foreseeable future.

IV. All residential development and associated appurtenances shall observe critical areas and applicable buffers to the maximum extent possible. Existing nonconforming single family residences and normal appurtenances may be enlarged or expanded in conformance with all applicable bulk and dimensional standards upon approval of a shoreline conditional use permit and by conformance with the following requirements:

- a. An expansion or enlargement to the main structure or a normal appurtenance (where allowed) as defined in WAC 173-27-040(2)(g) to the main/accessory structure(s) shall only be accomplished by:
  - i. Addition of space above the building footprint of the structure; and,
  - ii. Addition of space onto or behind that side of the structure which is farthest away from the ordinary high-water mark. If the requirements above cannot be accomplished without causing significant harm to shoreline vegetation or other shoreline ecological functions, the Administrator may require additional site analysis to determine if an alternative location for the expansion or enlargement of the structure is feasible (see the visual below for an exhibit of this standard)



V. New appurtenances shall not be located in required critical area setbacks or buffers where a shoreline location is not necessary. If no location is available outside of the

regulatory critical area buffer, the appurtenance may be permitted through a shoreline variance permit only. Such appurtenance shall be located outside of the regulated buffer to the maximum extent feasible and mitigated in accordance with the PMC 21.06 – critical areas – to ensure no net loss of ecological functions.

- VI. Land subdivisions should be platted to assure that future development of the created lots will not require structural shore stabilization for reasonable development to occur.
- VII. Residential development, and accessory structures, taking place within the regulated floodplain shall comply with FEMA biological assessment requirements and provisions of the Puyallup Flood Damage Prevention Regulations.
- VIII. Multi-unit, subdivision and planned residential developments of five (5) or more waterfront lots/units shall dedicate, improve, and provide maintenance provisions for a pedestrian easement that provides area sufficient to ensure usable access to and along the shoreline for all residents of the development and the general public.
- IX. As required by RCW 90.58.320, no permit shall be issued for any new or expanded building or structure more than thirty-five feet in height that will obstruct the view of a substantial number of residences on areas adjoining such shorelines. Height is measured according to Chapter 2, Definitions.

## **K. RESTORATION**

### **1. Definition**

- i. "Restoration" means the re-establishment or improvement of impaired ecological shoreline processes or functions. This includes watershed restoration projects and habitat and natural systems enhancement projects. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures, removal or treatment of toxic materials, and re-connecting a river or stream channel to its geomorphic floodplain through removal or setting back of levees, revetments, or other shoreline stabilization. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.

### **2. Policies**

- I. Restoration actions should restore shoreline ecological functions and processes as well as shoreline features and should be targeted towards meeting the needs of sensitive and/or locally important plant, fish and wildlife species as well as the biological recovery goals for Chinook salmon, Puget Sound steelhead, bull trout, and other salmonid species and populations.
- II. Pursue the recommendations in the shoreline restoration plan prepared as part of this SMP update. Give priority to projects consistent with this plan.
- III. Priorities should be given to restoration projects that:
  - a. Reconnect the shoreline channel to the floodplain;

- b. Enhance existing aquatic, riverine wetland, and riparian habitats;
  - c. Improve water quality; and,
  - d. Lower or maintain water temperatures.
- IV. Encourage cooperative restoration programs between local, state, and federal public agencies, tribes, non-profit organizations, and landowners to address the impaired ecological functions and processes of the shorelines.

### **3. Regulations**

- I. Restoration is allowed in all shoreline environments as a permitted use.
- II. Development and design of shoreline restoration and/or enhancement projects shall use all available scientific and technical information and best management practices. Restoration projects should be designed and carried out in accordance with either an approved regional watershed restoration plan or the City's Shoreline Restoration Plan.
- III. Where possible, habitat improvement projects shall be protected in perpetuity through a conservation easement conveyed to the City or public agency. The Director of Planning can approve other forms of encumbrances. If future development proposes to impact existing habitat improvement sites, it must be demonstrated that there are no practicable alternatives to avoid adverse impacts and, further, that adequate mitigation is provided to address unavoidable losses.
- IV. Habitat improvements shall promote an ecosystem or landscape approach, by integrating projects into their surrounding environments and promoting habitat corridors for movement and use by species.

## **L. SHORELINE STABILIZATION**

### **1. Definitions**

- i. "Shoreline stabilization" means structural or non-structural modifications to the existing shoreline intended to reduce or prevent erosion of stream banks or adjacent uplands. Shoreline stabilization is generally located parallel to the shoreline at or near the OHWM. It is distinct from flood control works in that it is intended to prevent bank erosion only, rather than protect upland property from overbank flood hazards.
- ii. "Bulkhead" means a wall-like structure normally constructed parallel to the shore and near the high water mark to protect the shore and uplands from erosion by current and wave action. They may also be constructed to retain uplands and fills that are prone to sliding, mass movement or erosion. For purposes of this Program, the former shall be known as normal protective bulkheads when constructed to protect single-family residences and properties.
- iii. "Revetment" means a sloped wall constructed of riprap or other material placed on stream banks or other shorelines to retard bank erosion and minimize lateral stream

movement. A revetment typically slopes waterward and has rough or jagged facing. The slope differentiates it from a bulkhead, which is a vertical structure.

## **2. Policies**

- I. Structural shoreline stabilization measures should only be used when more natural, flexible, non-structural methods such as soft-shore armoring, vegetative stabilization or other bioengineering methods have been determined ineffective. Alternatives for shoreline stabilization should be based on the following hierarchy of preference:
  - a. No action (allow channel migration or bank erosion to occur naturally), increase building setbacks, and relocate structures;
  - b. Flexible defense works constructed of natural materials including soft shore protection, bioengineering, or vegetative stabilization; and,
  - c. Rigid works constructed of artificial materials such as riprap or concrete.
  - d. Materials used for construction of shoreline stabilization should be selected for long term durability, ease of maintenance, compatibility with local shore features, including aesthetic values and flexibility for future uses.
- II. Shoreline stabilization activities that may necessitate new or increased shoreline stabilization on the same or other affected properties where there has been no previous need for stabilization should not be allowed.
- III. New or expanded structural shore stabilization for new primary structures should be avoided. New or redeveloped structures should be located and designed to avoid the need for future shoreline stabilization where feasible.
- IV. New or expanded structural shore stabilization should only be permitted where demonstrated to be necessary to protect an existing primary structure that is in danger of loss or substantial damage, and where mitigation of impacts would not cause a net loss of shoreline ecological functions and processes.
- V. New or expanded structural shore stabilization for enhancement, restoration, or hazardous substance remediation projects should only be allowed when non-structural measures, vegetation planting, or on-site drainage improvements would be insufficient to achieve enhancement, restoration or remediation objectives.
- VI. Shore stabilization on streams should be located and designed to fit the physical character and hydraulic energy potential of a specific shoreline reach, which may differ substantially from adjacent reaches.
- VII. The cumulative effect of allowing bulkheads or revetments along river segments should be evaluated. If it is determined that the cumulative effects of bulkheads or revetments would have an adverse effect on shoreline functions or processes, then permits should not be granted.
- VIII. Bulkheads should not be permitted as a solution to geo-physical problems such as mass slope failure, sloughing, or land slides. Bulkheads and revetments should only

be approved for the purposes of protecting existing developments by preventing bank erosion by rivers or streams.

- IX. Shore stabilization and shore defense works should be developed in a coordinated manner among affected property owners and public agencies for a reach where feasible, to address ecological and geo-hydraulic processes, and sediment conveyance.
- X. Where feasible, failing, harmful, unnecessary, or ineffective shore stabilization structures should be removed, and shoreline ecological functions and processes should be restored using non-structural methods or less harmful long term stabilization measures.

### **3. Regulations**

- I. Stream bank stabilization to protect new structures from future channel migration is not allowed except when such stabilization is achieved through bioengineering or soft armoring techniques with an applicable Hydraulic Project Approval permit issued by the Washington Department of Fish and Wildlife.
- II. Bulkheads or revetments, where allowed, shall be designed, constructed and maintained in a manner that does not degrade ecological function including fish habitat, and shall conform to the requirements of the Washington State Department of Fish and Wildlife criteria and guidelines.
- III. Shoreline stabilization shall be limited to the minimum size necessary, and shall incorporate design and construction techniques included in Washington Department of Fish and Wildlife Integrated Streambank Protection Guidelines to the maximum extent feasible. Proponents of new or replaced hard bulkheads or revetments must submit a geotechnical report providing evidence that erosion is not being caused by upland conditions. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization. The analysis must demonstrate that “soft” shoreline protection measures or bioengineering erosion control designs will not provide adequate upland protection of existing structures or would pose a threat or risk to adjacent property.
- IV. Replacement of lawfully established, existing bulkheads or revetments shall be allowed. The first priority for replacement of bulkheads or revetments shall be landward of the existing structure. The second priority for replacement of existing bulkheads or revetments shall be to replace at the structure’s existing location. Where engineering, geological or safety concerns exist, the bulkhead may be located waterward of the ordinary high water mark (OHWM). Proposals to replace bulkheads or revetments shall consider:
  - a. Existing topography;
  - b. Existing development;

- c. Location of abutting bulkheads; and,
  - d. Impact to habitat.
- V. No permanent non-water dependent structures or uses shall be placed in the floodway zone. Bank protection associated with bridge construction and maintenance may be permitted and shall conform to provisions of the State Hydraulics Code (RCW 77.55).
- VI. Trees and vegetation shading streams and rivers shall be retained or replanted when shoreline stabilization is placed or replaced.

## **M. SIGNS**

### **1. Definition**

- i. “Sign” is any word, placard, board, notice, logo, insignia, symbol, flag, banner, balloon or inflatable device or pennant, which uses graphics, symbols, or written copy and is used to advertise or promote the interest of any person, institution, or business. Works of art, fountains, mosaics and building or structural design features that do not contain a commercial message, logo, symbol, or identification are not signs according to this definition.

### **2. Policies**

- I. The shoreline master program regulations related to signs shall, to the maximum extent possible, follow the policies and rules adopted in the city’s Comprehensive Plan and zoning ordinance (PMC 20.60).
- II. Signs should be designed, constructed and placed so that they are compatible with the natural aesthetics of the shoreline environment and adjacent land and water uses.
- III. Free-standing signs should be located to avoid blocking scenic views and be located on the landward side of public transportation routes which generally parallel the shoreline where possible.

### **3. Regulations**

- I. Signs are allowed in the Puyallup River Urban Conservancy and Clarks Creek Urban Conservancy environments as a permitted use, where the underlying zoning designation allows such use. Signs are prohibited in the Natural environment, unless publicly authorized as interpretive signage for a restoration site or informational about ecological functions of stream and riparian processes.
- II. Signs shall conform to the standards of PMC 20.60 – Signs.
- III. The following signs are prohibited in the shoreline jurisdiction:
  - a. Off-premise signs and billboards;
  - b. Electronic message signs;
  - c. Signs that flash, blink, rotate, move or otherwise change position;

- d. Roof-mounted signs;
- e. Advertising or signs erected, drawn, painted or maintained on trees, rocks or other natural features.

## **N. TRANSPORTATION**

### **1. Definition**

- i. "Transportation facilities" means roads and railways, related bridges and culverts, fills, embankments, causeways, and truck terminals. Not included are off-street bicycle or recreational trails.

### **2. Policies**

- I. Plan, locate, and design roads, rail, and non-motorized systems and parking facilities where facilities will have the least possible adverse effect on shoreline resources. Where other options are available and feasible, new roads or road expansions should not be built within shoreline jurisdiction.
- II. New or expanded public transportation facility route selection and development should be coordinated with related local and state government land use and circulation planning.
- III. Transportation system route planning, acquisition, and design in the shoreline should provide space wherever possible for compatible multiple uses such as utility lines, pedestrian shore access or view points, or recreational trails.
- IV. Trail space easements for non-motorized traffic should be required along roads in shoreline jurisdiction, where appropriate, and should be considered when rights-of-way are being vacated or abandoned.
- V. New transportation facilities should be designed and located to minimize the need for the following:
  - a. Shoreline protection measures;
  - b. Modifications to natural drainage systems; and
  - c. Waterway crossings.
- VI. Public transportation routes, particularly arterial highways and railways, should be located, designed, and maintained to permit safe enjoyment of adjacent shore areas and properties by other appropriate uses such as recreation or residences. Vegetative screening or other buffering should be considered.
- VII. New river crossings should be minimized to the maximum extent feasible.
- VIII. Transportation facilities should be located and designed to avoid public recreation and public access areas and significant natural, historic, archaeological or cultural sites.

### 3. Regulations

- I. Transportation facilities are allowed in the Puyallup River Urban Conservancy environment. Transportation facilities may be allowed in the Clarks Creek Urban Conservancy environments as a conditional use. Transportation facilities are prohibited in the Natural environment.
- II. Applications for new (excluding replacement of existing) or expanded transportation facility development in the shoreline jurisdiction shall include the following information:
  - a. Demonstration of the need for the facility.
  - b. An analysis of alternative alignments or routes, modes, or demand management, including alignments or routes outside shoreline jurisdiction.
  - c. An analysis of potential impacts complying with the State Environmental Policy Act, including an analysis of comparative impacts of feasible alternative routes. (See the definition of “feasible” in Chapter 2.)
  - d. Description of construction, including location, construction type, and materials.
  - e. If needed, description of mitigation and restoration measures.
- III. New or expanded surface transportation facilities not related to and necessary for the support of water-oriented activities shall be located outside the shoreline jurisdiction if possible, or set back from the ordinary high water mark to the extent feasible.
- IV. Construction of roadways and bridges may be permitted to cross streams and rivers and be located in designated riparian habitats and their buffers, subject to the performance standards in the critical area regulations (PMC 21.06.1030(5)).
- V. Road designs must provide appropriate pedestrian and non-motorized vehicular crossings where public access to shorelines is intended.
- VI. Transportation and primary utility facilities shall be required to make joint-use of rights-of-way and to consolidate crossings of water bodies where adverse impact to the shoreline can be minimized by doing so.
- VII. New and expanded transportation facility development shall not diminish public access to the shoreline.
- VIII. All cut and fill slopes shall be stabilized and planted with native grasses, shrubs and trees which shall be maintained by the applicant until established.
- IX. Bridge supports and abutments shall be designed and spaced so they do not act as walls baffling or blocking flood waters, interrupt stream channel processes or littoral drift.
- X. Bridge approaches in floodways shall be constructed on open piling, support piers, or other similar measures to preserve hydraulic processes.

- XI. Waterway crossing shall be designed to provide minimal disturbance to banks.
- XII. Transportation facilities shall be constructed of materials which will not adversely affect water quality or aquatic plants and animals over the long term. Elements within or over water shall be constructed of materials approved by applicable state agencies for use in water for both submerged portions and other components to avoid discharge of pollutants from splash, rain or runoff. Wood or pilings treated with creosote, pentachlorophenol or other similarly toxic materials is prohibited. Preferred materials are concrete and steel.
- XIII. Non-emergency construction and repair work shall be scheduled for that time of year when seasonal conditions (e.g. weather, stream flow) permit optimum feasible protection of shoreline ecological functions and processes.
- XIV. Transportation facilities shall be designed, constructed and maintained to contain and control all debris, overburden, runoff, erosion and sediment generated from the affected areas.
- XV. Publicly-owned road ends and rights-of-way that are deemed important for public access by the Administrator shall not be vacated or otherwise allowed to pass out of public ownership unless all of the criteria outlined in RCW 35.79.035 is met.
- XVI. Pedestrian shoreline transportation facilities, such as footpaths and boardwalks, where permitted shall meet all standards of this section and shall be planned and developed in a way to minimize impacts to shoreline ecological functions.
- XVII. Private pedestrian footbridges across Clarks Creek and the Puyallup River are prohibited.

## **O. UTILITY DEVELOPMENT**

### **1. Definitions**

- i. "Utility development" means facilities for distributing, processing, or storage of water, sewage, solid waste, storm drainage, electrical energy including electronic communications, and their administrative structures, as well as pipelines for petroleum products, and fire suppression.

### **2. Policies**

- I. Utility production and processing facilities, such as power plants and sewage treatment plants, or parts of those facilities that are non-water dependent should not be allowed in shoreline areas unless it can be demonstrated that no other feasible option is available.
- II. Transmission facilities for the conveyance of services, such as power lines, cables, and pipelines, should be located outside of the shoreline area where feasible.
- III. Utilities should be located in existing improved rights-of-way and corridors, whenever possible. Joint use of rights-of-way and corridors should be encouraged.

- IV. New utility installations should be located to eliminate the need for extensive shoreline protection measures.
- V. Stormwater detention and treatment facilities serving allowed uses should not be allowed in shoreline areas unless it can be demonstrated that no other feasible option is available.

### **3. Regulations**

- I. Accessory utility facilities, such as those typical and normal to support and serve a permitted shoreline use shall be allowed in all shoreline environments. This will typically consist of new or relocated distribution lines and individual service lines.
- II. The following utility facilities shall only be permitted when no other feasible alternative exists to locate in the city's shoreline areas and shall only be permitted through a shoreline conditional use permit:
  - a. Utility production and processing facilities;
  - b. Transmission facilities for the conveyance of services; and,
  - c. Stormwater detention and treatment facilities (excluding infiltration facilities, such as rain gardens and permeable surfacing materials)
- III. The following information shall be required for all proposals for primary utility facilities:
  - a. A description of the proposed facilities;
  - b. The rationale and justification for siting the proposed facility within the shoreline jurisdiction;
  - c. A discussion of alternative locations considered and reasons for their elimination;
  - d. A description of the location of other utility facilities in the vicinity of the proposed project and any plans to include facilities of other types of utilities in the project;
  - e. A plan for the reclamation of areas disturbed both during construction and following decommissioning and/or completion of the useful life of the facility; and
  - f. A plan for the control of erosion and turbidity during construction and operation.
- IV. When feasible, utility lines shall utilize existing rights-of-way, corridors and/or bridge crossings and shall avoid duplication and construction of new or parallel corridors in all shoreline areas.
- V. Location and design performance standards.
  - a. New utility lines and facilities may be permitted to cross streams, riparian habitats, and their associated buffers, subject to the city's critical area regulations for public agency and utility exception standards and performance

criteria (PMC 21.06.420 and PMC 21.06.1030(6)) and the additional standards in this section.

- b. Utility developments shall be located and designed so as to avoid or minimize the use of any structural or artificial shoreline stabilization or flood protection works.
  - c. All underwater pipelines transporting liquids intrinsically harmful to aquatic life or potentially injurious to water quality are prohibited, EXCEPT in situations where no other feasible alternative exists. In those limited instances when permitted, automatic shut-off valves shall be provided on both sides of the water body.
- VI. Construction of underwater utilities or those within the wetland perimeter shall be timed to avoid major fish migratory runs.
- VII. As required by RCW 90.58.320, no permit shall be issued for any new or expanded building or structure more than thirty-five feet in height that will obstruct the view of a substantial number of residences on areas adjoining such shorelines. Height is measured according to Chapter 2, Definitions.
- VIII. Storm water management facilities, limited to detention/treatment ponds or vaults, media filtration facilities, lagoons or infiltration basins, shall only be permitted in the shoreline jurisdiction when the following provisions in addition to PMC 21.06 performance standards are met:
- a. The storm water facility is designed and vegetated to mimic and resemble natural wetlands and meets applicable County or State storm water management standards and the discharge water meets state water quality standards; and
  - b. Low impact development approaches have been considered and implemented to the maximum extent feasible, in accordance with the WA State DOE storm water manual, as adopted by the City of Puyallup.

## CHAPTER 8 ADMINISTRATIVE PROCEDURES

This chapter describes the administration and enforcement of the shoreline permit system. The purpose of this chapter is to provide guidance for obtaining development permits for activities in the City's shoreline jurisdiction.

### A. SHORELINE MANAGEMENT PERMIT AND ENFORCEMENT PROCEDURES, ADOPTION BY REFERENCE

The City of Puyallup hereby adopts by reference the following sections or subsections of Chapter 173.27, as amended, of the Washington Administrative Code ("WAC") entitled Shoreline Management Permit and Enforcement Procedures.

WAC 173.27.020 Purpose

WAC 173.27.040 Developments exempt from substantial development permit requirement

WAC 173.27.090 Time Requirements of Permits

WAC 173.27.130 Filing with department

WAC 173.27.270 Order to cease and desist

WAC 173.27.280 Civil penalty

WAC 173.27.290 Appeal of civil penalty

WAC 173.27.300 Criminal penalty

### B. ADMINISTRATIVE RESPONSIBILITIES

The intent of this section is to detail the duties, roles and responsibilities of the City of Puyallup's Planning Director, Hearing Examiner, Appellate Hearing Examiner, Planning Commission, City Council and State Department of Ecology for administering and implementing the Shoreline Master Program.

#### 1. Shoreline Administrator

- i. The City of Puyallup's Development Services Director, or his or her designee, known as the Administrator when carrying out the responsibilities of this Program, is hereby vested with:
  - a. Overall administrative responsibility for this Master Program;
  - b. Authority to grant or deny statements of exemption from Shoreline Substantial Development permits; and
  - c. Authority to carry out all responsibilities of the Department under the State Environmental Policy Act.
- ii. Subject to the supervision and direction of the City Manager, the duties and responsibilities of the Administrator shall include, but are not limited to the following:

- a. Establishing the procedures and preparing forms deemed necessary or useful for the administration of this Program.
- b. Advising interested citizens and applicants of the policies, regulations and procedures of this Program.
- c. Interpreting the provisions of this Program and the Shoreline Management Act and their application to development activities and uses within the City's shoreline jurisdiction. The Shoreline Administrator shall consult with the Department of Ecology prior to issuance of any written interpretations to determine consistency with the purpose and intent of RCW 90.58 and all applicable guidelines.
- d. Determining whether applications and necessary data are complete and in proper form prior to review.
- e. Making field inspections as necessary.
- f. Reviewing, insofar as possible, all data necessary for proper review and processing of applications.
- g. Preparing reports and recommendations for submission to the hearing examiner on all applications for Substantial Development Permits, conditional use permits, and variance permits. The Administrator shall assure that all relevant information and public comments regarding the application is available to the Hearing Examiner during his/her review.
- h. Assuring that notice of City actions taken pursuant to this Program is given to appropriate persons and the public as required by law.
- i. Informing the Puyallup community of the goals, policies and regulations of this Program and any subsequent changes or amendments.
- j. Developing and proposing amendments to this Program that will more effectively and equitably achieve its goals and policies.
- k. Taking enforcement actions whenever a person has violated any provision of the Act or Master Program or other regulation promulgated under the Act.
- l. Seeking remedies for violations of this Program, the Shoreline Management Act or conditions of any approved shoreline permits issued by the City of Puyallup.
- m. Filing Substantial Development Permits, Conditional Use Permits and Variance Permits with Ecology.

**2. Hearing Examiner**

- i. The Puyallup Office of the Hearing Examiner shall be responsible for hearing and making final determinations on the following matters:
  - a. Shoreline Substantial Development Permit
  - b. Shoreline Conditional Use Permits
  - c. Shoreline Variance Permits

- d. Shoreline Permit rescissions
- e. Appeals of administrative interpretations and statements of exemption.

**3. Appellate Hearing Examiner**

- i. The Puyallup Office of the Appellate Hearing Examiner shall be responsible for hearing and making final determinations on the following matters:
  - a. Appeals of the Puyallup Hearing Examiner decisions on statement of exemptions, interpretations, substantial development, conditional use and variance permits.

**4. Planning Commission**

- i. The Puyallup Planning Commission shall be responsible for hearing and making recommendations for action to the City Council on the following types of matters:
  - a. Amendments to the Shoreline Master Program
  - b. On or before **June 30, 2019**, this Program shall be evaluated for cumulative effects of all authorized development on shoreline conditions and progress on the city's SMP restoration and public access plan implementation. Following **June 30, 2019**, the Puyallup SMP shall be reviewed not less than once **every eight (8) years** for cumulative effects of all authorized development on shoreline conditions and progress on the city's SMP restoration and public access plan implementation. This process should involve coordination with State resource agencies, affected tribes, and other interested parties.

**5. City Council**

- i. The Puyallup City Council shall be responsible for making final local determinations on amendments to the Shoreline Master Program, which shall be adopted by ordinance.

**6. State Department of Ecology**

The duties and responsibilities of the Washington Department of Ecology shall include, but are not limited to the following:

- a. Adopting guidelines consistent with the Shoreline Management Act which assist in the development of local master programs.
- b. Adopting rules that are necessary and appropriate to carry out the provisions of the Shoreline Management Act.
- c. Reviewing and approving Master Program amendments prepared by the City of Puyallup pursuant to WAC 173.26.120.
- d. Final approval and authority to condition or deny Shoreline Conditional Use Permits and Shoreline Variance Permits filed by the City of Puyallup.

**C. TYPES OF SHORELINE PERMITS**

**1. Shoreline Substantial Development Permit**

- a. Purpose

The purpose of a Substantial Development Permit is to provide an approval process for any development with a total cost or fair market value exceeding six thousand four hundred sixteen dollars (\$6,416) or any development which materially interferes with the normal public use of the water or shorelines of the state, except those exempted developments set forth in WAC 173.27.040.

b. Process

An open record decision hearing by the City of Puyallup's Hearing Examiner is required for a Substantial Development, shoreline Conditional Use or shoreline Variance Permit. Public notice of complete application, date of public hearing and final decision is required as described in Section E. The Administrator shall notify Department of Ecology and Attorney General of the permit decision after expiration of the local appeal period.

c. Hearing Examiner review criteria

A Substantial Development Permit shall be granted by the Hearing Examiner only when the development is consistent with the following:

- i. Goals, policies and use regulations of the SMP;
- ii. Puyallup Comprehensive Plan and Municipal Code; and
- iii. The policies, guidelines and regulations of the Shoreline Management Act.

The Administrator and Hearing Examiner may attach conditions to the approval of permits as necessary to assure consistency of the proposal with the above criteria. The burden of proving that the proposed substantial development is consistent with the criteria shall be on the applicant.

**2. Shoreline Conditional Use Permits**

a. Purpose

The purpose of a Shoreline Conditional Use Permit is to allow a case-by-case review of certain uses which may have a greater potential for impacts if permitted without project-specific conditions. In authorizing a Shoreline Conditional Use Permit, special conditions may be attached to the permit by the Hearing Examiner or Ecology.

b. Process

An open record decision hearing by the City of Puyallup's Hearing Examiner is required for a Conditional Use Permit. Public notice of completed application, date of public hearing and final decision is required as described in Section E. Ecology is the final approving authority for Conditional Use Permits.

c. Hearing Examiner review criteria

The criteria below shall constitute the minimum criteria for review and approval of a conditional use permit. Uses classified as conditional uses, not uses prohibited by the regulations of this SMP, may be authorized provided that the applicant can demonstrate all of the following:

- i. That the proposed use will be consistent with the policies of RCW 90.58.020, the policies of this SMP, the City of Puyallup Comprehensive Plan and other applicable plans, programs and/or regulations;
- ii. That the proposed use will not interfere with the normal public use of public shorelines;
- iii. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Plan and Shoreline Master Program.
- iv. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located;
- v. That the public interest suffers no substantial detrimental effect;
- vi. That consideration of cumulative impacts resulting from the proposed use has occurred and it has been demonstrated that no substantial cumulative impacts are anticipated, consistent with WAC 173.27.160(2).

In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if conditional use permits were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the policies of RCW [90.58.020](#) and shall not produce substantial adverse effects to the shoreline environment.

Other uses which are not classified or set forth in the applicable master program may be authorized as conditional uses provided the applicant can demonstrate consistency with the requirements of this section and the requirements for conditional uses contained in the master program. Uses which are specifically prohibited by the master program may not be authorized through a shoreline conditional use permit. The Hearing Examiner may attach conditions to the approval of permits as necessary to assure consistency of the proposal with WAC 173-27-160 and this Program.

### **3. Shoreline Variance Permits**

#### **a. Purpose**

The purpose of a Shoreline Variance Permit is strictly limited to granting relief from specific bulk, dimensional or performance standards set forth in this SMP. Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW [90.58.020](#). In all instances the applicant must demonstrate that extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.

#### **b. Process**

An open record decision hearing by the City of Puyallup's Hearing Examiner is required for a variance permit. Public notice of complete application, date of public

hearing and final decision is required as described in Section E. Ecology is the final approving authority for variance permits.

c. Hearing Examiner review criteria

The criteria below shall constitute the minimum criteria for review and approval of a Shoreline Variance Permit.

Variance permits for development that will be located landward of the ordinary high water mark and/or upland of any wetland as defined in RCW 90.58.030 (2)(h) may be authorized provided the applicant can demonstrate all of the following:

- i. That the strict application of the bulk, dimensional or performance standards set forth in the Master Program precludes, or significantly interferes with a reasonable use of the property not otherwise prohibited by this SMP;
- ii. That the hardship described above is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the Master Program, and not, for example, from deed restrictions or the applicant's own actions;
- iii. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Plan and Shoreline Master Program and will not cause adverse impacts to the shoreline environment;
- iv. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;
- v. That the variance requested is the minimum necessary to afford relief; and
- vi. That the public interest will suffer no substantial detrimental effect.

Variance permits for development and/or uses that will be located waterward of the ordinary high water mark or within any wetland may be authorized provided the applicant can demonstrate all the criteria stated above as well as the following:

- i. That the strict application of the bulk, dimensional or performance standards set forth in this SMP precludes all reasonable use of the property not otherwise prohibited by this SMP; and
- ii. That the public rights of navigation and use of the shorelines will not be adversely affected.

In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW 90.58.020 and shall not cause substantial adverse effects to the shoreline environment. Variances from the use regulations of the master program are prohibited.

#### **D. STATEMENT OF EXEMPTION**

Development or activities that are exempt from the requirement to obtain a Substantial Development Permit as established in WAC 173-27-040 (see appendix H) are required to obtain a letter of exemption from the Shoreline Administrator.

1. The City shall prepare a letter of exemption, addressed to the applicant and the Department of Ecology, whenever a development is determined by the Administrator to be exempt from the Substantial Development Permit requirements.
2. A statement of exemption must be obtained from the Administrator for a development activity or use that is exempt from a Substantial Development Permit, but which requires other permit approvals, such as a building permit.

The statement of exemption shall indicate the specific exemption provision from WAC 173.27.040 (see appendix H) that is being applied to the development and provide a summary of the Administrator's analysis of the consistency of the project with the Master Program and the Act. According to State guidelines, the burden of proof that a development activity or use is exempt from the permit process is on the applicant.

The statement of exemption shall provide an itemization of the Program's requirements and other requirements applicable to the proposed project in conjunction with other permit processes. The Administrator may attach conditions to the approval of exempted developments and/or uses as necessary to assure consistency of the project with the Act and the Puyallup Shoreline Master Program.

#### **E. PUBLIC NOTIFICATION REQUIREMENTS**

Upon submittal of a complete application for Substantial Development, shoreline conditional use or shoreline variance permit, the Administrator shall publish a notice of application at least once a week on the same day of the week for 2 consecutive weeks in a newspaper of general circulation within the area in which the development is proposed. The notice of application shall include a statement of the public comment period, which shall not be less than 30 calendar days following the date of application completeness as determined by the Shoreline Administrator or designee. Notice of application shall contain the information required by WAC 173-27-110. The Administrator shall also follow the procedures prescribed in PMC 20.11.012.

A notice of public hearing and notice of final decision shall also be made pursuant to PMC 20.12.010 and PMC 20.11.012, respectively. Notice of public hearing shall be provided via direct mailing at least 15 days prior to the date of a public hearing on a shoreline development permit to all property owners within 300' of the area of work or development site. The development site shall be posted with a public notice board, at the applicant's expense, using public notice signs as prepared and provided by the city.

Public Noticing Action	Required Timeline/Procedure
<p>Notice of application (NOA) for shoreline substantial development, variance or conditional use permit</p>	<p>City staff will evaluate an application for completeness within fourteen (14) days of submittal (see subsection (2) of WAC 173-27-110 for required information in the notice). The Shoreline Administrator shall provide written notification to the applicant of status of application completeness within 14 days of Department receipt.</p> <p>Immediately following a determination of application completeness, the Shoreline Administrator shall provide all property owners within 300' of the site, all affected Tribal Governments and any other government entity affected by the proposal with formal Notice of Application. If the project site abuts another government jurisdiction or the project is anticipated to affect that other city or county, notice shall be provided to that jurisdiction as well. Notice of Complete Application (NOA) publication will be mailed with at least thirty (30) days for the public to comment on the application from the date the public notice was published (before a final decision is rendered).</p> <p>The Administrator shall also publish a notice of application at least once a week on the same day of the week for 2 consecutive weeks in a newspaper of general circulation within the area in which the development is proposed.</p>
<p>Notice of Public Hearing</p>	<p>Notice of public hearing shall be provided via direct mailing at least 15 days prior to the date of a public hearing on a shoreline permit (e.g. substantial development permit, shoreline variance, shoreline conditional use) to all property owners within 300' of the area of work or development site. The development site shall be posted with a public notice board, at the applicant's expense, using public notice signs as prepared and provided by the city.</p>

**F. APPLICATION REQUIREMENTS**

Prior to submitting a complete application for a Shoreline Substantial Development, shoreline conditional use or shoreline variance permit, the applicant may request a pre-application meeting. This will enable the applicant to become familiar with the requirements of the Program, other applicable regulations, and the permitting process. A pre-application form, site map, conceptual plan and other applicable documents pertinent to the project is required to initiate the pre-application process.

To apply for a Statement of Exemption, Substantial Development, Shoreline Conditional Use or Shoreline Variance permit, obtain the applicable permit form from the Development Services Center. Application forms identify the necessary information to be submitted with the application and applicable permit fees.

**G. PUBLIC HEARING BY THE HEARING EXAMINER**

A public hearing shall be held by the Hearing Examiner regarding an application for a shoreline Substantial Development, shoreline Conditional Use or shoreline Variance permit. The public hearing should be held at the earliest possible date after the thirty (30) day public comment period has ended. Any applicable SEPA determination related to the

project proposal must be finalized prior to a public hearing on the applicable shoreline permit(s) related to the project action. The Hearing Examiner shall review the application and related information and make a decision to approve, approve with conditions, or deny the application for a shoreline Substantial Development, shoreline Conditional Use or shoreline Variance permit.

The Hearing Examiner shall review an application for a Substantial Development, Conditional Use or Variance permit using the following information:

1. The application
2. Applicable SEPA documents
3. Written and oral comments from interested persons
4. Information and comment from other City departments
5. Evidence presented at the public hearing
6. Independent study of the Planning Department
7. The findings, conclusions and recommendations of the Administrator

#### **H. APPEALS**

1. Appeals of administrative interpretations and statements of exemption may be made to the Puyallup Office of the Hearing Examiner. Appeals of Hearing Examiner decisions on shoreline Substantial Development, shoreline Conditional Use, shoreline Variance permit decisions as well as Hearing Examiner appeal decisions regarding administrative interpretations/exemption statements shall be heard by the City of Puyallup Appellate Hearing Examiner. Appeals and appeal timelines of Hearing Examiner decisions shall follow procedures established by PMC 2.54.150. All appeals of Hearing Examiner decisions related to shoreline permits shall be made within 15 business days of the date a final decision is rendered. After expiration of the local appeal period of 15 business days, the city's shoreline permit decision related to shoreline Substantial Development, Conditional use and/or shoreline Variance permits shall be submitted to the Department of Ecology for final review, approval and filing.
2. Appeals of any final permit decision may be made to the Shorelines Hearing Board as governed by the procedures established in RCW 90.58.180 and WAC 461.08. All appeals of any final permit decision must be made to the Shorelines Hearing Board within twenty-one (21) days from the date of filing concerning the shoreline permit or formal approval to revisions of the permit.

#### **I. PERMIT REVISIONS**

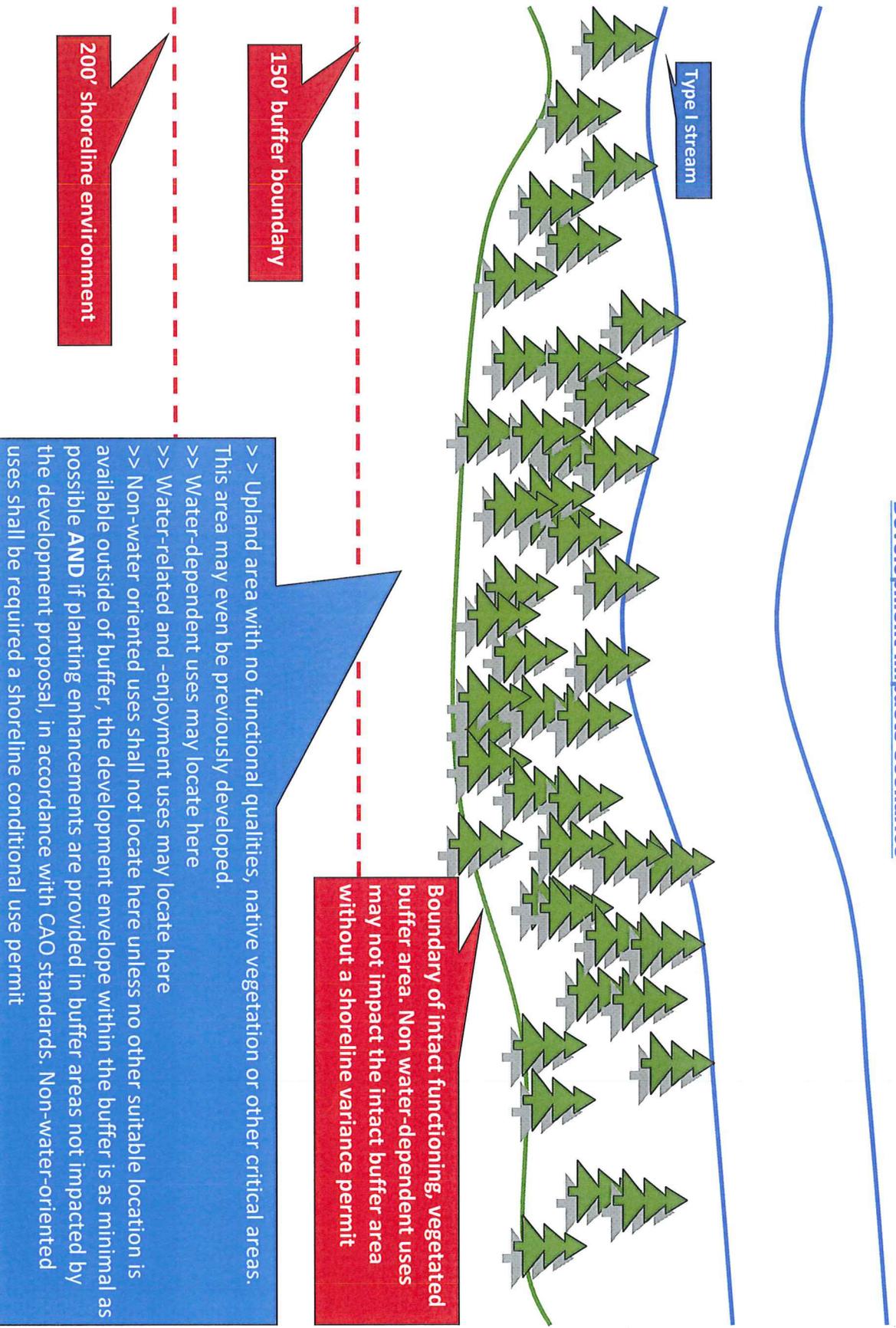
A permit revision is required whenever an applicant proposes substantive changes to the design, terms or conditions of a project from that which was approved in the permit. When a revision of a permit is sought, the applicant shall submit detailed plans and text describing the proposed changes in the permit and demonstrating compliance with minimum standards pursuant to WAC 173.27.100.

If the proposed changes are determined by the Administrator to be within the scope and intent of the original permit, and are consistent with the SMA, the Guidelines, and this SMP, the revision shall be approved.

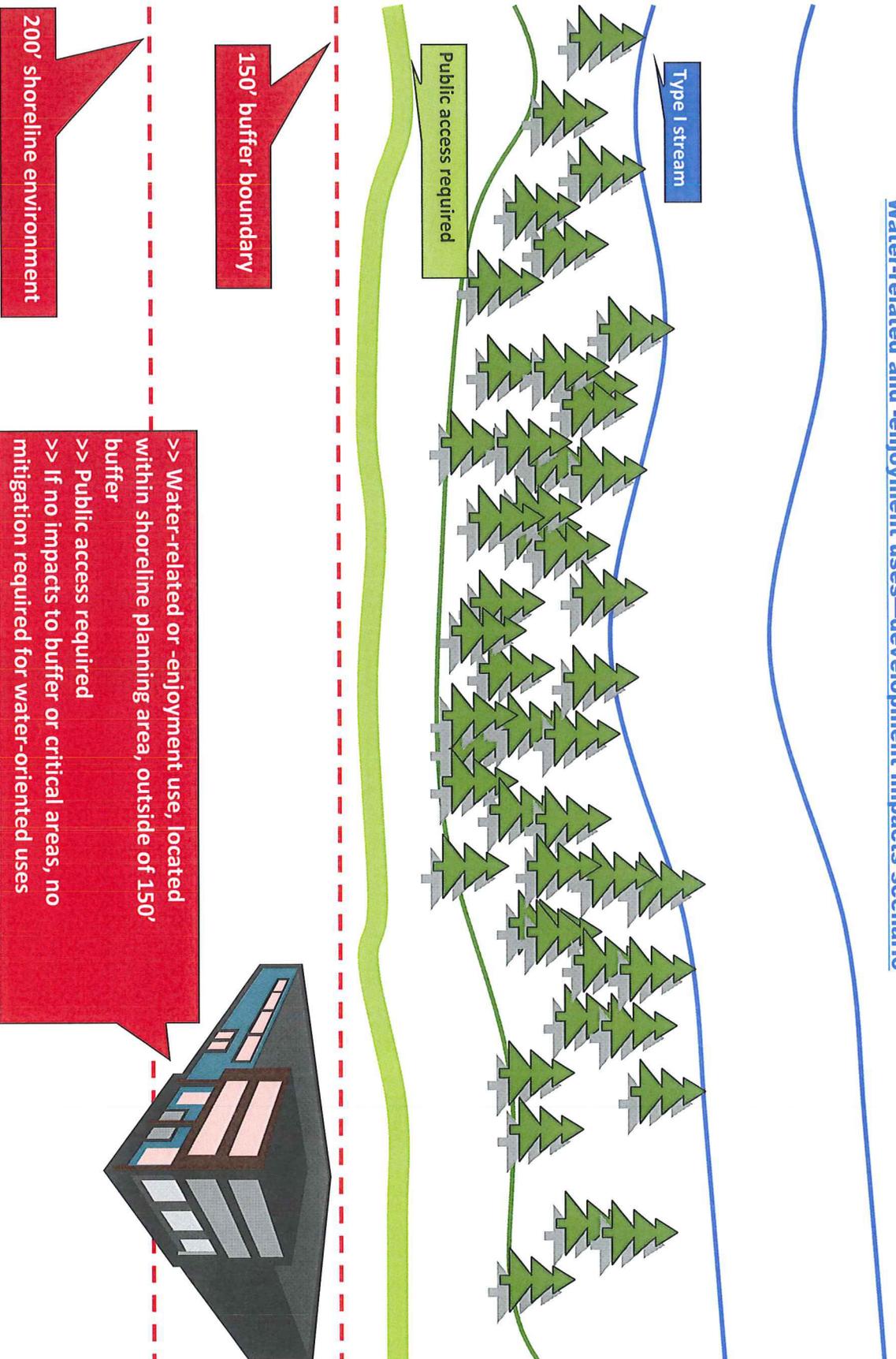
**J. NONCONFORMING USE OR DEVELOPMENT**

A nonconforming use or development is a shoreline use or development which was lawfully constructed or established prior to the effective date of the Act or the Master Program, or amendments thereto, but which does not conform to present regulations or standards of the Program. In such cases, the use or development may continue subject to the provisions of WAC 173-27-080, Nonconforming Uses and Development Standards.

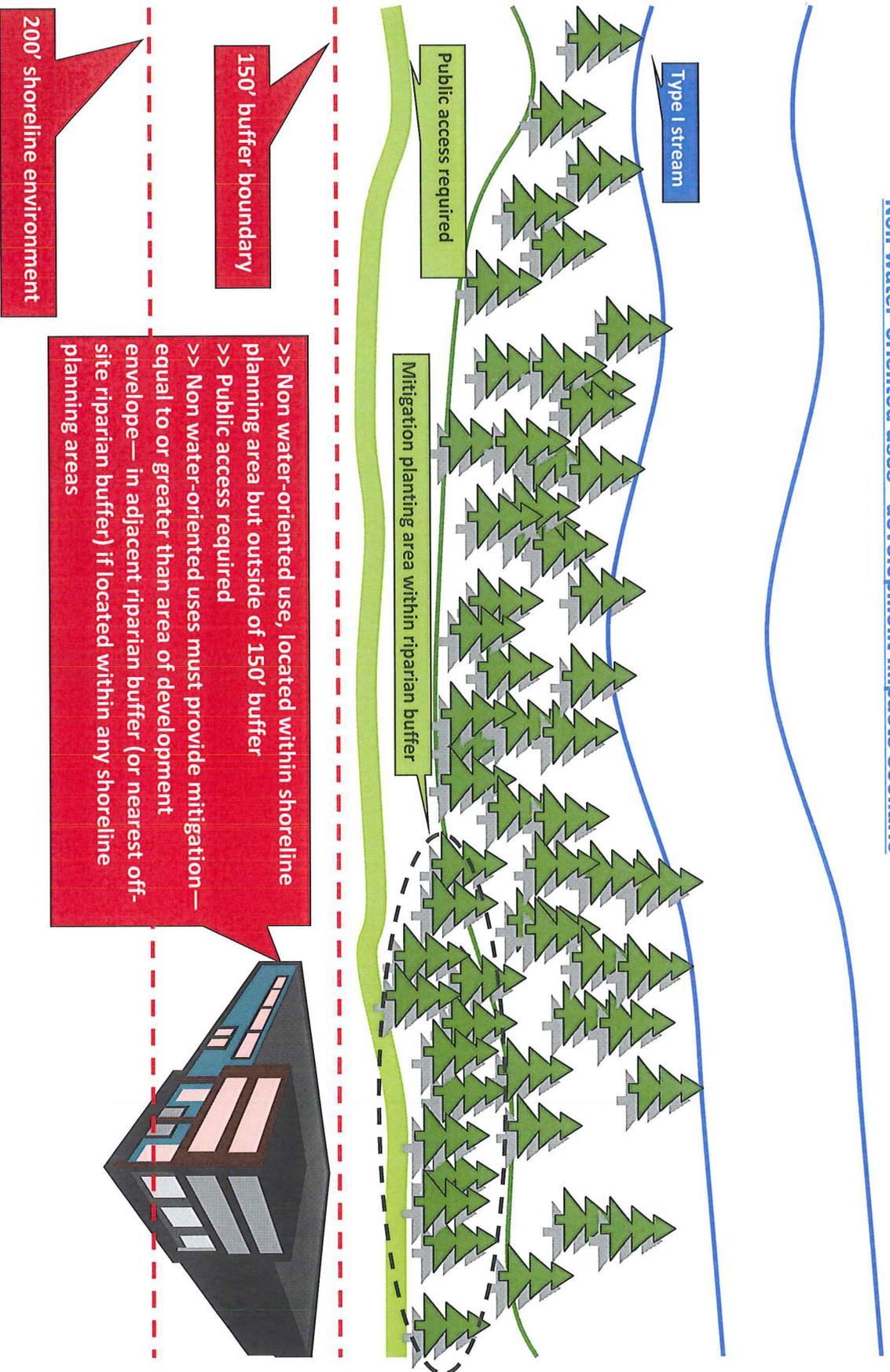
## Development impacts scenarios



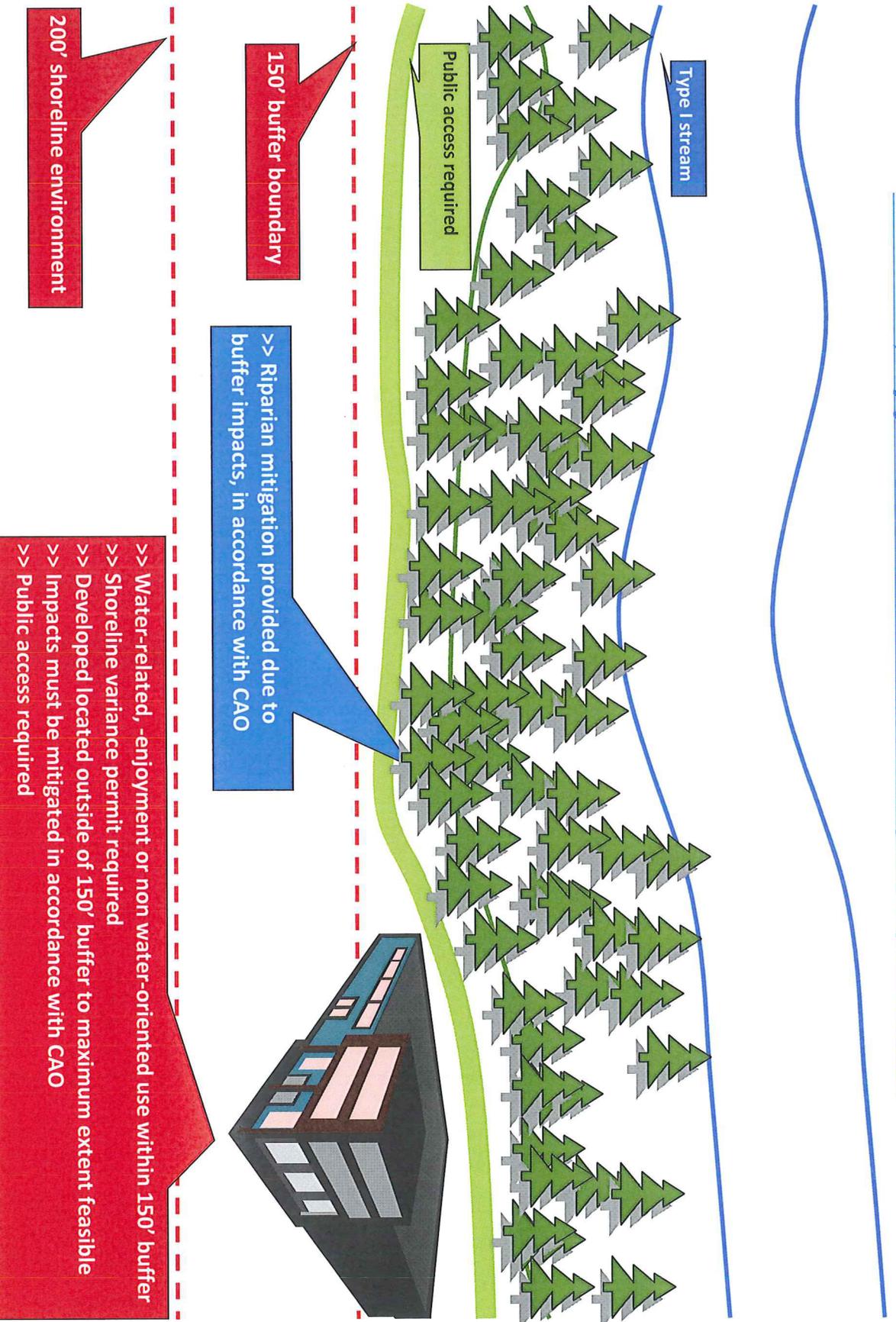
Water-related and -enjoyment uses—development impacts scenario



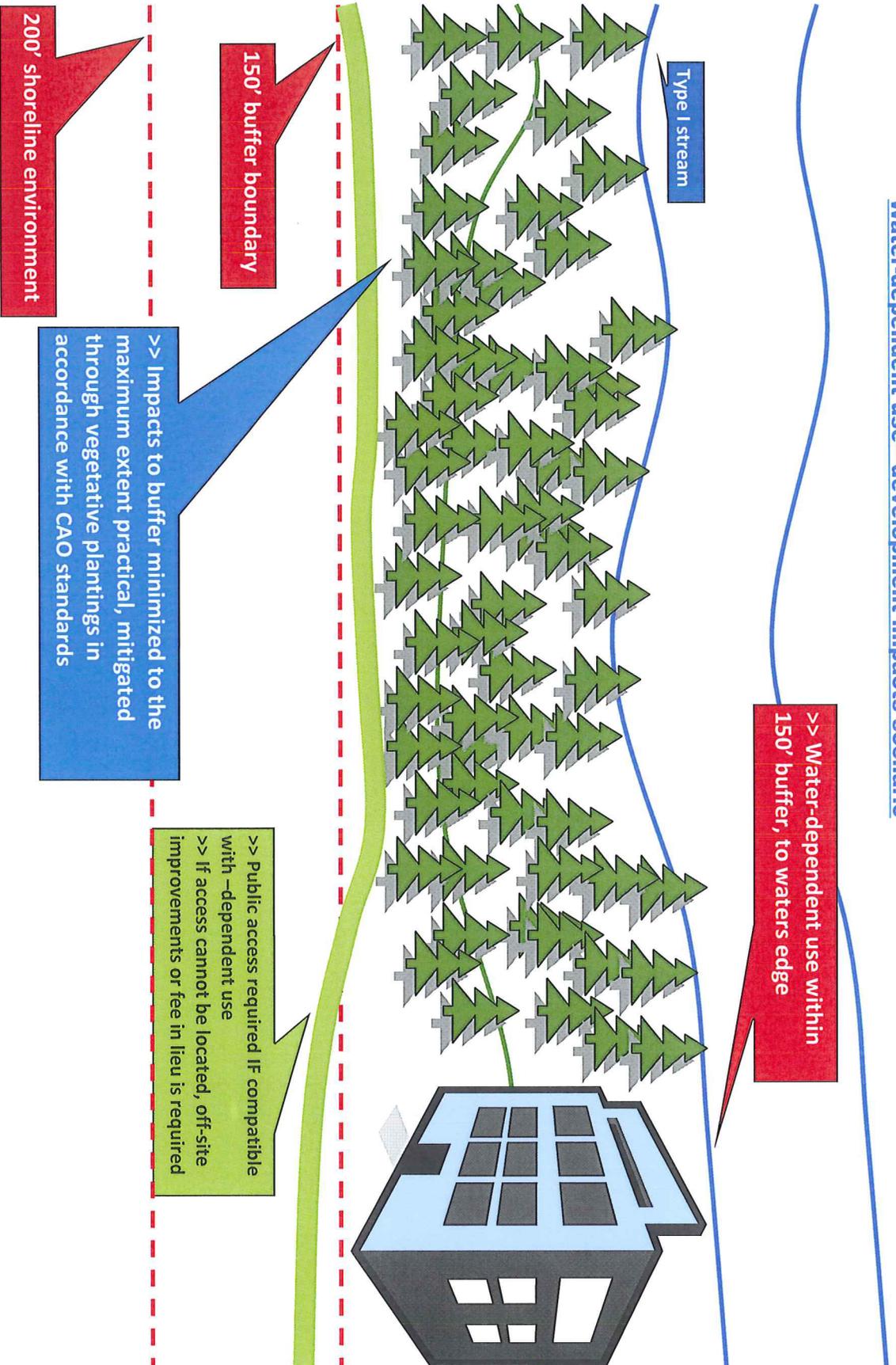
Non water-oriented uses—development impacts scenario



Water-related, -enjoyment and non-oriented uses—development impacts scenario



**Water-dependent use—development impacts scenario**



>> Water-dependent use within 150' buffer, to waters edge

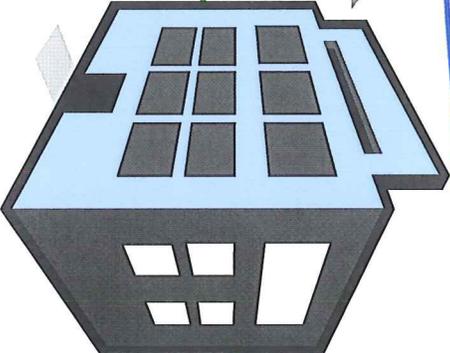
>> Impacts to buffer minimized to the maximum extent practical, mitigated through vegetative plantings in accordance with CAO standards

>> Public access required IF compatible with -dependent use  
>> If access cannot be located, off-site improvements or fee in lieu is required

200' shoreline environment

150' buffer boundary

Type I stream



# Tree Protection Standards in Construction Sites



***"To exist as a nation, to prosper as a state, and to live as a people, we must have trees."***

***- President Theodore Roosevelt***

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**PLEASE TAKE THIS GUIDE  
WITH YOU TO THE  
CONSTRUCTION SITE.**

# Why Should I Follow This Guide?

This guide gives your trees the best chance of survival both during and after construction. You are following advice from professional arborists combined with published standards and practices (Coder 1996, 2000, Elmendorf et al 2005, Johnson 2001, and Matheny and Clark 1998). Use these standards to show a reasonable effort on your part to protect trees from damage. We cannot guarantee 100% success, but if standards are followed and a tree dies, then it is not your fault.

If you ignore these standards and a tree is injured, then you could be held liable for thousands of dollars in damage (Table 1). Tree damage may also lead to structural failure, ranging from the dropping of dead limbs to the entire tree falling over. This structural failure has the potential to injure people and property, which could also be your responsibility.

**Table 1.** Approximate loss in property value caused by injury to a tree. Actual loss may be higher or lower based on a plant appraisal and what can be determined in court.

Stem Diameter <sup>1</sup> (in.)	Loss in Property Value <sup>2</sup> (\$)	
	Sicken Tree	Kill Tree
5	131	350
10	525	1400
15	1181	3150
20	2100	5600
25	3281	8750

**1** Diameter of tree stem measured at 4.5 feet above ground

**2** Appraisal of loss using the trunk formula method (Gooding et al 2000)

**Assumptions:** tree is a desirable species in good condition, properly located in the front yard of a well landscaped \$100,000 residential home.

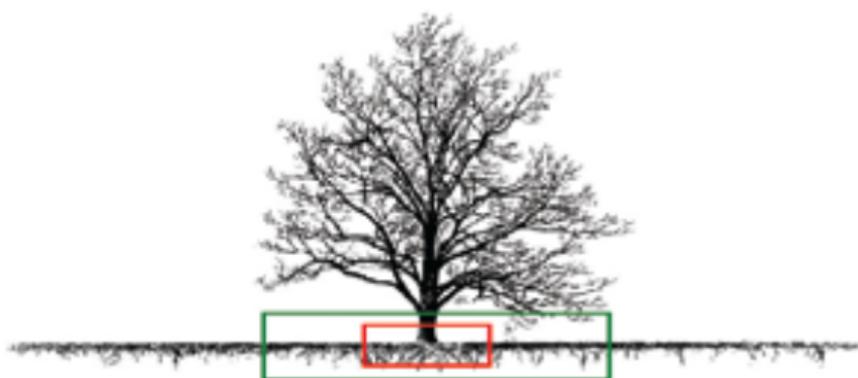
# Trees and Roots

Tree roots are not like carrots. Roots spread out over a large area and are concentrated at the soil surface. A tree actually looks like a wine glass setting on a dinner plate (Figure 1). A wine glass represents (1) leaves and branches, (2) tree stem, and (3) the structural root plate. A large dinner plate (4) represents the transport and feeder roots that spread out farther than the branches.



**Figure 1.** A tree looks like a wine glass on a dinner plate.

Roots hairs are so small and prolific they essentially are one with the soil. So any little activity that compacts or moves soil can kill roots. Fortunately not all roots are created equal. Tree roots closest to the stem are more essential than others for survival (Figure 2).



**Figure 2.** Tree roots most important for survival are the structural root plate (red area) and the critical root area (green area).

To estimate the size of the structural root plate and the critical root area, we used a common tree measurement, **Stem Diameter** at 4.5 feet above the ground. Stem diameter can be measured directly with calipers or a diameter tape. Or you may measure stem circumference and divide by pi (3.14) to calculate diameter.

The most essential roots form the **Structural Root Plate** (Figure 2 red area). These large strong roots extend up to 11 feet from the stem in larger trees (Table 2). Damaging these roots in any way is usually fatal and may leave a tree unable to hold itself up. This could spell disaster.

Second in importance is the **Critical Root Area** located under the reach of the branches (Figure 2 green area). This area contains about 85% of the root mass. Any damage to the transport and feeder root system in this area will likely reduce tree health and survival. The size of the critical root area is estimated again using stem diameter (Table 2). The area is defined as a circle with a radius that is 1.25 feet for every inch in stem diameter. Thus, the distance from the tree stem you would like to stay away from a tree is called the **critical root radius**.

## Tolerance to Damage

To ensure tree survival the entire critical root area should be protected from construction damage (Figure 3). This is especially true for trees classified as **Susceptible** to damage. These are trees in poor health, very old, or a susceptible species (Table 3). Any kind of root damage reduces the survival of susceptible trees significantly. The survival rate drops below 50/50 once 25% of the critical roots are injured (Figure 3).

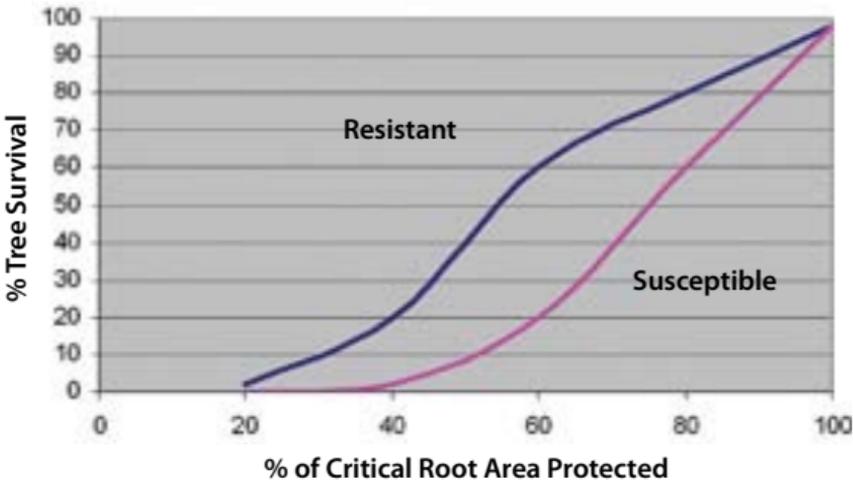
**Table 2.** Critical root radius and critical root area increases with tree size (Coder 1996).

<b>Tree Stem Diameter (in.)</b>	<b>Structural Root Plate Radius (ft.)</b>	<b>Critical Root Radius (ft.)</b>	<b>Critical Root Area (ft.<sup>2</sup>)</b>
2	2	2.5	20
4	3	5	79
6	4	7.5	177
8	5	10	314
10	6	12.5	491
12	7	15	707
14	7	17.5	962
16	8	20	1256
18	8	22.5	1590
20	9	25	1963
22	9	27.5	2375
24	10	30	2826
26	10	32.5	3317
28	10	35	3847
30	10	37.5	4416
32	10	40	5024
34	10	42.5	5672
36	10	45	6359
38	11	47.5	7085
40	11	50	7850

Trees classified as **Resistant** to construction damage are healthy, young to middle aged, and of a resistant species (Table 3). Resistant trees generally are able to tolerate some root damage, at least until it approaches 1/3 of the critical root area (Figure 3).

Trees **Moderate** in their tolerance to injury include those in fair health, past middle aged to old, or a moderate species (Table 3). These trees fall between resistant and susceptible in their survival of critical root damage.

Roots outside of the critical root area are the least important for tree health (Figure 2). A tree can lose all these roots with minimal problems. But to compensate for this root loss, extraordinary care must be given to roots within the critical root area.



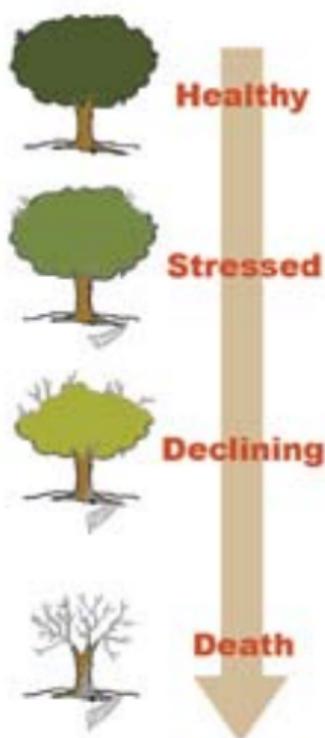
**Figure 3.** Tree survival depends on the amount of critical root area protected and the tolerance of a tree to damage. (Coder 1996).

**Table 3.** Ranking of common tree species in tolerance to construction damage. Survival rates are high for resistant species and low for susceptible species with the same level of damage (Matheny & Clark 1998).

<b>Species Resistance to Construction Damage</b>		
<b>Resistant</b>	<b>Moderate</b>	<b>Susceptible</b>
Ash - Green	Ash - White	Basswood
Bald Cypress	Dogwood - Flowering	Beech
Birch - River	Hickory - Pignut, Shagbark, Mockernut	Chinkapin - Allegheny
Elm - most species	Hophornbeam - Eastern	Maple - Silver
Gum - Black, Tupelo	Hornbeam - American	Sourwood
Hickory - Water, Pecan	Magnolia - most species	Sugarberry (Hackberry)
Holly - American, Dahoon, Gallberry, Yaupon	Maple - Florida	Walnut - Black
Maple - Red, Boxelder	Pine - Shortleaf	Yellow - Poplar
White Oaks - White, Swamp Chestnut, Overcup, Bur	Sweetgum	
Red Oaks - Water, Willow, Shumard, Nuttall, Northern Pin	Sycamore - American	
Pines - Loblolly, Longleaf, Slash		
Willow		

# Construction Damage

Most people are not aware that tree roots are on the soil surface and very vulnerable to injury. That is why damage to the root system is the number one killer of trees. Unfortunately, any activity under a tree is a potential root killer, including the storage of equipment or supplies as well as minor vehicle and foot traffic. Injury to roots within the critical root area is capable of slowly killing **Healthy**



**Figure 4.** Construction damage to roots begins a mortality spiral that can kill healthy trees in 1 to 10 years. (Matheny & Clark 1998).

trees (Figure 4). The process of tree death following injury is termed a “mortality spiral”. The further a tree falls down the mortality spiral the harder it is to get back up to Healthy. So, if restorative treatments are to be effective they need to be applied immediately after damage occurs. Do not wait until the tree is **Stressed** or **Declining**.

## **Stressed**

Construction damage weakens a tree and sets it up to be injured by another stress that normally would not cause damage. Thus, drought and insect/disease attacks can be deadly when combined with construction. As stressors accumulate, a tree becomes weaker and weaker. The tree does not usually show any signs of a problem, except maybe the foliage appearing a little sparse and off color. The severity and longevity of these stressors determines if tree health can be restored.

## **Declining**

Upper growing points in the tree cannot be supported and die. Signs of decline include very low leaf density and leaves may appear yellow and small. Many dead branches and twigs are in the top portion of tree. Wood borers and bark beetles may attack. Once a tree reaches this stage, they are considered beyond help.

## **Death**

A tree usually dies from a fatal combination of structural failure, health degradation, and pest infestation. Pine trees will typically die within a year following severe root damage. Generally, hardwoods are slower to die. After a fatal blow, hardwoods may live for another 2-10 years.

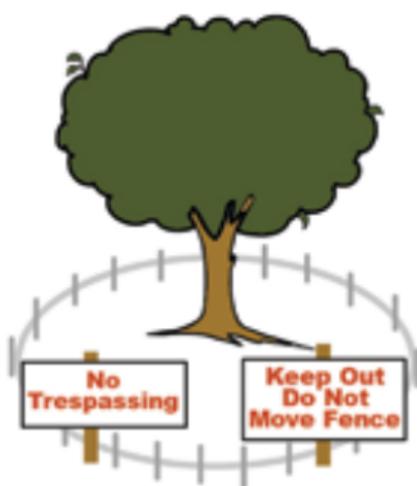
# Fences

To prevent root damage, construction activity needs to be diverted away.

One of the best tree protectors is a fence placed around the critical root area (Figure 5a).

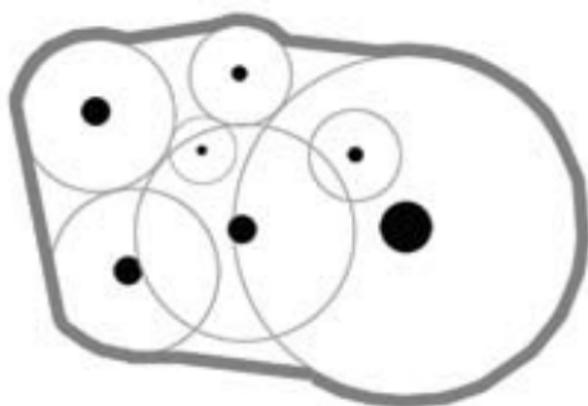
Fences should

be erected before construction begins and kept intact until final inspection. This temporary fence should be at least three feet high, clearly visible and supported by steel T-bar or similar stakes. Warning signs as shown in Figure 5a should be prominently displayed. Assign someone the job of monitoring the fences. To further prevent fence removal and injury to critical roots add a penalty clause in contracts. See Table 1 for reasonable penalties.



**Figure 5a.** Placing a protective fence around the critical root area assures tree survival.

Protecting groups of trees instead of individuals is recommended when possible. To protect a group of trees, determine the critical root radius for each



**Figure 5b.** Overhead view of a tree protection zone (gray fence) for a group of trees. Dots represent tree stems and light circles are each tree's critical root area.

individual tree. Place a protective fence outside the critical root area of all trees in the group (Figure 5b).

## Which Trees to Save?

Trees classified as resistant to construction damage should be a high priority for saving. These healthy, young to middle-aged trees of a resistant species (Table 3) have the highest likelihood of survival. Avoid trying to save trees classified as susceptible to damage. These trees are unhealthy, old, of a susceptible species or may have a serious to fatal defect (Figure 6). Problems make susceptible trees less valuable and much more difficult to keep alive and healthy.



**Figure 6.** Avoid trying to save trees with serious to fatal defects. 1- dead top and/or dieback in the larger top branches, 2- narrow branch angles and/or co-dominant stems, 3- history of damage from lightning, insects, and/or equipment, 4- lean and/or soil heaving, and 5- cracks, cavities, rotten wood, fungal conks, termites, carpenter ants, and cankers. (Elmendorf et al 2005).

The size of trees should be compared to ownership goals and finances. Large trees may be desired and extremely valuable to a property but they are also very difficult and expensive to save. Construction activity may have to be adjusted considerably to protect a large tree's root system. The owner must have the willingness to pay for construction adjustments before a big tree can be saved. Owners with moderate budgets may have to concentrate on saving smaller trees. These are much easier and cheaper to protect and save.

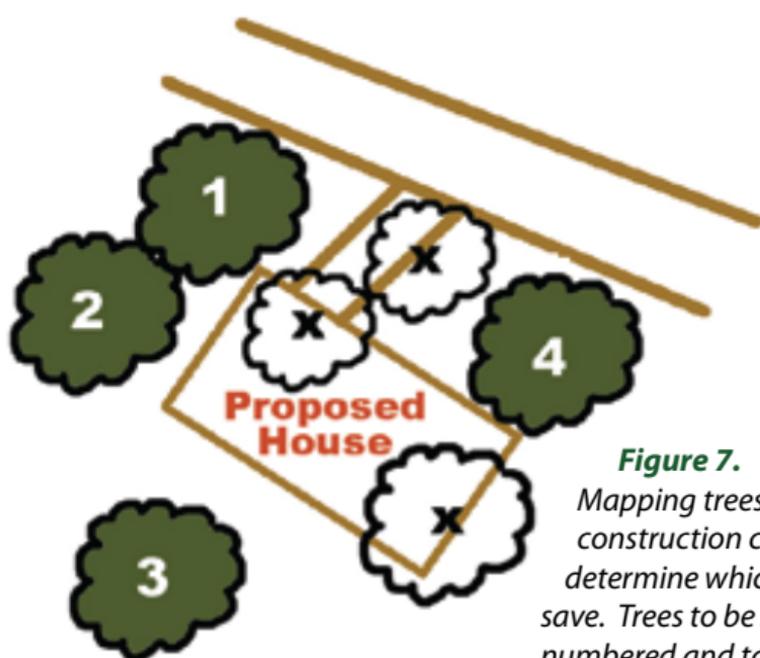
Some species of trees are a better long-term investment. Live oaks for example tend to grow into

large extremely valuable trees. Strong wood in their branches, stem, and roots resists breakage during storms. Live oaks also have a long life span and display few pest problems. Species of trees that display these kinds of characteristics are more desirable for saving than others.

## Four Steps to Protecting Trees

### 1. Mapping and Prescription

Planning is needed up front to keep trees and construction activities separated from each other. Begin with an initial walk-through to identify which trees to save. Mapping these trees before development of the construction plan is very important (Figure 7). Compromises and adjustments made up front to protect trees are easier, cheaper and more effective at saving trees. Incorporate the exact location of each tree's stem and its critical root area into the construction plan. Determine where construction conflicts will occur. Predict the extent of damage each tree's critical root area will receive. Prescribe how to adjust construction activities to protect tree roots and improve survival.



**Figure 7.** Mapping trees before construction can help determine which trees to save. Trees to be saved are numbered and tagged. Trees to be removed are marked with an x.

## How close can trees get to structures?

The ideal distance between a tree stem and structures is the critical root radius plus at least 10 feet (Table 4). This distance allows a protective fence around the entire critical root area and leaves enough room for normal construction activity.

Whenever a tree is closer than ideal to a structure, the protective fence may have to be moved closer to the tree, which exposes some of the critical root area to construction activity. An additional **Root Buffer** is needed to protect the exposed critical root area outside the fence. To create a root buffer, begin by covering the exposed critical root area with wood chips to a minimum 6-inch depth. Overlay this with quarry gravel to stabilize a working surface and place  $\frac{3}{4}$  inch plywood or mats on top. The root buffer should be maintained throughout the construction process.

Damage-resistant trees can be located within 20 feet of buildings and 10 feet of sidewalks. A combination of fencing and a root buffer will be needed to protect the roots (Table 4).

Structures must be kept outside the critical root radius of damage-susceptible trees (Table 4). Use a stem wrap to protect scaffold branches or the stem itself whenever they are exposed to construction injury. Wrap exposed tree parts with 2 inches of plastic orange fencing as padding and then securely bind 2x4s on the outside. During installation avoid damaging any bark or branches.

**Table 4.** Minimum distances between structures and trees and required tree protection.

Type of structure	Tolerance of tree to damage <sup>1</sup>	Minimum distance	Tree protection required
All	All	$CRR^2 + 10$ ft	Fence <sup>3</sup>
All	Susceptible	$CRR^2$	Fence <sup>3</sup> + Root Buffer <sup>4</sup>
Buildings	Resistant	Lessor of 20 ft or $CRR^2$	Fence <sup>3</sup> + Root Buffer <sup>4</sup> + Stem wrap <sup>5</sup>
Sidewalk or Driveway	Resistant	10 ft.	Fence <sup>3</sup> + Root Buffer <sup>4</sup> + Stem wrap <sup>5</sup> + Adjust construction

<sup>1</sup>Trees tolerance to construction damage classified using health, age, and species (see page 8 and Table 3)

<sup>2</sup> $CRR$ =Critical root radius (see page 6 and Table 2)

<sup>3</sup>Fence protecting  $CRR$  (see page 11)

<sup>4</sup>Buffer protecting roots outside fence (see page 14)

<sup>5</sup>Stem wrap to prevent a direct hit to stem

## What if a tree is too close?

Generally when a tree is closer to a structure than the minimum distance above your options are to remove the tree or move the structure. But in some situations you may consider alternative construction techniques. This includes ramping a walking surface over roots on a lifted slab. Or you could substitute driveway concrete with interlocking pavers or flexible paving, elevate porches on posts and brick or create flagstone walkways on sand. Seek out professional advice from an arborist on how to install these alternatives and still protect critical tree roots.

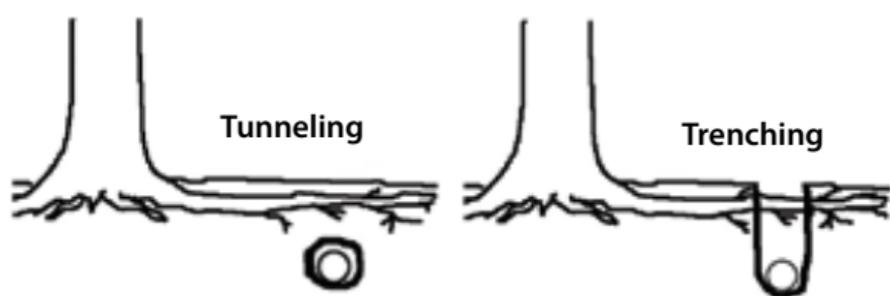
## Trenching

Trenching is any linear excavation for utility lines, foundations, roads, sidewalks and irrigation.

Foremost, protect the structural root plate from trenching. This plate can extend up to 11 feet from a tree stem (Table 2). Protecting the critical root area is also very important. Its size is also predicted using the stem diameter measurement (Table 2). No trenching machinery should ever be allowed in the critical root area.

Utility lines may be placed under the roots by digging a tunnel using a soil auger (Figure 8). Tunneling within the critical root area at a minimum depth of 2 feet will avoid most roots. Tunnel at least one foot deeper if utility is located directly under the stem.

Another option is to dig a trench that leaves the roots intact. This can be done with a pneumatic air excavator. Another option is careful hand digging below the roots from the side for short distances. Avoid trenching on hot, dry, or windy days. Protect exposed roots by immediately wrapping with wet burlap and keep moist. Do not leave the trench open for very long (1 hour is best), quickly replace the soil and soak with water to pack. If a root is severely damaged it heals quicker if a clean cut is made above the damage. Cut with a reciprocating saw or small pruning saw.



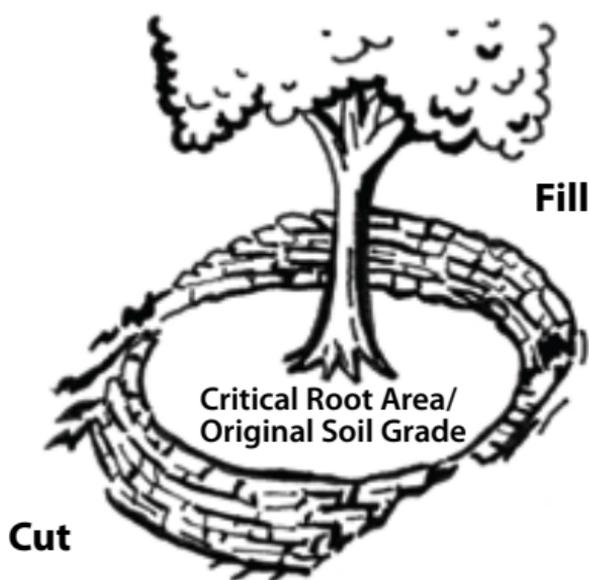
**Figure 8.** Utility lines may be placed near trees without root injury by tunneling underground. An alternative is trenching with a pneumatic air excavator or careful hand digging.

## Grade Changes

Ideally all grade changes (raising or lowering the level of the soil) should occur outside the critical root area (Figure 9). Large cuts and fills may require retaining walls to keep the original grade around a tree. Try to avoid any grade change that will drastically alter the water table or how water drains around trees. Add drains where the critical root area now collects water and provide extra watering to areas that are now excessively dry. Also do not allow machinery on the critical root area when changing grade, this will compact the soil.

Fill can damage root systems primarily by cutting off the oxygen and water supply. Within the critical root area the maximum depth of fill that will be allowed depends on the texture

of the fill material. Up to 8 inches of sand may be added without much damage to the roots. With the help of an arborist, you may be successful with fill mixtures up to 4 feet deep. But no fill should ever be allowed to touch the tree stem. That means either slowly taper down the fill or build a wall around the stem to protect it.



**Figure 9.** Retaining walls can keep original soil grade within the critical root area and allow deep cuts and/or fills to achieve the grade changes needed for construction.

Cuts in the critical root area can easily damage roots. Therefore we do not recommend lowering the grade in this area. A retaining wall outside the critical root area will allow cutting a lower grade for construction needs (Figure 9).

## 2. Preconditioning

Remove competition from weeds, vines, and grasses by clipping, not pulling. Spraying with Glyphosate is also effective. Correctly prune and remove all branches that will likely conflict with construction activities. This prevents ripped or broken branches (Johnson 2001).

Before construction begins, improve the soil conditions within the protected critical root area. The goal is to “bait” new roots into the protected

**Figure 10.** Aeration of soil to relieve compaction in critical root area.



area and away from unprotected soil. If the soil is already compacted then aerate on a regular basis, not just one time (Figure 10). Aeration applications can be made twice a year for two years, then once a year thereafter. Apply a low nitrogen, slow release fertilizer to stimulate root growth not more foliage (use a soil test to determine the amounts of N-P-K). The most important soil treatment is mulching the protection zone to a depth of 4 to 6 inches. Aged pine, cypress, and hardwood chips (wood and bark) are good mulches to add organic matter to the soil and hold water. Avoid placing mulch against the tree stem. If you plan to remove the mulch, place a synthetic weed free barrier fabric down before mulching to make removal much easier.

Watering is very effective in maintaining tree vigor. Use soaker hoses or another technique to apply one inch of water weekly on the critical root area during droughts. When trees are damaged and more frequent watering is needed, use a tensionmeter to determine when soil moisture is less than adequate. Do not use a timer to schedule watering, this usually provides too much water. An early application of paclobutrazol to the soil before construction begins also has been effective at encouraging trees to produce new roots and maintain health during construction. Evaluate the herbicides and soil sterilants that will be used near trees. Read the labels to make sure their application will not harm trees.

### 3. Supervision

Meet with all contractors. Express your desire to save trees and review the penalty clause for tree damage. Tell them your expectations, everyone is to leave intact the protective fencing and soil buffers. Assign someone the job of monitoring the fences daily. If any damage occurs immediately repair or mediate the injury.

### 4. After-Care

One of the most common soil disturbances during construction is soil compaction. Several treatments are available to ameliorate compaction and increase aeration.

1. Maintain and refresh the mulch layer of 4 to 6 inches annually.
2. Use a high pressure air spade or injector to create holes and fractures in the soil to provide air space (Figure 10). This should be done at least twice a year for several years.
3. Dig trenches one to two feet deep oriented like spokes of a wagon wheel around a tree. Pneumatic air excavators do this well. Replace the soil with a porous material.
4. Apply vertical mulching by drilling 2–3 inch diameter holes 12 inches deep using a power auger. Start beyond the tree's structural root plate and drill on 18 x 18 inch and up to 24 x 24 inch grid within the critical root zone. If large woody roots are encountered, avoid root damage by slightly moving the drill hole. Backfill the holes with compost, mulch, or other organic material.

To receive full benefits from a treatment apply immediately following damage. Do not let compaction move a tree down the mortality spiral before treating. These treatments can be effective individually and in combination with the tree growth regulator paclobutrazol.

## Need Help?

Expertise in tree care can be provided by arborists certified by the International Society of Arboriculture. A list of local certified arborists can be queried by zip code or city at [www.isa-arbor.com](http://www.isa-arbor.com). You may also contact the local office of the Mississippi Forestry Commission ([www.mfc.state.ms.us](http://www.mfc.state.ms.us)) or Mississippi State University Extension Service ([msucares.com](http://msucares.com)), both have certified arborists on staff.

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# Checklist

## 1. Mapping and Prescription

- Determine what the client desires and the relative importance of preserving trees.
- Inventory the construction site and prepare a map that identifies the soil, trees, vegetation, and other resources. Determine which trees are healthy, structurally sound, and located away from construction.

### **Include in the Construction Plan:**

- A map showing where protection fences are to be located and areas off limits to construction activity.
- List what alterations in construction are needed to protect important trees.

## 2. Preconditioning

- Build access roads and staging areas for construction workers. Ideally these should be part of the final site design. Confirm that soil sterilants to be used are safe for trees.
- Review with utility personnel the location of lines, trenching, and tunneling activities required.
- Cut and remove (do not pull) unwanted trees and vegetation in protected areas. Fertilize and mulch the protected root zone of trees to be saved.
- Install protective fences, drainage, and irrigation (if needed).
- Determine where to hold topsoil and where construction spoil will be piled.

## 3. Supervision

- Meet with the general contractor and agree on construction limits, sites for material storage, parking areas for workers, and location of trailer and portable toilets.

- Agree on material disposal, especially cement, paint, and plastic.
- Agree on water management. This includes erosion, storm-water run-off, and cleaning cement trucks.
- On the first day make sure someone is charged with protecting fences from encroachment.
- Install utility lines first, second driveways, walks, and parking, and third buildings.
- Check all last minute changes against the plan to ensure tree protection.
- Inspect the site twice a day.
- Provide extra water, fertilizer, and insect and disease control to protected trees.
- Prune/repair injured trees. Reestablish favorable soil conditions following any disturbance.
- Maintain mulch.

#### **4. After-Care**

- Remove temporary fences and irrigation systems.
- Rehabilitate compacted and eroded areas.
- Provide extra water, fertilizer, and insect and disease control to trees protected.
- Maintain mulch.

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## BMP T5.13 “POST CONSTRUCTION SOIL QUALITY AND DEPTH” IN THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON

*Excerpted from the Washington State Department of Ecology’s Stormwater Management Manual for Western Washington, Vol. V: Runoff Treatment BMPs, Chapter 5, pages 5-7 to 5-10 (or pages 95 to 98 in the online PDF file) as revised August 2012. “BMP” means “Best Management Practice”, a term used for techniques that are recommended or (in this case) required. The Manual can be found online at [www.ecy.wa.gov/programs/wq/stormwater/manual.html](http://www.ecy.wa.gov/programs/wq/stormwater/manual.html)*

### Purpose and Definition

Naturally occurring (undisturbed) soil and vegetation provide important stormwater functions including: water infiltration; nutrient, sediment, and pollutant adsorption; sediment and pollutant biofiltration; water interflow storage and transmission; and pollutant decomposition. These functions are largely lost when development strips away native soil and vegetation and replaces it with minimal topsoil and sod. Not only are these important stormwater functions lost, but such landscapes themselves become pollution generating pervious surfaces due to increased use of pesticides, fertilizers and other landscaping and household/industrial chemicals, the concentration of pet wastes, and pollutants that accompany roadside litter.

Establishing soil quality and depth regains greater stormwater functions in the post development landscape, provides increased treatment of pollutants and sediments that result from development and habitation, and minimizes the need for some landscaping chemicals, thus reducing pollution through prevention.

### Applications and Limitations

Establishing a minimum soil quality and depth is not the same as preservation of naturally occurring soil and vegetation. However, establishing a minimum soil quality and depth will provide improved on-site management of stormwater flow and water quality.

Soil organic matter can be attained through numerous materials such as compost, composted woody material, biosolids, and forest product residuals. It is important that the materials used to meet the soil quality and depth BMP be appropriate and beneficial to the plant cover to be established. Likewise, it is important that imported topsoils improve soil conditions and do not have an excessive percent of clay fines.

This BMP can be considered infeasible on till soil slopes greater than 33 percent.

### Design Guidelines

**Soil retention.** Retain, in an undisturbed state, the duff layer and native topsoil to the maximum extent practicable. In any areas requiring grading remove and stockpile the

duff layer and topsoil on site in a designated, controlled area, not adjacent to public resources and critical areas, to be reapplied to other portions of the site where feasible.

**Soil quality.** All areas subject to clearing and grading that have not been covered by impervious surface, incorporated into a drainage facility or engineered as structural fill or slope shall, at project completion, demonstrate the following:

- 1) A topsoil layer with a minimum organic matter content of 10% dry weight in planting beds, and 5% organic matter content in turf areas, and a pH from 6.0 to 8.0 or matching the pH of the undisturbed soil. The topsoil layer shall have a minimum depth of eight inches except where tree roots limit the depth of incorporation of amendments needed to meet the criteria. Subsoils below the topsoil layer should be scarified at least 4 inches with some incorporation of the upper material to avoid stratified layers, where feasible.
- 2) Mulch planting beds with 2 inches of organic material.
- 3) Use compost and other materials that meet these organic content requirements:
  - a) The organic content for “pre-approved” amendment rates can be met only using compost that meets the definition of “composted materials” in [WAC 173-350-100](http://www.wac.gov/wac/173-350-100). This code is available online at: <http://apps.leg.wa.gov/wac/default.aspx?cite=173-350>  
The compost must also have an organic matter content of 40% to 65%, and a carbon to nitrogen ratio below 25:1.  
The carbon to nitrogen ratio may be as high as 35:1 for plantings composed entirely of plants native to the Puget Sound Lowlands region.
  - b) Calculated amendment rates may be met through use of composted materials meeting (a.) above; or other organic materials amended to meet the carbon to nitrogen ratio requirements, and meeting the contaminant standards of Grade A Compost.

The resulting soil should be conducive to the type of vegetation to be established.

**Implementation Options.** The soil quality design guidelines listed above can be met by using one of the methods listed below:

- 1) Leave undisturbed native vegetation and soil, and protect from compaction during construction.
- 2) Amend existing site topsoil or subsoil either at default "pre-approved" rates, or at custom calculated rates based on tests of the soil and amendment.
- 3) Stockpile existing topsoil during grading, and replace it prior to planting. Stockpiled topsoil must also be amended if needed to meet the organic matter or depth requirements, either at a default "pre-approved" rate or at a custom calculated rate.
- 4) Import topsoil mix of sufficient organic content and depth to meet the requirements.

More than one method may be used on different portions of the same site. Soil that already meets the depth and organic matter quality standards, and is not compacted, does not need to be amended.

**Planning/Permitting/Inspection/Verification Guidelines & Procedures**

Local governments are encouraged to adopt guidelines and procedures similar to those recommended in *Guidelines and Resources For Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington*. This document is available at: [http://www.soilsforsalmon.org/pdf/Soil\\_BMP\\_Manual.pdf](http://www.soilsforsalmon.org/pdf/Soil_BMP_Manual.pdf)

**Maintenance**

- Establish soil quality and depth toward the end of construction and once established, protect from compaction, such as from large machinery use, and from erosion.
- Plant vegetation and mulch the amended soil area after installation.
- Leave plant debris or its equivalent on the soil surface to replenish organic matter.
- Reduce and adjust, where possible, the use of irrigation, fertilizers, herbicides and pesticides, rather than continuing to implement formerly established practices.

**Runoff Model Representation**

Areas meeting the design guidelines may be entered into approved runoff models as "Pasture" rather than "Lawn."

Flow reduction credits can be taken in runoff modeling when BMP T5.13 is used as part of a dispersion design under the conditions described in:

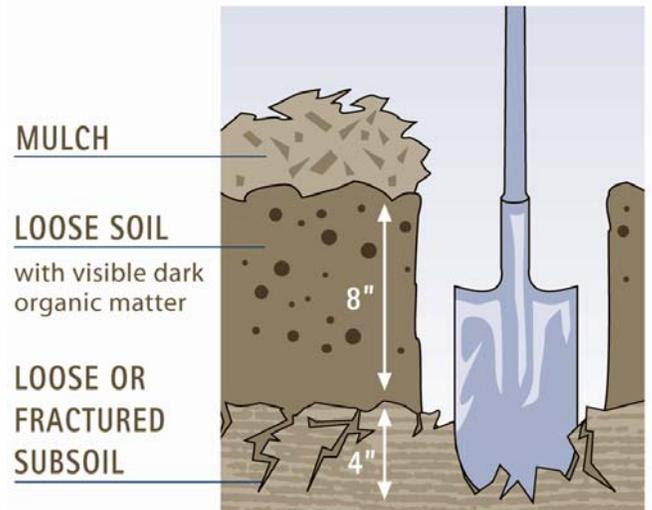
[BMP T5.10B Downspout Dispersion](#)

[BMP T5.11 Concentrated Flow Dispersion](#)

[BMP T5.12 Sheet Flow Dispersion](#)

[BMP T5.18 Reverse Slope Sidewalks](#)

[BMP T5.30 Full Dispersion](#) (for public road projects)



**Figure 5.3.3 – Planting bed Cross-Section**  
(Reprinted from *Guidelines and Resources For Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington*, 2010, Washington Organic Recycling Council)

**Related BMP's in the same volume (Vol. V, Ch. 5) of the Stormwater Management Manual for Western Washington** available online at [www.ecy.wa.gov/programs/wq/stormwater/manual.html](http://www.ecy.wa.gov/programs/wq/stormwater/manual.html)

- **BMP T5.40 Preserving Natural Vegetation** (pages 5-39 to 5-40 in paper Manual, or pages 127-128 in online PDF version)
- **BMP T5.41 Better Site Design** (pages 5-40 to 5-42 in paper Manual, or pages 128-130 in online PDF version)
- **See also Chapters 7 and 9 in on Infiltration and Biofiltration/Bioretenion BMPs** (Vol. V page 7-1 or 133 in PDF, and page 9-1 or 201 in PDF version)
- **and see Volume III, Appendix C "Low Impact Design and Flow Modeling Guidance"** (Vol. III, pages C-1 to C-13 in paper manual, or pages 163-175 in online PDF)

## **WAC 173-27-040**

### **Developments exempt from substantial development permit requirement.**

(1) Application and interpretation of exemptions.

(a) Exemptions shall be construed narrowly. Only those developments that meet the precise terms of one or more of the listed exemptions may be granted exemption from the substantial development permit process.

(b) An exemption from the substantial development permit process is not an exemption from compliance with the act or the local master program, nor from any other regulatory requirements. To be authorized, all uses and developments must be consistent with the policies and provisions of the applicable master program and the Shoreline Management Act. A development or use that is listed as a conditional use pursuant to the local master program or is an unlisted use, must obtain a conditional use permit even though the development or use does not require a substantial development permit. When a development or use is proposed that does not comply with the bulk, dimensional and performance standards of the master program, such development or use can only be authorized by approval of a variance.

(c) The burden of proof that a development or use is exempt from the permit process is on the applicant.

(d) If any part of a proposed development is not eligible for exemption, then a substantial development permit is required for the entire proposed development project.

(e) Local government may attach conditions to the approval of exempted developments and/or uses as necessary to assure consistency of the project with the act and the local master program.

(2) The following developments shall not require substantial development permits:

(a) Any development of which the total cost or fair market value, whichever is higher, does not exceed five thousand dollars, if such development does not materially interfere with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the Bureau of Labor and Statistics, United States Department of Labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the *Washington State Register* at least one month before the new dollar threshold is to take effect. For purposes of determining whether or not a permit is required, the total cost or fair market value shall be based on the value of development that is occurring on shorelines of the state as defined in RCW 90.58.030 (2)(c). The total cost or fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials;

(b) Normal maintenance or repair of existing structures or developments, including damage by accident, fire or elements. "Normal maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal repair" means to restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment;

(c) Construction of the normal protective bulkhead common to single-family residences. A "normal protective" bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the ordinary high water mark for the sole purpose of protecting an existing single-family residence and appurtenant structures from loss or damage by erosion. A normal protective bulkhead is not exempt if constructed for the purpose of creating dry land. When a vertical or near vertical wall is being constructed or reconstructed, not more than one cubic yard of fill per one foot of wall may be used as backfill. When an existing bulkhead is being repaired by construction of a vertical wall fronting the existing wall, it shall be constructed no further waterward of the existing bulkhead than is necessary for construction of new footings.

When a bulkhead has deteriorated such that an ordinary high water mark has been established by the presence and action of water landward of the bulkhead then the replacement bulkhead must be located at or near the actual ordinary high water mark. Beach nourishment and bioengineered erosion control projects may be considered a normal protective bulkhead when any structural elements are consistent with the above requirements and when the project has been approved by the department of fish and wildlife.

(d) Emergency construction necessary to protect property from damage by the elements. An "emergency" is an unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time too short to allow full compliance with this chapter. Emergency construction does not include development of new permanent protective structures where none previously existed. Where new protective structures are deemed by the administrator to be the appropriate means to address the emergency situation, upon abatement of the emergency situation the new structure shall be removed or any permit which would have been required, absent an emergency, pursuant to chapter 90.58 RCW, these regulations, or the local master program, obtained. All emergency construction shall be consistent with the policies of chapter 90.58 RCW and the local master program. As a general matter, flooding or other seasonal events that can be anticipated and may occur but that are not imminent are not an emergency;

(e) Construction and practices normal or necessary for farming, irrigation, and ranching activities, including agricultural service roads and utilities on shorelands, construction of a barn or similar agricultural structure, and the construction and maintenance of irrigation structures including but not limited to head gates, pumping facilities, and irrigation channels: Provided, That a feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the shorelands by leveling or filling other than that which results from normal cultivation, shall not be considered normal or necessary farming or ranching activities. A feedlot shall be an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, but shall not include land for growing crops or vegetation for livestock feeding and/or grazing, nor shall it include normal livestock wintering operations;

(f) Construction or modification of navigational aids such as channel markers and anchor buoys;

(g) Construction on shorelands by an owner, lessee or contract purchaser of a single-family residence for their own use or for the use of their family, which residence does not exceed a height of thirty-five feet above average grade level and which meets all requirements of the state agency or local government having jurisdiction thereof, other than requirements imposed pursuant to chapter 90.58 RCW. "Single-family residence" means a detached dwelling designed for and occupied by one family including those structures and developments within a contiguous ownership which are a normal appurtenance. An "appurtenance" is necessarily connected to the use and enjoyment of a single-family residence and is located landward of the ordinary high water mark and the perimeter of a wetland. On a statewide basis, normal appurtenances include a garage; deck; driveway; utilities; fences; installation of a septic tank and drainfield and grading which does not exceed two hundred fifty cubic yards and which does not involve placement of fill in any wetland or waterward of the ordinary high water mark. Local circumstances may dictate additional interpretations of normal appurtenances which shall be set forth and regulated within the applicable master program. Construction authorized under this exemption shall be located landward of the ordinary high water mark;

(h) Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single-family and multiple-family residences. A dock is a landing and moorage facility for watercraft and does not include recreational decks, storage facilities or other appurtenances. This exception applies if either:

(i) In salt waters, the fair market value of the dock does not exceed two thousand five hundred dollars; or

(ii) In fresh waters the fair market value of the dock does not exceed ten thousand dollars, but if subsequent construction having a fair market value exceeding two thousand five hundred dollars occurs within five years of completion of the prior construction, the subsequent construction shall be considered a substantial development for the purpose of this chapter.

For purposes of this section salt water shall include the tidally influenced marine and estuarine water areas of the state including the Pacific Ocean, Strait of Juan de Fuca, Strait of Georgia and Puget Sound and all bays and inlets associated with any of the above;

(i) Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that

now exist or are hereafter created or developed as a part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored groundwater from the irrigation of lands;

(j) The marking of property lines or corners on state-owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;

(k) Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed or utilized primarily as a part of an agricultural drainage or diking system;

(l) Any project with a certification from the governor pursuant to chapter 80.50 RCW;

(m) Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under this chapter, if:

(i) The activity does not interfere with the normal public use of the surface waters;

(ii) The activity will have no significant adverse impact on the environment including but not limited to fish, wildlife, fish or wildlife habitat, water quality, and aesthetic values;

(iii) The activity does not involve the installation of any structure, and upon completion of the activity the vegetation and land configuration of the site are restored to conditions existing before the activity;

(iv) A private entity seeking development authorization under this section first posts a performance bond or provides other evidence of financial responsibility to the local jurisdiction to ensure that the site is restored to preexisting conditions; and

(v) The activity is not subject to the permit requirements of RCW 90.58.550;

(n) The process of removing or controlling aquatic noxious weeds, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by a final environmental impact statement published by the department of agriculture or the department of ecology jointly with other state agencies under chapter 43.21C RCW;

(o) Watershed restoration projects as defined herein. Local government shall review the projects for consistency with the shoreline master program in an expeditious manner and shall issue its decision along with any conditions within forty-five days of receiving all materials necessary to review the request for exemption from the applicant. No fee may be charged for accepting and processing requests for exemption for watershed restoration projects as used in this section.

(i) "Watershed restoration project" means a public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of the plan and consists of one or more of the following activities:

(A) A project that involves less than ten miles of streamreach, in which less than twenty-five cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;

(B) A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or

(C) A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred square feet in floor area and is located above the ordinary high water mark of the stream.

(ii) "Watershed restoration plan" means a plan, developed or sponsored by the department of fish and wildlife, the department of ecology, the department of natural resources, the department of transportation, a federally recognized Indian tribe acting within and pursuant to its authority, a city, a county, or a

conservation district that provides a general program and implementation measures or actions for the preservation, restoration, re-creation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to chapter 43.21C RCW, the State Environmental Policy Act;

(p) A public or private project that is designed to improve fish or wildlife habitat or fish passage, when all of the following apply:

(i) The project has been approved in writing by the department of fish and wildlife;

(ii) The project has received hydraulic project approval by the department of fish and wildlife pursuant to chapter 77.55 RCW; and

(iii) The local government has determined that the project is substantially consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent.

Fish habitat enhancement projects that conform to the provisions of RCW 77.55.181 are determined to be consistent with local shoreline master programs, as follows:

(A) In order to receive the permit review and approval process created in this section, a fish habitat enhancement project must meet the criteria under (p)(iii)(A)(I) and (II) of this subsection:

(I) A fish habitat enhancement project must be a project to accomplish one or more of the following tasks:

- Elimination of human-made fish passage barriers, including culvert repair and replacement;
- Restoration of an eroded or unstable streambank employing the principle of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or
- Placement of woody debris or other instream structures that benefit naturally reproducing fish stocks.

The department of fish and wildlife shall develop size or scale threshold tests to determine if projects accomplishing any of these tasks should be evaluated under the process created in this section or under other project review and approval processes. A project proposal shall not be reviewed under the process created in this section if the department determines that the scale of the project raises concerns regarding public health and safety; and

(II) A fish habitat enhancement project must be approved in one of the following ways:

- By the department of fish and wildlife pursuant to chapter 77.95 or 77.100 RCW;
- By the sponsor of a watershed restoration plan as provided in chapter 89.08 RCW;
- By the department as a department of fish and wildlife-sponsored fish habitat enhancement or restoration project;
- Through the review and approval process for the jobs for the environment program;
- Through the review and approval process for conservation district-sponsored projects, where the project complies with design standards established by the conservation commission through interagency agreement with the United States Fish and Wildlife Service and the natural resource conservation service;
- Through a formal grant program established by the legislature or the department of fish and wildlife for fish habitat enhancement or restoration; and
- Through other formal review and approval processes established by the legislature.

(B) Fish habitat enhancement projects meeting the criteria of (p)(iii)(A) of this subsection are expected to result in beneficial impacts to the environment. Decisions pertaining to fish habitat enhancement projects meeting the criteria of (p)(iii)(A) of this subsection and being reviewed and approved according to the

provisions of this section are not subject to the requirements of RCW 43.21C.030 (2)(c).

(C)(I) A hydraulic project approval permit is required for projects that meet the criteria of (p)(iii)(A) of this subsection and are being reviewed and approved under this section. An applicant shall use a joint aquatic resource permit application form developed by the office of regulatory assistance to apply for approval under this chapter. On the same day, the applicant shall provide copies of the completed application form to the department of fish and wildlife and to each appropriate local government. Local governments shall accept the application as notice of the proposed project. The department of fish and wildlife shall provide a fifteen-day comment period during which it will receive comments regarding environmental impacts. Within forty-five days, the department shall either issue a permit, with or without conditions, deny approval, or make a determination that the review and approval process created by this section is not appropriate for the proposed project. The department shall base this determination on identification during the comment period of adverse impacts that cannot be mitigated by the conditioning of a permit. If the department determines that the review and approval process created by this section is not appropriate for the proposed project, the department shall notify the applicant and the appropriate local governments of its determination. The applicant may reapply for approval of the project under other review and approval processes.

(II) Any person aggrieved by the approval, denial, conditioning, or modification of a permit under this section may formally appeal the decision to the hydraulic appeals board pursuant to the provisions of this chapter.

(D) No local government may require permits or charge fees for fish habitat enhancement projects that meet the criteria of (p)(iii)(A) of this subsection and that are reviewed and approved according to the provisions of this section.

[Statutory Authority: RCW 90.58.030 (3)(e), 90.58.045,90.58.065 , 90.58.140(9), 90.58.143, 90.58.147, 90.58.200,90.58.355 , 90.58.390, 90.58.515, 43.21K.080, 71.09.250,71.09.342 , 77.55.181, 89.08.460, chapters 70.105D, 80.50 RCW. 07-02-086 (Order 05-12), § 173-27-040, filed 1/2/07, effective 2/2/07. Statutory Authority: RCW 90.58.140(3) and[90.58].200 . 96-20-075 (Order 95-17), § 173-27-040, filed 9/30/96, effective 10/31/96.]

## **WAC 173-27-080**

# **Nonconforming use and development standards.**

When nonconforming use and development standards do not exist in the applicable master program, the following definitions and standards shall apply:

(1) "Nonconforming use or development" means a shoreline use or development which was lawfully constructed or established prior to the effective date of the act or the applicable master program, or amendments thereto, but which does not conform to present regulations or standards of the program.

(2) Structures that were legally established and are used for a conforming use but which are nonconforming with regard to setbacks, buffers or yards; area; bulk; height or density may be maintained and repaired and may be enlarged or expanded provided that said enlargement does not increase the extent of nonconformity by further encroaching upon or extending into areas where construction or use would not be allowed for new development or uses.

(3) Uses and developments that were legally established and are nonconforming with regard to the use regulations of the master program may continue as legal nonconforming uses. Such uses shall not be enlarged or expanded, except that nonconforming single-family residences that are located landward of the ordinary high water mark may be enlarged or expanded in conformance with applicable bulk and dimensional standards by the addition of space to the main structure or by the addition of normal appurtenances as defined in WAC [173-27-040](#) (2)(g) upon approval of a conditional use permit.

(4) A use which is listed as a conditional use but which existed prior to adoption of the master program or any relevant amendment and for which a conditional use permit has not been obtained shall be considered a nonconforming use. A use which is listed as a conditional use but which existed prior to the applicability of the master program to the site and for which a conditional use permit has not been obtained shall be considered a nonconforming use.

(5) A structure for which a variance has been issued shall be considered a legal nonconforming structure and the requirements of this section shall apply as they apply to preexisting nonconformities.

(6) A structure which is being or has been used for a nonconforming use may be used for a different nonconforming use only upon the approval of a conditional use permit. A conditional use permit may be approved only upon a finding that:

(a) No reasonable alternative conforming use is practical; and

(b) The proposed use will be at least as consistent with the policies and provisions of the act and the master program and as compatible with the uses in the area as the preexisting use.

In addition such conditions may be attached to the permit as are deemed necessary to assure compliance with the above findings, the requirements of the master program and the Shoreline Management Act and to assure that the use will not become a nuisance or a hazard.

(7) A nonconforming structure which is moved any distance must be brought into conformance with the applicable master program and the act.

(8) If a nonconforming development is damaged to an extent not exceeding seventy-five percent of the replacement cost of the original development, it may be reconstructed to those configurations existing immediately prior to the time the development was damaged, provided that application is made for the permits necessary to restore the development within six months of the date the damage occurred, all permits are obtained and the restoration is completed within two years of permit issuance.

(9) If a nonconforming use is discontinued for twelve consecutive months or for twelve months during any two-year period, the nonconforming rights shall expire and any subsequent

use shall be conforming. A use authorized pursuant to subsection (6) of this section shall be considered a conforming use for purposes of this section.

(10) An undeveloped lot, tract, parcel, site, or division of land located landward of the ordinary high water mark which was established in accordance with local and state subdivision requirements prior to the effective date of the act or the applicable master program but which does not conform to the present lot size standards may be developed if permitted by other land use regulations of the local government and so long as such development conforms to all other requirements of the applicable master program and the act.

[Statutory Authority: RCW [90.58.140](#)(3) and [90.58].200. WSR 96-20-075 (Order 95-17), § 173-27-080, filed 9/30/96, effective 10/31/96