To: Planning Commission
From: Elliott Barnett, Planning Services Division
Subject: Shoreline Master Program (SMP) Periodic Review
Meeting Date: March 20, 2019
Memo Date: March 14, 2019

Action Requested:
Release the package for public review and comment.

Discussion:
On March 20, 2019 staff and consultants will summarize specific proposals for the two remaining topics related to the City’s SMP Periodic review. On February 20th, the Commission provided direction on the majority of subject matters. With Commission direction on the two remaining topics, staff will seek Commission authorization to package and release the proposals for public comment. The two remaining topics are: 1) proposed updates to geologically hazardous area standards; and, 2) proposed updates related to regulatory review of vegetation removal not associated with a development.

Summary:
The Shoreline Management Act (SMA) requires a periodic review of Shoreline Master Programs (SMPs). Local governments must review amendments to the SMA and Ecology rules that have occurred since the master program was last amended, and determine if local amendments are needed to maintain compliance. Local governments must also review changes to the comprehensive plan and development regulations to determine if the SMP policies and regulations remain consistent with them. Local governments should consider during their periodic review whether to incorporate any amendments needed to reflect changed circumstances, new information or improved data. Tacoma’s periodic review must be completed by June 30, 2019.

Prior Actions:
June 6, 2018–Commission public hearing on the 2019 Amendments.
June 20, 2018–Commission accepted application, concluded scoping, initiated analysis.
December 5, 2018—the Commission provided preliminary direction on the scope of work.
February 20, 2019—the Commission provided direction on the majority of the proposals.

Staff Contact:
Elliott Barnett, Senior Planner, elliott.barnett@cityoftacoma.org, or (253) 591-5389.

Attachments:
1. Geologically Hazardous Areas standards recommendations overview
2. Remaining topics recommendations: TSMP Section 6.4.7 - Geologically Hazardous Areas and Section 6.6.2.3. Administrative Review process for Vegetation Removal
3. Updated Issues & Recommendations table
4. Updated DOE Periodic Review Checklist

c: Peter Huffman, Director
Geologically Hazardous Areas standards recommendations overview

Per the requirements of the SMP Periodic Review to evaluate whether changes are needed to address changed circumstances, new information or improved data, the City initiated review of the adequacy of current geologically hazardous areas standards within Shoreline Districts. The last substantive update to the City’s standards for Geologically Hazardous Areas occurred in 2004. Since that date, progress has been made in scientific understanding of the risks associated with development near erosion and landslide hazard areas. Furthermore, the state has updated geologically hazardous areas classifications which must be reflected in Tacoma’s standards.

The City hired Robinson Noble, a geotechnical firm, to provide expertise in evaluating Tacoma’s current geologically hazardous area standards. Robinson Noble collaborated with City staff to review Best Available Science (BAS) on this topic, and to review Tacoma’s existing standards to determine whether the standards reflect BAS. On February 8, 2019, Robinson Noble provided a technical memorandum identifying gaps in Tacoma’s standards and recommending updates informed by BAS as well as by benchmarking review of best practices from other jurisdictions in the region. The project team utilized this input to develop recommended geologically hazardous standards changes, summarized below.

Integrating these changes to Tacoma’s current standards will significantly improve the City’s capacity to identify, assess and appropriately review development proposals located in proximity to potential hazards in shoreline districts.

Recommended Geologically Hazardous Area standards updates summary

Revisions to TSMP Section 6.4.7 – Geologically Hazardous Areas Regulations would include the following:

- Update classifications to be consistent with state requirements.
- Add Shoreline Erosion Hazard Areas as a subcategory to Erosion Hazard Areas. These include land areas adjacent to marine waters that are regressing, retreating, or potentially unstable.
- Include Landslide Areas as a subcategory for Active Landslide Areas. Active Landslide Areas include areas that have experienced historical landslide movement in the past century, unstable areas that exhibit geological and geomorphologic evidence of past slope instability or landsliding, or possess geological indicators determined through a geotechnical report to be presently failing or subject to future landslide activity.
- Add standards for each category to be consistent with Best Available Science and guidance.
- Clarify that the geological buffer extends from the edge of the entire geological hazard areas, including top and toe of slope.

NOTE: This topic summary will be integrated into the Staff Report to provide background and explanation of the proposals.
• Clarify that buffer modifications are subject to mitigation sequencing as is the case with all other critical areas. Mitigation sequencing requires avoidance as the first measure.
• Update allowances for small projects approval without a geotechnical analysis.
• Specify submittal requirements for Geological Reports.
• Specify that the City may require Third Party Review when the professional opinions of an applicant’s representative and the Department’s reviewers cannot be reconciled.

Improved mapping

Implementing the proposed standards would be informed by up-to-date geological hazards maps developed by the Washington State Department of Natural Resources (DNR) in 2017 for Pierce County, Washington.

Mapping data is utilized by the City at the preliminary stages of review to help determine the level and type of technical studies required in association with a development proposal. No data set is detailed enough to be conclusive regarding risks on a specific site and development. However, DNR’s mapping is a significant improvement over the data that the City previously utilized for preliminary risk assessment.

Previously, the City utilized degree of slope as the primary predictor of geological hazard risk. In contrast, using the DNR Landslide Survey for Pierce County in the City’s landslide hazard mapping improves capacity to identify and assess potential risks.

DNR Landslide and Inventory, Susceptibility, and Exposure Analysis of Pierce County, Washington (Published July, 2017)

• Includes detailed mapping of landslide deposits
• Includes limited field verification
• Includes susceptibility mapping
  Susceptibility mapping describes the likelihood of future landslides in a given area based on modeling utilizing information from landslide inventories, geological information, engineering properties, and slope geometry. Susceptibility is mapped for both shallow (upper soil layer) and deep (tens to hundreds) of feet deep.

City Steep Slope Layers

• Limited to slope gradient and elevation

See examples, below.
EXAMPLE:
DNR map showing landslide deposit including scarp, flank and landslide deposit.

City of Tacoma Steep Slopes map showing gradient and elevation.

- < 25% Slope
- 25% - 40% Slope
- > 40% Slope
EXAMPLE:

DNR map showing landslide deposit including scarp, flank and landslide deposit.

City of Tacoma Steep Slopes map showing gradient and elevation.

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City of Tacoma Steep Slopes map showing gradient and elevation.

< 25% Slope
25% - 40% Slope
> 40% Slope
SMP Periodic Review: Remaining topics recommendations

On February 20, 2019 the Commission gave guidance on the majority of topics in the project scope. Once the Commission addresses the remaining topics, staff will seek authorization to release the assembled package for public review and comment.

Topics List:

<table>
<thead>
<tr>
<th>Row</th>
<th>Topic</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Changes required by Ecology (DOE Checklist)</td>
<td>Approved for public review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(The DOE Periodic Review Checklist has been updated per Commission direction)</td>
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<tr>
<td>2.</td>
<td>Geologically Hazardous Areas</td>
<td>SEEKING DIRECTION</td>
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<tr>
<td>3.</td>
<td>Biodiversity Areas and Corridors</td>
<td>Approved for public review</td>
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<tr>
<td>4.</td>
<td>Sea Level Rise</td>
<td>Approved for public review</td>
</tr>
<tr>
<td>5.</td>
<td>Base Flood Elevation</td>
<td>Approved for public review</td>
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<tr>
<td>6.</td>
<td>Salmon Beach Community</td>
<td>Approved for public review</td>
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<tr>
<td>8.</td>
<td>Review Process clarification</td>
<td>SEEKING DIRECTION</td>
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<td>9.</td>
<td>Improve consistency with citywide standards</td>
<td>Approved for public review</td>
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<tr>
<td>10.</td>
<td>Language and terminology clarifications</td>
<td>Approved for public review</td>
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<td></td>
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<td>(Additional non-substantive cleanups will be integrated in public review draft)</td>
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<tr>
<td>11.</td>
<td>Wapato Lake</td>
<td>Removed from the scope</td>
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</table>

Recommended revisions to the following TSMP sections are included below:

TSMP 2.5 Non-Conforming Uses and Development

TSMP 6.4.7 Geologically Hazardous Areas

TSMP 6.6 Vegetation Conservation
2.5 Non-Conforming Uses and Development

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B. Nonconforming Structures

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4. A non-conforming single-family, overwater structure may expand the overall height of the structure in the following limited circumstances:

a. The expansion may increase the height up to 25 feet from the deck level, provided it is consistent with the following limitations, which apply for all modifications or additions at any scale reviewed under this subsection:

i. The structure meets Base Flood Elevation requirements;

ii. The expansion meets or exceeds requirements for no net loss of ecological functions by avoiding, minimizing, and mitigating any adverse impacts, including shading;

iii. The expansion meets the geological hazards geo-setback requirements outlined in Section 6.4.7, provided that the outcome reduces the risk to life and property. Any proposed height increase for non-conforming single-family overwater structures shall meet the minimum 50-foot geo-setback from the toe of the slope in all cases.

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6.4.7 Geologically Hazardous Areas

Geologically hazardous areas are critical areas susceptible to severe erosion, landslide activity, or other geologic events. In the City of Tacoma shoreline, high marine bluffs, like those along the Tacoma Narrows, are the most visible type of geologically hazardous area, although seismic, tsunami and erosion hazards have also been mapped.

The more severe hazard areas are may not be suitable for placing structures or locating intense activities or uses due to the inherent threat to public health and safety. Vegetation removal during construction and development near the top of the slope of adjacent properties alters surface runoff and ground water infiltration patterns that can lead to increased slope instability. Erosion or wave action at the toe of the slope can also lead to increased slope instability.

A certain level of erosion of shorelines and marine bluffs is natural to the Puget Sound area. Erosion from “feeder bluffs” is the primary source of sand and gravel found on beaches including accretion beaches (gravel bars, sand pits and barrier beaches). Extensive “hardening” of feeder bluff areas can eventually starve beaches down drift of the bluff, resulting in lowered beach profiles and the potential for increased erosion. Changes in the beach substrate resulting from reduced sediment deposition may result in negative habitat impacts along the shoreline. Erosion and accretion are natural processes that provide ecological functions and thereby contribute to sustaining the natural resource and ecology of the shoreline. Sea level rise may increase the rates of erosion at the base of steep slopes causing an increase in the susceptibility of geologically hazard areas to severe erosion or future landslide.

A. Designation.

1. Designation of Geologically Hazardous Areas. Geologically hazardous areas include areas susceptible to erosion, landslide, earthquake, or other geological events. Areas susceptible to one or more of the following types of geo-hazards shall be designated as a geologically hazardous area:

   a. Erosion hazard;
   b. Landslide hazard;
   c. Seismic hazard;
   d. Mine hazard;
   e. Volcanic hazard; and
   f. Tsunami hazard.

B. Classification

1. Erosion Hazard Areas. Erosion hazard areas generally consist of areas where the combination of slope and soil type makes the area susceptible to erosion by water flow, either by precipitation or by water runoff. Concentrated stormwater runoff is a major cause of erosion and soil loss. Erosion hazard critical areas include the following two sub-classifications:

   a. Shoreline Erosion Hazard Areas: lands located directly adjacent to freshwater or marine waters that, through the geological assessment process, are identified as regressing, retreating or potentially unstable as a result of undercutting by wave action.
or bluff erosion. The limits of active shoreline erosion hazard areas shall extend landward to include that land area that is calculated, based on the rate of regression, to be subject to erosion processes within the next 10-year time period. These areas include the following:

i. Existing item in Section 13.10.6.4.7(B)(1)(b);

ii. Areas with active bluff retreat that exhibits continuing sloughing or calving of bluff sediments, resulting in a vertical or steep bluff face with little or no vegetation; and

iii. Areas with active land retreat as a result of wave action.

b. Soil Erosion Hazard Areas: lands not located directly adjacent to freshwater or marine waters that, through the geological assessment process, area identified as susceptible to erosion. Soil erosion hazard critical areas include the following:

vi.i. Areas with high probability of rapid stream incision, stream bank erosion or coastal erosion, or channel migration.

vi.ii. Areas defined by the Washington Department of Ecology Coastal Zone Atlas as one of the following soil areas: Class U (Unstable) includes severe erosion hazards and rapid surface runoff areas, Class Uos (Unstable old slides) includes areas having severe limitations due to slope, Class Urs (Unstable recent slides), and Class I (Intermediate).

iii. Any area characterized by slopes greater than 15 percent; and the following types of geologic units as defined by draft geologic USGS maps: m (modified land), Af (artificial fill), Qal (alluvium), Qw (wetland deposits), Qb (beach deposits), Qtf (tide-flat deposits), Qls (landslide deposits), Qmw (mass-wastage deposits), Qf (fan deposits), Qvr and Qvs series of geologic material types (Vashon recessional outwash and Steilacoom Gravel), and Qvi (Ice-contact deposits).

vi.iv. Areas classified as having severe or very severe erosion potential by the Soil Conservation Services, United States Department of Agriculture.

Slopes steeper than 25% and a vertical relief of 10 or more feet.

2. Landslide Hazard Areas. Landslide hazard areas are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope, slope aspect, structure, hydrology, or other factors. Landslide hazard areas are identified as any area with meeting all three of the following characteristics:

a. Any slope area with the combination of the following three characteristics:

i. Slopes steeper than 25% and a vertical relief of ten (10) or more feet.

ii. Hillsides intersecting geologic contacts that contain impermeable soils (typically silt and clay) frequently inter-bedded with permeable granular soils (predominantly sand and gravel), or impermeable soils overlain with permeable
soils with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and.

 iii. Springs or groundwater seepage.

 a. Any area which has exhibited movement during the Holocene epoch (from 10,000 years ago to present) or that are underlain or covered by mass wastage debris of that epoch.

 b. Any area potentially unstable due to rapid stream incision, stream bank erosion or undercutting by wave action.

 c. Any area located on an active alluvial fan presently subject to, or potentially subject to, inundation by debris flows or deposition of stream-transported sediments catastrophic flooding.

 d. Any area where the slope is greater than the angle of repose of the soil.

 e. Any shoreline designated or mapped as Class U, Uos, Urs, or I by the Washington Department of Ecology Coastal Zone Atlas.

 f. Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;

 g. Slopes having gradients steeper than 80 percent subject to rockfall during seismic shaking.

 h. Any area with a slope of 40 percent or steeper and with a vertical relief of 10 feet or more except areas composed of bedrock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief.

 i. Any area within the City mapped by the Pierce County landslide inventory prepared by Washington State Department of Natural Resources (DNR) and LIDAR imagery.

 k. Landslide Hazard sub-classifications: Landslide hazard areas shall be classified into categories which reflect each landslide hazard areas past landslide activity and the potential for future landslide activity based on an analysis of slope instability. Landslide hazard areas shall be designated as follows:

 i. Active Landslide Areas. A composite of the active landslides and/or unstable areas, including that portion of the top of slope and slope face subject to failure and sliding as well as toe of slope areas subject to impact from down slope run-out, identified and mapped during a geological assessment of a site. An active landslide hazard area exhibits one or more of the following:

 1) Areas of historical landslide movement on a site which have occurred in the past century including areas identified on the Coastal Zone Atlas of Washington, Volume VII, Pierce County as Urs (unstable recent slide).
2) Areas identified as active or unstable areas mapped by Washington State DNR in the Pierce County landslide inventory dated 2017.

3) Unstable areas that exhibit geological and geomorphologic evidence of past slope instability or landsliding or possess geological indicators (stratigraphy, ground water conditions, etc.), that have been determined through a geotechnical report to be presently failing or may be subject to future landslide activity. The impact of the proposed development activities must be considered in defining the extent of the active area table areas that exhibit.

4) Interim areas are located between areas identified through a geotechnical report as an active landslide hazard area. Interim areas will be considered part of the active landslide hazard area if the required top of slope or toe of slope landslide hazard area buffer encompasses the area.

   ii. Inactive Landslide Areas. Areas that have been identified as potential landslide hazard areas, but, through the geological assessment process per Section 6.4.7(L), meet one of the following conditions:
   1) No indicators exist that indicate the potential for future landslide activity to occur.
   2) A slope stability analysis has indicated that there is no apparent landslide potential.
   3) Adequate engineering or structural measures have been provided in a geotechnical report that mitigates the potential for a future landslide to occur as a result of current or past development activity. The engineering or structural measures must provide a minimum factor of safety of 1.5 static conditions and 1.1 for dynamic conditions. Analysis of dynamic (seismic) conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code. The engineering or structural measures must be completed, inspected and accepted for the area to be deemed stable. Construction sequencing recommendations must be provided by the geotechnical professional when a proposed development will be constructed concurrently with the engineering or structural measures.
   4) A geotechnical report has been prepared and the results of that report indicate that an area is not an active landslide hazard area.

3. Seismic Hazard Areas. Seismic hazard areas shall include areas subject to severe risk of damage as a result of seismic-induced settlement, shaking, lateral spreading, surface faulting, slope failure, or soil liquefaction. These conditions occur in areas underlain by soils of low cohesion or density usually in association with a shallow groundwater table. Seismic hazard areas shall be as defined by the Washington Department of Ecology Coastal Zone Atlas (Seismic Hazard Map prepared by GeoEngineers) as: Class U (Unstable), Class Uos (Unstable old slides), Class Urs (Unstable recent slides), Class I (Intermediate), and Class M (Modified) as shown in the Seismic Hazard Map. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington, and ground settlement may occur with shaking. The strength of ground shaking is primarily affected by:
a. The magnitude of an earthquake;
b. The distance from the source of an earthquake;
c. The type or thickness of geologic materials at the surface;
d. The type of subsurface geologic structure; and
e. Basin amplification effects as defined in the current IBC

3.4. **Mine Hazard Areas.** Mine hazard areas are those areas underlain by or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings. Underground mines do not presently exist within City limits.

4.5. **Volcanic Hazard Areas.** Volcanic hazard areas are areas subject to pyroclastic flows, lava flows, debris avalanche, and inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity. The most likely types of volcanic hazard within the City are mudflows, lahars, or flooding relating to volcanic activity. The boundaries of the volcanic hazard areas within the City are shown in the volcanic hazard map.

5.6. **Tsunami Hazard Areas.** Tsunami hazard areas are coastal areas and large lake shoreline areas susceptible to flooding and inundation as the result of excessive wave action derived from seismic or other geologic events. Currently, no specific boundaries have been established in the City limits for this type of hazard area.

C. **Standard Buffers**

1. **Determining erosion hazard area buffer width:**
   
a. The buffer width shall be measured on a horizontal plane from a perpendicular line established at the edge of the erosion hazard area limits.

b. An undisturbed buffer of existing vegetation shall be required for an erosion hazard area. The required buffer width is the greatest amount of the following distances:
   
i. 50 feet from all edges of the erosion hazard area limits;

ii. A distance of one-third the height of the slope if the regulated activity is at the top of the slope and a distance of one-half the height if the regulated activity is at the bottom of the slope; or

iii. The minimum distance recommended by the geotechnical professional measured from the edge of the erosion hazard area.

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1 An underground structure, consisting of a partially completed underground railroad tunnel, exists within City limits, as defined in the mine hazard areas map. The tunnel was constructed in 1909 and discontinued that same year due to excessive groundwater flows within the tunnel. The dimensions of the tunnel are presently unknown, and it was reportedly backfilled with wood, sand, and gravel in 1915.
2. Determining landslide hazard area buffer width:

   a. The buffer width shall be measured on a horizontal place from a perpendicular line established at the edge of the landslide hazard area limits (both from the top and toe of the slope).

   b. A buffer of undisturbed vegetation shall be required for a landslide hazard area. The required buffer is the greater amount of the following distances:

      i. 50 feet from all edges of the landslide hazard area limits; or

      ii. A distance of one-third the height of the slope if the regulated activity is at the top of the active landslide hazard area and a distance of one-half the height of the slope if the regulated activity is at the bottom of a landslide hazard area, or

      iii. The distance recommended by a qualified geotechnical professional measured from the edge of the landslide hazard area.

3. Buffer Modification:

   a. Modifications to the shoreline erosion and/or landslide hazard area buffer consistent with TSMP 6.4.7(E) as applicable may be considered at the approval by the Director if the modification is found to meet TSMP 6.4.7(K).

   b. All proposed modifications to a standard erosion hazard or landslide hazard buffer remain subject to mitigation sequencing and any unmitigated impacts resulting from a buffer modification are required to be compensated for consistent with TSMP 6.4.2(A) through (E) to achieve no net loss of ecological functions.

   c. All uses and development must meet the standards in TSMP 6.4.7(F)11.

4. Structure Setback:

   a. The structure setback is the distance measured from the edge of the geologic hazard area buffer.

   b. The minimum setback for structures from geologic hazard areas and their buffers will be determined based on a site specific geotechnical study.

D. Small Project Waiver

1. The Director may approve new, non-habitable accessory structures or additions to existing principal structures in a landslide hazard or erosion hazard area or buffer if no construction occurs over or within any other critical area or buffer, and if the applicant demonstrates that the proposal meets the following criteria:

   a. The new accessory structure or addition to an existing principal structure is on a lot that has been in existence as a legal building site prior to October 31, 1992;

   b. The development is consistent with TSMP 2.5(B) (Non-conforming Structures);
c. The new accessory structure less than 1,000 square feet of floor area, whichever is greater for existing residences;

d. Addition to existing residences, including decks that have a maximum 250 square feet footprint of building, deck or roof area, whichever is greater, and are not closer to the top or toe of the slope than the existing residence;

e. The installation of fences where they do not impede emergency access;

f. Removal of noxious or invasive weeds, provided such areas are protected from erosion with either native vegetation or other approved erosion protection;

g. It is not practicable to build the accessory structure or addition to an existing principal structure for the intended purpose outside of the landslide or shoreline erosion hazard area or buffer;

h. The location of the accessory structure or addition to an existing principal structure minimizes the impact on the steep slope erosion hazard area and/or buffer; and

i. In landslide hazard areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

2. Director's Decision:

   a. The Director shall require the use of fencing with a durable and visible protective barrier during the construction to protect the remainder of the shoreline erosion hazard area and buffer.

   b. The Director shall require additional measures to protect the remainder of the shoreline erosion hazard area and buffer from the impacts of approving new accessory structures or additions to existing principal structures.

C.E. General Regulations

1. The following regulations apply to all geologically hazardous areas:

   a. New development, modification to existing structures, or the creation of new lots that would cause foreseeable risk from geological conditions to people or improvements during the life of the development shall be prohibited.

   b. New development, modification to existing structures, or the creation of new lots that would require structural shoreline stabilization over the life of the development shall be prohibited, except where:

      i. stabilization is necessary to protect an permitted use; and

      ii. no alternative location is available; and

      iii. no net loss of ecological functions will result.

   c. Under such circumstances, the stabilization measures shall conform to all provisions included in Chapter 8 of this Program.
e. d. Any alteration shall not adversely impact other critical areas.

c. Stabilization structures or measures to protect existing primary residential structures may be permitted where no alternatives, including relocation or reconstruction of existing structures, are found to be feasible, and less expensive than the proposed stabilization measure provided they are designed and constructed consistent with the provisions of Chapter 8 of this Program.

f. Any development, encroachment, filling, clearing, or grading, timber harvest, building structures, impervious surfaces, and vegetation removal within geologically hazardous areas and associated buffers shall be prohibited except as specified in TSMP 6.4.7(F-K).

F. Erosion and Landslide Hazards - Development Standards

1. In addition to the general regulations set forth in Section E. above, development and activities within an erosion or landslide hazard critical area or their associated buffers shall incorporate the following additional standards in design of the proposal as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.

a. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

b. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

c. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

d. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

e. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;

f. Where change in grade outside the building footprint is necessary the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with these criteria;

g. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;

h. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not
technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;

i. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and

j. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of this Program.

2. The development shall not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions. Note that point discharges onto adjacent properties is not permitted without approved easements. Dispersed flows meeting pre-developed flows will be permitted provided other development standards can be met.

3. Structures and improvements shall minimize alterations to the natural contour of the slope, and the foundation shall be tiered where possible to conform to existing topography. Terracing of the land; however, shall be kept to a minimum to preserve natural topography where possible. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation.

4. Development shall be designed to minimize impervious lot coverage. All development shall be designed to minimize impervious lot coverage and should incorporate understructure parking and multi-level structures within the existing height limit.

5. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation.

6. Removal of vegetation shall be minimized and only that which is needed to accommodate a permitted structure. Any replanting that occurs shall consist of trees, shrubs, and ground cover that is compatible with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival.

7. The proposed development shall not result in greater risk or need for increased geo-buffers on neighboring properties.

8. Structures and improvements shall be clustered where possible. Driveways and utility corridors shall be minimized through the use of common access drives and corridors where feasible. Access shall be in the least sensitive area of the site.

9. Shoreline Erosion Hazards - Standards

   i. Shoreline Erosion Protection Measures. Shoreline Erosion Protection measures located within or adjacent to freshwater or marine shorelines shall be allowed subject to the following:

      (1) The proposed shoreline protection shall comply with the standards set forth in TMC 3.10.6.4.4 (Fish and Wildlife Habitat Conservation Areas):
(2) A geological assessment has been conducted in accordance with the provisions set forth in TSMP 6.4.7(L);

(3) The use of shoreline erosion protection measures will not cause a significant adverse impact on adjacent properties;

(4) The use of the shoreline erosion protection measure will not cause a significant adverse impact on critical fish and wildlife species and their associated habitat;

(5) The use of soft armoring techniques (soil bioengineering erosion control measures as identified in the State Department of Ecology and the Department of Fish and Wildlife guidance) is the preferred method for shoreline protection;

(6) Hard armoring shoreline erosion control measures shall be approved only when a geotechnical report as set forth in TSMP 6.4.7(L) has been completed and indicates the following:

   (a) The use of beach nourishment alone or in combination with soft armoring techniques is not adequate to protect the property from shoreline erosion processes; and

   (b) The property contains an existing structure that will be threatened within the next 10 years or the buildability of an undeveloped site will be threatened within the next 10 years if a hard armoring method of shoreline erosion protection is not provided.

(7) Hard armoring shoreline protection measures shall not be allowed for protection of proposed structures when it is determined that the proposed structures can be located landward of the 120-year regression area.

ii. Stormwater conveyance. Surface drainage into an active shoreline erosion hazard area should be avoided. If there are no other alternatives for discharge, then drainage must be collected upland of the top of the active shoreline erosion hazard area and directed downhill in a high density polyethylene stormwater pipe with fuse welded joints that includes an energy dissipating device at the base of the active shoreline erosion area. The pipe shall be located on the surface of the ground and be properly anchored so that it will continue to function under shoreline erosion conditions. The number of these pipes should be minimized along the slope frontage.

iii. Utility lines. Utility line will be permitted when no other conveyance alternative is available. The line shall be located above ground and properly anchored and/or designed so that it will continue to function under shoreline erosion conditions.

iv. Roads, bridges and trails: Roads, bridges, and trails shall be allowed when all of the following conditions have been met:

   (1) Mitigation measures are provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from active erosion; a
(2) The road is not a sole access for a development.

10. Soil Erosion Hazards – Standards


11. Active Landslide Hazards - Standards

a. Any new development, encroachment, filling, clearing or grading, impervious surfaces, and vegetation removal is prohibited within an Active Landslide Hazard Area and buffers except as specified in the following specific instances:

i. Stormwater Conveyance. Stormwater conveyance shall be allowed when it is conveyed through a high-density polyethylene stormwater pipe with fused joints and when no other stormwater conveyance alternative is available. The pipes shall be located on the surface of the ground and be properly anchored so that it will continue to function in the event of an underlying slide.

ii. Utility Lines. Utility lines will be permitted when no other conveyance alternative is available. The line shall be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Utility lines may be permitted when it can be show that no other route alternative is available.

iii. Trails. Trails shall be allowed when all of the following conditions have been met:

   1. The removal or disturbance of vegetation, clearing or grading shall be prohibited during the wet season (November 1 through May 1);
   2. The proposed trail shall not decrease the existing factor of safety within the active landslide hazard area, or any required buffer;
   3. The proposed trail cannot be located outside of the active landslide hazard area or its associated buffer due to topographic or site constraints;
   4. The proposed trail is for non-vehicular use only, and is no wider than 4 feet;
   5. Trails shall not be sited within active landslide hazards or their associated buffers when there is such a high risk of landslide activity that use of the trail would be hazardous;
   6. Trails shall be designed and constructed using an engineered drainage system or other methods to prevent the trail from channeling water.

b. No small projects waivers as described in TSMP Section 6.4.7.D are allowed in active landslide hazard areas and their buffers.

D.G. Seismic Hazard Areas - General Development Standards
1. A hazard analysis report, consistent with the requirements of TSMP 6.4.7(L), which shall include the information specified in TMC 13.11.730(D)(2), will be required for structures and improvements in a seismic hazard area. All developments shall be required to comply with the requirements of the most recently adopted edition of the International Building Code. The following types of projects will not require a seismic hazard analysis report:

   a. Construction of new buildings with less than 2,500 square feet of floor or roof area, whichever is greater, and which are normally unoccupied structures, not residential structures or used as places of employment or public assembly.

   b. Additions to existing residences, including decks that have a maximum 250 square feet footprint of building, deck or roof area, whichever is greater.

   c. Installation of fences where they do not impede emergency access.

2. The exceptions above may not apply to areas that are also landslide hazard areas.

3. All developments shall be required to comply with the requirements of the most recently adopted edition of the International Building Code.

**E.H. Volcanic Hazard Areas - General Development Standards**

1. Development in volcanic hazard areas shall comply with the zoning and Building Code requirements of the TMC. New developments in volcanic hazard areas shall be required to submit an evacuation and emergency management plan, with the exception of the following:

   a. Construction of new buildings with less than 2,500 square feet of floor area or roof area, whichever is greater, and which are normally unoccupied structures, not residential structures or used as places of employment or public assembly;

   b. Additions to existing residences, including decks that have a maximum 250 square feet footprint of building, deck or roof area, whichever is greater; and

   c. Installation of fences where they do not impede emergency egress.

**F.I. Mine Hazard Areas - General Development Standards**

1. Critical facilities, as defined by the currently adopted version of International Building Code, are not permitted in the area of the former railroad tunnel. Other development within 50 feet of the mapped location of the former railroad tunnel shall be required to perform a hazard analysis that includes the information specified in TMC 13.11.730(F).
G.J. Tsunami Hazard Areas - General Development Standards

1. Development in tsunami hazard areas shall comply with the zoning and Building Code requirements of the TMC. There are no other specific development standards for tsunami hazard areas.

K. Approval of Geologic Hazard Modification

Modifications to geologic hazard critical areas and their associated buffers shall only be approved if the Director determines that the modification:

1. Will not increase the threat of the geological hazard to adjacent properties over conditions that would exist if the provision of this part were not modified;

2. Will not adversely impact other critical areas;

3. Is designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than would exist if the provisions of this part were not modified;

4. Is certified as safe as designed and under anticipated conditions by a qualified geotechnical engineer or geologist, licensed in the state of Washington;

5. The applicant provides a geotechnical report prepared by a qualified professional demonstrating that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any existing structures. Geotechnical reporting standards shall comply with the requirements of TSMP 6.4.7(L).

6. Any modification complies with recommendations of the geotechnical support with respect to best management practices, construction techniques or other recommendations;

7. All development and activities within a geological hazardous area remain subject to mitigation sequencing and any unmitigated impacts resulting from a buffer modification are required to be compensated for consistent with TSMP 6.4.2(A) through (E) to achieve no net loss of ecological functions; and

8. The proposed modification to the geologic hazard area or its associated buffer with any associated mitigation does not significantly impact habitat associated with species of local importance, or such habitat that could reasonably be expected to exist during the anticipated life of the development proposal if the area were regulated under this part.

L. Geologic Hazard Assessment and Geotechnical Report Requirements

1. The following are general requirements for a geologic hazard assessment and geotechnical report. Depending on the scope and scale of the project, some of the information below may not be required. It is the responsibility of the qualified geotechnical professional to address all factors, which in their opinion, are relevant to the site.

a. Project information and report purpose:

i. Site address;

ii. Vicinity map; and
iii. Purpose (e.g. feasibility, permit application, final design).

b. Site and project description:
   i. Site plan showing existing and proposed structures and site improvements, property lines, and existing contour lines if available;
   ii. Surface conditions, including adjacent properties, structures, and rights-of-way;
   iii. Description of existing and/or proposed sewer drainage facilities (sanitary and stormwater) on or adjacent to site when these facilities affect or are affected by the proposed work;
   iv. Description of proposed structural and site improvements;
   v. Floor and foundation grades; and
   vi. Anticipated excavation depths.

c. Geology and geologic hazards:
   i. Review of available literature, geologic maps;
   ii. Preliminary geologic hazard assessment (e.g. landslide-prone areas, peat settlement prone areas, liquefaction hazard areas); and
   iii. Landslide history, including review of GeoMap NW or City files.

d. Field explorations and laboratory testing:
   i. Exploration logs;
   ii. Field and laboratory testing results.

e. Subsurface description:
   i. Subsurface conditions;
   ii. Geologic profile and site development cross-sections; and
   iii. Groundwater evaluation and levels.

f. Analyses:
   i. Include soil properties, layering, and geometry;
   ii. Describe assumptions, analysis methods, results and interpretation.

f. Conclusions and recommendations:
   i. Conceptual siting of structures and general recommendations;
   ii. Earthquake engineering;
iii. Slope stability assessment including (1) existing conditions, construction phase, and post-construction phase and (2) global and local stability;

iv. Foundation support recommendations (e.g. type, allowable bearing pressures, deep foundation capacities, settlement estimates);

v. Temporary excavation and/or shoring recommendations, impacts on adjacent properties including utilities and ROW;

vi. Lateral earth pressure and resistance recommendations;

vii. Grading and earthwork including site preparation, compaction requirements, fill specifications, sequencing of earthwork operations, wet weather considerations;

viii. Temporary and permanent surface and subsurface drainage requirements, temporary and permanent dewatering, off site effects;

ix. Temporary and permanent erosion control; and

x. Other recommendations as needed.

h. Plan review and minimum risk standards:

i. In landslide-prone critical areas, the following will be required with all permit applications:

   (1) A statement that the most recent plans and specifications submitted to the City have been reviewed and conform to the recommendations of the analysis and report and, provided that those conditions and recommendations are satisfied during the construction and use, the areas disturbed by construction or activity will be stabilized and remain stable and will not increase the potential for soil movement; and the risk of damage to the proposed development and from the development to adjacent properties from soil instability will be minimal.

ii. In other areas designated by the Director as having high risk potential, the following shall be submitted:

   (2) A statement that the most recent plans and specifications submitted to the City have been reviewed and conform to the recommendations of the analysis and report, and provided that the conditions and recommendations are satisfied, the construction and development or activity will not increase the potential for soil movement; and the risk of damage to the proposed development and from the development to adjacent properties from soil instability will be minimal.
2. Additional reporting requirements in erosion or landslide hazard areas. The following are additional submittal requirements to those listed in Section 1. above for a site located within an erosion or landslide hazard area.

a. An evaluation of the erosion potential on the site during and after construction shall be submitted. It shall include recommendations for mitigation including retention of vegetation buffers and revegetation. The geotechnical engineer shall provide a statement identifying buffer areas at the top or toe of a slope based on geotechnical site constraints and the impacts of proposed construction methods on the stability of the slope, consistent with the minimum buffer requirements of this Program.

b. The geotechnical engineer shall submit a statement in the soils report that the geotechnical elements of seismic design have been evaluated in accordance with the criteria and ground motions prescribed by the current version of the International Building Code for new structures or ASCE-31/41 for existing buildings. Slope stability analyses for erosion or landslide hazard areas shall be evaluated in accordance with the most current version of the International Building Code. The plan set for the project shall be reviewed by the geotechnical engineer for consistency with these design criteria.

c. The geotechnical engineer shall make a recommendation as to which portion of the site is the most naturally stable and the preferred location of the structure. The limits of the area of grading activity shall be identified in the recommendations.

d. In general, no excavation will be permitted in erosion or landslide hazard areas during the typically wet winter months. When excavation is proposed, including the maintenance of open temporary slopes between November 1 and May 1, technical analysis shall be provided to assure that no environmental harm or safety issues would result. The technical analysis shall be submitted for approval by the Director and shall, at a minimum, consist of plans showing mitigation techniques and a letter from the geotechnical engineer.

M. Third Party Review

In addition to the information provided pursuant to the requirements of this Program, the Director may require third-party review if the professional opinions of an applicant’s representative and the Department’s reviewers cannot be reconciled. Third-party review requires the applicant’s geotechnical and/or additional technical studies to be reviewed by an independent third party, selected by the Director and paid for by the applicant. The third-party review shall be conducted by a qualified professional geotechnical engineer.
6.6 Vegetation Conservation

Vegetation conservation includes 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.

Unless otherwise stated, vegetation conservation does not include those activities covered under the Washington State Forest Practices Act, except for conversion to other uses and those other forest practice activities over which local governments have authority. Vegetation conservation provisions apply even to those shoreline uses and developments that are exempt from the requirement to obtain a permit. Vegetation conservation standards do not apply retroactively to existing uses and structures.

6.6.1 Policies

1. Where new developments and/or uses are proposed, native shoreline vegetation should be conserved and/or enhanced to maintain shoreline ecological functions and/or processes and mitigate the direct, indirect and/or cumulative impacts of shoreline development, wherever feasible. It is recognized that all vegetation is beneficial to the shoreline; however, native vegetation is preferable and is the term used in this section. Important functions of shoreline vegetation include, but are not limited to:

   a. Providing shade necessary to maintain water temperatures required by salmonid, forage fish, and other aquatic biota;
   b. Regulating microclimate in riparian and nearshore areas;
   c. Providing organic inputs necessary for aquatic life, including providing food in the form of various insects and other benthic macro invertebrates;
   d. Stabilizing banks, minimizing erosion and sedimentation, and reducing the occurrence/severity of landslides;
   e. Reducing fine sediment input into the aquatic environment by minimizing erosion, aiding infiltration, and retaining runoff;
   f. Improving water quality through filtration and vegetative uptake of nutrients and pollutants;
   g. Providing a source of large woody debris to moderate flows, create hydraulic roughness, form pools, and increase aquatic diversity for salmonid and other species;
   h. Providing habitat for wildlife, including connectivity for travel and migration corridors.

2. Limit removal of native vegetation to the minimum necessary to accommodate shoreline development.
3. Restrict native vegetation removal within shoreline jurisdiction in order to maintain the functions and values of the shoreline environment, including protection of habitat and shoreline bluffs.

4. Use best management practices (BMPs) to control erosion.

5. Voluntary restoration plans and projects should incorporate native vegetation management plans that are similar to the standards as specified in 6.6.2(3) below.

6. Maintaining well-vegetated shorelines is preferred over clearing vegetation to create views or provide lawns. Limited and selective clearing for views and lawns consistent with the requirements specified in TSMP Section 6.4.4(D) may be permitted when slope stability and ecological functions are not compromised. Trimming and pruning consistent with the requirements specified in TSMP Section 6.4.4(D) are generally preferred over removal of native vegetation.

7. Property owners are strongly encouraged to avoid use of fertilizers, herbicides and pesticides.

8. Shoreline landowners are encouraged to preserve and enhance native woody vegetation and native groundcovers to stabilize soils and provide habitat.

6.6.2 Regulations

1. Proponents of all new shoreline uses or developments shall demonstrate that site designs and layouts are consistent with the policies of this section to ensure shoreline functions, values, and processes are maintained and preserved. A shoreline permit or written statement of exemption shall not mandate, nor guarantee, unobstructed horizontal or lateral visibility of the water, shoreline or any specific feature near or far.

2. Proponents of all new shoreline uses or developments shall maintain existing native shoreline vegetation to the maximum extent practicable.

2.3. Administrative review is required for all proposals to modify native shoreline vegetation when a clearing permit under TMC 2.19 is not required. This review will include any proposal to clear native vegetation, trim or prune trees, remove trees, or remove hazard trees. Administrative review will require the preparation and approval of a vegetation management plan as described below.

3.4. Removal of native vegetation within shoreline jurisdiction shall only be permitted upon approval of a detailed vegetation management plan prepared by a qualified professional that also meets the requirements specified in TSMP Section 6.4.4(D). The vegetation management plan shall include:

a. A map illustrating the distribution of existing plant communities in the area proposed for clearing and/or grading. The map must be accompanied by a description of the vegetative condition of the site, including plant species, plant density, any natural or manmade disturbances, overhanging vegetation, the functions served by the existing plant community (e.g., fish and wildlife habitat values, slope stabilization) and the presence and distribution of noxious weeds.
b. A description of the shade conditions created by existing vegetation. This description shall include an inventory of overhanging vegetation as well as a determination of how much shade is created by standing trees, during midday at midsummer.

c. A detailed landscape map indicating which areas will be preserved and which will be cleared, including tree removal.

d. Drawings illustrating the proposed landscape scheme, including the species, distribution, and density of plants. Any pathways or non-vegetated portions shall be noted.

4.5. The following standards shall apply for removal and replacement of existing native vegetation and the removal of noxious weeds:

a. Proponents shall replace vegetation in such a way as to ensure that post-development functions are at least equal to the pre-development functions as identified in the vegetation management plan and to prevent site erosion. In Biodiversity Areas and Corridors, proponents shall replace vegetation according to the requirements provided in TSMP Section 6.4.4.

b. Proponents shall use native species approved by the Director that are of a similar diversity, density, and type to that occurring in the general vicinity of the site prior to any shoreline alteration. The vegetation shall be nurtured and maintained to ensure establishment of a healthy and sustainable native plant community over time.

c. A minimum of 4 inches of wood chip mulch, or equivalent, distributed over the entire planting area;

d. The applicant may be required to install and implement an irrigation system to insure survival of vegetation planted. For remote areas lacking access to a water-system, an alternative method (e.g., hand watering) may be approved;

e. Replacement shall occur as close to the ordinary high water mark as practicable and shall include overhanging vegetation where feasible;

f. A description of the maintenance and monitoring strategies to ensure the replacement vegetation meets the standards contained herein.

g. For a period of three (3) years after initial planting, the applicant shall replace any unhealthy or dead vegetation planted as part of the vegetation management plan.

5.6. Trimming of trees is allowed without a vegetation management plan, provided:

a. This provision is not interpreted to allow clearing of vegetation;

b. Trimming does not include topping, stripping or imbalances; a minimum of 60% of the original crown shall be retained to maintain tree health; trimming or pruning must use proper methods as described in ANSI A300 standards to ensure tree health;

c. Trimming does not directly impact the nearshore functions including fish and wildlife habitat;
d. Trimming is not within a wetland, stream, critical area or their buffers;

e. Trimming will not adversely impact a priority species; and

f. Trimming in landslide and erosion hazard areas does not impact soil stability.

6.7. Removal of native vegetation within the marine buffer, critical areas and/or their buffers shall provide a vegetation management plan consistent with the provisions of this chapter and shall additionally comply with the applicable critical area standards of TSMP Section 6.4.

7.8. Hazard trees that are within a marine buffer or critical area and/or its buffer, that pose a threat to public safety or an imminent risk of damage to private property may be removed provided that a report from a certified arborist (or related professional) is submitted to the City for review and approval. The report must include removal techniques, procedures for protecting the surrounding area and/or critical area and its buffer, and replacement of native trees. Where possible, cut portions of hazard trees are to be left on site as a habitat element such as a standing snag tree or downed woody debris.

8.9. The City may require a performance bond as a condition of shoreline exemption or shoreline permit approval, to ensure compliance with this Master Program.

9.10. If the timing of required installation occurs between April 1st and October 1st of any given year, said installation may be postponed until after October 1st of the same year, provided a written request for postponement is submitted by the proponent, the financial surety has been secured by the City and the Director has issued a letter of approval for said postponement of native vegetation installment.

10.11. Materials required in TSMP Section 6.6.2(3) and (4), above, shall be submitted, reviewed and approved by the Director prior to issuance of any development permits on the site. Installation of all required vegetation and submittal of the maintenance and monitoring report shall be completed prior to occupancy for the subject use. As-installed reports shall be submitted to the Director at the end of each year for the five-year maintenance and monitoring period to assure compliance.

END
# Updated Draft (03/20/19)

The following list includes a summary and recommendations for all the topics considered during the Tacoma Shoreline Master Program (TSMP) Periodic Review. These topics were identified through the project scoping process, as summarized in the June 2018 Assessment and Scoping Report. They combine issues identified by the State Department of Ecology (DOE) as mandatory review items, issues identified through the public scoping process, and issues identified by City staff and the project consultants. The scope of the required SMP Periodic review, per the Washington Shoreline Management Act (SMA), is as follows:

- To ensure that the master program complies with applicable state law and guidelines in effect at the time of the review;
- To assure consistency of the master program with the local government’s comprehensive plan and development regulations;
- To consider whether to incorporate any amendments needed to reflect changed circumstances, new information or improved data, and whether the significance of the changed circumstances, new information or improved data warrants amendments.

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| 1. | Changes required by Ecology | The Washington Department of Ecology (DOE) provides this checklist intended for use by counties, cities and towns conducting the required “periodic review” of their Shoreline Master Programs (SMPs). This checklist summarizes amendments to state law, rules and applicable updated guidance adopted between 2007 and 2017 that may trigger the need for local SMP amendments during periodic reviews. | Updates incorporated into multiple sections of the TSMP.  
See the DOE Periodic Review Checklist (Attachment 2) for a guide to the changes by section. |
|   | Update Tacoma’s SMP (TSMP) as follows: | Definitions & Classifications  
- Update the definition of “development” so that it does not include demolition activities.  
- Reclassify existing floating on-water residences as a non-conforming use and add definition.  
Cost Thresholds  
- Adjust the cost thresholds for substantial development and replacement docks consistent with OFM and state statute.  
Exceptions & Exemptions  
- Provide a section for exceptions to local review consistent with state rules.  
- Create an exemption for retrofitting existing structures to comply with the Americans with Disabilities Act. |
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|     | **Review Procedures** | - Update the current permitting filing process to include a stipulation regarding return receipt requested mail.  
- Incorporate a 90-day target for review of WSDOT projects. |        |
|     | **Code Citations** | - Include appropriate RCW and WAC code citations for state rules regarding periodic reviews and SMP amendments.  
The DOE Periodic Review Checklist ([Attachment 2](#)) provides details for each topic, as well as determination that the TSMP is already consistent with the other issues identified on the Checklist. |        |
|     | **Geologically Hazardous Areas** | The last substantive update to the City’s standards for Geologically Hazardous Areas occurred in 2004. Since that date, progress has been made in scientific understanding of the associated risks related to development near erosion and landslide hazard areas. | Update the SMP regulations related to Geologic Hazards, including Erosion and Landslide Hazards  
These updates would include:  
- Update classifications to be consistent with state requirements.  
- Add Shoreline Erosion Hazard Areas as a subcategory to Erosion Hazard Areas.  
- Include Active Landslide Areas as a subcategory for Landslide Hazard Areas.  
- Add standards for each category to be consistent with Best Available Science and guidance.  
- Clarify that the geological buffer extends from the edge of the entire geological hazard areas, including top and toe of slope.  
- Clarify that buffer modifications are subject to mitigation sequencing as is the case with all other critical areas.  
- Update allowances for small projects approval without a geotechnical analysis.  
- Specify submittal requirements for Geological Reports. | Integrate code revisions into TSMP 6.4.7 – Geologically Hazardous Areas |
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|     |                                | • Specify that the City may require Third Party Review when the professional opinions of an applicant’s representative and the Department’s reviewers cannot be reconciled.  
  • Use of 2017 Washington State Dept. of Natural Resources (DNR) Landslide Survey for Pierce County in City’s landslide hazard mapping.  
  The recommended updates reflect the latest information and standards protecting steep slopes, based upon review by Robinson-Noble, Inc. – a geotechnical firm. The analysis and recommendations are detailed in the Draft Gap Analysis Matrix (Robinson-Noble, Inc., February 2019).  |
| 3.  | Biodiversity Areas and Corridors | **Integrate the Biodiversity Areas/Corridors standards from CAPO 13.11 into the TSMP critical areas provisions**  
  The City adopted amendments to TMC 13.11 (the Critical Areas Protection Ordinance) to standards for Fish and Wildlife Habitat Conservation Areas, specifically Biodiversity Areas/Corridors which are a listed Priority Habitat. These standards were adopted in 2018 and currently apply outside of Shoreline Districts, providing enhanced and clarified protections for these natural assets.  
  This action would make critical area review in Shoreline Districts consistent with the rest of the City. The regulations create a consistent approach to allow reasonable use of property located within biodiversity areas/corridors while ensuring that impacts will be limited in a manner to ensure no net loss to the environmental function of the natural asset.  | Additions to code in TSMP 6.4.4.A.1.b                                                        |
<p>| 4.  | Sea Level Rise                  | <strong>Incorporate policies related to sea level rise previously adopted into the Comprehensive Plan.</strong>  | Additions to General policies to TSMP 6.1.1                                                   |</p>
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<td>5.</td>
<td>Base Flood Elevation</td>
<td>In 2015, the City’s Comprehensive Plan update included new policies on planning for, mitigating, and adapting to climate change, including sea-level rise. The Shoreline Master Program does not specifically incorporate or address these policies. These policies highlight the significance of climate change-related sea level rise and support future actions to understand, plan for and mitigate the effects of sea level rise. They initiate at the policy level future potential regulatory and other actions related to this issue.</td>
<td>Additions to Site Planning policies to TSMP 6.2.1</td>
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<td>5.</td>
<td>Base Flood Elevation</td>
<td>The Federal Emergency Management Agency (FEMA) base flood elevations were increased in 2017. In some cases, the change in flood elevation and requirements to raise structures to meet those elevations has resulted in a shrinking building envelope that impacts the viability of new development. This change would effectively allow development to occur as envisioned in the SMP while recognizing the effect of rising Base Flood Elevation (BFE). In so doing, the overall height of structures would be permitted to increase. Therefore, the proposal also requires view impact assessment of structures utilizing this provision, as required by the Shoreline Management Act for potential significant view impacts.</td>
<td>Added to View Regulations, TSMP 6.7.4.A</td>
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<td>6.</td>
<td>Salmon Beach Community</td>
<td>The circumstances at Salmon Beach are unique in Washington State, given the location of the homes overwater and at the base of a geologically hazardous steep slope. While the TSMP already allows minimal building (1.) Add a statement to the S-3 Shoreline District Specific Intent recognizing Salmon Beach as an existing, historic over-water community. (2.) Update TSMP regulations to allow second-story additions to non-conforming structures under limited circumstances. These proposed changes are intended to strike a balance between reasonable use and expansion of existing, non-conforming houses in the Salmon Beach community, and the City’s obligation under the</td>
<td>Added statement to S-3 Shoreline District Specific intent for Salmon Beach, TSMP 9.4.A Added to Non-Conforming Structures, TSMP 2.5.B.4</td>
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<td>Expansions, any further allowance must be closely reviewed to ensure that the outcomes will result in improved safety and reduced environmental impacts.</td>
<td>SMA to protect life and property and to ensure no net loss to environmental functions and values of the shorelines.</td>
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|     | Expansions, any further allowance must be closely reviewed to ensure that the outcomes will result in improved safety and reduced environmental impacts. | Specifically, the changes would:  
- Recognize the value and significance of the historic overwater Salmon Beach community  
- Provide special provisions for reconstruction of residences when damaged by sea level rise or landslides, or for remodeling.  
- Allow for second-story additions for heights up to 25 feet, with requirements to meet Base Flood Elevation requirements, to reduce risk from geological hazards, and to prevent negative impacts to environmental assets  
- Maintain classification of these structures as “legally non-conforming uses” to be consistent with the WAC definition. |        |
<p>| 8.  | Review Process clarification | Make changes to clarify the review process for activities that do not meet the definition of “development”. | Revisions to TSMP Section 6.6.2 Regulations for Vegetation Conservation. Add administrative review process in Section 6.6.2.3. |
|     | Staff have noted opportunities to clarify the SMP review process for certain activities that do not meet the definition of “development”. These are subject to the standards of the SMP, but do not trigger a permit review. One example is vegetation clearing in shoreline jurisdiction not occurring as part of a development proposal. | Ecology provided some draft guidance related to regulating vegetation clearing and tree removal that does not occur as part of a development. Revisions were made to establish an administrative review process for any clearing or vegetation removal below the threshold of a standard “clear and grade” permit. |        |
| 9.  | Improve consistency with citywide development standards | Make changes as appropriate to improve consistency and achieve the intent of the SMP. | Integrate code revisions into TSMP. Commercial Development, TSMP |</p>
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<td>Staff have noted opportunities to clarify how development standards contained in other sections of the Tacoma Municipal Code do, or do not, apply in Shoreline Districts.</td>
<td>The SMP contains linkages with other code sections, which creates the potential for inconsistencies. Because the SMP is a stand-alone document, it may need to be separately updated to reflect changes to other code sections. Standards such as landscaping, parking, street design and building design have been updated more recently than the SMP. This action would clarify that certain citywide parking, bicycle facilities, landscaping and building design standards apply in Shoreline Districts.</td>
<td>7.5.2 regarding building design standards and pedestrian access. Residential Development TSMP 7.8.2 regarding building design standards and pedestrian access.</td>
</tr>
<tr>
<td>10.</td>
<td>Language and terminology clarifications</td>
<td>Integrate clarifications as appropriate. The consultant and staff have reviewed the TSMP and identified minor language edits and clarifications. These are generally non-substantive, and will assist in interpreting and implementing the TSMP.</td>
<td>Integrate minor language clarifications throughout the SMP (various pages). Additional non-substantive</td>
</tr>
<tr>
<td>11.</td>
<td>Wapato Lake</td>
<td>No Action recommended at this time. The consultant and staff have reviewed potential alternatives to address this issue and recommend no action at this time. The properties in question are currently zoned R-2, while the Land Use Intensity is Neighborhood Commercial. Because of this inconsistency, the area has been included in the upcoming Commercial Zoning review process. Since the policy direction for the future use of these properties are uncertain, staff recommend that the shoreline zoning issue be addressed along with the future Commercial Zoning process.</td>
<td>Removed from the current scope of work &amp; recommended for incorporation into the upcoming Commercial Zoning effort.</td>
</tr>
</tbody>
</table>
Shoreline Master Program Periodic Review Checklist

Introduction
This document is intended for use by counties, cities and towns conducting the “periodic review” of their Shoreline Master Programs (SMPs). This review is intended to keep SMPs current with amendments to state laws or rules, changes to local plans and regulations, and changes to address local circumstances, new information or improved data. The review is required under the Shoreline Management Act (SMA) at RCW 90.58.080(4). Ecology’s rule outlining procedures for conducting these reviews is at WAC 173-26-090.

This checklist summarizes amendments to state law, rules and applicable updated guidance adopted between 2007 and 2017 that may trigger the need for local SMP amendments during periodic reviews.

How to use this checklist
See Section 2 of Ecology’s Periodic Review Checklist Guidance document for a description of each item, relevant links, review considerations, and example language.

At the beginning: Use the review column to document review considerations and determine if local amendments are needed to maintain compliance. See WAC 173-26-090(3)(b)(i).

At the end: Use the checklist as a final summary identifying your final action, indicating where the SMP addresses applicable amended laws, or indicate where no action is needed. See WAC 173-26-090(3)(d)(ii)(D), and WAC 173-26-110(9)(b).

Local governments should coordinate with their assigned Ecology regional planner for more information on how to use this checklist and conduct the periodic review.
<table>
<thead>
<tr>
<th>Row</th>
<th>Summary of change</th>
<th>Review</th>
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</thead>
<tbody>
<tr>
<td>2017</td>
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</tr>
<tr>
<td>a.</td>
<td>OFM adjusted the <strong>cost threshold for substantial development</strong> to $7,047.</td>
<td>Currently set at old threshold of $6,416.</td>
<td>Revise SMP Section 2.3.3 Exemptions Listed.</td>
</tr>
<tr>
<td>b.</td>
<td>Ecology amended rules to clarify that the <strong>definition of “development”</strong> does not include dismantling or removing structures.</td>
<td>Per DOE guidelines, development should not include projects that are simply demolition, to clarify processes covered by <em>Cowiche Canyon v Bosley</em>. Current definition does not clarify that dismantling or removing structures are not considered “development.”</td>
<td>Revise “development” definition in Chapter 10 Definitions.</td>
</tr>
<tr>
<td>c.</td>
<td>Ecology adopted rules that clarify exceptions to local review under the SMA.</td>
<td>Exemptions are provided, but not exceptions under the current SMP. A new section (2.3.5 Exceptions) is required to include these exceptions to local review; add section per DOE recommended language.</td>
<td>Revise to include new section 2.3.5 Exceptions.</td>
</tr>
<tr>
<td>d.</td>
<td>Ecology amended rules that clarify <strong>permit filing procedures</strong> consistent with a 2011 statute.</td>
<td>Current permit process and Ecology review outlined in Section 2.3.8 needs to be updated to include a stipulation about using return receipt requested mail.</td>
<td>Revise Section 2.3.8 Ecology Review to include stipulation.</td>
</tr>
<tr>
<td>e.</td>
<td>Ecology amended <strong>forestry use regulations</strong> to clarify that forest practices that only involves timber cutting are not SMA “developments” and do not require SDPs.</td>
<td>Forest Practices are currently prohibited in Section 7.2 of the current SMP.</td>
<td>No Action Required.</td>
</tr>
<tr>
<td>f.</td>
<td>Ecology clarified the SMA does not apply to lands under <strong>exclusive federal jurisdiction</strong></td>
<td>The current ordinance covers certain private activities on federal lands (page12–13 of the SMP Section 1.8.7); these are still regulated as per Ecology. Tacoma does not have any lands under exclusive federal jurisdiction like National Parks or military reserves.</td>
<td>No Action Required.</td>
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<tr>
<td>g.</td>
<td>Ecology clarified “default” provisions for <strong>nonconforming uses and development</strong>.</td>
<td>Current SMP already has a definition for non-conforming uses and development, which supercedes Ecology’s default rules</td>
<td>No Action Required.</td>
</tr>
<tr>
<td>h.</td>
<td>Ecology adopted rule amendments to clarify the scope and process for conducting <strong>periodic reviews</strong>.</td>
<td>Current SMP specifies process for SMP review, but does not cite RCW section or the correct WAC section.</td>
<td>Revise to include RCW and WAC code citations in Section 1.12 Master Program Review.</td>
</tr>
<tr>
<td>i.</td>
<td>Ecology adopted a new rule creating an <strong>optional SMP amendment process</strong> that allows for a shared local/state public comment period.</td>
<td>The Periodic Review process will be conducted using this optional amendment process. SMP could include code citation for optional process (WAC 173-26-104)</td>
<td>Revise Section 1.6.A to include WAC 173-26-104 citation.</td>
</tr>
<tr>
<td>j.</td>
<td><strong>Submittal</strong> to Ecology of proposed SMP amendments.</td>
<td>Submission process change, not substantive to SMP itself. Need to include code citation for new amendment submittal requirements (WAC 173-26-110)</td>
<td>Revise Section 1.6.D to include WAC 173-26-110 citation.</td>
</tr>
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**2016**

| a.  | The Legislature created a new shoreline permit exemption for retrofitting existing structures to comply with the **Americans with Disabilities Act**. | Current SMP cites exemptions as specified by RCW 90.58.030, #3 on page 17, which includes ADA exemption. However, because descriptions of all exemptions in RCW 90.58.030 follow in SMP code, ADA exemption description should also be included. | Revise to Section 2.3.3 to include new section for ADA exemption.       |
| b.  | Ecology updated **wetlands critical areas guidance** including implementation guidance for the 2014 wetlands rating system. | The SMP was updated in 2016 to include 2014 wetland ratings system guidance.                                                                                                                         | No Action Required.                                                   |

**2015**

| a.  | The Legislature adopted a **90-day target** for local review of Washington State Department of Transportation (WSDOT) projects. | The SMP does not include this target for local review for WSDOT projects.                                                                                                                                 | Revise to include new section (2.7) for ‘Special Procedures for WSDOT projects’ with target local review period. |

*Shoreline Master Program Periodic Review Checklist*

*Draft, February 13March 14, 2019*
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<td>2014</td>
<td><strong>a.</strong> The Legislature raised the cost threshold for requiring a Substantial Development Permit (SDP) for <strong>replacement docks on lakes and rivers</strong> to $20,000 (from $10,000).</td>
<td>Current SMP only uses old figure ($10,000) for this specification and needs to be updated to include new figure ($20,000) as well.</td>
<td>Revise Section 2.3.3.7b to raise cost threshold for replacement docks.</td>
</tr>
<tr>
<td>b.</td>
<td>The Legislature created a new definition and policy for <strong>floating on-water residences</strong> legally established before 7/1/2014. According to RCW 90.58.270, these floating on-water residences must be considered a conforming use.</td>
<td>The current SMP does not provide a definition for “Floating on Water Residences”, but prohibits new residential use on or in water. Staff are not aware of any legally established on-water floating residences in the city. Section 2.5 Non-Conforming Uses and Development provides limitations and allowances for non-conforming uses and development. This section should be modified to recognize the “conforming” status for those floating on-water residences legally established prior to 7/1/2014. This status does not alter the limitations for these types of uses as provided in Section 2.5.</td>
<td>Revised Section 2.5 Non-Conforming Uses and Development to include existing floating on-water residences as a non-conforming use. Added definition for “floating on-water residences” to Chapter 10 Definitions. No Action Required. Previous revisions to Section 2.5 will be removed.</td>
</tr>
<tr>
<td>2012</td>
<td><strong>a.</strong> The Legislature amended the SMA to clarify <strong>SMP appeal procedures</strong>.</td>
<td>The current SMP specifies that appeals of SMP amendments will be addressed via RCW 90.58.190, which is the governing statute under the change.</td>
<td>No Action Required</td>
</tr>
<tr>
<td>2011</td>
<td><strong>a.</strong> Ecology adopted a rule requiring that wetlands be delineated in accordance with the approved <strong>federal wetland delineation manual</strong>.</td>
<td>Current SMP refers to federal manuals for wetland delineations.</td>
<td>No Action Required</td>
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<tr>
<td>b.</td>
<td>Ecology adopted rules for new commercial <strong>geoduck aquaculture</strong>.</td>
<td>This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011. The SMP was amended in 2011 to restrict the scale, type and extent of aquaculture in the City’s shorelines. The definition for aquaculture excludes wild geoduck harvest.</td>
<td>No Action Required</td>
</tr>
<tr>
<td>c.</td>
<td>The Legislature created a new definition and policy for <strong>floating homes</strong> permitted or legally established prior to January 1, 2011.</td>
<td>This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011. The current SMP considers over-water and in-water residences to be non-conforming by use.</td>
<td>No Action Required</td>
</tr>
<tr>
<td>d.</td>
<td>The Legislature authorized a new option to classify existing structures as conforming.</td>
<td>This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011. The current SMP does not confer “conforming” status on uses or development that are non-conforming. However, the SMP does provide allowances for nonconforming uses and development.</td>
<td>No Action Required</td>
</tr>
</tbody>
</table>

2010

| a.  | The Legislature adopted **Growth Management Act – Shoreline Management Act clarifications**. | This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011. | No Action Required |

2009

<p>| a.  | The Legislature created new “relief” procedures for instances in which a <strong>shoreline restoration project within a UGA</strong> creates a | This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011. | No Action Required |</p>
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<td>a.</td>
<td>The Legislature clarified options for defining &quot;floodway&quot; as either the area that has been established in FEMA maps, or the floodway criteria set in the SMA.</td>
<td>This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011.</td>
<td>No Action required</td>
</tr>
<tr>
<td>b.</td>
<td>Ecology amended rules to clarify that comprehensively updated SMPs shall include a list and map of streams and lakes that are in shoreline jurisdiction.</td>
<td>This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011.</td>
<td>No Action Required</td>
</tr>
<tr>
<td>c.</td>
<td>Ecology’s rule listing statutory exemptions from the requirement for an SDP as amended to include fish habitat enhancement projects that conform to the provisions of RCW 77.55.181.</td>
<td>This change pre-dated the City’s Comprehensive SMP Update and was considered as part of that process in 2011.</td>
<td>No Action Required</td>
</tr>
</tbody>
</table>