Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.100-170 General Provisions					
18.32.100 Purpose and Intent	Could be revised to be more consistent	Section could be more consistent with the policies of the Olympia Comprehensive Plan, some policies that are not represented in the Purpose and Intent of the critical areas regulations include: • PN1.2 - Coordinate critical areas ordinances and storm water management requirements regionally based on the best scientific information available. • PN1.3 - Limit development in areas that are environmentally sensitive, such as steep slopes and wetlands. Direct development and redevelopment to less-sensitive areas. • PN1.8 - Limit the negative impacts of development on public lands and environmental resources, and *require full mitigation of impacts when they are unavoidable*. Section does not introduce the protection of buffers associated with critical areas; include statement that mitigation will be required for unavoidable impacts; does not establish enforcement tools. Section G notes marine aquaculture activities, which should be regulated under the SMP and therefore no longer belong in the CAO chapter.	CTED, 2007 Consistency with Natural Environment element of the Comprehensive Plan Consistency with Shoreline Master Program regulations	Consider including Comprehensive Plan policies PN1.2, PN1.3, and PN1.8 in this section. Consider re-visiting the Natural Environment element of the Comprehensive Plan to make sure that other policies are consistent with this section. Revise section to include protection of buffers, mitigation requirements, and enforcement tools. See Thurston County CAO 24.01.010 (Footnote 1) for recommended language on general provisions. Remove Section G since marine aquaculture activities are covered under	Added new language in 18.32.100 A Revised Removed

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				the SMP.	
18.32.105 A Development Regulations	Somewhat inconsistent with GMA	Critical area categories are not fully consistent with those defined in the GMA. The CAO does not designate Critical Aquifer Recharge Areas (CARAs), Frequently Flooded Areas, Erosion Hazard Areas or Seismic Hazard Areas.	WAC 365-196-485	Add language to note consistency with WAC 365-190 which defines frequently flooded areas, CARAs, and geologically hazardous areas (erosion hazard areas and seismic hazard areas) as critical areas in addition to wetlands and FWHCAs. Consider Thurston County CAO 24.01.015.	Added language
18.32.110 Application of Critical Area Regulations	Consistent with BAS; could be revised to be more consistent with state agency guidance	Code does not mention relationship between regulations and compliance with other permit requirements. Ecology has suggested that Applicability sections include a statement about compliance with other federal, state, and local regulations and permit requirements. Section C includes area-specific triggers for critical areas review (300 feet and 1,000 feet). Provision should be revised to clarify that these amounts are the initial trigger for CAO applicability and that proposed developments in these areas must be compliant with the CAO regulations. Other ordinances use this approach and could be consulted for alternative language.	Ecology guidance (verbal) Improve clarity	Consider adding a new section that includes language specifying that critical areas permit approval does not constitute compliance with other federal, state, and local regulations and permit requirements. See Footnote 2 for example language. Consider replacing with: "The city shall regulate all uses, activities, and development within critical areas and the corresponding buffers and setbacks."	Added new subsections I, J, K Deleted subsection C as subsection A covers it
18.32.115 Applicant Requirements	NA	List of standards for a general critical area report is short and somewhat vague.	CTED, 2007 Eliminate redundancy	Consider including a set of general minimum report requirements; see Footnote 3 for example language.	Added suggested language

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.125 Department Requirements	NA	Section E refers to the reasonable use exemption, but does not have a reference. This is also the only place in 18.32 where reasonable use is mentioned. Most, but not all, CAO chapters have the reasonable use exemption within the chapter.	Internal consistency	Add a reference to 18.66 Variances and Unusual Uses to the end of the sentence.	Added
NA	Inconsistent with BAS	Code does not include standards for unauthorized alterations in critical areas and enforcement process for violations.	CTED, 2007	Add a new article titled "Unauthorized Critical Area Alterations and Enforcement" using example language shown in Footnote 4.	Added new section 18.32.175 to be consistent with BAS
NA	NA	Code does not include a set of general prohibited, exempt, and authorized activities that apply to all critical areas.	Eliminate redundancy and improve consistency between sections.	Refer to the example code in the Commerce Handbook (CTED, 2007) for a basic list of exempt activities (it includes Emergencies; Operation, Maintenance, or Repair; and Passive Outdoor Activities). If incorporated as is, this will mean removal of 18.32.165 (and other sections within each individual critical area sections) due to redundancy. Refer to City of Federal Way CAO list of exemptions in FWRC 19.145.110 for a slightly longer list and the inclusion of an exemption for removal of invasive and noxious vegetation. For prohibited activities, there are actually very few and a list is not warranted (except in individual critical area sections). More importantly would	Added new section 18.32.111 No redundancy. Did not remove 18.32.165 Used FWRC language Did not add list of Regulated Activities as 18.32.110 C

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				be to provide a list of "Regulated Activities." See Footnote 5 for example language. Providing a specific list is an alternative to what is recommended above for 18.32.110 Section C.	covers it
NA	NA	Code does not include specific provisions for a public agency and utility exemption, such as a "PAUE" or other limited exemption on essential public facilities, public utilities, and other public improvements.	Item requested by City staff	Consider adding a limited exemption of public projects that meet a set of criteria. Refer to the example code in the Commerce Handbook (CTED, 2007) for example language (X.10.40). As an alternative approach, refer to Federal Way CAO FWRC 19.145.120(1).	Added new subsection 18.32.112
18.32.135 General Provisions – Mitigation Priorities	Could be revised for clarity.	Under Section A, the appropriate steps to be taken for mitigation are mistakenly identified as an "order of preference", instead of the mitigation sequence. The title should be reworded to say "Mitigation Sequencing and General Measures".	Improve clarity	Change title to "Mitigation Sequencing and General Measures." Consider replacing the introductory language with "Applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to critical areas. When alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated in the following order of preference:"	Suggested language added.
NA	NA	Consider setting standards for a mitigation plan to be prepared for impacts to critical areas and their buffers.	CTED, 2007	Consider adding a section titled "Mitigation Plan Requirements." See Footnote 6 for example language.	New section 18.32.136 added

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.200-240 Drinking Water (Wellhead) Protection Areas (completed by ROBINSON NOBLE)					
18.32.200-240	Could be revised to be more consistent	City has not formally identified specific sensitive aquifers or critical aquifer recharge area as defined by EPA. It is our understanding that no evaluation of aquifer vulnerability to surface contamination has been conducted by the City to date.	WAC 365-190-100	If the City elects to follow the recommendation to list CARAs as a critical area, then reference should be made to the City's use of the USGS/Thurston County soil map and CARA categories that occur outside of the drinking water protection areas. This would be similar to the last paragraph in 18.32.205.	Note: All the wellhead protection areas have been evaluated and mapped Added CARA language
18.32.225 (B)	Consistent	The purpose of monitoring is unclear (e.g., water quality, water level).	Improve clarity	See language recommendations provided by D. Buxton 3/25/16.	Revised
18.32.225 (B)	Consistent	The monitoring requirements are unclear (What data is to be collected? How and when is data reported to City?)	Improve clarity	See language recommendations provided by D. Buxton 3/25/16.	Revised
18.32.225 (B)	Could be more consistent	City standards do not provide minimum well installation and equipment standards required by City codes or state law.	WAC 173-160	See language recommendations provided by D. Buxton 3/25/16.	Revised
18.32.230 (B)	NA	Could reference definition for geologist and hydrogeologist in City code and state law.	RCW 18.220.010	See language recommendations provided by D. Buxton 3/25/16.	Revised
18.32.300-330 Important Habitats and Species					
18.32.300 Purpose and Intent	Could be revised to be more consistent	Section could be revised to clarify that these are "species of local importance" as discussed under GMA.	WAC 365-190-130	Revise section to state "…important habitats and *species of local importance* which are known to occur in Thurston County and which may be found within	Will review in Phase 2

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				the City of Olympia…"	
	Could be revised to be more consistent	Section does not mention mapping of habitats in City.	State guidance suggests sources of mapping should be stated in code. CTED, 2007	Consider referencing WDFW Priority Habitats and Species database.	Referenced WDFW PHS list
	Could be revised to be more consistent	Section does not reference Thurston County Chapter 24.25 list (Table 24.25-4, 24.25-5) of habitats and species of local importance that are relevant to the City. A list of the specific species and habitats would also be helpful to clarify and limit the application of this section. Section does not clarify that lake and marine shorelines are regulated under the SMP.	Consistency with Thurston County CAO Consistency with City's Shoreline Master Program, and clarity and ease-of-use	Consider including Thurston County Chapter 24.25 list of habitats and species of local importance or include reference to the listed habitats and species. Specify that development in shorelines of the state is regulated under the SMP.	Will review in Phase 2 Language added
18.32.315 Authority	Could be revised to be more consistent	Section is redundant with Section 18.32.310 and does not include or reference specific provisions for exempt, prohibited, or allowed uses and activities within these areas. Section B should reference the most current WDFW PHS management recommendations. http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/	Clarity and ease-of-use CTED, 2007 Consistency with BAS and clarity	Consider removing content in Section 18.32.310. If changes are made to 18.32.115 and a new set of general prohibited, exempt, and authorized activities is created then include a reference to this new section in 18.32.315. Revise Section B to include the most current WDFW PHS management recommendations	Removed Reference added Revised

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				website.	
18.32.320 Buffers	Inconsistent with BAS	Section states that buffer widths are determined on case-by-case basis and does not include minimum requirements for buffers or reference WDFW guidance in determining buffer widths.	State guidelines refer to BAS requirement (WAC 365-190-130(3)(a)(v)) include establishing buffer zones around these areas to separate incompatible uses from habitat areas and protect habitats of importance	Revise to state that buffer widths will also be informed by the WDFW PHS management recommendations for individual species and/or habitats.	Revised to be consistent with BAS
18.32.325 Special Reports	NA	Section is redundant and could be combined with Section 18.32.330	Internal consistency	Consider moving this section under Section 18.32.330.	Moved
18.32.330 Management Plan	Inconsistent with BAS	Section A does not make reference to most current WDFW PHS management recommendations. http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/	Consistency with BAS, and clarity and ease-of-use	Revise to include current reference to the WDFW PHS management recommendations website.	Revised to be consistent with BAS
18.32.400-445 Streams and Important Riparian Areas					
18.32.400 – 445	NA	Section includes provisions for both streams and six separate and specific "riparian areas", both of which are considered critical areas and provide	Clarification and ease of use	Consider replacing "important" with the term "priority" to describe the riparian	Revised

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
		important functions and values. The term "important" used for only the riparian areas could be misconstrued to mean that streams are not important.		areas.	
18.32.400 Purpose and Intent	Could be revised to be more consistent	Section is not clear that marine shorelines, lakes over 20 acres in size and streams within shoreline jurisdiction are regulated under the SMP.	Consistency with SMP	Consider stating that development along Shorelines of the State (marine shorelines, lakes over 20 acres in size and streams) is regulated under the SMP.	Language added
18.32.405 Applicability and Definition	Could be revised to be more consistent	The areas listed in Section B include marine and lake shorelines that are regulated under the City's Shoreline Master Program (e.g., Capitol Lake). It is unclear which portions of these "Streams and Important Riparian Areas" are not regulated under the SMP; the section does not reference a map or figure showing these areas. Could be revised to provide clarity.	Eliminate redundancy and improve consistency with SMP	Remove waters in this section that are regulated under the SMP.	Leave in. CAO is adopted by reference into the SMP
18.32.410 Typing System	Inconsistent with BAS	The current stream typing system criteria include "salmonid fish habitat", whereas the State's typing criteria include "fish presence". The City is aware of this discrepancy and has been using the WAC definition for stream typing during administration of this code section (per City memo dated March 1, 2010). Section refers to outdated Thurston County SMP (1990) inventoried "shorelines of the state."	Update to reflect current City procedures Consistency with Thurston County SMP	Update to reflect only the most current stream typing procedures performed by City using State's typing criteria. Update reference to current Thurston County SMP.	Updated to be consistent with BAS County reference no longer valid. Deleted
18.32.420	Could be	This section does not include exemptions for emergencies or reference	CTED, 2007	Include cross reference to 18.32.165 or	Added cross

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
Exempt Uses and Activities	revised to be more consistent	provisions for emergency actions OMC 18.32.165. Section B refers to Forest Practice activities which are unlikely to occur within City limits. This could be an issue within the UGA. Section D does not include guidelines for permanent sign materials or make reference to OMC 18.32.145. Section E Normal Maintenance and Repair and F Passive Recreation need more specific details, standards and limitation set in order to allow these as exempt uses.	Clarity and ease-of-use	remove and add list of exemptions at beginning of CAO (previous recommendation). Remove Section B. Consider specifying what permanent sign materials are required for streams and buffers for Section D. See Footnote 7 for example language. Revise Sections E include more specific details. See Footnote 8 for example language for Section E. Revise Section F to clarify that passive recreation activities include activities such as fishing, hiking, and bird watching.	reference Left B in Added suggested language Removed subsection E; now in new section 18.32.111 Revised
18.32.425 Administratively Authorized Uses and Activities	Could be revised to be more consistent	Section does not refer to mitigation sequencing requirement in OMC 18.32.135. Section does not reference Department evaluation provisions OMC 18.32.115, OMC 18.32.125 Section D does not include guidelines for permanent fencing materials.	Clarity and ease-of-use CTED, 2007; Bunten et al., 2012	Provide cross reference to 18.32.135. Provide cross references. Consider specifying what permanent fencing materials are required for	Added Added Added suggested

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				streams and buffers in Section D. See Footnote 9 for example language.	language
		Section E refers to Forest Practice activities which are unlikely to occur within City limits.		Remove Section E.	Leave in
		Section F includes overly stringent requirements for the preparation of a voluntary minor enhancement plan for streams and stream buffers. Enhancement plans should be prepared by a qualified professional, but not all require civil engineering or fisheries biologist expertise.	Item identified by City staff	Consider revising section with less stringent requirements and requiring enhancement plans be prepared by a "qualified professional."	Revised Added definition in 18.02.180
		Section I does not provide recommendations or resources for controlling state listed noxious weeds and invasive species. BAS provides suggestions for several strategies for controlling noxious weeds and invasive species including but not limited to: hand removal, chemical treatment, shading, or other techniques may be appropriate depending on the species and situation.		Revise Section I to include additional information regarding invasive removal. See Footnote 10 for example language.	Included in new Section 18.32.111
18.32.430 Hearing Examiner Authorized Uses and Activities	Consistent with BAS	Current BAS for streambank stabilization is *Washington Department of Fish and Integrated Streambank Protection Guidelines (Cramer et al., 2002).* Section could reference Hearing Examiner review provisions OMC 18.32.130	Clarity	None. Provide cross reference.	Revised Cross-reference added
18.32.435 Buffers	Could be revised to be more	Section does not include alternative strategies to BAS-recommended buffers if it is not achievable due to existing conditions (e.g., required use of LID; elevated mitigation requirements for habitat; longer-term	Knight, 2009	Consider adding a set of provisions for specific alternative strategies or buffer enhancements where it is not feasible to	Added language in 18.32.435 F 7

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
	consistent	maintenance and monitoring). Alternative strategies can provide some of the ecological functions provided by riparian buffers, and should be considered (especially where narrow or reduced buffers are allowed).		achieve standard buffer requirements due to existing conditions. Examples include: required use of LID; removal of fish barriers to restore accessibility; creating or enhancing a stream channel (with WDFW approval), upgrading existing retention/detention facilities beyond required levels; longer-term maintenance and monitoring. See Footnote 11 for a list of potential stream and riparian area mitigation measures.	referring to WDFW document
18.32.435 Section A1	Inconsistent with BAS	Ravine buffer provision (A1) is problematic and not supported by BAS as it is written because it is: 1) unclear about fish use; 2) unclear about where to draw the buffer (top of slope v. OHWM); and, 3) is unclear on what constitutes a ravine. In general, BAS supports minimum buffer widths of 100 feet for fish-bearing streams. The current code provides a 50-foot buffer for streams within ravines of a certain depth (10 feet), but does not take into consideration presence of fish habitat in the stream. While the 50-foot buffer is drawn from the top of slope, there may be some cases where a 100-foot buffer from the ordinary high water mark (OHWM) of a fish-bearing stream would exceed this buffer. The standard should be clear that in no case would a stream that provides fish habitat be given a buffer less than 100 feet from the OHWM. Figures 2 and 3 are confusing for buffer measurement and do not include sufficient description.	May, 2003; and Knutson and Naef, 1997; Ecology 2013	Consider removing the ravine stream buffer provision entirely to reduce confusion and potential for misuse. If not removed, revise section to first state the minimum buffers by stream type (WDNR classification) and then provide an additional buffer provision for streams within ravines with slopes greater than 30%. See Footnote 12 for example revision to code language. Remove Figures 2 and 3.Consider replacing with a new figure that demonstrates how a stream buffer is measured. See Thurston County Code	Removed to be consistent with BAS Added suggested language to be consistent with BAS Removed figures

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				24.25.020 for an example figure and associated language.	
18.32.435 Section A2 (stream buffers)	NA	The list of stream types (Type 1 – 5) is outdated and does not reflect the most current stream typing procedures used by City and adoption of the State's typing criteria (Type S, F, Np, Ns). The City is aware of this discrepancy and has been using the WAC definition for stream typing during administration of this code section (per City memo dated March 1, 2010). The City's stream buffer widths provided in A2 appear to be based on the Thurston County CAO (TCC 24.25.020) because the widths are essentially the same for Type 1-5. These buffer widths are based on WDFW's *Management Recommendations for Washington's Priority Habitats – Riparian* (Knutson and Naef, 1997), a key source of BAS for stream buffer widths. The recommendations distinguish stream types based on the width of the stream and the potential for mass wasting (areas with unstable slopes or mass wasting are more likely to have slumping or landslides, so a larger overbank area needs to be protected). These buffer widths were also used in the NOAA Biological Opinion for the FEMA's NFIP compliance ("FEMA BiOp"). By incorporating these buffer widths into its CAO, Olympia's riparian protections are compliant with the FEMA BiOp. However, for urbanized and urbanizing jurisdictions such as Olympia, the streams are generally less ecologically intact and/or more intensely	Update to reflect current City procedures Knutson and Naef, 1997; May, 2003	Revise water types to Type S, F, Np, Ns. See Footnote 13 for suggested presentation of stream types. Also consider revising standard buffers for some streams based on the suggested ranges of standard buffer widths in Footnote 12.	Revised Revised Revised Added suggested language to reduce buffers for non-fish bearing streams

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
		developed compared to streams in less developed jurisdictions. The current stream buffers for non-fish bearing streams exceeds BAS-recommended buffers as established in May (2003) and the buffers of fish and non-fish bearing streams exceeds those of neighboring and similar jurisdictions (Tacoma TCC 13.11.420, Federal Way 19.145.270). The standard buffers for some streams could be reduced at the City's discretion.			
18.32.435 Section B	Could be revised to be more consistent	Similar to previous comment on 18.32.405 Applicability and Definition, the areas listed in Section B include marine and lake shorelines that are regulated under the City's Shoreline Master Program (e.g., Capitol Lake). It is unclear which portions of these "Streams and Important Riparian Areas" are not regulated under the SMP; the section does not reference a map or figure showing these areas.	Eliminate redundancy and improve consistency with SMP	As previously recommended for 18.32.405, remove shorelines of the state that are regulated under the SMP in this section.	Leave in. CAO is adopted by reference into the SMP
18.32.435 Section D	Inconsistent with BAS	The requirement of 400 tree units per acre for planting density to achieve an intact vegetative buffer is based on state standards of the Forest Practices Act. The requirement is overly prescriptive and not supported in any BAS sources for critical areas protection.	Clarity and ease of use	Remove Section D. Also remove this section in 18.32.535. It does not need to be replaced with anything because enhancement of a buffer typically can only be a condition of a permitted action.	Removed to be consistent with BAS
18.32.435 Section E	Inconsistent with BAS	Section E allows stream buffer averaging without enhancement, which is not supported by BAS. In general, BAS does not support buffer averaging on streams. BAS notes that buffer habitat enhancement is necessary to protect the integrity, functions, and values of existing anadromous fish habitat and that buffer averaging proposals must be reviewed by a qualified biologist.	Knight, 2009	Remove provisions for stream and important riparian area buffer averaging.	Removed to be consistent with BAS

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.435 Section F	Inconsistent with BAS	Section F (1) allows reduction where buffer area is" well-vegetated with native species." This would allow loss of higher functioning buffer. Buffer reduction is appropriate where buffer functions are low due to existing land uses or previous alteration.	Knight, 2009; Bunten et al., 2012	Revise provision to preserve areas of the buffer that are well-vegetated with native species and allow reduction only in areas where the buffer is current providing reduced functions.	Revised to be consistent with BAS
18.32.435 Sections G and H	Inconsistent with BAS	Sections G and H allow for stream buffer width reductions greater than 25 percent, which is not supported by BAS.	Bunten et al., 2012	Update provisions for buffer averaging to be no greater than 25 percent of the standard buffer width.	Revised to be consistent with BAS
18.32.435 Section J	Could be revised to be more consistent	Section J does not include provisions for increasing buffers to protect or establish contiguous vegetated areas between streams/lakes and other habitats (habitat corridors) at the discretion of the City and/or administrator. BAS emphasizes the importance of habitat corridors.	Marczak et al. 2010; Fischer and Lindenmayer 2007; Brennan et al. 2009; FEMAT 1993; WDFW 2009	Consider revising to allow City and/or Hearing Examiner authority to increase buffer widths or establish habitat corridors as needed to protect or establish contiguous vegetated areas between streams and other habitats. Provision could be used when streams are adjacent to habitats providing significant wildlife functions (for example, Type F waters adjacent to wetlands with high habitat function scores, but which are separated by uplands). Suggest adding the following to the end of existing sentence: "…or to protect habitat corridors between streams and other habitats."	Language added
18.32.500-595 Wetlands and Small Lakes					

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.500 Purpose and Intent	Could be revised to be more consistent	Section does not require no net loss of wetland functions and values or reference OMC 18.32.100 (L)	Chapter 36.70A RCW	Consider removing section due to redundancy with 18.32.100	Referenced 18.32.100 L
18.32.505 Definition	Could be revised to be more consistent	The definition for 'small lakes' is adequate, but lakes are typically included as a type of FWHCA as defined under the GMA and not with wetlands. There could be confusion because not all small lakes meet the definition of wetland and should be considered as aquatic habitats only. Consider treating small lakes under the FWHCA instead.	WAC 365-190-130	Consider removing "small lakes" definition from this section and add it as a FWHCA. Also consider removing "Small Lakes" from the Titles, "Wetlands and Small Lakes."	Removed and added in 18.32.305 C
18.32.510 Rating System	Inconsistent with BAS	Section A references outdated wetland rating manual. The updated 2014 wetland rating manual constitutes BAS for wetland rating. The City currently has an interim language and director's determination (December 31, 2014).	WAC 365-190-090	Revise Section A per City's interim language released in strikethrough/underline on December 31, 2014.	Revised to be consistent with BAS
18.32.515 Small Wetlands	Inconsistent with BAS	This section exempts small wetlands without requiring mitigation. Scientific literature does not support exempting wetlands based on size or category alone without mitigation. Small wetlands may perform important functions. However, Ecology has developed a strategy for exempting small wetlands when wetland functions are considered and mitigation is required.	Granger et al. 2005	Limit exemption to isolated Category III and IV wetlands less than 1,000 square feet in areas that are not associated with riparian areas or buffers, are not part of a wetland mosaic, and do not contain habitat for priority species.	Revised to be consistent with BAS
18.32.518 Prohibited Alterations	NA	Some items on list are poorly defined and could be misinterpreted by applicants and administrators (e.g., cutting, relocating or removing vegetation).	Clarity and ease of use	Remove section and rely on list of "regulated activities" (previous recommendation).	Removed
18.32.520 Exempt Uses and Activities	Could be revised to be more	This section does not include exemptions for emergencies or reference emergency action provisions in OMC 18.32.165.	CTED, 2007 Clarity and ease-	Consider removing Section A due to redundancy with 18.32.165.	Referenced 18.32.165

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
	consistent	Section B refers to Forest Practice activities which are unlikely to occur within City limits. Section D does not include guidelines for permanent sign materials or make reference to OMC 18.32.145. Section E Normal Maintenance and Repair and F Passive Recreation need more specific details, standards and limitation set in order to allow these s exempt uses.	of-use	Remove Section B. Consider specifying what permanent sign materials are required for wetlands and buffers for Section D. See Footnote 7 for example language. Revise Sections E include more specific details. See Footnote 8 for example language for Section E. Revise Section F to include passive recreation activities such as fishing, hiking, and bird watching.	Leave in Added suggested language Added into new subsection 18.32.111 Revised

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.525 Administratively Authorized Uses and Activities	Could be revised to be more consistent	Section does not reference evaluation provisions in OMC 18.32.115, OMC 18.32.125 Section D does not include guidelines for permanent fencing materials. Section E refers to Forest Practice activities which are unlikely to occur within City limits. Section F includes overly stringent requirements for the preparation of a voluntary minor enhancement plan for wetlands or wetland buffers. Enhancement plans should be prepared by a qualified professional, but not all require civil engineering or fisheries biologist expertise. Section H does not provide recommendations or resources for controlling state listed noxious weeds and invasive species. BAS provides suggestions for several strategies for controlling noxious weeds and invasive species including but not limited to: hand removal, chemical treatment, shading, or other techniques may be appropriate depending on the species and situation. Section N doesn't specifically define a "wildlife blind."	Clarity and ease-of-use Item identified by City staff Bunten et al., 2012	Consider including reference in section. Consider specifying what permanent fencing materials are required for wetlands and buffers in Section D. See Footnote 9 for example language. Remove Section E. Consider revising section with less stringent requirements and requiring enhancement plans be prepared by a qualified professional. Revise Section H to include additional information regarding invasive removal. See Footnote 10 for example language. Thurston County uses "means a structure no larger than fifty square feet used for the observation or shooting of wildlife."	Added reference Added language Leave in Revised Added in new subsection 18.32.111 None. Definition in 18.02.180

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.530 Hearing Examiner Authorized Uses and Activities	NA	Section does not reference Hearing Examiner review provisions in OMC 18.32.130	Internal consistency	Consider including reference to Section 18.32.130 within first sentence of Section 18.32.530.	Reference added
18.32.535 Wetland Buffers	Inconsistent with BAS	Buffer widths and habitat scores in Table X refer to the previous wetland rating system habitat scoring method and individual scores. The rating system has been updated and the scoring amounts have changed.	Hruby, 2014	Revise Section A per City's interim language released in strikethrough/underline on December 31, 2014.	Revised to be consistent with BAS
18.32.535 Section F	Inconsistent with BAS	BAS does not support the use of both reduction and averaging tools in conjunction.	Granger et al., 2005	Revise to explicitly state that buffer widths may be averaged or reduced with an approved enhancement plan. Include the list of mitigation measures from Ecology's Table "XX.2"	Revised to be consistent with BAS Table is referenced in 18.32.535(G)(b
18.32.535 Section G	NA	Section G (1b) reference to Table 8c-11 is incorrect. Correct reference is Table 8C-8.	Granger et al., 2005	Revise to include correct reference, Table 8C-8.	Revised
18.32.535 Section H	Inconsistent with BAS	Section H allowance for the Hearing Examiner to reduce or average wetland buffers greater than 25 percent is not consistent with BAS.	Bunten et al., 2012; CTED 2007	Update provisions for buffer reductions with enhancement or for buffer averaging to be no greater than 25 percent of the standard buffer width where greater averaging is allowed (18.32.535.H.2).	Revised to be consistent with BAS

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
		There is no provision to allow the Department or Hearing Examiner to increase a wetland buffer, if and when a larger buffer is necessary to protect wetland functions and values.		Consider allowing the Department or Hearing Examiner to increase a wetland buffer. See Footnote 15 for example language.	Added suggested language
Sections 18.32.540, 18.32.545, and 18.32.560	NA	Sections are similar and could be combined into one section labeled: 'Wetland alteration compensation" or "Wetland mitigation requirements".	Clarity and ease-of-use	Consider combining three sections (18.32.540, 18.32.545, and 18.32.560) into one section titled "Wetland mitigation requirements".	Combined
18.32.545 Compensation Projects	Inconsistent with BAS	Section does not provide a stated preference of mitigation actions (restoration, creation, enhancement, and preservation) for permittee responsible mitigation actions. Section D refers to outdated guidance manual from Ecology (1999).	Ecology et al., 2006a and b; Bunten et al., 2012	Add provisions for "Preference of Mitigation Actions". See Footnote 16 for example language. Remove Section D.	Revised to be consistent with BAS Removed
18.32.550 Replacement Ratios	Could be revised to be more consistent	Section refers to outdated reference for wetland replacement ratios. With the update to the Washington State Rating System for Western Washington, the table has been updated to reflect new scoring system. This section could also be more user-friendly by adding the table of mitigation ratios. There is no specified ratio for buffer impacts. The typical ratio is 1:1.	Granger et al. 2005; Hruby, 2014 Clarity and ease-of-use	Update reference to newer wetland rating manual and add Ecology's Table 8C-11 to section. Consider including a typical ratio of 1:1 for buffer impacts in section.	Updated reference Did not add table Added language
18.32.560 Type and Location of	Inconsistent with BAS	There is no allowance for use of advance mitigation or in-lieu fee (ILF) programs for off-site compensatory mitigation; federal and state agencies are now requiring the use of this program, if and when it is available. BAS	Corps, 2008; Ecology et al., 2012c; Bunten et	Despite a lack of mitigation banks and ILF programs within the service area of the City, consider adding Ecology-	Revised to be consistent with

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
Compensation Mitigation		indicates that advance mitigation and ILF programs have a significantly greater likelihood of mitigation success, as opposed to permittee-responsible mitigation.	al. 2012	recommended language that will enable their use should they ever be developed (e.g. Thurston County ILF program). See Footnote 17 for example language. As an alternative to Ecology language, and a shortened version, refer to Kent CAO KCC 11.06.550(C).	BAS
18.32.575-18.32.595 Special Reports	NA	Reporting requirements could be simplified by removing the wetland rating report since this is a required part of a wetland delineation report. Wetland mitigation report and wetland compensatory mitigation plan could also be combined.	Clarity and ease of use	Consider removing Sections 18.32.585 and 18.32.587, and combining Sections 18.32.590 and 18.32.595 into one section.	Removed and combined
18.32.580 Wetland Boundary Delineation	Inconsistent with BAS	Section A references outdated wetland delineation manual. The federal wetland delineation manual and regional supplements constitute BAS for wetland identification and delineation. Similar to Section A, Section B states that a wetland boundary delineation will be completed by a qualified wetland biologist. Redundant with Section A. Section does not specify how long wetland delineations are valid. Corps of Engineers Regulatory Guidance Letters RGL 05-02 and 08-02 set a five year standard on wetland determinations. Section does not state that wetland data sheets must be included within wetland reports.	WAC 173-22-035 020; Bunten et al. 2012 User friendliness and clarity, improved consistency with BAS	Update reference to newer wetland delineation manual. Consider removing Section B since it is redundant with Section A. Revise Section A to specify that wetland delineations are valid for 5 years. Revise Section A to require wetland data sheets be included with wetland reports.	Updated to be consistent with BAS Removed Revised to be consistent with BAS Revised to be consistent with BAS

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.587 Wetland Rating Report	NA	Section repeats wetland rating report requirements in Section 18.32.585. Section title is 'Wetlands and *Ponds*' which is inconsistent with the other titles in the chapters ('Wetlands and *Small Lakes*').	Clarity and ease-of-use	As recommended previously, consider removing this section.	Removed
18.32.590 Wetland Mitigation Report	Could be revised to be more consistent	Section is redundant with OMC 18.32.595.	Clarity and ease-of-use	As recommended previously, consider combining this section with Section 18.32.595.	Combined
18.32.595 Wetland Compensation Mitigation Report	Could be revised to be more consistent	This section is labeled as 'Wetland Compensation Mitigation ***Report***' but Section 18.32.575 Special Reports states a 'Wetland compensatory mitigation ***plan***' should be provided. This section is missing some reporting requirements recommended by state guidance, including: discussion of landscape setting, and the potential direct and/or indirect impacts that may occur to the wetland due to the proposed activity. The section is also missing a monitoring period requirement to ensure mitigation project success. Section C does not reference mitigation sequencing provision in OMC 18.32.135.	Clarity and ease-of-use Granger et al. 2005; Bunten et al., 2012; Ecology et al., 2006a and b	Revise this section's label or Section 18.32.575 so that they are consistent. Add the following reference to Section A: Selecting Wetland Mitigation Sites Using a Watershed Approach (Western Washington) (Ecology Publication No. 09-06-32). Revise to require a monitoring period of 5 years. Revise to include a reference to the mitigation sequencing provision in OMC	Revised Added reference Added reference to 18.32.136 which requires monitoring period Revised

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				18.32.135.	
18.32.600-645 Landslide Hazard Areas (completed by ROBINSON NOBLE)					
18.32.105 C General Provisions	Not consistent with GMA	Does not specifically address erosion hazards. Section 18.32.105 C refers to Section 13.16 of the OMC for development regulations for erosion hazard areas. Section 13.16.017 refers to the Drainage and Erosion Control manual for Olympia 2009. This manual provides BMPs to control erosion but does not provide methods for classification or regulation for erosion hazard areas as they are defined under the GMA.	WAC 365-190-120 (5)	For a very comprehensive approach to code structure, refer to the example code in the Commerce Handbook (CTED, 2007), Chapter X.50 Geologically Hazardous Areas. Use the example code designation sections at a minimum. Use the performance standards section as applicable. For a more streamlined approach to this section, review Federal Way's treatment of Geologically Hazardous Areas FWRC 19.145.220. Or the City of Kent's code KCC 11.06.750 and 760.	Added language to be consistent with GMA
18.32.600 Generally	Not consistent with GMA	Contains only one geologic hazard section titled "Landslide Hazard" and does not include Erosion Hazard, Seismic Hazards and other geologic Hazards	WAC 365-190-120 (3)	Same as above.	Added erosion and seismic hazards to be consistent with GMA
18.32.600 Generally	Could be more consistent	Lacks requirements to review and apply protective measures for developing a property due to erosion hazards. Currently, the code does not reference any documented soil map sources regarding erosion hazards. The WAC does not require this, but it may be appropriate for the City.	Potential gap or missing protection	Same as 18.32.105 C. Consider incorporating an erosion classification system similar to Thurston County Code (TCC) 24.03.010 and Table 24.15-3 or create a new code.	Added language referring to US Dept of Agriculture Soil Conservation

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
				For mapping, the Commerce example code includes a list of map sources in X.50.040 that could be appropriate and useful for City and applicants	Service Soil Classification System Added new subsection 18.32.603 to include maps sources
18.32.600 Generally	Not consistent with GMA	The CAO does not address seismic hazards	WAC 365-190-120 (7)	Same as 18.32.105 C.	Added new subsections 18.32.650-660 to be consistent with GMA
18.32.600 Generally	Not consistent with GMA	The CAO does not address Volcanic or Mines Hazards. (Note: we expect these hazards are very rare in Olympia)	WAC 365-190-120 (8)	None needed. L. Bentley noted no volcanic hazard (lahar flow mapping) exist inside City boundary.	No volcanic or mine hazard in city. Will state in Ordinance to be consistent with GMA
18.32.605 – Applicability and Definition	Not consistent with GMA	The landslide hazard code does not address all items in state law.	WAC 365-190-120 (6)	Revise to match WAC definition. Add WAC 365-190-120 (6) (a) (i), (ii) and (iii) Add WAC 365-190-120 (6) (d) and (f), possibly (h)	Revised to be consistent with GMA
18.32.605	Not	Figure 7 shows the landslide hazard is only the seepage area and then	WAC 365-190-120	Remove Figure 7 or redraw to identify	Removed

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
Section A 2 b	consistent with GMA and BAS	specifies a 50 foot buffer. The WAC specifies the entire slope over 15% as a landslide hazard area when items in WAC 365-190-120 (6) (b) apply. A graphic depicting how landslide hazards are identified would be useful and has been requested by City staff.	(6) (b) Item identified by City staff	the entire slope greater than 15% as landslide hazard area.	Figure 7 to be consistent with GMA and BAS
18.32.610 Prohibited Alterations	NA	It is unclear what manner of cutting is prohibited since no definition is given.	Clarity and ease of use.	Develop a specific code for cutting, limbing or pruning trees, bushes or other vegetation. Consider language in the table of TCC 24.15.025	Removed 18.32.610 – prohibited alterations are no longer listed
18.32.615 Exempt Uses and Activities	Could be more consistent with BAS	No requirement for all exempt uses and activities to implement appropriate erosion control BMPs and revegetation in landslide hazard areas.	Item identified by City staff	Remove this section *if* the list of "exempt activities" is added to the code (see previous recommendation). Or Revise the introductory sentence: "The following activities shall be exempt from the review requirements of this Chapter provided that appropriate erosion control best management practices are implemented during construction (if applicable) and any areas cleared of vegetation are replanted with native species"	Added suggested language
18.32.620 H Administratively Authorized Uses	Somewhat consistent/ Needs clarification	The end of the Section H includes "provision of the IBC" which is vague and should be defined or referenced for clarity.	Clarity and ease of use	Note International Building Code reference.	Deleted reference to IBC per Todd Cunningham

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
18.32.620 J	NA	Provision requires that the trail has to be paved to be allowed in the Landslide hazard area. This requirement is unnecessary.	NA	Remove "with a paved surface."	This was a misreading and is correct as is
18.32.630 Buffers	Not consistent with BAS	The existing requirements for a buffer from the top of landslide hazard area are smaller than typically required as a buffer or setback The existing requirements for a buffer from the toe of landslide hazard area are smaller than typically required.	Current regional practices and critical area codes of neighboring jurisdictions (see Thurston County Code 24.15.015).	Add at the end of the sentence "…, or 50 feet, whichever is greater;" Add at the end of the sentence "…, or 50 feet, whichever is greater;"	Added suggested language to be consistent with BAS
18.32.640 A Geotechnical Report	Not consistent with GMA	RCW 18.220 references only Geologist (which includes engineering geologists, geologists, hydrogeologists etc.). Geotechnical Engineers need to be included. Report requirements may be improved by using guidance provided by Washington State Geologist Licensing Board.	WAC 365-190-120 DOL, 2006	Add reference to 18.02.180.180, which defines Geotechnical Engineer. Add reference or the list of requirements from Geology Report Guidelines available here. http://www.dol.wa.gov/business/geologist/geopublications.html	None. Instead, refer to RCW 18.220 and 18.43 for definitions to be consistent with GMA Added reference to be consistent with GMA
18.32.640 B 1 and 2	Not consistent with BAS	Current regulations do not prescribe a minimum factor of safety and are unclear as how to define the stability or instability of a landslide hazard present on a site. This relies on too much interpretation if the landslide	WSDOT, 2015	Consider adding code to define the landslide hazard stability based on factor safety. Slopes with a factor of safety 1.5 static and 1.15 seismic are	Added language to 18.32.605 to be consistent with

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
		classification is stable enough.		considered stable and those areas with a lower factor of safety are potentially unstable. Or consider the TCC 24.35.160 - Geologic hazards—Additional requirements for geologic assessments in landslide hazard areas for reporting requirements.	BAS
NA	Could be revised to be more consistent	The use of maps to assist in the designation of critical areas is not mentioned in code. WAC 365-190-080 (4) recommends to designate critical areas by using maps and performance standards.	WAC 365-190-080 (4)	18.32.170 refers to critical area maps. The Commerce example code includes a list of map sources in X.50.040 that could be appropriate and useful for City and applicants.	None. Already in 18.32.170 Added as new subsection 18.32.603
Frequently Flooded Areas					
Frequently flooded areas provisions are not currently included in OMC Chapter 18.32 Flood Hazard	Could be revised to be more consistent with BAS and GMA	Regulations within OMC 16.70 meet minimum NFIP and State standards for floodplain management. Only one reference to Flood Damage Prevention Regulations is provided in Section 18.32.105. The code should clearly designate frequently flood areas as critical areas. OMC 16.70 only requires 'Critical Facilities' be built outside of the special	Ecology, 2015 Clarity and ease of use FEMA, 2013	At a minimum, designate frequently flooded areas in 18.32.105 and refer to OMC Chapter 16.70 for standards. Alternatively, add a new section to OMC Chapter 18.32 – "Frequently flooded areas" and require compliance with all standards for OMC Chapter 16.70 in this section.	None. Already in 18.32.105 FEMA allows

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
Regulations are provided in OMC 16.70.		flood hazard area when feasible instead of all new buildings. OMC 16.70 does not require compensatory floodplain storage for riverine floodplains. Compensatory storage requirements could preserve flood storage capacity and prevent damage in flood events. Recent BAS has highlighted the importance of floodplains for providing habitat to numerous fish and wildlife species, including anadromous salmon. FEMA Region X now requires all floodplain development within the Puget Sound to assess and avoid potential impacts to Endangered Species Act-listed salmon and their habitat. Including provisions for frequently flooded areas is an opportunity to strengthen consistency with FEMA Region X's Floodplain Habitat Assessment and Mitigation Guidance.	NMFS, 2009; PSP, 2009; FEMA, 2013; Ecology, 2015 PSP 2009; FEMA 2013	No other recommendations. City manages floodplain permit approvals through the Door 3 process (case-by-case).	new construction in SFHA No riverine floodplains in city
18.02.180.180 Definitions					
18.02.180.180 H	Not consistent with GMA	Current definition of "hydric soil" references outdated wetland delineation manual	WAC 173-22-035-020	Update reference to new wetland delineation manual.	Updated reference to be consistent with GMA
18.02.180.180 G	Could be revised to be more consistent	Current definition of a "geotechnical engineer" is too specific	Improve clarity	See Footnote 18 for suggested definition.	Removed definition. Rely on RCW definition for consistency
18.02.180.180 G	Not consistent	Lacks "Engineering Geologist" Definition	RCW 18.220	See Footnote 19 for example definition.	None. Rely on RCW definition

Existing Provision OMC Chapter	Degree of Consistency with BAS & Guidance	Reason for Consistency/ Lack of Consistency	Rationale / Basis	Recommendation	City Action
	with GMA				for consistency with GMA
18.02.180.180 R	NA	Current definition of "ravine" is not entirely consistent with the use of this term in 18.32.435	Internal consistency	Delete definition to be consistent with suggested changes to 18.32.435 (above).	None. Definition is consistent
None	NA	Consider adding definition of "well" to help ensure wells are installed according to City and State codes.	WAC 173-160	A bored, drilled, or driven shaft, or a dug hole whose depth is greater than the largest surface dimension for the purpose of withdrawing or injecting water or other liquids. Wells are constructed and maintained per State (WAC 173-160) and City requirements.	None. No definition needed per Donna Buxton
None	NA	Consider adding definition of "qualified professional."	Item identified by City staff	See Footnote 20 for example definition.	Definition added to 18.02.180

Footnotes

[1]***Thurston County Code 24.01.010 – excerpt from General provisions, Purpose, Statement of policy for critical areas***

F. Protect critical areas, associated buffers designed to protect the functions of critical areas, and their functions and values while allowing reasonable use of property by: directing activities not essential in such areas to other locations; providing for review of proposed uses and activities on properties containing critical areas or their buffers to achieve compliance with standards designed to minimize impacts to critical areas and associated buffers; and providing for mitigation of unavoidable impacts;

G. Establish enforcement tools and processes designed to deter activities in violation of this chapter and provide for remedial action for unauthorized impacts to critical areas and their buffers;

H. Implement the Washington State Growth Management Act (RCW 36.70A), including consideration of best available science in the designation, protection, and management of critical areas, with special consideration for the protection of anadromous fish; and

[2]Possible language for NEW section "Relationship to Other Agencies and Regulations" (CTED, 2007)

a. These critical areas regulations shall be in addition to zoning and other regulations adopted by the City. Compliance with other regulations does not exempt the applicant from critical areas regulations. In the event of any conflict between these regulations and any other City regulations, those regulations which provide the greater protection to critical areas shall apply.

b. Any individual critical area adjoined by another type of critical area shall have the buffer and meet the requirements that provide the most protection to the critical areas involved. When any provision of this chapter or any existing regulation, easement, covenant, or deed restriction conflicts with this chapter, that which provides more protection to the critical areas shall apply.

c. Compliance with the provisions of this chapter does not constitute compliance with other federal, State, and local regulations and permit requirements that may be required (for example, shoreline substantial development or conditional use permits, shoreline variances, the Washington State Department of Fish and Wildlife hydraulic project approval (HPA), Army Corps of Engineers Section 404 permits, and National Pollution Discharge Elimination System (NPDES) permits). The applicant is responsible for complying with these requirements, apart from the process established in this chapter.

[3]Example language for OMC 18.32.115 General Provisions – Applicant Requirements (CTED, 2007)

At a minimum, the report shall contain the following:

1. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested;
2. A copy of the site plan for the development proposal including:
    a. A map to scale depicting critical areas, buffers, the development proposal, and any areas to be cleared; and
    b. A description of the proposed stormwater management plan for the development and consideration of impacts to drainage alterations.
3. The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site;
4. Identification and characterization of all critical areas, wetlands, water bodies, and buffers adjacent to the proposed project area;
5. A statement specifying the accuracy of the report, and all assumptions made and relied upon;
6. An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development;
7. An analysis of site development alternatives including a no development alternative;

8. A description of reasonable efforts made to apply mitigation sequencing pursuant to *Mitigation Sequencing* [Section X] to avoid, minimize, and mitigate impacts to critical areas;
9. Plans for adequate mitigation, as needed, to offset any impacts, in accordance with *Mitigation Plan Requirements* [Section X]], including, but not limited to:
    a. The impacts of any proposed development within or adjacent to a critical area or buffer on the critical area; and
    b. The impacts of any proposed alteration of a critical area or buffer on the development proposal, other properties and the environment;
10. A discussion of the performance standards applicable to the critical area and proposed activity;
11. Financial guarantees to ensure compliance; and
12. Any additional information required for the critical area as specified in the corresponding chapter.

[4]Example language for NEW section "Unauthorized Alterations and Enforcement" (CTED, 2007)

A. When a critical area or its buffer has been altered in violation of this Title, all ongoing development work shall stop and the critical area shall be restored. The City shall have the authority to issue a stop work order to cease all ongoing development work, and order restoration, rehabilitation, or replacement measures at the owner's or other responsible party's expense to compensate for violation of provisions of this Title.

B. Requirement for Restoration Plan. All development work shall remain stopped until a restoration plan is prepared and approved by City. Such a plan shall be prepared by a qualified professional using the best available science and shall describe how the actions proposed meet the minimum requirements described in Subsection (C). The [director] shall, at the violator's expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or violator for revision and resubmittal.

C. Minimum Performance Standards for Restoration

1. For alterations to critical aquifer recharge areas, frequently flooded areas, wetlands, and habitat conservation areas, the following minimum performance standards shall be met for the restoration of a critical area, provided that if the violator can demonstrate that greater functional and habitat values can be obtained, these standards may be modified:
    a. The historic structural and functional values shall be restored, including water quality and habitat functions;
    b. The historic soil types and configuration shall be replicated;
    c. The critical area and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities. The historic functions and values should be replicated at the location of the alteration; and
    d. Information demonstrating compliance with the requirements in Section X (Mitigation Plan Requirements) shall be submitted to the [director].
2. For alterations to flood and geological hazards, the following minimum performance standards shall be met for the restoration of a critical area, provided that, if the violator can demonstrate that greater safety can be obtained, these standards may be modified:
    a. The hazard shall be reduced to a level equal to, or less than, the pre-development hazard;
    b. Any risk of personal injury resulting from the alteration shall be eliminated or minimized; and
    c. The hazard area and buffers shall be replanted with native vegetation sufficient to minimize the hazard.

D. Site Investigations. The [director] is authorized to make site inspections and take such actions as are necessary to enforce this Title. The [director] shall present proper credentials and make a reasonable effort to contact any property owner before entering onto private property.

E. Penalties. Any person, party, firm, corporation, or other legal entity convicted of violating any of the provisions of this Title shall be guilty of a misdemeanor. Each day or portion of a day during which a violation of this Title is committed or continued shall constitute a separate offense. Any development carried out contrary to the provisions of this Title shall constitute a public nuisance and may be enjoined as provided by the statutes of the state of Washington. The City may levy civil penalties against any person, party, firm, corporation, or other legal entity for violation of any of the provisions of this Title. The civil penalty shall be assessed at a maximum rate of _____ dollars per day per violation. *(The amount of the penalty needs to be decided locally and should be consistent with other adopted civil penalties. Commonly, the penalty is $1,000 per day per violation)*

[5]Example language for a NEW section "Regulated Activities"

This chapter shall apply to any regulated activity that may affect a critical area or a potential critical area, or its buffer, unless otherwise exempted by these regulations. Applicable activities include, but are not limited to, the following:

1. Removing, excavating, disturbing, or dredging soil, sand, gravel, minerals, organic matter, or materials of any kind.
2. Dumping, discharging, or filling with any material.
3. Draining, flooding, or disturbing the water level or water table, or diverting or impeding water flow.
4. Driving pilings or placing obstructions.
5. Constructing, substantially reconstructing, demolishing, or altering the size of any structure or infrastructure.
6. Destroying or altering vegetation through clearing, grading, harvesting, shading, or planting vegetation that would negatively affect the character of a critical area.
7. Activities that result in significant changes in water temperature or physical or chemical characteristics of water sources, including quantity and pollutants.
8. Any other activity potentially affecting a critical area or buffer not otherwise exempt from the provisions of this chapter as determined by the department.

Where a regulated activity would be partly within and partly outside a critical area or its buffer, the entire activity shall be reviewed pursuant to the requirements of this chapter.

[6]Example language for a NEW section "Mitigation Plan Requirements" (CTED, 2007)

Mitigation Plan Requirements. When mitigation is required, the applicant shall submit for approval by [city/county] a mitigation plan as part of the critical area report. The mitigation plan shall include:

A. Environmental Goals and Objectives. The mitigation plan shall include a written report identifying environmental goals and objectives of the compensation proposed and including:

1. A description of the anticipated impacts to the critical areas and the mitigating actions proposed and the purposes of the compensation measures, including the site selection criteria; identification of compensation goals; identification of resource functions; and dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the functions and values of the impacted critical area;

2. A review of the best available science supporting the proposed mitigation and a description of the report author's experience to date in restoring or creating the type of critical area proposed; and

3. An analysis of the likelihood of success of the compensation project.

B. Performance Standards. The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and whether or not the requirements of this Title have been met.

C. Detailed Construction Plans. The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as:

1. The proposed construction sequence, timing, and duration;

2. Grading and excavation details;

3. Erosion and sediment control features;

4. A planting plan specifying plant species, quantities, locations, size, spacing, and density; and

5. Measures to protect and maintain plants until established.

These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

D. Monitoring Program. The mitigation plan shall include a program for monitoring construction of the compensation project and for assessing a completed project. A protocol shall be included outlining the schedule for site monitoring (for example, monitoring shall occur in years 1, 3, 5, and 7 after site construction), and how the monitoring data will be evaluated to determine if the performance standards are being met. A monitoring report shall be submitted as needed to document milestones, successes, problems, and contingency actions of the compensation project. The compensation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years.

E. Contingency Plan. The mitigation plan shall include identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates project performance standards are not being met.

F. Financial Guarantees. The mitigation plan shall include financial guarantees, if necessary, to ensure that the mitigation plan is fully implemented. Financial guarantees ensuring fulfillment of the compensation project, monitoring program, and any contingency measures shall be posted in accordance with *Bonds to Ensure Mitigation, Maintenance, and Monitoring* [Section X.10.400].

[7]Example language for OMC 18.32.420(D) and 18.32.520(D) (CTED Handbook, 2007)

1. Temporary markers. The outer perimeter of the critical area buffer and the clearing limits identified by an approved permit or authorization shall be marked in the field with temporary "clearing limits" fencing in such a way as to ensure that no unauthorized intrusion will occur. The marking is subject to inspection by the Administrator prior to the commencement of permitted activities. This temporary marking shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.

2. Permanent signs. As a condition of any permit or authorization issued pursuant to this Chapter, the Administrator may require the applicant to install permanent signs along the boundary of a critical area or buffer.

a. Permanent signs shall be made of an enamel-coated metal face and attached to a metal post or another non-treated material of equal durability. Signs must be posted at an interval of one (1) per lot or every fifty (50) feet, whichever is less, and must be maintained by the property owner in perpetuity. The signs shall be worded as follows or with alternative language approved by the Administrator:

Protected Critical Area Do Not Disturb Contact [Local Jurisdiction] Regarding Uses, Restrictions, and Opportunities for Stewardship

a. The provisions of Subsection (a) may be modified as necessary to assure protection of sensitive features or wildlife.

[8]Example language for OMC 18.32.420(E) and 18.32.520(E) (CTED, 2007)

Operation, Maintenance, or Repair. Operation, maintenance, or repair of existing structures, infrastructure improvements, utilities, public or private roads, dikes, levees, or drainage systems, that do not require construction permits, if the activity does not further alter or increase the impact to, or encroach further within, the critical area or buffer and there is no increased risk to life or property as a result of the proposed operation, maintenance, or repair. Operation and maintenance includes vegetation management performed in accordance with best management practices that is part of ongoing maintenance of structures, infrastructure, or utilities, provided that such management actions are part of regular and ongoing maintenance, do not expand further into the critical area, are not the result of an expansion of the structure or utility, and do not directly impact an endangered or threatened species;

[9]Example language for OMC 18.32.425(D) and 18.32.525(D) (CTED, 2007)

a. The [director] shall determine if fencing is necessary to protect the functions and values of the critical area. If found to be necessary, the [director] shall condition any permit or authorization issued pursuant to this Chapter to require the applicant to install a permanent fence at the edge of the critical area or buffer, when fencing will prevent future impacts to the critical area.

b. The applicant shall be required to install a permanent fence around the critical area or buffer when domestic grazing animals are present or may be introduced on site.

c. Fencing installed as part of a proposed activity or as required in this Subsection shall be design so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes habitat impacts.

[10]Example language for OMC 18.32.425(I) and 18.32.525(H) (Bunten et al., 2012)

Removal of invasive plant species shall be restricted to hand removal unless permits or approval from the appropriate regulatory agencies have been obtained for approved biological or chemical treatments or other removal techniques. All removed plant material shall be taken away from the site and appropriately disposed of. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds must be handled and disposed of according to a noxious weed control plan appropriate to that species.

[11] List of potential stream and riparian area mitigation measures (OMC 18.32.435) (excerpts from Tables 3.2.1-3.2.11 in Knight, 2009)

a. Ensure that the proposed mitigation activities are consistent with restoration and enhancement activities identified in salmonid recovery, watershed management, and shoreline restoration plans.
b. Avoid road crossing culverts in critical salmonid habitat areas, particularly spawning areas. When avoidance is not an option, road-crossing culverts should be designed to facilitate upstream fish migration.
c. Retain large woody debris in streams and within buffer areas and maintain long-term recruitment of large woody debris from riparian zones.
d. Limit impervious surfaces, require vegetation retention, and retention of natural soils and topography in site design by incorporating LID standards.
e. Limit outdoor irrigation by encouraging landscaping that requires little irrigation.
f. Prohibit removal of gravel from streambeds.
g. Prohibit removal, relocation, or modification of large woody debris in aquatic habitats and adjacent banks except when posing an immediate threat to public safety or critical facilities.
h. Prohibit salvage logging (including firewood cutting) from riparian areas.
i. Require temporary or permanent erosion and sedimentation controls to prevent the introduction of sediments or pollutants to water bodies or streams that support salmonid habitat.
j. Use the Washington State Integrated Streambank Protection Guidelines (WDFW, 2002) and the Washington State Stream Habitat Restoration Guidelines (WDFW, 2012) when considering protection and restoration of stream habitat.

[12] Potential revised language for OMC 18.32.435(A) Stream and Important Riparian Area Buffers

A. Buffers shall be required as set forth for each stream type or "important riparian area." The required buffers shall be delineated, both on a site plan or plat and on the property, prior to approval of any regulated activity.

B. The required buffer shall be extended to include any adjacent regulated wetland(s), landslide hazard areas and/or erosion hazard areas and required buffers.

C. Streams. Stream buffers shall be based upon the water type classification as established by the Department of Natural Resources Stream Typing Classification System and required by OMC 18.32.410:

<Insert stream buffer table – See second table in Footnote 13>

1. Stream buffers shall be measured on a horizontal plane, outward from the ordinary high water mark (OHWM) on each side of the stream (Figure X).
2. For streams that occur within ravines and where the standard buffer extends on to a slope of 30% or greater that is at least 10 feet in height (which is not designated as a landslide hazard area), the buffer shall extend a minimum of 25 feet beyond the top of the slope to protect the stream channel from sediment loading from mass wasting events (e.g., landslides, earth/debris flows and slumps, and rock falls/earth topples) and reduce the risk to structures and human safety.

[13]***Stream buffers***

The table below shows the translation of stream types from the "Old" WDNR stream typing system to the "New" WNDR system. It provides the direct translation of the standard buffer widths in the current CAO (18.32.435 A(2)) from the old system to the new system.

Old Stream Typing (per WAC 222-16-031)	**New Stream Typing (per WAC 222-16-030)**	**Standard Buffer Width in Current CAO (direct translation)**
Type 1 stream	Type "S"	250 feet
Type 2 stream	Type "F"	250 feet
Type 3 stream	Type "F"	200 feet
Type 4 stream	Type "Np"	150 feet
Type 5 stream	Type "Ns"	150 feet

The table below shows the recommended presentation of the stream types under the "New" WDNR system for inclusion in OMC 18.32.435. The presentation includes detail differentiating stream types based on fish habitat presence, stream widths, and mass wasting potential.

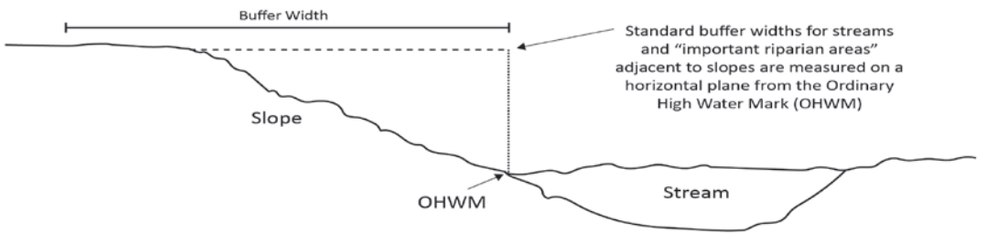
Stream Type and Description	**Standard Buffer Width (Suggested range)**
Type S – Shorelines of the State	200 feet – 250 feet
Type F streams greater than 5 feet wide (bankfull width) that provide habitat for fish	150 feet – 250 feet

Type F streams less than 5 feet wide (bankfull width) that provide habitat for fish	100 feet – 200 feet
Type Np and Ns streams (no fish habitat) draining to Type S or F streams or directly to Puget Sound with high mass wasting potential*	150 feet – 225 feet
Type Np and Ns streams (no fish habitat) draining to Type S or F streams or directly to Puget Sound	75 feet – 150 feet

***** Mass wasting is a general term for a variety of processes by which large masses of rock or earth material are moved downslope by gravity, either slowly or quickly. Mass wasting can take the form of landslides, earth/debris flows and slumps, and rock falls/earth topples.

[14]***Example figure***

A. Measurement. Riparian habitat area widths are measured on a horizontal plane, outward from the ordinary high water mark (OHWM) on each side of the stream.



[15]***Possible language for a NEW subsection for OMC 18.32.535, "Increased Wetland Buffer Widths" (CTED, 2007)***

Increased Wetland Buffer Widths. The [director] shall require increased buffer widths in accordance with the recommendations of an experienced, qualified professional wetland scientist, and the best available science on a case-by-case basis when a larger buffer is necessary to protect wetland functions and values based on site-specific characteristics. This determination shall be based on one or more of the following criteria:

a) A larger buffer is needed to protect other critical areas;
b) The buffer or adjacent uplands has a slope greater than fifteen percent (15%) or is susceptible to erosion and standard erosion-control measures will not prevent adverse impacts to the wetland; or
c) The buffer area has minimal vegetative cover. In lieu of increasing the buffer width where existing buffer vegetation is inadequate to project the wetland functions and values, implementation of a buffer planting plan may substitute. Where a buffer planting plan is proposed, it shall include densities that are not less than three (3) feet on center for shrubs and eight (8) feet on center for trees and require monitoring and maintenance to ensure success. Existing buffer vegetation is considered "inadequate" and will need to be enhanced through additional native plantings and (if appropriate) removal of non-native plants when: (1) non-native or invasive plant species provide the dominant cover, (2) vegetation is lacking due to disturbance and wetland resources could be adversely affected, or (3) enhancement plantings in the buffer could significantly improve buffer functions.

[16]Example language for NEW section "Preference of Mitigation Actions" (Bunten et al. 2012)

Mitigation for lost or diminished wetland and buffer functions shall rely on the types below in the following order of preference:

1. Restoration (re-establishment and rehabilitation) of wetlands:
    a. The goal of re-establishment is returning natural or historic functions to a former wetland. Re-establishment results in a gain in wetland acres (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.
    b. The goal of rehabilitation is repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.
2. Creation (establishment) of wetlands on disturbed upland sites such as those with vegetative cover consisting primarily of non-native species. Establishment results in a gain in wetland acres. This should be attempted only when there is an adequate source of water and it can be shown that the surface and subsurface hydrologic regime is conducive to the wetland community that is anticipated in the design.
    a. If a site is not available for wetland restoration to compensate for expected wetland and/or buffer impacts, the approval authority may authorize creation of a wetland and buffer upon demonstration by the applicant's qualified wetland scientist that:
        i. The hydrology and soil conditions at the proposed mitigation site are conducive for sustaining the proposed wetland and that creation of a wetland at the site will not likely cause hydrologic problems elsewhere;
        ii. The proposed mitigation site does not contain invasive plants or noxious weeds or that such vegetation will be completely eradicated at the site;
        iii. Adjacent land uses and site conditions do not jeopardize the viability of the proposed wetland and buffer (e.g., due to the presence of invasive plants or noxious weeds, stormwater runoff, noise, light, or other impacts); and
        iv. The proposed wetland and buffer will eventually be self-sustaining with little or no long-term maintenance.
3. Enhancement of significantly degraded wetlands in combination with restoration or creation. Enhancement should be part of a mitigation package that includes replacing the altered area and meeting appropriate ratio requirements. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife

habitat. Enhancement alone will result in a loss of wetland acreage and is less effective at replacing the functions lost. Applicants proposing to enhance wetlands or associated buffers shall demonstrate:

a. How the proposed enhancement will increase the wetland's/buffer's functions;
b. How this increase in function will adequately compensate for the impacts; and
c. How all other existing wetland functions at the mitigation site will be protected.

[17]***Example language for OMC 18.32.560 (Bunten et al., 2012)***

Wetland Mitigation Banks.

1. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:
   a. The bank is certified under state rules;
   b. The Administrator determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and
   c. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.
2. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument.
3. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

In-Lieu Fee. To aid in the implementation of off-site mitigation, the City may develop an in-lieu fee program. This program shall be developed and approved through a public process and be consistent with federal rules, state policy on in-lieu fee mitigation, and state water quality regulations. An approved in-lieu-fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu-fee program may be used when paragraphs 1-6 below apply:

1. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.
2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved in-lieu-fee program instrument.
3. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.
4. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within three years of the credit sale.
5. Projects using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the in-lieu-fee program.
6. Credits from an approved in-lieu-fee program may be used to compensate for impacts located within the service area specified in the approved in-lieu-fee instrument.

Advance Mitigation. Mitigation for projects with pre-identified impacts to wetlands may be constructed in advance of the impacts if the mitigation is implemented according to federal rules, state policy on advance mitigation, and state water quality regulations.

[18]***Suggested definition for "Geotechnical engineer"***

"Geotechnical engineer" means a practicing, geotechnical/ civil engineer licensed as a professional civil engineer with the state of Washington, as defined in RCW 18.43.020 (2), who has at least four years of professional employment pertaining to the field of geotechnical engineering.

[19]Example language for "Engineering geologist" definition (RCW 18.220.010)

"Engineering geologist" means a geologist who, by reason of his or her knowledge of engineering geology, acquired by education and practical experience, is qualified to engage in the practice of engineering geology, has met the qualifications in engineering geology established under this chapter, and has been issued a license in engineering geology by the board.

[20]Example language for NEW definition "Qualified Professional (Bunten et al., 2012)

Qualified Professional – A person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905. A qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, engineering, environmental studies, fisheries, geomorphology, or related field, and have at least five years of related work experience.

a) A qualified professional for wetlands must be a professional wetland scientist with at least two years of full-time work experience as a wetlands professional, including delineating wetlands using the federal manuals and supplements, preparing wetlands reports, conducting function assessments, and developing and implementing mitigation plans.
b) A qualified professional for habitat must have a degree in biology or a related degree and professional experience related to the subject species.
c) A qualified professional for a geological hazard must be a professional engineer or geologist, licensed in the state of Washington.
d) A qualified professional for critical aquifer recharge areas means a hydrogeologist, geologist, engineer, or other scientist with experience in preparing hydrogeologic assessments.