

### Redmond Planning Commission Report: Appendices

# Redmond 2050 – Natural Environment Element and Critical Areas Regulations Update

Attachment A: Final Issues Matrix

Attachment B: Written Public Comments

Attachment C: Public Hearing Notice – March 20, 2024

Attachment D: Public Hearing Minutes – April 10, 2024

Attachment E: Technical Committee Report

Att. A – Staff Compliance & Analysis Att. B – Natural Environment Element – Final Att. C – Proposed Critical Areas Regulations Update – Zoning Code Amendments Att. D – Updated Critical Areas Map Portfolio

Induction       Noise Walls       Commission Discussion         Chair Nichols       Comm Nichols asked about noise walls used to reduce noise along roads and highways and their effect Policy NE-136 requires noise reduction and mitigation measures for freeways and arterials streets.         Does this policy accomplish its intent?	Opened
1 Noise Walls       Commission Discussion         Chair Nichols       Comm Nichols asked about noise walls used to reduce noise along roads and highways and their effect Policy NE-136 requires noise reduction and mitigation measures for freeways and arterials streets.         Does this policy accomplish its intent?	Opened
<ul> <li>Staff Comments</li> <li>The underlying policy support for highways noise barriers comes from the federal Noise Control Act of Many noise walls built alongside interstate highways receive partial federal government funds, and WS the remainder. On other state routes, WSDOT or local jurisdictions, depending on who is sponsoring t project, pays for an entire wall. Current construction costs average \$51.61 per square foot. This transla fourteen-foot-high wall (typical) costing about \$3.9 million dollars per mile.</li> <li>WSDOT notes, "The effectiveness of a noise barrier depends on the distance between the listener and barrier. For residences located directly behind a barrier, the noise level will often be cut in half. This be decreases as a listener moves farther away and is negligible at distances greater than 500 feet."</li> <li>WSDOT also notes the limitations of noise barriers, "For a noise barrier to work, it must be high enoug enough to block the view of the road. Noise barriers do very little good for homes on a hillside or for b that rise above the barrier. Openings in noise walls for driveway connections or intersecting streets dest effectiveness."</li> <li>Other research and reports indicate that noise barriers reduce noise by 5-7dBA for those adjacent to t and may actually amplify noise further away.</li> <li>Other methods to reduce noise include quieter pavement, landscaping, and the increase of quieter tir adoption of electric vehicles, especially for trucking and transport. WSDOT notes that pavement and k options are generally not cost-effective or feasible.</li> </ul>	6.28.23 Closed 3.13.24 6.28.23 Closed 3.13.24
in <u>RMC 6.36.070</u> . This is the Noise Ordinance, specifically for arterial and state highway improvement	projects.

# >REDMOND 2050

**Issue Status** 

Issue

#### **Discussion Notes**

Links –

WSDOT guidance and policy on noise walls - Noise walls & barriers | WSDOT

Analysis of pros and cons of noise barriers and other solutions to reduce noise -<u>On Highway Noise Barriers, the Science Is Mixed. Are There Alternatives? (undark.org)</u>



WSDOT data shows Redmond has noise walls along Highway 520 and along SR202/Redmond Way in SE Redmond. The City does not track City-owned noise walls or similar noise reduction tools.

### Noise Barrier Effectiveness

## >REDMOND 2050

Issue

#### **Discussion Notes**

Figure 1- WSDOT Noise Walls in Redmond (blue lines)



#### 2 Climate Resilience element Commissioner Climate Resilience Element: change Actions to provent a

Aparna

Climate Resilience Element: should be focused on how to plan for resiliency and mitigate effects of climate change. Actions to prevent and reduce climate change should be in the Natural Environment section and not in Climate Resilience: NE-127, NE-124, part of FW-10.

Commissioner Aparna also asked about structuring policies around short-term (reducing existing impacts) vs. long-term efforts (mitigation and resiliency).

#### **Staff Comments**

The proposed Climate Resilience element intends to "plan for resiliency and mitigate effects of climate change" by providing long-term policy guidance to support the actions identified in the <u>Environmental Sustainability</u> <u>Action Plan</u> (ESAP), <u>Community Strategic Plan</u>, and <u>Climate Emergency Declaration</u>, while also making progress towards fulfilling requirements of RCW 36.70A.070.9 as amended by <u>HB 1181</u>.

Opened 6.28.2023 Closed 3.13.24

**Issue Status** 

lssu	le	Discussion Notes	Issue Status
		Regarding the structure of policies, Comprehensive Plan policies generally set the City's long-term vision and strategy. Short-term actions are implemented through functional plans, such as the ESAP, and through city programs and operations.	
		The overall intent of the Natural Environment element of the Comprehensive Plan is to support environmental stewardship, provide a location for policies supporting the City's critical areas regulations, and promote conservation.	
		In the current Comprehensive Plan, climate-change related policies are included in the NE Element. However, many climate-related policies go beyond the scope of the NE Element, and touch upon issues related to land use, development, and transportation.	
		The intent of the update of the NE element of Redmond 2050 is to better focus policies and scope to the natural environment while also elevating climate resiliency and greenhouse gas reduction policies to the Climate Resilience element, as will be required by HB 1181. This will also provide better and clearer policy support for the actions identified in the ESAP, Community Strategic Plan, the Climate Emergency Declaration and also provide clearer direction for functional plans.	
		Policies FW-10 (GHG reduction and mitigation), NE-124 (Climate Action Plan, GHG reductions) and NE-127 (GHG reduction by alt energy and VMT reductions) have a scope broader than the NE element and will be moved/revised to the Climate Resilience element.	
3	Misc. comments	Commission Discussion	Opened 6.28.2023
	Commissioner Aparna	<ul> <li>a. NE 13 - consider adding design to the mix.</li> <li>b. NE 7 - could be split with water and waste being separate. Water conservation should be a city priority.</li> <li>c. NE 8 - could address reduction of waste and expand on thoughtful use of resources and consumption.</li> </ul>	Closed 3.13.24
		Staff Comments	
		a. Policy NE-13 has been updated with "plans" changed to "designs":	
		Encourage projects <del>which</del> that utilize alternative technologies, engineering, and <del>plans</del> designs <del>which</del> that emphasize low-impact development strategies through incentives and flexibility in meeting regulatory requirements.	

lssue		Discussion Notes		
		b. Staff is still analyzing if a stand-alone policy highlighting "water conservation" is needed for this section. NE-7 relates to water conservation for natural systems, while NE-1 and NE-3 also incorporate water conservation holistically. Staff identified that Policies NE-5 through NE-8 have some overlap and are looking at ways to further reduce the duplication of concepts in these policies for the final draft. After further review, staff did not recommend any additional changes for the final draft.		
		<ul> <li>Draft Climate Resilience policies CR-21 and CR-22 consider water conservation as part of drought resiliency. Utility policy CF-6 also includes water conservation as a component of city operations best practices.</li> </ul>		
		d. Related to the comment in bullet b., staff identified that Policies NE-5 through NE-8 have some overlap and looked at ways to further reduce the duplication of concepts in these policies for the final draft. Staff does not recommend further expansion of this policy. After further review, staff did not recommend any additional changes for the final draft.		
4	Misc. policy comments Comm. Aparna	Commission Discussion 11.8.2	əd 3	
		<ul> <li>a. FW-NE-3 (FW-11) Leads by example in the conservation of natural resources, such as energy, water</li> <li>Energy as we use it is not a natural resourceleads by example in the conservation of energy and natural resources, such as water</li> </ul>	d for 4a, 1 4d.	
		b. NE 39: Maybe consider removing "Where appropriate".	tor 4D	
		c. NE 37, NE 41 looks for retaining recharge capacity. We should look at extension by expanding CARA 1 to CARA 2 as a way of ensuring capacity is good in drought years. 4.24.2	1 4b - 4	
		d. NE 43 should include CARA 2 and it should mandate not encourage.		
		Staff Comments		
		a. "Energy" is commonly defined as a natural resource. Staff does not recommend any changes to this phrasing.		
		<ul> <li>b. (note this policy is renumbered as NE-29) In areas outside of the CARA where groundwater is not used as drinking water, infiltration of runoff from pollution generating surfaces may be the best solution to manage stormwater and protect surface water. The "where appropriate" provides flexibility to ensure the CARA is protected and stormwater management goals are met. It also acknowledges that there may be other factors that limit infiltration feasibility, e.g., steep slopes.</li> <li>c. NE-41 (which is NE-31 in the current version) has been rewritten to ensure infiltration is required citywide</li> </ul>		

by taking out the ambiguity of excluding areas "committed to urban uses." NE-41 (now NE-31) has also

lssue	Discussion Notes	Issue Status
	been modified to ensure the City will limit impacts of temporary construction dewatering (TCD) on groundwater quantity. The groundwater modeling results from 2018 showed that the largest impact to our groundwater quantity is from TCD.	
	a. As mentioned in the response to the comment to expand CARA I and CARA II boundaries, these boundaries were created using a three-dimensional groundwater model and buffers were built into each of the boundaries.	
	d. NE-43 (which is NE-34 in the current version) applies to contaminated sites outside of CARA I and CARA II. NE-33 applies to contaminated sites within CARA I and CARA II and requires these sites to clean up to standards that are not considered a risk to drinking water supplies by state agencies. This is a more stringent requirement than sites located outside CARA I and CARA II in NE-43 (now NE-34).	
	Commission Discussion 3.13.24	
	Comm Aparna noted for NE-29 (issue 4b): I do not agree with the assessment. Where appropriate could be interpreted as there are some places it might not be and that leaves the door open. (NE 30 does not uses where appropriate.)	
	Staff comments 4.10.24	
	Staff is proposing an update to make intent of the policy more clear:	
	NE-29: Ensure degradation of groundwater quality does not occur. <del>Where appropriate,</del> P <del>p</del> rohibit the infiltration of runoff from pollution generating surfaces i <mark>n areas having stormwater management options</mark>	

in addition to infiltration. and Pprohibit infiltration into contaminated soil in all areas.

lssue		Discussion Notes	
5	Policy NE-18 Comm. Woodyear	<b>Commission Discussion</b> Policy NE-18 reads, "Avoid the creation of new parcels with building sites entirely within wetlands, streams, steep slopes, frequently flooded areas, and their associated buffers. Configure future parcels to have a building site outside of these areas." Comm. Woodyear recommends an alternative work choice to "avoid."	Opened 4.10.2024 Closed 4.24.24
		Staff Comments	
		Staff uses the word "avoid" as it reflects the first step in mitigation sequencing, which is a federally established general mitigation standard used to establish the approach when developing in or near critical areas. Staff does not recommend any changes to the text of this policy.	

lssue		Discussion Notes	Issue Status
		Critical Areas Regulations Update	
1	Critical Areas Regulations -	Commission Discussion	Opened 11.1.2023
	evaluation guide Comm. Aparna	It would be useful to have a reference table of conformance of state laws and those regulations that go beyond. There should be some guidance on frequency of quality parameter checks, mitigation measure inspection, and reporting out on performance metrics.	Closed 3.13.24
		Staff Comments	
		See attached reference table at the end of this issues matrix.	
		General mitigation standards are established in RZC 21.64.010.1. Redmond follows standard mitigation sequencing of avoidance, minimization, rectifying, reducing, eliminating, compensating, and monitoring. RZC 21.64.010.L establishes mitigation performance standards as well as location and timing of mitigation. A tiered approach to mitigation location is to provide mitigation on-site unless it's not scientifically feasible, then	

lss	ue	Discussion Notes	Issue Status
		providing mitigation in the project vicinity is permitted. All off-site mitigation must be located within the City of Redmond. All mitigation is completed concurrently with project construction, unless a phase approach has been permitted by the city. A monitoring program and contingency plan are required per RZC 21.64.010.P. Reports typically include vegetation monitoring, water quantity monitoring, water quality monitoring, wildlife monitoring, and geomorphic monitoring. Monitoring reports are produced on the following schedule: 30 days after planting, early in the growing season of the second year, end of the growing season of the second year, and annually thereafter up to a minimum of five years.	
2	Frequency of	Commission Discussion	Opened 11 1 2023
	quality control/monitoring checks	Comm. Aparna asked if code includes (or should) - Frequency of quality/mitigation checks - reporting regulations (related to monitoring).	Closed 3.13.24
	Comm. Aparna	Staff Comments	
		CARA Regulations are established to identify requirements for land development proposals when developing in these areas. RZC Appendix 1, Critical Areas Reporting Requirements, outlines specific criteria an applicant must submit for staff to evaluate a land use proposal. This technical information is used to determine CARA regulations compliance. The Water System Plan is the City's operational document which addresses groundwater monitoring and water quality compliance. Additionally, the Chapter 13.07 of the Redmond Municipal Code - Ch. 13.07 Wellhead Protection establishes wellhead monitoring and source control programs. All three of these supporting documents are outside of the scope of the Critical Areas Regulations Update.	
3	Steep slopes - why	Commission Discussion	Opened
	is this considered a critical area?	Comm Van Niman asked why steep slopes (landslide and erosion hazard areas) are considered as "critical areas?" How does this relate to environmental protection (vs.a. public safety/insurance insue)? It is related to	Closed 4.10.24
	Comms.	human-made debris from landslides?	
	Van Niman,		
	Nuevacamina	Staff Comments	
		Geologic Hazard Areas are considered a critical area under Chapter 365-190 Washington Administrative Code (WAC). They pose a threat to the health and safety of citizens when incompatible commercial, residential, and industrial development is sited in areas of significant hazards. These areas include landslide hazard areas, which are inclusive of steep slopes.	

lssue		Discussion Notes		
4	Best Available Science standards VC Weston	<ul> <li>Commission Discussion</li> <li>Vice-Chair Weston if "Best Available Science" standards are sufficient for existing as emerging issues and impacts. Examples included the CARA II standard, and the potential impacts from climate change, such as increased drought. Is there a potential to use higher standards?</li> <li>Staff Comments</li> <li>Best Available Science (BAS) is required to be used under Revised Code of Washington (RCW) 36.70A.172. The BAS rule (WAC 365-195-900 thru 925) explains best available science, offers recommendations as to where local governments can obtain the best available science, and provides criteria for demonstrating that best available science has been utilized in regulation development. The rule also explains what to do if a city cannot find enough scientific information applicable to its critical areas.</li> </ul>	Opened 11.1.2023 Closed 3.13.24	
5	Critical Areas Maps VC Weston	Commission Discussion         VC Weston requested a link to existing Critical areas maps as referenced in the RZC. Would like information on what is changing in the maps, and what the changes are responding to.         Staff Comments         Existing Critical Areas maps can be found as links in the Redmond Zoning Code - <a href="https://redmond.municipal.codes/RZC/21.64.010.E">https://redmond.municipal.codes/RZC/21.64.010.E</a> Critical areas maps being updated include: Streams, Wetlands, Frequently Flooded Areas, and Critical Aquifer Recharge Areas (CARA) Maps. These maps have been updated based upon site specific studies, field verification, state agency information, and City data. A new CARA Time of Travel Map is being added as required by state law.	Opened 11.1.2023 Closed 3.13.24	
6	Wildlife references VC Weston	<b>Commission Discussion</b> VC asked about references to "wildlife' in the code update if was general or species specific? This was in reference to wildlife (beavers as an example) that may be considered nuisances or have impacts on other environmental efforts, or public safety.	Opened 11.1.2023 Closed 3.13.24	

lss	ue	Discussion Notes	Issue Status
		Staff Comments	
		The Growth Management Act (GMA) identifies Fish and Wildlife Habitat Conservation Areas under Chapter 365- 190 WAC. The Critical Areas Regulations address wildlife protection on both a general habitat and specific protection approach. General habitat is protected through other regulatory mechanisms, such as wetlands and stream regulations. The City defers to species specific state and federal protection management recommendations for state and federally listed species. City staff work directly with Washington Department of Fish and Wildlife (WDFW) on beaver issues.	
7	Native plants	Commission Discussion	Opened 11 1 2023
	references	References to native plants - are they sustainable with climate change? Should this still be a preference?	Closed 3 13 24
	Nuevacamina	Staff Comments	Closed 5.15.24
		City staff is ensuring native plants are sustainable with climate change. The current definition of native vegetation adopted in the Zoning Code, which was reviewed when the Planning Commission reviewed the Tree Regulations Update, is as follows. Those plants which are indigenous to the coastal Pacific Northwest. It does not include lawns, but does include native grasses, such as bunchgrass. (Resource for identifying native plants: Pojar, Jim and MacKinnon, Andy. Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia, and Alaska. Redmond, WA: Lone Pine Publishing, 1994).	
		For the final draft of the Natural Environment Element, staff added <i>"or Northwest adaptive"</i> to vegetation used in policies NE-79, NE-80, and NE-89.	
8	CARA map and regulations Comm. Aparna	Commission Discussion	Opened
		Look to expanding CARA 1 zoning restrictions to CARA 2 and expanding map as we are going to see more stresses on the aquifers due to mor drawdown, climate change (droughts), fewer pervious surfaces across the City. CARA 2 recharges the aquifers from 5-10 years and now we need to protect that as well from contamination. CARA 2 deserves more protection as mitigation may take years. Preservation of water quality and quantity is a long-term plan.	Closed 3.13.24
		Staff Comments	
		Expanding CARA II zoning restrictions:	

**Discussion Notes** 

**Issue Status** 

#### Groundwater protection staff are working with Planning staff to evaluate the need to update the prohibited or restricted land uses in CARA II based on changes to zoning proposed in Redmond 2050 and using Washington Department of Ecology Critical Aquifer Recharge Area Guidance (2021) to inform decisions. The groundwater modeling effort conducted by the City in 2018 showed that temporary construction dewatering (TCD) is one of the biggest impacts on groundwater quantity within CARA I and CARA II. City staff are currently working on additional limitations on TCD in CARA I and CARA II. These proposed regulations will be brought to Council in early 2025 through the Redmond 2050 process. Expanding CARA I and CARA II Boundaries: The boundaries for CARA I and CARA II were created using a three-dimensional groundwater model informed by over 10 years of groundwater data. Buffers were built into the boundary delineation and decisions where informed by a Sounding Board comprised of representative from a broad range of backgrounds including developers, geologists, engineers, planners, business owners, and concerned citizens. The Sounding Board participated in a series of meetings regarding the groundwater model development and level of service expected. Fewer Pervious Surfaces: Infiltration of clean stormwater runoff is critical within the CARA to ensure aquifer recharge. Additionally, infiltration is important city-wide for broader stormwater mitigation and surface water restoration goals. Low impact development (LID) is required throughout the City. LID calls for infiltration of clean stormwater runoff from non-pollution generation surfaces (including roofs and sidewalks), where feasible. Often new development or redevelopment also trigger improved runoff treatment. This can increase pollutant capture before runoff is

#### Stream Typing 9 **Commission Discussion**

Chair Weston

lssue

infiltrated or released to surface waters.

Question concerning Washington Department of Fish and Wildlife's (WDFW) 4.5.2024 written comment regarding the City's stream classification system and WDFW's desire for 200' riparian management zones (buffers) on all streams.

Opened 4.10.2024

Closed

#### **Staff Comments**

The City is proposing updating the stream classification system to be more in alignment with the Department of Natural Resources' (DNR) stream typing system while still giving special consideration to anadromous fisheries as required by GMA.

Staff met with WDFW on 9.13.2023 for their overall input on the proposed Critical Areas Regulations Update. They expressed their recommendation for 200' buffers based on site potential tree heights. Staff considered this

lssue	Discussion Notes	Issue Status
	proposal. However, Redmond is in an Urban Growth Area and will be accommodating additional growth in terms of population and jobs in the Redmond 2050 planning horizon. Although the City will maintain 200' buffers on the Sammamish River, Bear Creek, and Evans Creek (Shorelines of the State), it is not realistic to implement 200' buffers on streams throughout the City. Additionally, many of these areas are already developed and the result would be inconsequential. See attached exhibit showing 200' buffers overlayed on 2023 aerials of the City.	

# >REDMOND 2050

# Critical Areas Regulations Update

PC Issues Matrix Table for CAR Issue 1

Critical Area	Legislation	Best Available Science (BAS)	Mitigation Measures	Performance Metrics and Quality
Critical Areas - General	RCW 36.70A RCW 36.70A.030(11) RCW 36.70A.060(2) RCW 36.70A.170(1)(d) RCW 36.70A.170(2) RCW 36.70A.172(1) WAC 365-190 WAC 365-190 WAC 365-195 WAC 365-196	BAS Rule: WAC 365-195- 900 thru 925	General mitigation standards are located in RZC 21.64.010.1, General Mitigation Standard and RZC 21.64.010.L, Mitigation Standards, Criteria, and Plan Requirements.	<b>Parameter Checks</b> General performance metrics are located in RZC 21.64.010.M, <i>Performance Standards</i> for Mitigation Planning and RZC 21.64.010.P, Monitoring Program and Contingency Plan.
Fish and Wildlife Habitat Conservation Areas (FWHCA)	WAC 305-190-030         RCW 36.70A.030(11)         RCW 36A.172(1)         WAC 220-660         WAC 222-16-030         WAC 222-16-031         WAC 365-190-130         WAC 365-190-130(2)(a)         WAC 365-190-130(4)         WAC 365-190-130(4)         WAC 365-190-130(4)         WAC 365-190-130(4)         WAC 365-190-500         130(4)(f)(iii)         WAC-365-195-925	Department of Commerce (DOC) Critical Areas Handbook; DOC Critical Areas Checklist; Department of Natural Resources (DNR) Bankfull Guidelines; DNR Interim Water Typing System; Washington Department of Fish and Wildlife (WDFW) Riparian Ecosystems Management Recommendations; WDFW Water Crossing Design Guidelines; WDFW Aquatic Habitat Guidelines;	Mitigation measures shall achieve equivalent or greater ecological function including, but not limited to: habitat complexity, connectivity, and other biological functions; seasonal hydrological dynamics, water storage capacity and water quality; and geomorphic and habitat processes and functions (RZC 21.64.020.B.11.)	Riparian Stream Corridor performance standards are outlined in RZC 21.64.020.F. Fish and Wildlife Habitat Conservation Areas performance standards are outlined in RZC 21.64.020.G.

WetlandsRCW 36.70A.030(4B) RCW 36.70A.172(1)DOC Critical Areas Handbook; Conder 89:10Mitigation for alterations to wetland shall achieve por creation, rehabilitation, or creation, rehabilitation, resultationsWetland Bating System ro resultations for creation for alterations to wetland Mitigation (RZC 21.64.030.C.5).Wetland performance and design standards are established in RZC 21.64.030.C.5).Wetland performance and design standards are establishem to or creation, rehabilitation, or creation, rehabilitation,	Critical Area	Legislation	Best Available Science (BAS)	Mitigation Measures	Performance Metrics and Quality Parameter Checks
WetlandsRCW 36-70A.030(48) RCW 36.70A.175WDEW PHS Management Recommendations for Land Use Planning for Salmon. Steelhead. and Trout; WDFW PHS Management Recommendations for Riparian Ecosystems Volumes 1 and 2; WDFW 			<u>WDFW Priority Habitat</u> and Species (PHS) maps; WDFW PHS list;		
Wetlands       RCW 36-70A.030(48) RCW 36-70A.030(48)       Endabody 2000 RCW 36-70A.030(48) RCW 36-70A.030(48)       Mitigation for alterations for Mashington S Priority Vashington S Priority Species (by taxa); WDFW PHES management Recommendations for Riparian Ecosystems Volumes 1 and 2; WDFW PHS Management Recommendations for Washington S Priority Species (by taxa); WDFW Stream Habitat Restoration Guidelines; WDFW Intreatneed and Endangered Species List DOC Critical Areas WAC 123-22-035 WAC			WDFW PHS Management		
Landscape Training for Washington's Wildlife: WDFW PHS Management Recommendations for Land Use Planning for Salmon.Steelhead.and Trout: WDFW PHS Management for Recommendations for Riparian Ecosystems Volumes 1 and 2; WDFW PHS Management Recommendations for WetlandsWetland Steelhead.and Recommendations for Work WDFW PHS Management Recommendations for Work Stream Habitat Restoration Guidelines; WDFW Threatened and Endangered Species ListMitigation for alterations to wetland shall achieve equivalent or greater box consistent with DOE Guidance on Wetland Mitagion Nez 21.64.030.D.Wetland performance and design standards are established in RZC 21.64.030.D.Wetland performance and design standards are established in RZC 21.64.030.D.Wetland performance and design standards are established in RZC 21.64.030.D.			Recommendations for		
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Salmon. Steelhead. and Trout; WDFW PHS Management Recommendations for Riparian Ecosystems Volumes 1 and 2; WDFW PHS Management Recommendations for Washington's Priority Species (by taxa); WDFW Stream Habitat Restoration Guidelines; WDFW Stream Habitat Restoration Guidelines; WDFW Stream Habitat Restoration Guidelines; WDFW Stream Habitat Restoration Guidelines; WDFW Stream Habitat Reduct a consistent WAC 173-22-035Wetland Stream Prise Stream Management RCW 36.704.030(48) DOC Critical Areas Checklist;Mitigation for alterations to wetland shall achieve equivalent or greater biological functions and have plans consistent with DC Guidance on Wetland Rating System of Cresten In RZC 21.64.030.D.Wetland Performance and design standards are established in RZC 21.64.030.D.Wetland performance and design standards are established in RZC 21.64.030.D.			Land Use Planning for		
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Critical Area	Legislation	Best Available Science (BAS)	Mitigation Measures	Performance Metrics and Quality
		DOE Wetland Mitigation in Washington State	enhancement are specified in RZC 21.64.030.C.8.b, consistent with DOE guidance.	Parameter Checks
Frequently Flooded Areas (FFA)	RCW 36.70A.172(1) RCW 86.12 RCW 86.16 RCW 86.16.041 RCW 86.26 WAC 173-158-070 WAC 365-190-110 WAC 365-196-830 44 CFR 60	DOC Critical Areas Handbook; DOC Critical Areas Checklist	The FFA regulations follow strict compliance with FEMA rules in order for the City to meet necessary requirements and exemplary scores for establishing FEMA flood insurance rates for its citizens.	Development shall not reduce the effective base flood storage volume of the floodplain (RZC 21.64.040.C.2.a.). New structures must provide certification that the actual as-built elevation is floodproofed (ZC 21.64.040.C.1). New residential or nonresidential structures are prohibited in the FEMA floodway (RZC 21.64.030.C.4).
Critical Aquifer Recharge Areas (CARA)	RCW 36.36 RCW 36.70A.172(1) RCW 90-44 RCW 90-48 RCW 90-54 WAC 173-100 WAC 173-200 WAC 246-290-135 WAC 365-190-100 WAC 365-195 WAC 365-196-485(1)(d) WAC 365-196-735	DOC Critical Areas Handbook; DOC Critical Areas Checklist; DOE CARA Guidance; Environmental Protection Agency (EPA) Contamination Document	All lands within designated critical aquifer recharge areas are subject to full compliance with RMC Chapter 13.07, Wellhead Protection.	Critical Aquifer Recharge Area Performance standards are established in RZC 21.64.050.D.
Geologically Hazardous Areas (GHA)	RCW 36.70A.030(20) RCW 36.70A.172(1) WAC 360-190-120	DOC Critical Areas Handbook;	The objective of mitigation measures is to render a site containing	Geologically Hazardous Areas performance

Critical Area	Legislation	Best Available	Mitigation Measures	Performance Metrics
		Science (BAS)		and Quality
				Parameter Checks
	<u>WAC 365-196-830</u>	DOC Critical Areas Checklist; <u>Washington Department</u> of Natural Resources (DNR) Geologic Hazards and the Environment website	geological hazards as safe as one not containing such hazard. Conditions may include limitations of proposed uses, modification of density, alteration of site layout, and other appropriate changes to the proposal. Where impacts cannot be effectively mitigated, or where the risk to public health, safety and welfare, public or private property, or important natural resources is significant notwithstanding mitigation, the proposal shall be denied (RZC 21.64.060 D 1)	standards established in RZC 21.64.060.E.

Public Comments:

- Anita Padhye & Ravi Srinivasan
- Bob Yoder
- Courtney Flora
- David Morton
- Lake Washington School District (LWSD)
- Rheya Wren
- Snoqualmie Tribe
- Washington Department of Fish & Wildlife (WDFW)
- William Page Architects

02 Jun 2023

From, Anita Padhye & Ravi Srinivasan, 15301 NE 108<sup>th</sup> PL, Redmond, WA – 98052

To, Ms. Cathy Beam, Planner-Principal City of Redmond Redmond, WA – 98052

Sub: Request for re-classification

We would like to bring your attention to a pipe/depression area along our property line with our neighbor to the east. The area is currently classified as a stream.

We have lived in our home at 15301 NE 108<sup>th</sup> PL, Redmond WA-98052 for 11+ years. We have never seen water trickle down in the depression between the properties. We learned from my neighbor (owner of their property for over 40+ years) that the pipe/depression was covered with dirt well before we moved in.

We strongly believe the "pipe" and any depression is misclassified as a stream. Please help with your expertise and support with the re-classification.

Sincerely,

02-Jun-2023 Anita Padhye Ph: 720-878-4371

02-Jun-2023 Ravi Srinivasan Ph: 425-229-9776

#### **Cathy Beam**

From:	Bob Yoder <redmondblog@gmail.com></redmondblog@gmail.com>
Sent:	Monday, March 18, 2024 8:25 PM
То:	Cathy Beam
Subject:	Fwd: Updating our Critical Area Ordinance and Shoreline ordinances

External Email Warning! Use caution before clicking links or opening attachments.

Good evening Cathy,

Do the commissioners, council or you have any plans to continue Species and Habitat of Local Importance?

Thank you, Bob Yoder

------ Forwarded message ------From: **Bob Yoder** <<u>redmondblog@gmail.com</u>> Date: Thu, Mar 14, 2024 at 6:41 PM Subject: Updating our Critical Area Ordinance and Shoreline ordinances To: Planning Commission <<u>planningcommission@redmond.gov</u>>

Hello Planning Commissioners:

I only caught part of your meeting last night, but it sounds like the State is requiring updates to the Critical Area Ordinance?

As an ameteur biologist (like Mayor Birney) Critical Areas are important to me. Years ago I made Species/Habitat comments to the Planning Commission chaired by Mr. Snodgrass. After much discussion, the committee decided on the Great Blue Heron, and Riparian habitat in which it lives.

During Mayor Marchione's first term he proclaimed "Riparian as city Habitat of Importance". In that Proclamation, he designated buffer <u>protections</u> for Class I and Class II streams; Riparian is regulated. (Check with Principle Planner Beam or the Public Records Dept. to verify.)

Riparian habitat is the green band of vegetation that grows along our creeks and streams. Riparian habitat is critical for flood and erosion controls, stream water quality, endangered salmon and wildlife habitat and valued as a city asset. Developers may use them as an amenity. The cultural significance of riparian was unveiled when Lower Bear Creek was relocated and restored onto Indian lands dating back 10,000 years.

The Snodgrass commission decided on the GBH as the city Species of Local Importance, <u>without protections</u> or any regulations. I think, unless you change things, the GBH species designation is purely symbolic. What tremendous cultural significance this wader bird brings to our city -- Redmond's LOGO of course, RTC's illuminated GBH art, Nature, Education, Beauty, and relative abundance. You know this!

I don't know where you are in the decision-making process. Nature could be the most critical asset we have in this city. Please continue to protect our critical Riparian habit and make provisions to celebrate the Big Bird.

Respectfully,

Bob Yoder

Thanks for the heavy lifting you put in for the Council (and us.)

#### **Cathy Beam**

From:	Cou
Sent:	Frida
То:	Cath
Cc:	H.Le
Subject:	Prop

ourtney Flora <cflora@mhseattle.com> riday, April 5, 2024 11:22 AM athy Beam; Jeff Churchill; Carol Helland; Jason Lynch .Lee Johnson; Scott Brainard roposed CAO amendment

**External Email Warning!** Use caution before clicking links or opening attachments.

Hi all— I've been trading emails and voicemails with Carol on a critical area issue related to a proposed 8-lot short plat ("Gaines short plat") located at 13606 NE 104<sup>th</sup> Street in the Willows/Rose Hill neighborhood.

The issue—which the project team has been working to solve for a year—is that the property is located between two streams and associated wetlands, with extremely steep grades (approx. 40%). The only feasible, flat area to discharge stormwater is into the wetland buffer near the southern stream. The proposed outfall is outside the outer 25% of the wetland buffer, which is not allowed by City Code, RZC 21.64.030.B.6.

It is not possible to discharge into the outer 25% percent of the wetland buffer (as required by code) because the slopes are so steep it would destabilize the hillside. The project geotechnical engineer and critical areas biologist (Wetland Resources) both believe the proposed discharge point is the only feasible option that will not destabilize the hillside and not degrade critical area functions and values. This issue is not created by the proposed density (8 lots); this is a problem even if one additional home is proposed on the property.

Notably, many other jurisdictions allow storm water outfalls in wetland buffers if supported by technical studies. Specifically, Kirkland allows stormwater outfalls in critical area buffers <u>under these same</u> <u>circumstances</u>. KZC 90.40(6)(d)(3) provides:

3) New piped storm water outfalls and associated dissipation devices, such as flow spreaders and rock pads, within <u>critical area buffers</u>, provided:

(a) Discharge of storm water outside of the buffer is not feasible as determined by the City; or

(b) If property adjoining the buffer is greater than 15 percent slope, a specific study by a geotechnical engineer or engineering geologist must show that discharge outside of the buffer will cause slope instability or excessive erosion, and therefore the discharge needs to be in the buffer; and

(c) The outfall is located as far as possible from the critical area;

#### **Proposed Code Amendment**

We are proposing the following amendment to proposed RZC 21.64.030.B.13 (on pg. 41 of the current draft ordinance). This mirrors the Kirkland code provision and allows staff discretion to authorize new outfalls when supported by technical reports.

13 Stormwater management facilities, such as biofiltration swales, and outfalls, may be located within the outer 25 percent of the buffer, provided that no other location is feasible, and the location of such facilities will not degrade the functions or values of the wetland. Stormwater ponds must be located outside of the required buffer. Underground vaults are also permitted within the outer 25 percent of the buffer provided that the maintenance access area lies outside of the buffer and the area above the vault is planted with native vegetation. Stormwater facilities may be located in the inner 75% of the buffer area if property adjoining the buffer is greater than 15 percent slope, and a specific study by a geotechnical engineer or engineering geologist shows that discharge in the outer 25% of the buffer will cause slope instability or excessive erosion; and the outfall is located as far as possible from the critical area.

Please include this email and request in the record for the CAO update. Thanks so much, and feel free to call with questions.

Courtney Flora Partner MCCULLOUGH HILL PLLC 701 Fifth Avenue, Suite 6600 Seattle, Washington 98104 Direct: 206-812-3376 Cell: 206-788-7729 <u>cflora@mhseattle.com</u> www.mhseattle.com

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# **APPROXIMATE FLAG LOCATION MAP** JOHNSON - NE 104TH ST

PORTION OF SECTION 34, TOWNSHIP 26N, RANGE 5E, W.M.



PLEASE NOTE: THIS MAP IS APPROXIMATE FOR PLANNING AND DISCUSSION PURPOSES ONLY. THIS DOES NOT REPRESENT A DELINEATION OR SURVEY. ALL WETLANDS, STREAMS, BUFFER, AND PROPERTY LINE LOCATIONS ARE **APPROXIMATE**. THE LOCATIONS SHOWN ON THIS MAP SHOULD **NOT** BE USED TO CREATE A FORMAL SITE LAYOUT. FLAGS ARE PINK, IDENTIFIED AS WETLAND DELINEATION AND NUMBERED WRA1 - WRA5.



LEGEND

STREAM

WETLAND

BUFFER

150' BUFFER

25% OF 150' BUFFER

110' REDUCED BUFFER

25% OF 110' REDUCED

PROPERTY BOUNDARY



### Wetland Resources, Inc.

eation / Mitigation / Restoration / Habitat Creation / Permit Assistance 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208 Phone: (425) 337-3174 Fax: (425) 337-3045 Email: mailbox@wetlandresources.com

### APPROXIMATE FLAG LOCATION MAP JOHNSON - NE 104TH ST CITY OF REDMOND

Lee Johnson PO Box 2231 Everett, WA 98213

Sheet 1/ WRI #: 23336 Drawn by:SB Date: 12/27/2023

From:	Cathy Beam
Sent:	Tuesday, April 9, 2024 3:42 PM
То:	Cindy Wellborn; Tom W. Hardy
Cc:	Lauren Anderson
Subject:	FW: Gaines short plat, proposed CAO amendment
Attachments:	23336 Johnson NE 104th St ProjSetup.pdf

Redmond

. . . . . . . . . . . .

Cathy Beam, AICP

Principal Planner City of Redmond

§ 425-556-2429

cbeam@redmond.gov

www.redmond.gov

MS:4SPL • 15670 NE 85th St • Redmond, WA 98052

Work Hours: M, W, TH 8:00-5:00, T 1:00-5:00

A O 0 E

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I AM RETIRING APRIL 15, 2024.

From: Courtney Flora <<u>cflora@mhseattle.com</u>>
Sent: Tuesday, April 9, 2024 9:41 AM
To: Carol Helland <<u>chelland@redmond.gov</u>>; Cathy Beam <<u>CBEAM@REDMOND.GOV</u>>
Cc: H.Lee Johnson <<u>hleejohnson1@gmail.com</u>>
Subject: Gaines short plat, proposed CAO amendment

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Hi Carol and Cathy— Following up on my call with Carol, we've asked staff to support a CAO amendment allowing stormwater outfalls to be placed in the inner 75% of a buffer when locating it in the outer 25% (as required by code) would create slope instability/erosion hazard.

Staff has asked the applicant to evaluate alternative development proposals with reduced impervious surface to see if that would obviate the need for a code amendment (i.e., evaluate whether impacts can be avoided and minimized).

I understand from our technical team that the issue is not the amount of proposed impervious—the issue is the extensive grades/steep slopes on the property. That said, we've asked the applicant's stormwater engineer (Core Design) to prepare a short technical memo describing the amount of density/impervious the site could support with a code-compliant storm outfall. Unfortunately, the lead engineer from Core is out this week, so we expect to have that memo to you next week.

Please let me know if any questions in the meantime. We appreciate your attention to this.

Courtney Flora Partner MCCULLOUGH HILL PLLC 701 Fifth Avenue, Suite 6600 Seattle, Washington 98104 Direct: 206-812-3376 Cell: 206-788-7729 <u>cflora@mhseattle.com</u> www.mhseattle.com

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From: Sent: To: Cc:	David Morton <davidwardmorton@yahoo.com> Tuesday, April 16, 2024 1:45 PM MayorCouncil; Council; Cheryl D. Xanthos; City Clerk Planning Commission; PLAN - Redmond 2050 - Technical Advisory Committee; Redmond 2050; Aaron Bert; Chris Stenger; Ernest C. Fix; Jessica Atlakson; Gaby Wolff; Aaron Moldver; Beckye Frey; Jeff Churchill; Oneredmond Info; Jenny Lybeck; Kim Dietz; Lauren Alpert; eugene.radcliff@ecy.wa.gov; Patrick Jurney; Andrea Martin; Carol Helland; Ian Lefcourte; Glenn Coil; Amanda Balzer; Cathy Beam; Lauren Anderson; Chip Cornwell; Seraphie Allen; pwilliams@redmond.gov; Malisa Files; Jill E. Smith; Rheya Wren; Mike Brent; Andy Swayne; Rachel Molloy; David Hoffman; James Terwilliger; Zwanzig, Macy; Dave Otis; Michael Johnson; Chryssa Gardner - OPTYVA; Erik Bedell; jor_mig_santos@hotmail.com; Saanvi Bathla; Katie Pratt; tammyvupham@icloud.com; Jack W. Anderson (Americorps); Michelle Caulfield; Anastasiya Warhol; David Baker; Angela Kugler; Jon Culver; Milton Curtis; Joe Marshall; Andrew McClung; Melanie OCain; Brian Stewart; David Barnes; Debra Srebnik; City Hall; Corina Pfeil; Brombaugh; Rodgers Darrell (EHS Director); Kelly McGourty; Mellor Caroline (ECY); Boyte-White Claire (ECY); bob@northshorenews.com; bob@nshorenews.com; Rod Dembowski; Matthew Tejada; Sheryl Stohs; Christie True; Rebecca Chu; Dow Constantine; Alessandro Molina; Jason Lynch; Nigel Herbig; Brian Buck; Arielle Dorman; Tom Hitzroth; Tim McHarg; Marilyn Lazaro (City Volunteer); Kim Faust; Yeni Li; Kelley</davidwardmorton@yahoo.com>
Subject: Attachments:	McHarg; Marilyn Lazaro (City Volunteer); Kim Faust; Yeni Li; Kelley Cochran; Odra Cardenas; Brandon Leyritz "Items From the Audience," a comment at Redmond City Hall on 4/16/24 by David Morton Two hundred and thirty ninth talk to Redmond City Council.docx

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Dear Redmond City Council, Mayor, and Clerk,

I wish to provide spoken public comment during the "Items From the Audience" portion of the April 16, 2024, business meeting of the Redmond City Council.

During Items from the Audience this evening, I plan to be present at City Hall to present my public comment in person at the podium.

My 354-word written comment is attached as a Word document (containing <u>blue and</u> <u>underlined hyperlinks</u>) and is inserted in the body of this email below.

★★★The Following Is My 354-Word Written Comment★★★

Redmond can continue to rapidly urbanize while better protecting its critical areas by implementing strategies that **balance development with environmental conservation**. Here are some approaches the city can take:

1. Redmond can <u>create and enforce stronger ordinances that specifically target the</u> <u>protection of critical areas</u> such as wetlands, streams, and wildlife habitats. These ordinances should be regularly updated based on scientific data and best practices.

2. <u>Implementing and enforcing better buffer zones around critical areas</u> can help protect these environments from development impacts. These buffers should be based on the type of critical area and the sensitivity of the ecosystem.

3. <u>Encouraging high-density, mixed-use development</u> in designated <u>urban growth areas</u> can help minimize the impact on critical areas by reducing sprawl and conserving open spaces.

4. Redmond can <u>encourage developers to adopt sustainable and green building practices</u> such as low-impact development, which focuses on managing stormwater, reducing impervious surfaces, and preserving natural hydrological systems.

5. Redmond can prioritize the **preservation of open spaces and the creation of green corridors** that connect critical areas. These can serve as habitats for wildlife and help maintain ecological balance.

6. Enhancing public awareness and educating residents and developers about the <u>importance of critical areas</u> and ways to better protect them can lead to more informed decision-making and increased community support for conservation efforts.

7. As climate change presents new challenges, Redmond should plan for the long-term sustainability of critical areas by **incorporating more climate resilience measures** such as restoring wetlands for flood control and managing rising water levels.

8. Ongoing **monitoring and strict enforcement of regulations** are essential to ensure compliance and protect critical areas. This can include **regular inspections and penalties for non-compliance**.

9. <u>Utilize</u> Geographic Information System (GIS) mapping and other <u>technologies and data</u> to identify and monitor critical areas. This data-driven approach can help in planning and decision-making processes.

10. <u>Collaborating with</u> local environmental organizations, tribal groups, and other <u>stakeholders</u> can bring additional expertise and resources to the city's efforts to protect critical areas.

By integrating these approaches, Redmond can support <u>**rapid urbanization**</u> while ensuring that its <u>**critical areas are better preserved**</u> for future generations.

## ★★★<u>End of My 354-Word Written Comment</u>★★★

Happy Earth Month!

David Morton, PhD Redmond 98053 206-909-5680

From: Sent: To: Cc:	David Morton <davidwardmorton@yahoo.com> Wednesday, April 24, 2024 1:20 PM Planning Commission Lauren Anderson; Glenn Coil; Odra Cardenas; Ian Lefcourte; Tim McHarg; Lauren Alpert; Beckye Frey; Jeff Churchill; Carol Helland; Aaron Bert; Kim Dietz; Jenny Lybeck; Josh Mueller; Amanda Balzer; Council; MayorCouncil; Mayor (Internet); Loreen Hamilton; David Tuchek; Chris Stenger; Christopher Tolonen; Ernest C. Fix; Tom W. Hardy; Malisa Files; Jill E. Smith; Cheryl D. Xanthos; City Clerk; PLAN - Redmond 2050 - Technical Advisory Committee; Redmond 2050; Seraphie Allen; eugene.radcliff@ecy.wa.gov; Oneredmond Info; Patrick Jurney; Andrea Martin; pwilliams@redmond.gov; Mike Brent; Andy Swayne; David Hoffman; jor_mig_santos@hotmail.com; tammyvupham@icloud.com; Rheya Wren; Saanvi Bathla; Erik Bedell; Dave Otis; Zwanzig, Macy; Brandon Leyritz; Jones, Karissa; James Terwilliger; Anastasiya Warhol; David Baker; Milton Curtis; Angela Kugler; Joe Marshall; Nigel Herbig; Melanie OCain; Andrew McClung; David Barnes; Brian Stewart; Corina Pfeil; Debra Srebnik; City Hall; Chip Cornwell; Steve Yoon; Brian Collins (GWS); Brian Buck; Arielle Dorman; Kim Faust; Tom Hitzroth; Marilyn Lazaro (City Volunteer); Yeni Li; Kelley Cochran</davidwardmorton@yahoo.com>
Subject:	"Items From the Audience," a comment at the Redmond Planning Commission meeting on 4/24/24 by David Morton
Attachments:	Twenty seventh talk to Redmond Planning Commission.docx

**External Email Warning!** Use caution before clicking links or opening attachments.

Dear Redmond Planning Commissioners:

I wish to provide spoken public comment during the "Items From the Audience" portion of the April 24, 2024, meeting of the Redmond Planning Commission. I wish to speak on 2 topics which are not the subject of a public hearing.

I plan to be present this evening at City Hall to present my public comment in person at the podium.

My 3- to 5-minute comment is attached as a Word document (containing <u>blue and underlined</u> <u>hyperlinks</u>) and is inserted in the body of this email below.

 $\star$ 

First topic: As Redmond updates its Critical Areas Regulations (CAR), it should use Best

Available Science (BAS). Local planners can get help and guidance in translating BAS into CAR from two checklists:

- 1. A Riparian Zone Checklist from the state Dept. of Fish and Wildlife, and
- 2. A Critical Areas Checklist from Growth Management Services.

<u>State Dept. of Commerce encourages cities to "review and revise" their CAR "consistent</u> with updated BAS and Growth Management Act requirements."

I ask the Commission to ensure that Redmond has completed these checklists before the Commission recommends the CAR update to council.

<u>Second Topic:</u> Here's my Evaluation of Draft 3.1 of the Climate Resilience and Sustainability Element.

#### What's Good Is:

1. The vision statement sets ambitious yet attainable goals for Redmond, aiming for carbon neutrality and resilience by 2050 while emphasizing equity.

# 2. The element covers various comprehensive aspects of climate resilience and sustainability.

3. The policies provide actionable steps.

### Here's What's Not So Good:

1. There's a lack of specific metrics or indicators to effectively measure <u>climate resilience</u>.

2. There's **not enough focus on adaptation** strategies to cope with inevitable climate impacts. Specific adaptation measures are needed.

3. The element could benefit from addressing the economic implications of sustainability initiatives, like the costs and benefits of moving to renewable energy or building resilient infrastructure.

#### Here's What's Right:

1. The element aligns well with other elements of the Comprehensive Plan.

2. The inclusion of greenhouse gas inventories and vulnerability assessments provides a solid **data-driven approach** for decision-making and prioritization of actions.

3. Policies like CR-7 prioritize inclusive outreach and **community engagement**, ensuring that diverse perspectives are considered in decision-making processes.

### What's Wrong is:

1. **Unclear Accountability:** While partnerships are emphasized, it's unclear which entities are responsible for specific actions, potentially leading to diffusion of responsibility.

2. **Overreliance on Technological Solutions:** While technological advancements like renewable energy are crucial, the plan could benefit from a more holistic approach that includes

behavioral and systemic changes.

3. A stronger emphasis on promoting a <u>circular economy</u> could enhance sustainability efforts further.

#### What's Missing are:

1. **Equity Metrics:** There's a lack of specific metrics or indicators to track progress in addressing environmental justice and ensuring equitable outcomes.

The plan could benefit from stronger integration with sectors like public health, economic development, and social services to address climate impacts comprehensively.
 Incorporating strategies for financing sustainability initiatives could facilitate implementation and ensure long-term viability of projects.

Here are **Recommendations for Improvement:** 

1. Define specific, measurable targets with clear timelines for achieving <u>climate resilience</u> goals.

2. Enhance Adaptation Strategies: Include more specific actions to enhance resilience to climate impacts, considering both physical infrastructure and social systems.

3. Integrate Economic Considerations: Assess the economic implications of sustainability initiatives and explore financing mechanisms to support implementation.

4. Strengthen Accountability Mechanisms: Clearly delineate roles and responsibilities among stakeholders and establish mechanisms for monitoring and evaluating progress.

5. **Promote Circular Economy Principles:** Emphasize strategies for reducing waste generation, promoting resource efficiency, and fostering a circular economy.

6. Enhance Equity Measures: Develop specific equity indicators and incorporate community feedback mechanisms to ensure that vulnerable populations are not left behind in sustainability efforts.

By addressing these areas, Redmond's Climate Resilience and Sustainability Element can become a more robust and effective framework for planning.

 $\star\star\star\star$  End of My 3 to 5 Minute Public Comment  $\star\star\star\star$ 

Sincerely,

David Morton, PhD Redmond, 98053 206-909-5680 The draft policies for the **Natural Environment Element** have **several strengths**:

- 1. The policies cover a <u>wide range of environmental issues</u> including <u>stewardship</u>, <u>geologically hazardous areas</u>, <u>aquifer recharge areas</u>, <u>floodplains</u>, <u>wetlands</u>, <u>water</u> <u>quality</u>, <u>fish and wildlife habitat</u>, <u>tree preservation</u>, <u>air quality</u>, <u>noise</u>, and <u>light</u> <u>pollution</u>.
- 2. There is clear <u>emphasis on promoting sustainable practices</u> like <u>low-impact</u> <u>development</u>, <u>renewable resource use</u>, and <u>sustainable consumption strategies</u>.
- 3. The policies prioritize and **incorporate** <u>Best Available Science</u>, ensuring that actions are informed by scientific understanding and knowledge.
- 4. The policies emphasize <u>community engagement and education</u> programs to raise public awareness of environmental issues.

There's room for **<u>improvement or refinement</u>**:

- 1. Some policies could be more clearly articulated or consolidated.
- 2. More specific <u>mechanisms for enforcement</u> and accountability may be needed.
- 3. The document could further emphasize the **integration of natural environment policies with other city plans**, like <u>transportation</u> and <u>land use</u>, to ensure coherence in overall planning.
- 4. Establishing clear <u>monitoring and evaluation</u> mechanisms to assess the effectiveness of implemented policies would aid <u>adaptive management</u> and continual improvement.

Here are specific recommendations:

- <u>Strengthen collaboration</u> with neighboring jurisdictions, agencies, and community stakeholders to address regional environmental challenges more effectively.
- Integrate <u>climate resilience</u> considerations to address the impacts of climate change on the natural environment.
- Promote the incorporation of green infrastructure practices to provide multiple benefits.
- Consider incorporating **<u>public health considerations</u>**, like access to <u>green spaces</u>, to promote healthier communities.

Overall, the policies demonstrate a comprehensive approach to environmental stewardship and protection and provide a solid foundation for addressing environmental issues in Redmond. Further refinement and integration with broader city goals and community needs would strengthen their effectiveness.

Regarding the **<u>Critical Areas Regulations</u>**:

#### The good things are:

- 1. The regulations <u>cover various critical areas comprehensively</u>, including wetlands, floodplains, and aquifer recharge areas.
- 2. The regulations <u>emphasize the importance of protecting critical areas</u> and maintaining their ecological functions. One way of assuring this is by <u>restricting land uses which are incompatible with critical areas</u>.
- 3. Specific **<u>performance standards</u>** are outlined, providing clear guidelines for development within critical areas.

#### What's not as good:

- 1. Some points are redundant.
- 2. Only one example is given of a land use that poses a high risk of contaminating groundwater in the CARAs.

#### Here are recommended improvements:

- 1. Give more <u>examples of land uses that pose a high risk of contaminating groundwater</u> in the CARAs.
- 2. <u>Consolidate related sections</u> to create a more cohesive and structured document.
- 3. Eliminate redundant points.
- 4. <u>Enhance accessibility</u> by providing a summary or guide to help users navigate the regulations more effectively.
- 5. <u>Clarify Implementation</u>: Offer examples or case studies to illustrate how the regulations apply in practice.
- 6. <u>Address the concerns and needs of stakeholders</u>, including <u>developers</u>, <u>environmentalists</u>, and <u>residents</u>.
- 7. Ensure the regulations are **<u>updated</u>** regularly to reflect changes in environmental science, legislation, and community needs.

#### Here are additional considerations:

- 1. Explore <u>incentives for developers who surpass minimum requirements</u> to encourage proactive environmental stewardship.
- 2. <u>Raise awareness</u> about the importance of critical areas and the regulations governing them.
- 3. Develop robust <u>monitoring</u> mechanisms to track compliance with the regulations and <u>enforce</u> them effectively.
- 4. Consider integrating provisions for **adaptation to climate change** impacts, such as sealevel rise or increased flood risk.

Overall, the regulations demonstrate a commitment to environmental protection. Consolidation and enhanced implementation would maximize their effectiveness and usability.

I'm requesting your help in clarifying and amending several <u>portions of Chapter 21.64 of the</u> <u>Zoning Code, Critical Areas Regulations</u>. Because the commission advises the Mayor and City Council on land use issues and policies, including updates to development regulations, and makes recommendations to City Council regarding proposed amendments to Redmond's Zoning Code, I believe you can help resolve some confusing wording in this chapter.

Recent discussions with City staff have revealed disagreement about what Chapter 21.64 says. I'll talk about several points that should be clarified in this chapter about Critical Areas Regulations:

First, Chapter 21.64 provides <u>a link to "Introduction to Critical Areas,"</u> which says that Critical Aquifer Recharge Areas (CARAs) are just one type of Critical Area. Reading this 1-page pdf should precede discussions of Critical Areas Regulations.

Second, the two classes of CARAs in Redmond (CARA I and CARA II) differ only in the amount of TIME it takes groundwater and groundwater CONTAMINATION to reach City drinking water wells. That time is less than five years in CARA I, and more than 5 years in CARA II.

Third, the proposed **<u>SE Redmond Industrial Growth Center lies almost entirely on CARA II</u>**.

Fourth, the Code lists 25 prohibited land uses or activities in CARA I.

Fifth, the Code lists just 2 prohibited land uses or activities in CARA II.

Lastly, because **permanent dewatering** and **recycled water use** are currently the only two prohibited activities in CARA II, and since the SE Redmond Industrial Center is located predominantly in CARA II, the **following activities appear to be currently ALLOWED in the Industrial Center in CARA II**:

- 1. hazardous waste treatment, storage, and disposal,
- 2. chemical manufacturing,
- 3. dry cleaning,
- 4. hazardous liquid pipelines,
- 5. solid waste landfills and transfer stations,
- 6. petroleum refining and storage,
- 7. bulk storage facilities,
- 8. molten metals,
- 9. wood preserving,
- 10. mining and extraction, and
- $11. \ \mbox{vehicle wrecking and towing}.$

I've been assured by city staff that these activities <u>are prohibited in CARA II</u>, but the <u>Zoning</u> <u>Code does not specify that they are prohibited there</u>.

So, I urge you to recommend to the mayor and council that this subsection of the code be amended so that all the prohibited activities in CARA I are also prohibited in CARA II.

When planning to <u>locate light and/or heavy industrial facilities</u> on a <u>shallow drinking water</u> <u>aquifer</u>, a city should take several <u>precautions</u> to <u>protect the aquifer</u> and to ensure the <u>health and</u> <u>safety of the municipal water supply</u>. Here are some important considerations:

- <u>Hvdrogeological Studies</u>: Conduct detailed studies to understand the aquifer's characteristics, including its recharge rate, vulnerability to contamination, and potential <u>impacts from</u> <u>industrial activities</u>. This information will help make informed decisions and design appropriate <u>protection measures</u>.
- Zoning and Land Use Planning: Establish strict zoning regulations that restrict the types of industries and activities allowed in the vicinity of the aquifer. Prohibiting potentially hazardous industries, such as chemical plants or waste disposal facilities, can help minimize the risk of groundwater contamination. See the provided link to typical sources of potential groundwater contamination identified by the EPA.
- Regulatory Framework: Develop and enforce comprehensive regulations and guidelines for industrial activities near the aquifer. These should include specific requirements for waste management, pollutant control, spill prevention and response, and groundwater monitoring.
- 4. <u>Environmental Impact Assessment</u>: Require industrial developers to conduct <u>rigorous</u> <u>environmental impact assessments before obtaining permits</u>. These assessments should evaluate the potential risks to the aquifer and propose mitigation measures to minimize or eliminate those risks.
- 5. <u>Hazardous Material Storage and Handling</u>: <u>Prohibit the storage, handling, and disposal</u> <u>of hazardous materials</u> within the industrial area. Ensure that liquids have proper containment systems, and that emergency spill response plans and protocols are in place to <u>prevent leaks or</u> <u>accidents</u> that could contaminate the aquifer.
- <u>Stormwater Management</u>: Implement effective stormwater management practices within the industrial area to prevent pollutant runoff from reaching the aquifer. Utilize features like <u>retention ponds</u>, <u>vegetative buffers</u>, and <u>filtration systems</u> to treat stormwater <u>before it</u> <u>infiltrates</u> into the ground.
- 7. <u>Monitoring and Testing</u>: Establish a <u>groundwater monitoring program</u> to regularly assess the quality of the aquifer. Monitor key parameters and contaminants to detect early signs of contamination and take appropriate actions.
- 8. <u>Public Awareness and Education</u>: <u>Educate the public</u> about the <u>importance of protecting</u> <u>the aquifer</u> and the potential <u>risks associated with industrial activities</u>. Provide information on reporting any <u>suspicious activities</u> or <u>incidents that could impact the aquifer</u>.
- 9. <u>Emergency Preparedness</u>: Develop <u>emergency response</u> plans in coordination with industrial operators, local authorities, and water management agencies. Develop procedures for addressing potential incidents, including groundwater contamination events, and ensure rapid response and containment.
- 10. <u>Collaboration and Stakeholder Involvement</u>: Foster collaboration among various stakeholders, including city officials, industrial operators, environmental organizations, and community representatives. Engage them in the planning process, seek their input, and establish ongoing communication and cooperation.

In conclusion, implementing these precautions can help <u>safeguard the health, safety, and quality of a</u> <u>municipal drinking water supply</u>.
### **Cathy Beam**

From: Sent:	David Morton <davidwardmorton@yahoo.com> Wednesday, July 12, 2023 12:59 PM</davidwardmorton@yahoo.com>
То:	Planning Commission
Cc:	Beckye Frey; Glenn Coil; Ian Lefcourte; Jenny Lybeck; Redmond 2050; Cathy Beam; Lauren Anderson; Lauren Alpert; Council; MayorCouncil; Mayor (Internet); Oneredmond Info; Amanda Balzer; Patrick Jurney; Carol Helland; Andrea Martin;
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	tammyvupham@icloud.com; Rachel [Rheya] Molloy; Saanvi Bathla; Erik Bedell; Dave
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	Anastasiya Warhol; David Baker; Milton Curtis; Angela Kugler; Nigel Herbig; Joe
	Marshall; Melanie OCain; Andrew McClung; David Barnes; Brian Stewart; Corina Pfeil;
	Debra Srebnik; City Hall; Cheryl D. Xanthos; City Clerk; Jeff Churchill; PLAN - Redmond 2050 - Technical Advisory Committee; Kim Dietz; Chip Cornwell
Subject:	A Public Comment at the Redmond Planning Commission meeting on 7/12/23 by David Morton
Attachments:	Permitted uses in Industrial and Manufacturing Park zones.PDF; Sixth talk to Redmond Planning Commission.docx

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Dear Redmond Planning Commissioners,

I wish to provide spoken public comment during the "Items From the Audience" portion of the July 12, 2023, meeting of the Redmond Planning Commission. I wish to speak on an item that is not the subject of a public hearing.

During Items from the Audience today, I plan to be present at City Hall to present my public comment in person at the podium.

My 3-minute comment is attached as a Word document and is inserted in the body of this email below.

The Following Is My 3-Minute Public Comment

On July 25, 2022, I asked the Planning Commission to "Please reject the idea of an industrial center in SE Redmond" which is located entirely on <u>Redmond's Critical Aquifer Recharge Areas (or CARAs)</u>. <u>I</u> <u>currently do not oppose the idea of an industrial district in SE Redmond</u>. However, <u>I do oppose locating</u> <u>any sources of potential groundwater contamination on Redmond's CARAs</u>.

Redmond's Zoning Code regarding "<u>Prohibited Land Uses and Activities in Critical Aquifer Recharge</u> <u>Areas I and II</u>" contains an error which still appears in the current code. In that subsection of code, 25 land uses and activities are prohibited in CARA I. <u>But only two such land uses and activities are prohibited in</u> <u>CARA II.</u> It's been suggested that this was a scrivener's error, and that the <u>25 prohibited land uses and</u> <u>activities</u> will apply to <u>both CARAs I and II</u> in the rewrite of Redmond's Zoning Code. It was particularly alarming to see that OneRedmond and the City of Redmond invited business owners and leaders to a <u>March 28, 2023 breakfast</u> at which a handout was distributed. <u>A photo of that handout is</u> <u>attached as a pdf</u>. The handout indicates that the following land uses are allowed in the SE Redmond Industrial Growth center:

- Hazardous waste treatment and storage,
- Solid waste transfer and recycling,
- Mining and extraction, and
- Automobile repair.

These land uses have been identified by the EPA as potential sources of groundwater contamination.

So, it was disturbing to see that Redmond's Zoning Code currently allows such land uses in CARA II, and that OneRedmond seemed to be inviting businesses to locate such operations on Redmond's drinking water aquifer.

On the condition that the error in Redmond's zoning code is corrected, and that sufficient attention is paid to potential sources of groundwater contamination, <u>I will withdraw my request to reject the idea of an</u> industrial center in SE Redmond. In fact, I applaud <u>Microsoft</u> for planning a <u>large, new EV charging</u> facility in the SE Redmond Industrial Growth Center at the site where Olympian Precast was located. However, that site has <u>confirmed and suspected petroleum contamination of soil, groundwater, and</u> surface water since 1991, and will hopefully be cleaned up before the Microsoft facility goes in.

End of My 3-Minute Public Comment

Sincerely, Dr. David Morton Redmond, 98053 206-909-5680 Redmond must take **<u>proactive</u>** steps to safeguard its drinking water aquifer from contamination resulting from new developments in its <u>**Critical Aquifer Recharge Areas**</u> (CARAs). To achieve this, the city should consider amending its Zoning Code regarding its CARAs.

The prohibited land uses and activities that pose a hazard to the City's CARAs are listed in <u>RZC</u> <u>21.64.050.C</u>, though they are not similarly identified within Article I chapters. <u>Staff identified</u> <u>the need for cross-references</u> from RZC Chapters 21.10, 21.13 and 21.14 to <u>RZC 21.64.050.C</u>, which lists the Prohibited Land Uses in the CARAs.

However, I have not seen an amendment to correct a flaw in 21.64.050.C.

Its Subsection 1 lists 25 prohibited land uses and activities in CARA I, but

<u>Subsection 2</u> lists only <u>2</u> prohibited land uses and activities in <u>CARA II</u>.

### **CARAs I and II lie over the same aquifer.** The only **difference between CARA I and CARA II** is:

- In <u>CARA I</u>, it takes <u>up to 5 years</u> for groundwater contamination to reach City-owned public water wells.
- In <u>CARA II</u>, it takes <u>more than 5 years</u> for groundwater contamination to reach those wells.

Contaminating the groundwater in <u>CARA II</u> is as bad for water quality and public health as contaminating the groundwater in <u>CARA I</u>. <u>All 25 of the prohibited land uses and activities in</u> <u>CARA I should also be prohibited in CARA II.</u>

The City of Redmond has a <u>Pollution Prevention Assistance Agreement</u> with the state Department of Ecology. The <u>Program</u>'s mission is to safeguard residents and the environment by helping small businesses reduce toxic chemical usage, safely manage hazardous waste, and prevent stormwater pollution. As part of the Agreement, Redmond will conduct site visits to <u>businesses that may potentially pollute groundwater</u> within its CARAs to conduct risk-based assessments.

### The Redmond Zoning Code could require that businesses wishing to locate on Redmond's <u>CARAs first be proactively assessed through this Program for their risk of potential</u> <u>groundwater contamination.</u>

To **avoid contaminating its drinking water aquifer**, Redmond might consider the following:

- 1. Establish stricter zoning regulations for CARAs, ensuring that high-risk activities such as industrial and chemical storage facilities are prohibited within these areas. Implement setback requirements to keep development a safe distance from aquifer recharge zones.
- 2. Require comprehensive environmental impact assessments for any development proposed in CARAs, including hydrogeological studies, soil testing, and potential contaminant modeling to evaluate the impact on groundwater quality. Developers should be obligated to fund and adhere to mitigation measures.

- 3. Incentivize low-impact development (LID) techniques within CARAs, such as permeable pavements, green roofs, and stormwater retention systems to reduce runoff and minimize pollutants entering the aquifer.
- 4. Implement stringent monitoring and reporting requirements for existing and new developments in CARAs. Regular inspections should be conducted to ensure compliance with environmental safeguards.
- 5. Educate the public to increase awareness of the importance of CARAs and the need for their protection. Stakeholders, including residents, businesses, and environmental organizations, should be engaged in the Zoning Code amendment process.

Through proper amendment of the Zoning Code, Redmond can fortify its commitment to preserving its drinking water aquifer and maintaining the long-term sustainability of this vital resource.

Clean water equals life and health. Poisoned water equals death and disease. It's not hard to comprehend.

As required by the Growth Management Act, the <u>goal of establishing Critical Aquifer Recharge Areas</u> (CARAs) is to protect a community's drinking water by preventing pollution and maintaining supply.

Toxic contaminants spilled on Redmond's <u>CARA I</u> will reach the municipal water supply within 5 years. Similar toxic contaminants spilled on <u>CARA II</u> will reach the <u>same water supply</u> between 5 and 10 years. <u>CARA II has only 2 prohibited land uses</u>, <u>making it more likely to be contaminated than</u> <u>CARA I with 25</u> <u>prohibitions</u>.

In the <u>Redmond 2050 Supplemental Draft Environmental Impact Statement</u> released in September 2023, consultants suggested some solutions or mitigation for the impacts on groundwater quality caused by the "Preferred (growth) Alternative." <u>It was suggested</u> that Redmond "review its <u>CARA regulations</u> in a gap analysis for consistency with the <u>current Ecology guidelines for protecting CARA functions and</u> <u>values</u>."

Those guidelines say:

- <u>Anywhere chemicals are stored, handled, transferred, or used is a potential spill or leak risk.</u> 40% of Redmond residents rely on the City to implement regulations that address protection of the aquifer.
- <u>The best plans and practices cannot prevent contamination if they are ignored.</u> The <u>City's</u> <u>ability to inspect, obtain compliance, and enforce is needed</u> to make sure that <u>the city can stop</u> <u>a threat to groundwater</u> when the <u>land user is negligent or uncooperative</u>.
- Local codes need to be written to grant the city regulatory authority so that they can require
  pollution prevention and obtain compliance <u>before</u> a situation contaminates the local drinking
  water supply.
- Ordinances can be specific to Redmond, state or federal laws or rules can be adopted by
  reference, and local authority to enforce can be included. Examples of uses that should be
  considered for prohibition in both CARAs I and II are landfills, wood treatment facilities, metal
  platers, tank farms, and facilities that treat, store, or dispose of hazardous waste.
- The <u>City of Redmond has a robust groundwater protection program</u>. But the city hopes to bring <u>2,850 new industrial jobs to the SE Redmond Industrial Growth Center</u> in <u>CARA II with 2</u> <u>prohibited land uses</u>.

<u>Keep Redmond's groundwater protection program robust.</u> <u>Prohibit the use of hazardous materials on</u> <u>CARAs I and II. Contaminated wells are a public health threat and expensive to remediate.</u> The <u>Redmond 2050 Supplemental Draft Environmental Impact Statement (SDEIS)</u> identifies several predicted <u>impacts to Redmond's water resources</u> resulting from implementing four growth alternatives examined by the study. One possible impact to groundwater is that <u>increased</u> <u>impervious surface in Redmond would allow less water to infiltrate soils and recharge the</u> <u>aquifer.</u> An increase in impervious surfaces is expected to cause a <u>reduction in the quantity and</u> <u>quality of water that reaches the aquifer</u>. <u>Construction activities may cause spills of hazardous</u> <u>material</u> such as fuel.

The SDEIS points out that "Downtown and Marymoor Village are already largely developed with impervious surface...; it's unlikely that there would be notable additional impacts to the groundwater." The study does not mention that much of the development in Downtown and Marymoor Village is recent and that much of SE Redmond is not already developed with impervious surfaces. To accommodate an additional 2,850 jobs in an Industrial Growth Center in SE Redmond, lots of new impervious surfaces would be built on the Critical Aquifer Recharge Area (CARA).

The SDEIS suggests some <u>solutions or mitigation for impacts on groundwater</u>, including amending the City's <u>CARA regulations</u> to be consistent with the <u>current guidelines for</u> <u>protecting CARA functions and values</u>. The Department of Ecology published these guidelines in its "<u>Critical Aquifer Recharge Areas Guidance</u>" document.

The guidelines emphasize the importance of using <u>"Best available science" to protect CARA</u> <u>functions and values</u>, and involves knowing:

- What contamination threats to drinking water already exist,
- What future contamination threats will result from new development, and
- What measures are needed to prevent contamination of the aquifer.

The <u>Growth Management Act requires the use of best available science for CARAs</u>. The <u>Washington Administrative Code (WAC) lists the characteristics of a valid scientific process</u> that produces reliable information, including peer review, methods, logical conclusions and reasonable inferences, quantitative analysis, context, and references. It then lists sources, including research, monitoring, inventory, survey, modeling, assessment, synthesis, and expert opinion.

In the absence of adequate scientific information, it's especially important to use a "precautionary or no risk approach," which is of paramount importance in preventing contamination of the land surface. By the time a contaminant is detected at a well, groundwater is already contaminated. In the precautionary approach, <u>development and land use activities are strictly limited</u> until the uncertainty is sufficiently resolved.

The <u>Critical Areas Handbook</u> recommends <u>applying best available science upfront</u>, <u>during the</u> <u>planning process</u>. Redmond's understanding of how best to regulate land uses that may impact its CARAs is important in ensuring that zoning and project permit decisions are being made <u>without</u> <u>the need to complete expensive environmental review and new studies during the permit</u> <u>process</u>. Good upfront planning and the adoption of scientifically defensible development standards should lead to quicker permit decisions. Many jurisdictions require that those applying for new development permits submit <u>reports that</u> <u>demonstrate that the functions and values of CARAs will be protected</u>. The applicant must submit an <u>inventory of critical materials</u>, or <u>potentially polluting chemicals</u>, that will be <u>handled</u> <u>by the proposed industrial business</u>. And the <u>applicant must demonstrate that the business</u> <u>prevents pollution</u> and allows recharge of the aquifer.

In conclusion, the SDEIS suggests that Redmond can improve its <u>CARA regulations</u> by following recommendations in <u>Ecology's Critical Aquifer Recharge Areas Guidance</u>.

The <u>Redmond Flex Development</u> is proposed to be built in SE Redmond on Critical Aquifer Recharge Area (<u>CARA</u>) II as defined by Redmond's CARA regulations, <u>RZC 21.64.050</u>. Redmond Flex is intended for "<u>Manufacturing, Wholesale Trade, and commercial uses.</u>" The <u>Technical Committee Report on the Redmond Flex project does not indicate</u> the <u>specific use</u> of the building, so it's <u>not clear what hazardous materials will be used and stored</u> on site. Redmond should know what future contamination threats to the aquifer will result from this and other new development.

The Redmond Flex proposal meets the requirements of <u>the CARA regulations</u>. Since the project is within CARA II, the only prohibited land uses and activities at the project site are:

- 1. <u>Permanent dewatering</u>, and
- 2. <u>Reclaimed or recycled water use</u>.

The <u>Redmond 2050 Supplemental Draft Environmental Impact Statement</u> suggests that Redmond can improve its <u>CARA regulations</u> by following recommendations in <u>Ecology's</u> <u>Critical Aquifer Recharge Areas Guidance</u>.

The Guidance says that "<u>Many jurisdictions require businesses that handle chemicals to</u> <u>submit a critical material inventory so that the jurisdictions know what chemicals are on</u> <u>site. The fire department requires similar reporting. These efforts may be coordinated. The</u> <u>City of Redmond fire code is a great example.</u>"

The section of <u>Redmond's Fire Code, 15.06.020, Wellhead Protection Ordinance</u> <u>Coordination</u>, was recently amended and codified in August 2023. It says that the Fire Department conducts reviews and inspections to verify that <u>storage, handling, use, and</u> <u>operations involving hazardous materials comply with adopted codes.</u> However, Redmond's CARA regulations for CARA II prohibit only permanent dewatering and recycled water use.

Redmond has a **Pollution Prevention Assistance Agreement** with the state Department of Ecology. Per the Agreement, Redmond conducts site visits to **businesses that may potentially pollute groundwater** within its CARAs to conduct risk-based assessments. **Redmond could require that businesses wanting to locate on Redmond's CARAs first be proactively assessed by this Program for risk of groundwater pollution.** 

Redmond's fire department is competent in identifying flammable, <u>pyrophoric, unstable-</u> <u>reactive, and radioactive materials</u>. In addition, <u>Pollution Prevention Assistance Specialists</u> <u>could help prospective businesses find, resolve, and prevent potential pollution issues.</u> The <u>Redmond 2050 SDEIS</u> recommends some good <u>mitigation strategies and regulations to</u> <u>address potential impacts of development on water resources in Redmond</u>. The SDEIS evaluation results "<u>assumes the implementation of this recommended mitigation</u>." Among these mitigation strategies are:

• <u>Low Impact Development (LID)</u> is a sustainable land development approach designed to mitigate the adverse effects of urbanization on water resources. By employing innovative techniques, LID minimizes runoff and reduces pollution, thus safeguarding the quality and quantity of water. LID utilizes principles such as preserving natural landscapes, promoting infiltration, and managing stormwater at its source. Green roofs, permeable pavements, rain gardens, and bioretention systems are among the tools LID employs to mimic natural hydrological processes.

This approach helps reduce the volume and velocity of stormwater runoff, preventing erosion and the transportation of pollutants into water bodies. By preserving green spaces and using native vegetation, LID maintains natural filtration and promotes groundwater recharge, which ultimately sustains water supply and quality. LID, therefore, contributes to minimizing flood risks, protecting aquatic ecosystems, and securing clean, abundant water resources. Its adaptability and sustainable focus make it a crucial element in managing the water-related challenges associated with urban development.

### • <u>Amending Redmond's CARA regulations to be consistent with Ecology's Critical</u> <u>Aquifer Recharge Areas Guidance.</u>

**Ecology's CARA Guidance** is a crucial policy framework designed to protect and manage vulnerable aquifers, which are essential sources of clean groundwater. It provides guidelines and strategies for identifying and safeguarding areas where groundwater recharge is of critical importance.

This guidance involves a collaborative approach between state and local authorities, aiming to balance land development with aquifer preservation. It incorporates comprehensive assessment methods, scientific data, and community engagement to designate and manage CARAs effectively. CARA designation can restrict certain land uses or encourage best management practices to prevent contamination and overuse, preserving the quality and quantity of groundwater.

By implementing CARA guidance, Washington State seeks to ensure the long-term sustainability of its aquifers, which are vital for drinking water, agriculture, and maintaining ecosystem health. It emphasizes responsible land-use planning, emphasizing the need to protect these invaluable resources for current and future generations.

### • <u>Limiting below ground parking and facilities in CARAs and eliminating temporary</u> <u>construction dewatering.</u>

Eliminating temporary construction dewatering can significantly mitigate the impact of development on water resources. Construction dewatering typically involves the removal of groundwater from excavation sites to create a dry work environment. However, this practice can lead to adverse effects on local water resources. By avoiding or minimizing dewatering, several benefits are realized:

- (1) **Preservation of Aquifers**: Dewatering can deplete local aquifers, leading to lowered groundwater levels. By avoiding this practice, aquifers remain more stable and can continue to provide a sustainable source of clean water for both the community and the environment.
- (2) **Reduction in Contaminant Transport**: Dewatering can mobilize contaminants present in the groundwater, potentially leading to the pollution of nearby water bodies. Eliminating dewatering helps prevent this transport of pollutants and protects the quality of surface water resources.
- (3) **Mitigation of Ecological Impact**: Construction dewatering can harm aquatic ecosystems by altering water flow patterns and disrupting habitats. Avoiding dewatering minimizes these disturbances, contributing to the preservation of local ecosystems.

In summary, employing <u>Low Impact Development</u>, following <u>Ecology's CARA Guidance</u>, and <u>eliminating temporary construction dewatering</u> practices are proactive steps toward conserving and safeguarding water resources during and after development, ensuring long-term sustainability, and minimizing adverse environmental impacts.



Support Services Center 15212 NE 95<sup>TH</sup> Street • Redmond, WA 98052 Office: (425) 936-1100 •Fax: (425) 883-8387 www.lwsd.org

April 10, 2024

VIA EMAIL <u>Planningcommission@redmond.gov</u> City of Redmond

# RE: Redmond 2050 – Natural Environment Element and Critical Areas Regulations

Dear Members of the Planning Commission:

The Lake Washington School District (the "District") submits these comments regarding the above referenced proposal, primarily to the proposed amendments to the Critical Areas Regulations (the "Proposed Regulations"). These comments follow the District's previous comments regarding the City's Draft Environmental Impact Statement and Supplemental Draft Environmental Impact Statement related to the Redmond 2050 Update. The District's boundaries include nearly all of the City of Redmond with the District providing public school education to most of the City's residents. The District works hard to address school infrastructure needs in a rapidly growing environment, whether through additions at existing schools in Redmond or construction of new schools in the City. As such, the District's review of the Proposed Regulations focuses on provisions that could limit or create burdensome challenges to the delivery of school infrastructure.

The District appreciates that the Proposed Regulations retain the Reasonable Use Exception for Public Projects contained in Section 21.64.010(T) [now (U)]. This exception process is a valuable tool to allow construction of public projects in a practical manner while still protecting critical areas. This exception works well to address particular development needs of public projects like schools, which include components such as playfields/play areas and specific needs related to school site safety. However, at the same time, the exception process adds time and uncertainty to projects. As such, the District prefers designing and building in compliance with the Regulations and avoiding the need to ask for an exception. The technical comments in <u>Appendix A</u> from Shannon & Wilson, a consultant who works regularly with the District on its school projects, are provided with that intent.

The District also provides the following comment related to the draft Natural Environment Chapter. Policy NE-22 and the supporting narrative recognize that the Proposed Regulations "be administered so that each property has some community appropriate economic use." While the policy narrative does not explicitly recognize facilitating public infrastructure uses, the phrase "community appropriate economic use" suggests an intent to ensure that the Proposed Regulations provide a vehicle for addressing particular community infrastructure needs in an economical manner. The Reasonable Use Exception for Public Projects is evidence of this intent. As such, the District suggests that the City amend Policy NE-22 as follows:

NE-22 Ensure critical area regulations provide reasonable economic use <u>and for beneficial</u> <u>public infrastructure uses</u> for all property within Redmond when taking into account the entire property.

We appreciate the opportunity to provide these comments and look forward to continued review as the Comprehensive Plan Proposal and the Proposed Regulations move forward. Our desire is to work collaboratively with the City to support the City's permitted and planned growth and, at the same time, meet the City's obligations under the Growth Management Act to ensure the provision of adequate school capacity to serve that growth.

Sincerely,

Brian Buck Executive Director, Support Services

See attached Appendix A

### APPENDIX A LWSD APRIL 10, 2024 Comments to the City of Redmond PROPOSED AMENDMENTS TO THE CRITCAL AREAS REGULATIONS

- 10: Tansy Hansen and Brian Buck, Lake Washington School District
- FROM: Amy Summe, PWS and Sarah Corbin, PWS
- DATE: April 10, 2024
- PROJECT: City of Redmond Critical Areas Update Review
- PROJ. #: 113320-001
- SUBJECT: Comments Relevant to Lake Washington School District

The Lake Washington School District (LWSD) asked Shannon & Wilson (S&W) to review version 5 of the City of Redmond's (City's) update to its critical areas regulations, Chapter 21.64 of the Redmond Zoning Code (RZC). The focus of this review was to identify those elements of the existing code or proposed code amendments that could affect future LWSD projects, and provide recommendations for the City, Planning Commission, and City Council to consider as it continues its code update process. The following comments are provided, organized sequentially by code section.

#### 21.64.010 Critical Areas

 <u>L.2 – Mitigation Location</u>: Contrary to the latest guidance from state and federal agencies1, the City's code favors on-site permittee-responsible mitigation over mitigation banks in its hierarchy of mitigation preference, and has no mention of in-lieu fee (ILF) programs. The state and federal wetland guidance requires consideration of mitigation banks, then in-lieu fee programs, and only after those are exhausted, permittee-responsible mitigation (in that order). S&W recommends that the City update this section of code to be consistent with the latest state and federal guidance. The availability of a certified mitigation bank (Keller Farm<sup>2</sup>) in the City of Redmond would still allow the City to meet its goal of retaining all mitigation within City limits. King County also has an ILF program (King County Mitigation Reserves Program<sup>3</sup>) which should be available to applicants. Although King County's ILF program does not currently have a project in the City of Redmond, it does have a project in the watershed upstream of the City and may in the future have a project location in the City. Use of a mitigation bank or ILF program should not require

<sup>1</sup> Such as <u>https://apps.ecology.wa.gov/publications/documents/2106003.pdf</u>, https://www.govinfo.gov/content/pkg/CFR-2012-title33-vol3/xml/CFR-2012-title33-vol3-part332.xml, and https://apps.ecology.wa.gov/publications/documents/2206014.pdf <sup>2</sup> https://ecology.wa.gov/water-shorelines/wetlands/mitigation/wetland-mitigation-

banking/mitigation-bank-projects/keller-farm

<sup>&</sup>lt;sup>3</sup> https://kingcounty.gov/en/legacy/services/environment/water-and-land/wetlands/mitigation-credit-<u>program</u>

Shannon & Wilson • 400 North 34th Street • Suite 100 • Seattle, Washington • 98103 • Main (206) 632-8020 • FAX (206) 695-6777 113320-001-M1rev.docx/wp/axa 1

applicants to expend a lot of resources addressing the code's various demonstration requirements.

- <u>Q.1. Buffer Areas</u>: The proposed code includes new language stating that "Lawns, walkways, driveways, paved areas, and mowed or developed areas will not be considered wetland or stream buffers or included in buffer area calculations when assessing whether adequate compensatory mitigation buffers have been provided." We understand this to mean that LWSD's existing school-associated recreation and educational spaces that may be located within a stream or wetland buffer will not be considered buffer by the City and will not be required to revegetate or otherwise protect those areas as part of any school maintenance or redevelopment action. Confirmation of this understanding is appreciated.
- <u>S. Hazardous Trees</u>: This new section of code only allows removal of hazardous trees to protect structures. LWSD has a number of school facilities that are located within or abutting critical areas and their buffers, and from which falling hazardous trees could injure students, staff, or their families. Snagging the tree or felling the tree to be retained as downed wood in the buffer or wetland would preserve some of the habitat value of the tree while protecting human health and safety. S&W recommends that hazardous trees be allowed to be removed if they could fall onto roadways, trails, or other spaces used by the public regardless of the presence of a structure.

#### 21.64.020 Fish and Wildlife Habitat Conservation Areas

- <u>B.9.d Stream Buffer Width Averaging</u>: New provision 'd' states that "Averaging shall not preclude the opportunity for future recovery of structure and function." It is not clear what this code provision intends and what would constitute an "opportunity." Are structures or other long-term improvements allowed adjacent to a legally reduced averaged buffer? Under what circumstances could the City require removal of a structure or use that is legally constructed adjacent to a legally reduced portion of the averaged buffer? S&W recommends adding clarity to this code so that applicants have some certainty that a permitted project is not vulnerable to a Citymandated change after it has implemented buffer averaging and completed the project. (Note: the wetland buffer width averaging section does not contain this addition.)
- <u>B.10.c Trails</u>: It should be noted that pedestrian trails with these same limitations are already included in the list of activities that are exempt from a critical areas permit (21.64.010.D.1.l). Typically, additional trails provisions found in code would address standards for trails that are not otherwise exempt.

S&W recommends that the trail provisions allow some flexibility for impermeable surfacing when necessary to meet accessibility requirements or otherwise provide a safe walking surface that is not a slip-and-fall hazard. It is not uncommon for

regulations regarding trails in buffers to distinguish between public and private trails, with added flexibility for public trails for such features as materials and dimensions.

These provisions also allow trails only within the outer 25% of the buffer, which may be appropriate for parallel trails in some circumstances but is not feasible for trails that need to cross a stream (presumably on the footbridge that is allowed under 10.d). Allowances for trails should be added to allow crossings, perhaps with provisions that require the number of crossings to be minimized and that the crossing be as perpendicular as possible to the stream and buffer to minimize the area of impact.

- B.10.f Stormwater Conveyance: The use of the word "conveyance" may be inadvertently limiting. S&W suggests that this be modified, perhaps similar to the wetlands stormwater allowance in RZC 21.64.030.B.13, ensuring that low impact development treatment or flow control methods could be allowed when appropriate.
- <u>B.12 Nonconforming Uses and Structures</u>: The first sentence "Businesses currently located in the stream buffers may continue to operate" seems unnecessary and has an unusually specific reference to one type of use. S&W suggests striking this sentence as RZC 21.64.010.D.1.g already says that "Continuation of legal pre-existing and ongoing uses" is allowed. Alternatively, S&W suggests replacing "businesses" with "legal pre-existing and ongoing uses."
- B.13 Ordinary High Water Mark Shifts: The provision freezes the ordinary high water mark (OHWM) at the pre-project location if the OHWM alteration results from a City capital improvement project. To prevent impacts on adjacent property owners, this provision should apply to any permitted project that results in an OHWM change. Further, freezing the OHWM at the pre-project location would only be necessary and appropriate if the change would otherwise shift a buffer farther into an adjacent property. Some stream projects could result in a shift of the OHWM away from an adjacent property, in which case the buffer should be measured from the new OHWM location.
- <u>B.14 Removal of existing structures</u>: S&W suggests adding "and uses" to this code provision to encompass elements such as athletic and recreational facilities at a school. It may also be beneficial to add "legal" to qualify the application of this provision to structures and uses.
- <u>D.4 Stream-bank stabilization</u>: The proposed code's addition of "or existing" to the prohibition on harder stream-bank stabilization solutions does not recognize that bioengineering or soft stabilization techniques may not sufficiently protect legal existing structures depending on site-specific conditions. S&W suggests that this provision be modified to require use of the softest stabilization technique feasible to protect existing structures, to be demonstrated by an appropriate study, which may result in hard stabilization in some circumstances. Possible language could be

modeled after Washington Administrative Code 173-26-231(3)(A)(iii) in its requirements for shoreline stabilization in shoreline jurisdiction.

- <u>D.7 Stream Daylighting</u>: As written, this provision seems to allow the City to require stream daylighting for any project without regard to the location or scale of the proposed project. Stream daylighting is always a significant undertaking, both in design and construction cost, time, and amount of permitting with multiple state and federal agencies. S&W recommends that the City consider defining specific circumstances that could trigger this requirement, and that there be some accommodation for nexus and proportionality. Washington Department of Fish and Wildlife, for example, only requires that culverts be upgraded to meet requirements of its Water Crossing Design Guidelines<sup>4</sup> when an applicant's project has some interaction with the existing culvert.
- <u>G.2.i.-k. Mitigation Measures</u>: Section G.2 requires that "additional mitigation measures shall be reflected in mitigation planning." The phrase "reflected in mitigation planning" is ambiguous and does not indicate whether documentation must be provided that addresses each of the listed measures, and what would be necessary to demonstrate that any of the measures is not appropriate for the project. Added measures i (remove fish barriers), j (increase off-channel habitat), and k (increase presence of large wood) are of particular concern, as they are typically high-cost mitigation elements with added state and federal permit requirements that may not have any connection to the proposed project's impacts. S&W suggests that the City clarify its intent and consider stating that there must be some relationship between the proposed impacts and appropriate mitigation. The language in subsection G only indicates that the standards apply unless those standards "would result in a significant adverse economic impact on the owner or developer." An applicant's ability to afford a measure should not determine whether a given measure is required.

#### 21.64.030 Wetlands

- General: Other than RZC 21.64.030.B.13 (stormwater) and B.14 (utilities, see comment below), the wetlands regulations do not appear to contain a list of activities that could be allowed in a wetland buffer, comparable to the list provided for fish and wildlife habitat conservation area buffers in RZC 21.64.020.B.10. S&W suggests the City add a comparable section to the wetlands regulations, including provisions for trails.
- <u>B.7 Buffer Revegetation</u>: As written, it is not clear when and to what degree this requirement for revegetating or widening the buffer would be trigger when an existing buffer is "unvegetated, sparsely vegetated, or vegetated with invasive

<sup>&</sup>lt;sup>4</sup> <u>https://wdfw.wa.gov/publications/01501</u>

species." As mentioned above, RZC 21.64.010.Q notes that "lawns... and mowed or developed areas" will not be considered wetland or stream buffers; however, these are also examples of unvegetated or sparsely vegetated areas that seem to require revegetation. This provision would benefit from added clarity regarding how existing legal uses and developments within buffers are to be considered, and what triggers a revegetation or buffer widening project. Similar to previous comments, some nexus and proportionality to the triggering activity is recommended.

- <u>B.9 Temporary Buffer Impacts</u>: This provision would be better stated as "Temporary buffer impacts areas shall be restored to the previous condition or better." Permanent buffer impacts are more typically mitigated at a 1:1 ratio.
- <u>B.14 Utilities in Buffers</u>: Drilling under buffers to install utilities is a very costly construction method, and would be better (and is more commonly) applied to installing necessary utilities under wetlands. Utility installation in buffers via trenching with ground surface restoration following the activity is usually a relatively low-impact activity with a quick recovery of the disturbed area. Even in forested settings, the impacts can be quite minimal. Washington Department of Ecology's sample wetland regulations<sup>5</sup> include this same language nearly verbatim in a list of activities allowed in wetlands, except that Ecology's text applies to drilling under wetlands, not buffers.
- <u>C.5 Mitigation Guidance</u>: S&W suggests adding a reference to *Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance (Version 2),* which was updated in 2021.<sup>6</sup> Also note that the referenced Part 2 document is dated March 2006, not April 2004.
- <u>C.8.e Areas Within Mitigation</u>: RZC 21.64.010.Q.1 contains a new listing of areas that will not be considered when calculating provided mitigation areas, and includes lawns, walkways, driveways, paved areas, and mowed or developed areas. It could be beneficial to have some consistency between that list and this new provision 8.e.
- <u>C.9 Indirect Impacts</u>: S&W recommends either removing this new section of code or replacing the very prescriptive text with a reference to the joint agency guidance document *Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance (Version 2)*. In practice, the state and federal agencies infrequently require compensation for indirect impacts. When it has been required, the appropriate extent of the impact and the appropriate ratios has been collaboratively determined based on very project- and site-specific considerations. As noted in the joint agency guidance, "The recommended buffer width provides a starting point for determining the extent of indirect impacts. The agencies will also consider the condition of existing buffers (e.g., presence, width, type of vegetation, and slope) when

<sup>&</sup>lt;sup>5</sup> Page A-7 of <u>https://apps.ecology.wa.gov/publications/documents/2206014.pdf</u>

<sup>&</sup>lt;sup>6</sup> <u>https://apps.ecology.wa.gov/publications/documents/2106003.pdf</u>

determining the extent of indirect impacts and the required compensation ratio." It should be noted that Ecology's 2022 sample wetland regulations do not include specific requirements for indirect impacts. Instead, the sample wetland regulations provide the mitigation ratios for direct impacts and point applicants to *Wetland Mitigation in Washington State - Part 1: Agency Policies and Guidance (Version 2)* for guidance on addressing other types of impacts.

AJS:SCC/ajs

### **Cathy Beam**

From: Sent: To: Cc: Subject: Rheya Wren <rheyawren@gmail.com> Wednesday, April 3, 2024 2:38 PM Cathy Beam Jenny Lybeck CRITICAL AREAS REGULATIONS - Public Feedback

External Email Warning! Use caution before clicking links or opening attachments.

Hello Cathy, thank you for heading up the Critical Areas planning.

I was hoping to submit a few comments, but overall find the planning to be excellent. Love seeing the 15ft setbacks and channel mitigation considerations for flooding. Love seeing the flood plain construction planning on flood water pass-through.

### Mitigation Requirements – "equivalent or greater ecological function" relating to habitat complexity or seasonal hydrological dynamics.

We've had some fairly large big tree die-offs that have occurred in places where infrastructure was placed and previous buffer areas were shifted. Alongside 520 being one of the most noticeable. It seems like we have modifed our language to better encapsulate thinking through additional mitigation that may be needed if we are dropping or shifting over the available underlying water availability, especially in terms of drought or hotter, drier summers going forward (which are likely to continue increasing in severity). But I just wanted to ensure that we are capturing and thinking though these unseen processes under the ground, when reviewing or mitigating these larger projects

If may be, that no further change in wording is warranted, but wanted to mention that this was a concern and comment I'd had earlier as well. Thank you for including it!

Rheya Wren (she/they) M: 206-931-7052 @ClimateHawk2 RheyaWren@gmail.com Previously Rachel Molloy



April 5<sup>th</sup>, 2024

Jeff Churchill Long Range Planning Manager PO Box 97010 Redmond, WA 98073

Via email to: jchurchill@redmond.gov

Re: 2024 Comprehensive Plan Consultation-Snoqualmie Tribe

Dear Jeff Churchill,

On behalf of the Snoqualmie Indian Tribe (Tribe), please accept these comments on the City of Redmond's draft Comprehensive Plan updates.

The Tribe is a federally-recognized sovereign Indian Tribe and a signatory to the Treaty of Point Elliott of 1855 in which it reserved to itself certain rights and privileges and ceded certain lands to the United States. As a signatory to the Treaty of Point Elliot, the Tribe specifically reserved to itself, among other things, the right to fish at usual and accustomed areas and the "privilege of hunting and gathering roots and berries on open and unclaimed lands" off-reservation throughout the modern-day state of Washington (Treaty of Point Elliot, art. V, 12 Stat. 928). The Snoqualmie Tribe has stewarded this land since time immemorial and seeks to work collaboratively with the City of Redmond to plan for the future by providing input on the City's Comprehensive Plan update, including the City's Natural Environment Element, Critical Areas Regulations, PARCC Element, and Participation, Implementation and Evaluation Element.

### Natural Environment Element

The Tribe would like to recognize that the City of Redmond has addressed the need for water use reduction and has taken prudent and necessary action to reduce water consumption in landscaping. We request that the City continues to make water quantity in streams and lakes a priority in its planning. In Section C. (Tree Preservation and Canopy), please include culturally modified trees (CMTs) in the language. A flyer describing CMTs, their significance to the Tribe, and suggested wording to a CMT policy is included as an additional document to this letter. Throughout the element, we would like to see more recognition of local tribes and their relationship to the natural environment.



### **Critical Areas Regulations**

The City should have the same protective buffers for fish bearing streams as non-fish bearing streams. All waters of the City of Redmond eventually become part of fish habitat, and protecting those waters even where fish are not presently located protects water quality and will benefit both resident and anadromous fish. This is in line with current Best Available Science as articulated in WDFW's Riparian Ecosystems, Volume 2: Management Recommendations, which states "we found no evidence that full riparian ecosystem functions along non-fish-bearing streams are less important to aquatic ecosystems than full riparian ecosystem functions along fish-bearing streams." The text goes on to list four considerations for this recommendation, which elaborate on the finding that non-fish bearing streams:

- Support a unique community of aquatic and riparian-obligate wildlife
- Provide movement corridors for wildlife, particularly in the face of changing climate conditions
- Provision fish-bearing streams with matter and energy
- Provide cool water to downstream reaches. Washington State has already experienced increased stream temperatures due to climate change and expects further increases, which have direct implications for the persistence of fish.

Please update Redmond's Critical Areas Regulations to reflect Best Available Science which indicates the importance of non-fish-bearing streams. Additionally, please include Indigenous Knowledge and Science on, at minimum, equal footing with Western Science. The Biden-Harris Administration has formally recognized Indigenous Knowledge, also referred to as IK or TEK, as one of many important bodies of knowledge that contributes to the scientific, social, and economic advancement of communities in the United States, and the federal government has provided related guidance for federal agencies for many years. As stated in the 2022 Guidance, "It reaffirms that Agencies should recognize and, as appropriate, apply Indigenous Knowledge in decision making, research, and policies across the Federal Government. This guidance is founded on the understanding that multiple lines of evidence or ways of knowing can lead to better-informed decision making, research and policies across the number of the state of the state of the science of the state of the science of the s

### Parks, Arts, Recreation, Culture, and Conservation (PARCC) Element

Rather than providing comments that reference individual sections of the PARCC element, we are introducing the Snoqualmie Tribe Ancestral Lands Movement (STALM) in our comments here. The City's Comprehensive Plan will benefit from the perspective of the STALM, which focuses on responsible recreation centered in mindfulness for the natural world. The City of Redmond is part of the Tribe's ancestral lands, and the Tribe has stewarded these lands since time immemorial. Humans are not separate from the natural environment; we are a part of it. We show this understanding through respect for our surroundings; both for those who came before us and those who



come after us. We have included some ways that the City should embrace the teachings of the STALM and incorporate the values of the Snoqualmie Tribe into the plan:

• Always consult with sovereign tribes in a meaningful way when developing recreation that impacts their ancestral lands within the City of Redmond.

Snoqualmie Tribe Executive Order 21-02 Training

• Invest in updating existing interpretive signage that includes Native erasure and always work with tribes in the development of new interpretive signage to make sure Native erasure does not occur.

Relevant Post: Native Erasure Breakdown

• Ensure residents are informed about the impacts that certain behaviors associated with recreation may have on our ancestral lands: stay on trails, do not contribute to illegal trails, report illegal trails when you see them, pick up your trash and other trash you find, keep your dogs on leashes and pick up their poop to name a few.

Relevant Post: Research Study on Impacts of Non-Motorized Recreation to Wildlife

• Develop trails in clusters rather than dispersed, whenever possible, to minimize impacts on wildlife and cultural resources.

Relevant Post: Snoqualmie Tribe Story Map Visualization of Human Recreation on Wildlife

- Invest in the decommissioning of illegal trails that impact cultural resources and wildlife, and present danger to the public and whenever possible, for the decommissioning of trails to be prioritized whenever new trails are developed.
- Always work with tribes to make sure that they have access to critical areas for harvesting and gathering. These spaces are shrinking dramatically over time.
- Use native plants whenever possible and embrace sustainable maintenance measures while limiting maintenance activities that contribute to air and noise pollution and disturb humans and wildlife.

### Participation, Implementation and Evaluation Element

The tribal consultation policy, as written in section PI-5 of the Participation, Implementation, and Evaluation Element, is insufficient to cover the responsibilities of the City of Redmond to consult with the Tribe. The Tribe will respond at a later date with a proposed tribal consultation policy that includes <u>FPIC</u> standards.



Thank you for the opportunity to comment on the City of Redmond's Comprehensive Plan. Please feel free to reach out with any questions, we would be happy to meet to discuss these ideas further.

Sincerely,

DocuSigned by:

Jame Mai 55ECFF68F5D44FA...

Jaime Martin Executive Director of Governmental Affairs & Special Projects Snoqualmie Tribe



Photo credit: John Bollwitt on Flickr

### **Culturally Modified Trees**

Culturally Modified Trees, or CMTs, are trees that were modified in some way by past or current Indigenous People. CMTs are cultural resources and are non-renewable. Early, meaningful, and proactive consultation with Tribes is essential for protecting this non-renewable resource. When planning for urban canopy cover policy, include CMTs in your process for surveying, protection, and tree removal. Collaborate with your cultural resource staff, tribal liaisons, and local tribes to determine where CMTs can be protected. Provide information to your staff who lead tree canopy policies about CMTs so they know what to do if a CMT is found. Staff training can begin by watching the WSP training, which was created in partnership with Oregon tribes (link below). This and other training materials can familiarize staff with what to look for with CMTs but does not replace consultation with tribes.

Example language for your jurisdiction to include in an urban tree canopy policy:

**Objective:** Protection of culturally modified trees (CMTs) on both public and private lands, in partnership and consultation with federally recognized tribes.

**Policy:** When planning for urban canopy cover, Include CMTs in enforceable process for surveying, protection, and tree removal.

**Policy:** Collaborate with cultural resources staff, tribal liaisons, and local tribes to determine where and how CMTs can best be protected.

**Policy:** Provide staff information and training so they can recognize CMTs, their importance, and what to do if a suspected CMT is found. Training does not replace or meet requirements for consultation with local tribes.

### **Resources:**

Culturally Modified Trees Training Video

Recreation and Conservation Office-Inadvertent Discovery Plan (Page 11)



#### State of Washington Department of Fish and Wildlife, Region 4 Region 4 information: 16018 Mill Creek Blvd, Mill Creek, WA 98012 | phone: (425)-775-1311

April 5, 2024

City of Redmond Cathy Beam, Principal Planner 425-556-2429 Cbeam@Redmond.gov

### **RE: Environmental Element and Critical Area Regulations Update**

Dear Ms. Beam and Long-Range Planning Team,

Thank you for the opportunity to offer additional comments regarding materials related to the natural environment during this Periodic Update cycle. The Washington Department of Fish and Wildlife (WDFW) is dedicated to preserving, protecting, and perpetuating the state's fish, wildlife, and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities. In recognition of our responsibilities, we submit the following comments:

### Fish and Wildlife Resources and Recommendations

We appreciate the inclusion of Riparian Management Zones (RMZs) as a type of Fish and Wildlife Habitat Conservation Area in your most recent Critical Area Regulations (CARs) draft. However, we do not recommend classifying streams based on fish use. We recommend aligning Redmond's draft policies and code language with WDFW's Best Available Science (BAS) (RCW 36.70A.172, WAC 365-195-910).

Both fish and non-fish-bearing streams benefit from full ecosystem function protections that RMZs provide. Detailed descriptions outlining these ecosystem functions can be found in WDFW's BAS document, *Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications (2020)*. A few of these functions include the ability for RMZs to support wildlife that rely on riparian areas for survival, support the movement of wildlife by functioning as wildlife corridors, provide nutrients as a source of food for downstream fish bearing portions of stream, and provide cool water refugia, exceedingly important as stream temperatures continue to rise.

The RMZ table (Table 21.64.020) in Redmond's most recent CARs draft falls short of our recommendations. In addition to stream typing based on the presence or potential for fish presence, this table also does not encompass our RMZ width BAS. Static buffers are used instead of the recommended Site Potential Tree Height at 200 Years (SPTH<sub>200</sub>) methodology.

WDFW BAS highlights the importance of site-specific characteristics in determining appropriate RMZ widths, dependent on the dominant tree species projected height at 200 years (approaching stand maturity) within that area's soil type. WDFW's BAS outlines the need for at least a 100-foot width RMZ to ensure the pollution removal function persists.

Redmond has the unique opportunity to play a pivotal role in the WRIA 8 Salmon Recovery Plan, as mentioned in Redmond's *Watershed Management Plan 2013*. Along with other calls to action, the Watershed Management Plan highlights the need to, "preserve sensitive areas such as vegetated buffers around streams and wetlands."

The Plan also acknowledges that surface waters have been adversely impacted by developmental practices in Redmond (page xiii). We recommend Redmond officials utilize BAS to mitigate past environmental degradation. Additionally, we recommend using WDFW's BAS to prepare policy and code for a future that ensures successful environmental persistence against further developmental pressures and climate change.

If you have any questions or concerns, please feel free to contact me at 425-537-1354 or at morgan.krueger@dfw.wa.gov.

Sincerely,

Morgan Krueger WDFW Region 4 Land Use Planner 16018 Mill Creek Blvd, Mill Creek, WA 98012

Cc:

Kara Whittaker, Land Use Conservation and Policy Section Manager (Kara.Whittaker@dfw.wa.gov)

Marian Berejikian, Environmental Planner (Marian.Berejikian@dfw.wa.gov)

Timothy Stapleton, Regional Habitat Program Manager (Timothy.Stapleton@dfw.wa.gov)

Stewart Reinbold, Assistant Regional Habitat Program Manager (Stewart.Reibold@dfw.wa.gov)

Bethnay Scoggins, Habitat Biologist (Bethany.Scoggins@dfw.wa.gov)

Glen Coil, Redmond Senior Planner (gcoil@redmond.gov)

Gloria Meerscheidt, Redmond Administrative Specialist (gmeerscheidt@redmond.gov)

June 02 2023

Cathy Beam Planning Department Redmond, Washington

Re: Property at 15301 NE. 108<sup>th</sup> Place Redmond, Wash.

The property owners are planning an addition to the east side of the house. I made a site visit to the property on May 3<sup>rd</sup> to find where an existing drainage pipe ends but could not find it. I walked all the way down the hill to the Stream type 2 but could not find a pipe. The south half of the path is steeper than the north half and the area was dry, no signs of water.

I believe the stream type 3 is mislabeled due to the area being steep where fish could not travel and that there is no signs of water and no signs that water has scoured out a path.

I had a meeting with Tom Hardy on May 31<sup>st</sup> and he agreed that the stream might be a type 4 " intermittent"or not even a stream at all.

Please take a look at this issue so the setback can be determined.

William Page William Page Architects

# The Seattle Times

#### **AFFIDAVIT OF PUBLICATION**

Alla Glagoleva City of Redmond PO Box 97010 Redmond WA 98073

STATE OF WASHINGTON, COUNTIES OF KING AND SNOHOMISH

The undersigned, on oath states that he/she is an authorized representative of The Seattle Times Company, publisher of The Seattle Times of general circulation published daily in King and Snohomish Counties, State of Washington. The Seattle Times has been approved as a legal newspaper by orders of the Superior Court of King and Snohomish Counties.

The notice, in the exact form annexed, was published in the regular and entire issue of said paper or papers and distributed to its subscribers during all of the said period.

03/20/2024

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CITY OF REDMOND ACCOUNTS PAYABLE	
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Agent MAURKEN DUGGAN Signature Man 03/21/2024

Subscribed and sworn to before me on

Dillie Callat Debbie Collantes

(Notary Signature) Notary Public in and for the State of Washington, residing at Seattle

**Publication Cost:** \$192.50 75127 Order No: Customer No: 210 PO #:

DEBBIE COLLANTES Notary Public State of Washington Commission # 197558 My Comm. Expires Feb 15, 2026 

#### NOTICE OF PUBLIC HEARING CITY OF REDMOND

Redmond Comprehensive Plan and Zoning Code Amendment: Natural Environment Element and Critical Areas Regulations (LAND-2023-00179/180; SEPA-2020-00934)

The City of Redmond Planning Commission will hold a Public Hearing at Redmond City Hall Council Chambers, 15670 NE 85th Street, Redmond, Washington on April 10, 2024 at 7 p.m. or as soon thereafter, on:

**SUBJECT:** Comprehensive Plan Amendment for the Natural Environment Element: repealing and replacing the Element as part of the Redmond 2050 Comprehensive Plan Periodic Review. Zoning Code Text Amendment: periodic update of RZC 21.64, Critical Areas Regulations; revisions to relevant definitions in RZC 21.78, Definitions. Limited Shoreline Master Program Amendment: revisions to RZC 21.68, Shoreline Master Program.

**REQUESTED ACTION:** Planning Commission recommendation on the proposed amendment to the Redmond Comprehensive Plan and Zoning Code.

**PUBLIC PARTICIPATION:** Join inperson at City Hall, watch live at redmond.gov/RCTV, Comcast channel 21, Ziply channel 34, on facebook.com/CityofRedmond, or listen live by phone by calling 510-335-7371.

Public comment can be provided inperson, or by phone during the meeting by providing a name and phone number to PlanningCommission@redmond.gov no later than 5 p.m. on the day of the hearing.

Written public comments should be submitted prior to the hearing by email to PlanningCommission@redmond.gov no later than 5 p.m. on the hearing date. Comments may also be sent by mail to: Planning Commission, MS: 4SPL, P.O. Box 97010, Redmond, Washington, 98073-9710.

A copy of the proposal is available at https://www.redmond.gov/1840/Natural-Environment and

https://www.redmond.gov/2000/Critical-Areas-Regulations. If you have any comments, questions, or would like to be a Party-of-Record on this proposal, please contact Cathy Beam, Principal Planner, 425-556-2429, cbeam@redmond. gov or Glenn Coil, Senior Planner, 425-556-2742, gcoil@redmond.gov.

If you are hearing or visually impaired, please notify Planning Department staff at 425-556-2441 one week in advance of the hearing to arrange for assistance.

LEGAL NOTICE: March 20 2024

Publication Cost:	\$192.50
Order No:	75127
Customer No:	210
PO #:	

Attachment D



### **REDMOND PLANNING COMMISSION**

Susan Weston, Chair | Jeannine Woodyear, Vice-Chair Adam Coleman | Bryan Copley | Denice Gagner Tara Van Niman | Aparna Varadharajan

### **MEETING MINUTES**

### REDMOND PLANNING COMMISSION MEETING Wednesday, April 10, 2024 – 7:00 p.m.

### 1. Call to Order & Roll Call – 7:01 p.m.

Commissioners Present:	Vice-Chair Susan Weston, Commissioners Adam Coleman, Bryan Copley. Denice Gagner, Tara Van Niman, and Jeannine Woodyear
Commissioners Excused:	Commissioner Aparna (Excused)
Staff Present:	Lauren Anderson, Cathy Beam, Odra Cardenas, Glenn Coil, Beckye Frey, Tom Hardy, Tim McHarg,  and Chris Wyatt
Recording Secretary:	Carolyn Garza, LLC

### 2. Approval of the Agenda

Motion to approve the Agenda by Commissioner Woodyear, seconded by Commissioner Van Niman. The Motion passed.

### 3. Approval of Planning Commission Meeting Minutes and Summaries

There were no Minutes to approve on the Agenda.

### 4. Election of Officers

Commissioner Woodyear nominated Vice-Chair Weston for Chairperson. The nomination passed.

Chair Weston nominated Commissioner Woodyear for Vice-Chairperson. The nomination passed.

### 5. Items from the Audience (General)

Bob Yoder, Redmond, 98052, stated that a market in a neighborhood mentioned in a previous meeting was a great idea, and suggested a food truck or café could also

stimulate business and create new jobs as well as a gathering place near a transit center. Parking requirements for Accessory Dwelling Units (ADU) are a concern. Buildings should blend with the rest of the neighborhood.

### 6. Redmond 2050 - Natural Environment Element and Critical Areas Regulations Update (Public Hearing & Study Session):

Principal Planner Beam and Senior Planner Coil presented the topic.

There were no questions from the Commissioners.

### Public Hearing

- Bob Yoder, Redmond, 98052, stated having sent a letter to staff regarding Fish & Wildlife Habitat conservation areas. Good riparian is necessary. The word shall should be replaced with a stronger sentiment. There has been a positive net gain of type S streams. Evans Creek needs to build riparian for the salmon. Yoder asked if Nelson Village will affect riparian along the Sammamish River.
- > David Morton, Redmond, 98053, stated that the draft policies have several strengths. First, they cover a wide range of environmental issues. Second, there is an emphasis on promoting sustainable practices. Third, policies prioritize and incorporate best available science. Fourth, policies emphasize community engagement and education. Room for improvement includes first, some policies being more articulated or consolidated. Second, more specific mechanisms for enforcement and accountability. Third, integration of natural environment policies with other city plans to ensure coherence. Fourth, to establish clear monitoring and evaluation mechanisms. Specific recommendations are to strengthen collaboration with neighboring areas and stakeholders to address regional environmental challenges, integrate climate resilience considerations, promote the incorporation of green infrastructure practices, and to incorporate public health considerations such as access to green spaces. The policies and regulations demonstrate a comprehensive approach to environmental stewardship. Further suggestions were for more examples of high-risk land use in Critical Aquifer Recharge Areas (CARA), consolidating related sections, eliminating redundant points, enhancing accessibility with a summary, clarifying implementation with examples, addressing the needs of stakeholders, ensuring regular updates, exploring incentives for developers, raising awareness, developing monitoring mechanisms, and integrating provisions for climate change impacts.

Chair Weston closed the verbal portion of the Public Hearing but written testimony would remain open.

Senior Planner Coil stated that there were two outstanding issues from the previous meeting, the first being 4B by Commissioner Aparna. The issue was addressed to make intent clear. Chair Weston stated that Commissioner Aparna could close the issue when present.

The second outstanding issue by Commissioner Van Niman was addressed and Commissioner Van Niman stated that the issue could be closed.

Vice-Chair Woodyear asked for clarification regarding the language *avoid* vs. *prohibit* in NE-17 and NE-18. Principal Planner Beam replied that the term avoid is commonly used, but another word choice can be made. Vice-Chair Woodyear asked that the word be clarified and Chair Weston agreed.

Commissioner Coleman asked for clarification regarding alignment with regional policies. Senior Planner Coil replied that there is a table in the Technical Committee report that shows regional policies related to city policies. Principal Planner Beam replied county-wide policies.

Chair Weston asked for clarification regarding Table 21.64.020 and stream relabeling. Principal Planner Beam explained the process and reasoning and stated that a stream map could be included in packets. Commissioner Copley asked to see the stream map, possibly digitally overlayed onto other maps, and Principal Planner Beam replied that the map is overlaid on the aerial.

# 7. Redmond 2050: SEPA Regulatory Amendments and Overlake Neighborhood Plan Addendum (Public Hearing and Study Session):

Principal Planner Frey gave the presentation.

There were no questions from the Commissioners.

### Public Hearing

Devon Kellogg, Education Hill, stated support for affordable housing and job development within existing neighborhoods and near transit hubs, but not at the expense of health, safety, or environmental sustainability goals. Concerns to consider as permit applications are evaluated are tree canopy protection, run-off as non-permeable surfaces are added, and air quality, climate, and safety considerations from fossil fuel infrastructure buildout in a seismically active area. Kellogg asked if there is a formal process to evaluate and ensure intended results.

Chair Weston closed the verbal portion of the Public Hearing but written testimony would remain open.

Principal Planner Frey stated that the only issue on the Issues Matrix was an amendment to allow neighborhood mixed-use. There were no further questions or comments from the Commissioners.

Chair Weston asked if the Commissioners were ready for a report to be created and Commissioners agreed. The report will be brought back to the first meeting in May. Principal Planner Frey stated that **Devon Kellogg** would be contacted regarding questions during the Public Hearing.

Chair Weston closed the entire Public Hearing.

## 8. Redmond 2050: Phase 2B Elements Final Drafts - Capital Facilities, Utilities, and Participation, Implementation, and Evaluation (Public Hearing and Study Session):

Senior Planner Coil and Senior Planner Cardenas gave the presentation.

Commissioner Copley asked for clarification regarding a possible Capital Facilities funding shortfall. Senior Planner Coil replied that in example, a major recession or the pandemic, a long-term shortfall on the city budget.

Commissioner Copley asked if future investments in renewable energy would fall under Capital Facilities and Senior Planner Coil replied that utilities relate to relationships with agencies as opposed to improvements that help climate planning goals.

### Public Hearing

- David Morton, Redmond, 98053, asked why natural gas facilities will still exist in Redmond if Redmond will phase out natural gas by 2050, a lack of clarity in the proposed Utilities element. The Vision statement sets a goal of transitioning to 100% renewable energy while policy UT-60 suggests that existing natural gas facilities should be maintained and improved for safety and efficiency. Transition time and back-up for energy needs may need to be considered. Clarification is needed to accurately reflect city goals and strategies.
- Devon Kellogg, Education Hill, stated that policy language moving away from gas in UT-60 is a good start. Language should be strengthened to include that fuel-based consumption equipment in homes and buildings will transition to electric, and to include specific timelines and targets in line with local and state-wide goals. Whole home electrification will be necessary in 95% of existing buildings in 2050 to achieve the state greenhouse reduction goals according to the state 2023 Residential Building Decarbonization Plan. UT-69 should be expanded to include assessments and planning for toxic combustible gases and seismic risks. Written testimony has been submitted.

Chair Weston closed the verbal portion of the Public Hearing but written testimony would remain open.

Senior Planner Coil stated that the first outstanding issue by Commissioner Aparna was regarding level of service standards. Clarity has been added. Chair Weston stated that the issue could be closed by Commissioner Aparna when present.

Senior Planner Coil stated that the next issue was regarding UT-24 from Commissioner Aparna. Staff made a change to address the comment. The issue would remain open until Commissioner Aparna is present to close.

Senior Planner Cardenas stated that an issue remained from Commissioner Aparna regarding the Participation, Implementation, and Evaluation chapter, adding clarification. The issue would remain open until Commissioner Aparna is present to close.

Commissioner Coleman asked for clarification regarding the estimation of growth for the use of electricity. Senior Planner Coil replied that the job of the city is to accommodate a certain amount of population and job growth through land use policies and zoning code. Utilities are provided by a private company regulated by the state and Federal government. Principal Planner Frey explained Growth Management Act sequencing. Commissioner Coleman asked for further clarification regarding consumption and delivery. Senior Planner Coil replied that the question is beyond the scope of staff but that there are formulas for future demand and many

variables. Commissioner Coleman asked if there is flexibility if future demand is not accurately predicted and Principal Planner McHarg replied that utilities are heavily regulated industries required to develop a demand forecast plan to meet future demand, brought before the state Utilities and Transportation Commission, the exception to involvement on a city level being cities such as Seattle that own the electrical utility. Principal Planner Frey replied that data has been broken down for the preferred alternative.

Commissioner Coleman asked for clarification regarding *mutually beneficial* and *abandoned* in UT-61. Principal Planner McHarg replied that aesthetics and reliability during inclement weather are considerations when rebuilding from above-ground. Senior Planner Coil replied that UT-61 is related to telecommunications moving underground. Commissioner Coleman stated that the statement should be made clear. Chair Weston stated that a change can be made that eliminated casual reading confusion while keeping the technical language in place.

Senior Planner Coil stated that a recommendation on all three chapters will be requested in two weeks.

# 9. Redmond 2050: Residential Regulations (Study Session and Possible Recommendation):

Senior Planner Cardenas gave the presentation.

Senior Planner Cardenas stated that development capacity into irregular lots and parking was the first issue. Chair Weston stated that while emergency access and site constraints have been addressed, parking is still of concern. Family neighborhoods are not pedestrian friendly and require a car to reach, in example, a grocery store or school; each unit should have one parking spot although streets were not built with additional parking in mind. Senior Planner Cardenas replied that parking has already been recommended by the Planning Commission in the Transportation Package, no longer in front of the Planning Commission. Chair Weston stated that in developments with kite-shaped lots, signing off on zero parking spots ahead of time is not reasonable; parking made sense in previous versions of subdividing and more density is being added now, and parking needs to keep up until there are more options for moving around the city. Commissioner Coleman asked if there should be a time limit placed for reassessment. Chair Weston agreed but replied that a time limit would not be in zoning code. Principal Planner McHarg replied that the regulations are anticipated to be revisited in three to four years to check progress at a staff level; part of a Commission recommendation could be that middle housing regulations be assessed after no later than five years. Principal Planner McHarg replied that if parking spaces are required, either the amount of middle housing produced will be reduced and/or each individual unit of middle housing will become more expensive; the bill was enacted by the legislature because cities were not examining where barriers to creating middle housing were occurring. Principal Planner McHarg stated a belief that the market will produce parking spaces. Principal Planner Frey stated that a path forward is to recommend reevaluation after five years. Commissioner Gagner asked for clarification from Principal Planner McHarg regarding how the market would produce parking spaces. Principal Planner McHarg replied that most residential projects build parking even if parking is not required, primarily for marketability. Chair Weston stated that pedestrian and bicycle safety needs to be preserved. Principal Planner McHarg stated that Redmond roads are designed for

automobiles and not pedestrians and that a residential parking program may need to be considered in five years to address issues. Senior Planner Coil suggested a study to determine what increased costs per unit of housing would be if middle housing is required to provide parking. Chair Weston replied that because state law is to be implemented there is a time constraint. Senior Planner Coil stated that additional costs may pass to renters or owners. Principal Planner Frey stated that parking regulations are at Council for approval for this cycle, not in the package in front of the Planning Commission at this time, but that a recommendation for reevaluation in the future can be made to move the issue forward. Chair Weston asked for clarification and Principal Planner Frey replied that parking regulations are in the Transportation package that the Commission has already recommended to Council; that piece has moved passed the Planning Commission, and what is being voted on now is the recommendation for the residential zone and not parking which is a different section of code. Chair Weston asked for clarification that there is no parking in the residential zoning code, and Principal Planner replied no, parking is now in the Parking code. Chair Weston agreed that a recommendation should be made to reevaluate and asked if garages should be included in square footage. Principal Planner Frey replied that the guestion could be placed on the Issues Matrix. Principal Planner McHarg replied that there is no requirement for parking in a garage, can be a surface space, and square footage is a mass and scale issue. Chair Weston stated that the issue could be closed but parking should become a new item on the Matrix.

Commissioner Coleman asked if there is a regulation regarding below ground depth. Principal Planner McHarg replied that the economics are not favorable at this time and that a regulation would be a Building code or engineering issue; a potential problem would be egress issues to evacuate during a fire. Principal Planner Frey stated that in the CARA a code update is minimizing and eliminating opportunities to dewater for construction purposes.

Senior Planner Cardenas stated that the next item was number 12, size limit, which had been closed but reopened at the last meeting. Commissioner Gagner asked to see a slide in the presentation and Senior Planner Cardenas clarified that the chart on the slide has been updated since the last meeting. Commissioner Gagner asked if there is a percentage of houses and dwellings and how middle housing is incentivized. Senior Planner Cardenas replied that the slide describes only one of many tools. Principal Planner McHarg stated that there are six to eight single family residential zones being consolidated into a single neighborhood residential zone for single family and middle housing and explained lot coverage percentages. Commissioner Coleman asked for clarification regarding the rationale for 4,500 versus 4,000 square feet. Principal Planner McHarg replied that different types of household structures are considered and more options will be available depending on the needs of the household. Senior Planner Cardenas replied that a 4,500 limit is high. Chair Weston stated liking a metric combination of setback, height, lot coverage and Floor Area Ratio (FAR) as language is easier to understand and less controversial than a number. Commissioner Copley stated agreement with Chair Weston. Vice-Chair Woodyear stated not understanding how 4,500 square feet equates to middle housing. Commissioner Van Niman replied that the goal is to incentivize other options and more dwelling units provided on the same amount of property. Principal Planner McHarg replied that the number is arbitrary but there needs to be a cap to prevent structures much larger and out of scale with the neighborhood. Vice-Chair Woodyear asked for
Redmond Planning Commission Meeting Minutes April 10, 2024

clarification regarding lot size and Principal Planner McHarg replied that lots can be any size allowed in the zone. Senior Planner Cardenas stated that state law now requires that eight units be allowed per lot and FAR is not being used for neighborhood residential regulations. Chair Weston asked for clarification and Principal Planner McHarg replied that FAR is not used currently in single-family residential districts and should not be introduced as part of the amendment to implement middle housing; the same set of dimensional standards currently used are height, setbacks, lot coverage and impervious surface. Chair Weston asked that more details be added to the table and Principal Planner McHarg replied that the particular standard was presented for purposes of discussion; the actual code will include all dimensional standards discussed, a package. Commissioner Van Niman stated that one comprehensive table would be useful and Vice-Chair Woodyear stated agreement. Chair Weston suggested that the table slide be updated with the number in a broader context. Principal Planner McHarg stated that the reason the full set of information is not being presented at this meeting is that the Commission had flagged the square footage issue for more detailed discussion at this meeting. The Commission has been encouraged to have a discussion to arrive at a number and that while the staff proposal is 4,500, a discussion to change is in the purview of the Commission. Commissioner Coleman stated that percentages are a signal.

Commissioner Copley stated that the work by staff is very good and streamlining is exceptional. Principal Planner McHarg stated that the permitting system will be examined to allow middle housing development to cleanly occur.

Senior Planner Coil stated that in process issues, the Chair calls on Commissioners to speak during the meeting, and that a vote would need to occur if the meeting is to exceed three hours.

Commissioner Gagner asked if there must be a square footage maximum, and Principal Planner McHarg replied no. Commissioner Gagner stated that any maximum carries judgement.

Principal Planner Frey stated that staff needs items to come back identified as well as items that do not. Chair Weston asked Commissioners if allowing bonus square footage underground should return on the Matrix and the Commissioners indicated no. Chair Weston asked Commissioners if garages counting toward maximum square footage should return on the Matrix. Commissioner Van Niman replied that the rule is confusing. Chair Weston stated that because King County and realtors do not include garages, Redmond should remain consistent. Commissioner Coleman asked for clarification regarding a garage converted to living space and Principal Planner McHarg replied that other permitting would apply and that zoning code is not a real estate listing. When regulating the size of structures, a garage is a part of the structure, mass and volume seen above ground. Chair Weston asked that garages be added to the Matrix.

#### 10. Staff & Commissioner Updates

Redmond Planning Commission Meeting Minutes April 10, 2024

Senior Planner Coil stated that next week is the Annual Retreat at City Hall in the Council Chamber, open to the public. The Public Works Director and Economic Development Manager will be present. The next regular meeting will be April 24, 2024.

Principal Planner Frey stated that the zoning district consolidation website page now covers changes.

#### 11. Adjourn

Motion to adjourn at 9:52 p.m. by Commissioner Van Niman. Motion seconded by Vice-Chair Woodyear. The Motion passed.

Minutes approved on:

Planning Commission Chair

5/15/2024





#### TECHNICAL COMMITTEE REPORT AND RECOMMENDATION TO THE PLANNING COMMISSION

March 6, 2024

Project File Number:	LAND-2023-00179/180; SEPA-2020-00934	
Proposal Name:	Redmond 2050 Comprehensive Plan Amendment - Natural Environment Elemen Regulations	and Zoning Code at and Critical Areas
Applicant:	City of Redmond	
Staff Contacts:	Cathy Beam, AICP, Principal Planner	425-556-2429
	Lauren Anderson, Senior Planner	425-556-2401
	Glenn B. Coil, Senior Planner	425-556-2742

#### **TECHNICAL COMMITTEE COMPLIANCE REVIEW AND RECOMMENDATION**

Technical Committee shall make a recommendation to the Planning Commission for all Type VI reviews (RZC 21.76.060.E). The Technical Committee's recommendation shall be based on the decision criteria set forth in the Redmond Zoning Code. Review Criteria:

- A. RZC 21.76.070.B Criteria Applicable to All Land Use Permits
- B. RZC 21.76.070.J Comprehensive Plan Map and/or Policy Amendment
- C. RZC 21.76.070.AE Zoning Code Amendment -Text

#### **REDMOND COMPREHENSIVE PLAN AMENDMENT SUMMARY**

Updates to the Natural Environment Element are being made as part of Redmond 2050, the periodic update of the Redmond Comprehensive Plan. Policies are revised to ensure compliance with the Growth Management Act and consistency with the Redmond 2050 themes of equity & inclusion, sustainability, and resiliency. Additionally, policies have been consolidated and streamlined to provide clarity and incorporate Best Available Science.

Major updates include:

- The six existing framework policies have been revised into three framework policies to support different components of the Natural Environment Element: FW-NE-1 for Section A, FW-NE-2 for Section B, and FW-NE-3 to support "quality of life" policies in sections C F.
- Updates to Section B, Environmentally Critical Areas, were reviewed and updated as part of the *Critical Areas Regulations* zoning code amendment process.

The are currently 105 *Environmentally Critical Areas* policies. Revisions and consolidation decreased the number of policies to 70.

Policies are grouped into the following categories:

- o General Critical Areas
- o Geologically Hazardous Areas
- o Critical Aquifer Recharge Areas
- o Frequently Flooded Areas
- o Wetlands
- o Water Quality and Basin Planning
- o Fish and Wildlife Habitat
- Section C consolidation of tree canopy policies and better alignment with the Tree Canopy Strategic Plan.
- Section D. Climate Change policies are being moved and revised into the new Climate Resilience and Sustainability element.

<b>RZC 21.76.070.J COMPREHENSIVE PLAN AMENDMENT CRITERIA</b> (Full staff analysis attached as Attachment A)		
1	Consistency with the Growth Management Act (GMA), the State of Washington Department of Commerce Procedural Criteria, and the King County Countywide Planning Policies (CPPs);	MEETS
2	Consistency with the Comprehensive Plan policies and the designation criteria;	MEETS
3	If the purpose of the amendment is to change the allowed use in an area, the need for the land uses that would be allowed by the Comprehensive Plan amendment and whether the amendment would result in the loss of the capacity to meet other needed land uses, especially whether the proposed amendment complies with the policy on no net loss of housing capacity;	N/A
4	Consistency with the preferred growth and development pattern of the Land Use Element of the Comprehensive Plan;	MEETS
5	The capability of the land, including the prevalence of critical areas;	MEETS
6	The capacity of public facilities and whether public facilities and services can be provided cost-effectively at the intensity allowed by the designation;	N/A
7	<ul> <li>The proposed amendment addresses significantly changed conditions. In making this determination the following shall be considered: <ol> <li>Unanticipated consequences of an adopted policy, or</li> <li>Changed conditions on the subject property or its surrounding area, or,</li> <li>Changes related to the pertinent plan map or text; and</li> <li>Where such change of conditions creates conflicts in the Comprehensive Plan of a magnitude that would need to be addressed for the Comprehensive Plan to function as an integrated whole.</li> </ol> </li> </ul>	MEETS



#### **REDMOND ZONING CODE TEXT AMENDMENT SUMMARY**

This proposal is a periodic update of RZC 21.64, *Critical Areas Regulations*, as well as revisions to relevant definitions in RZC 21.78, *Definitions*. It includes revisions to RZC 21.68, *Shoreline Master Program*, and requires a Limited Shoreline Master Program Amendment since the Critical Areas Regulations are incorporated by reference into the City's Shoreline Master Program and to ensure consistency.

Key changes include:

- Modification of the current stream classification system to be more aligned with the State Department of Natural Resources' stream typing system.
- Increasing minimum buffers for landslide hazard areas from 15 feet to 25 feet.
- Implementing 15-foot building setbacks from critical areas buffers.
- Updating the Critical Areas Map Portfolio.

The Update ensures compliance with the Growth Management Act and Shoreline Management Act. It provides consistency with state agency guidance documents as supported through Best Available Science. Revisions are included for code clarity and reflect new information.

RZC 21.76.070.AE - TEXT AMENDMENT CRITERIA	MEETS/ DOES NOT MEET
All amendments to the RZC processed under this section shall be in conformance with the Comprehensive Plan.	MEETS

#### **CRITERIA APPLICABLE TO ALL LAND USE PERMITS**

<b>RZC 21.76.70.B.3.a.i - CRITERIAL APPLICABLE TO ALL LAND USE PERMITS</b> A proposed project's consistency with the City's development regulations shall be determined by consideration of:		MEETS/ DOES NOT MEET
А	The type of land use	MEETS
В	The level of development, such as units per acre or other measures of density;	MEETS
С	Availability of infrastructure, including public facilities and services needed to serve the development; and	MEETS
D	The character of the development, such as development standards.	MEETS



#### **STATE ENVIRONMENTAL POLICY ACT (SEPA)**

The lead agency for this proposal has determined that the periodic update to the Redmond Comprehensive Plan, known as Redmond 2050, is likely to have a significant adverse impact on the environment. An environmental impact statement (EIS) is required under RCW 43.21C.030 (2)(c). An EIS scoping period was held from October 12 to November 25, 2020. A draft EIS (DEIS) was issued June 16, 2022 and a comment period for the draft EIS was open through August 26, 2022. A supplemental draft EIS (SDEIS) was published on September 20, 2023. The final EIS (FEIS) was issued on December 15, 2023. Additional information can be found at redmond.gov/1477/SEPA-Scoping.

#### **STAFF RECOMMENDATION**

Based on the compliance review of the decision criteria set forth in

- A. RZC 21.76.070.B Criteria Applicable to All Land Use Permits
- B. RZC 21.76.070.J Comprehensive Plan Map and/or Policy Amendment
- C. RZC 21.76.070.AE Zoning Code Amendment -Text

Staff recommends **approval** of the proposed amendments. Staff compliance review and analysis is provided in Attachment A.

#### TECHNICAL COMMITTEE RECOMMENDATION

The Technical Committee has reviewed the proposed amendments identified in Attachments B, C, D, and E and finds the amendments to be **consistent** with review criteria identified below:

- A. RZC 21.76.070.B Criteria Applicable to All Land Use Permits
- B. RZC 21.76.070.J Comprehensive Plan Map and/or Policy Amendment
- C. RZC 21.76.070.AE Zoning Code Amendment -Text



#### **REVIEWED AND APPROVED BY**

Care V Helland

Carol V. Helland, Planning and Community Development Director

Cearo 2-+

Aaron Bert, Public Works Director

Attachments

- A. Staff Compliance Review and Analysis
- B. Proposed Amendments to the Natural Environment Element of the Redmond Comprehensive Plan
- C. Proposed Critical Areas Regulations Update Zoning Code Amendments (RZC 21.64, Critical Areas, RZC 21.68, Shoreline Master Program, and RZC 21.78 Definitions)
- D. Updated Critical Areas Map Portfolio: Streams, Wetlands, Frequently Flooded Areas, Critical Aquifer Recharge Areas, Critical Aquifer Recharge Areas Full Extent, Critical Aquifer Recharge Areas Time of Travel, and Critical Aquifer Recharge Areas Time of Travel Full Extent





#### ATTACHMENT A - STAFF COMPLIANCE REVIEW AND ANALYSIS: NATURAL ENVIRONMENT ELEMENT and CRITICAL AREAS REGULATIONS UPDATE LAND-2023-00179/180; SEPA-2020-00934

#### Comprehensive Plan Amendment Criteria (RZC 21.76.070.J)

CRITERIA

1

**ANALYSIS** 

The Natural Environment Element policies, including the Environmentally Critical Areas policies, are consistent with the GMA and King County Countywide Planning Policies. These requirements are addressed as shown in the tables below.

GMA Requirement	Where Requirement is Met
Natural Environment elements are not one of the mandatory Comprehensive Plan requirements under RCW 36.70A.070.	Redmond has had a Natural Environment Element since GMA adoption.
A Comprehensive Plan may include additional optional elements under RCW 36.70A.080 and WAC 365-196-445.	Redmond has had a Natural Environment Element since GMA adoption.
Implementing critical areas regulations and their relationship to the comprehensive plans are guided by WAC 365-196-485.	Critical Areas Regulations are being updated with this amendment and incorporate best available science.
Protection of critical areas is established in WAC 365-196-830.	Critical Areas Regulations includes all critical areas identified in this WAC provision. The regulations require their functions and values be evaluated and include regulatory measures.

CPP Environment Policy Requirement ( <i>Earth and Habitat, Flood Hazard,</i> and <i>Water Resources</i> subsections)	Redmond 2050 Natural Environment Element Policy Number(s)
EN-6 Locate development and supportive	NE-1, NE-5, NE-10,
infrastructure in a manner that minimizes	NE-11
impacts to natural features. Promote the	

Consistency with the Growth Management Act (GMA), the State of Washington Department of Commerce Procedural Criteria, and the King County Countywide Planning Policies (CPPs);

CRITERIA	ANALYSIS	
	use of traditional and innovative environmentally sensitive development practices, including design, material, construction, and ongoing maintenance.	
	EN-7 Coordinate approaches and standards for defining and protecting critical areas especially where such areas and impacts to them cross jurisdictional boundaries.	NE-23
	EN-8 Use the best available science when establishing and implementing environmental standards.	NE-14, NE-15
	NE-9 Develop and implement an integrated and comprehensive approach to managing fish and wildlife habitat to accelerate ecosystem recovery, focusing on enhancing the habitat of salmonids, orca, and other threatened and	NE-50, NE-51, NE-53, NE-56, NE-68, NE-69, NE-74, NE-77, NE-78
	endangered species and species of local importance. EN-10 Ensure that new development, open space protection efforts, and mitigation	NE-50, NE-51, NE-52, NF-53 NF-54 NF-55
	projects support the State's streamflow restoration law. Promote robust, healthy, and sustainable salmon populations and other ecosystem functions working closely within Water Resource Inventory Areas and utilizing adopted watershed plans.	NE-56
	EN-11 Enhance the urban tree canopy to provide wildlife habitat, support community resilience, mitigate urban heat, manage stormwater, conserve energy, protect and improve mental and physical health, and strengthen economic prosperity. Prioritize places where Black, Indigenous, and other People of Color communities; low-income populations; and	Section C. – policies NE-84 - NE-93
	EN-12 Coordinate and fund holistic flood hazard management efforts through the	NE-40
	EN-13 Work cooperatively to meet regulatory standards for floodplain development as these standards are	NE-35, NE-36, NE-37, NE-38, NE-39, NE-41, NE-42



CRITERIA	ANALYSIS	
	updated for consistency with relevant	
	federal requirements including those	
	related to the Endangered Species Act.	
	EN-14 Cooperate with federal, state, and	
	regional agencies and forums to develop	
	and implement regional levee	
	maintenance standards that ensure public	
	safety and protected habitat.	
	EN-15 Encourage basin-wide approaches	NE-46, NE-47
	to wetland protection, emphasizing	
	preservation and enhancement of the	
	highest quality wetlands and wetland	
	systems.	
	EN-16 Collaborate with the Puget Sound	NE-51, NE-53
	Partnership to implement the Puget Sound	
	Action Agenda and to coordinate land use	
	and transportation plans and actions for	
	the benefit of Puget Sound and its	
	watersheds.	
	EN-1/ Manage natural drainage systems to	NE-46, NE-51, NE-72,
	improve water quality and habitat	NE-54, NE-76
	functions, minimize erosion and	
	sedimentation, protect public nealth,	
	stormustor runoff rotos. Work	
	sconaratively among local regional state	
	national and tribal jurisdictions to	
	establish monitor and enforce consistent	
	standards for managing streams and	
	wetlands throughout drainage basins	
	EN-18 Support and incentivize	EW/_NE_1_NE_3_NE_/
	environmental stewardship on private and	NF_8 NF_12
	nublic lands to protect and enhance	NE 0, NE 12
	habitat water quality and other	
	ecosystem services, including the	
	protection of watersheds and wellhead	
	areas that are sources of the region's	
	drinking water supplies.	
	EN-19 Establish a multijurisdictional	NE-53, NE-76
	approach for funding and monitoring	
	water quality, quantity, biological	
	conditions, and outcome measures and for	
	improving the efficiency and effectiveness	
	of monitoring efforts.	



CR	ITERIA	ANALYSIS
2	Consistency with the Comprehensive Plan policies and the designation criteria;	This update incorporates the Redmond 2050 themes and goals.
3	If the purpose of the amendment is to change the allowed use in an area, the need for the land uses that would be allowed by the Comprehensive Plan amendment and whether the amendment would result in the loss of the capacity to meet other needed land uses, especially whether the proposed amendment complies with the policy on no net loss of housing capacity;	There are no proposed changes to allowed land uses from these policy updates.
4	Consistency with the preferred growth and development pattern of the Land Use Element of the Comprehensive Plan;	These amendments take into consideration the City's growth targets for the year 2050. The policies have been consolidated and streamlined to provide clarity and incorporate Best Available science.
5	The capability of the land, including the prevalence of critical areas;	The updated policies support the carrying capacity of lands throughout the City. They have been consolidated and streamlines to provide clarity and incorporate Best Available Science.
6	The capacity of public facilities and whether public facilities and services can be provided cost-effectively at the intensity allowed by the designation;	There are no proposed changes that would modify density or impact the capacity of public facilities and services that differ from current policies.
7	The proposed amendment addresses significantly changed conditions. In making this determination the following shall be considered: i. Unanticipated consequences of an adopted policy, or	These amendments take into consideration the City's growth targets for the year 2050, and subsequent needs for land use designations and capital facilities to accommodate that growth. The policies have been consolidated and streamlined to provide clarity and incorporate Best Available Science. The implementing regulations function as an overlay to the underlying land use and zoning.



CRITERIA	ANALYSIS
<ul> <li>ii. Changed conditions on the subject property or its surrounding area, or,</li> <li>iii. Changes related to the pertinent plan map or text; and</li> <li>iv. Where such change of conditions creates conflicts in the Comprehensive Plan of a magnitude that would need to be addressed for the Comprehensive Plan to function as an integrated whole.</li> </ul>	

#### Redmond Zoning Code Text Amendment Criteria (RZC 21.76.070.AE)

#### **CRITERION**

All amendments to the RZC processed under this section shall be in conformance with the Comprehensive Plan.

#### **ANALYSIS**

These amendments to the Redmond Zoning Code (RZC) implement the proposed updated Natural Environment Element.

#### **Criteria Applicable to All Land Use Permits**

#### **CRITERIA**

A proposed project's consistency with the City's development regulations shall be determined by consideration of:

**ANALYSIS** 

A The type of land use

Regulatory updates are consistent with Redmond 2050 policy updates. The updated regulations provide the regulatory framework to address critical areas during land development.



CR A p cor dev be cor	ITERIA proposed project's asistency with the City's velopment regulations shall determined by asideration of:	ANALYSIS
В	The level of development, such as units per acre or other measures of density;	Critical areas regulations currently exist. The updates to the regulations and policies do not additionally impact levels of development.
С	Availability of infrastructure, including public facilities and services needed to serve the development; and	These updates do not impact the availability of infrastructure. This is being evaluated through Redmond 2050 to accommodate growth through 2050.
D	The character of the development, such as development standards.	The proposed regulations include a requirement for a building setback from critical areas buffers. This will allow for useable yard areas outside of critical areas and their buffers.



## **Attachment B**

# **Natural Environment Element**

## Vision Statement

Redmond in 2050 has maintained and enhanced its natural environment as it has developed into a more urban community. The City has protected and stewarded its critical habitats and ensures, through strategic programing and projects, that community members have walkable access to urban green and blue spaces that improve quality of

life.

The city is framed within a beautiful natural setting, with parks, natural areas, and an abundance of trees continuing to define Redmond's physical appearance, including forested hillsides that flank the Sammamish Valley, Lake Sammamish, and Bear Creek.

A system of interconnected green spaces and urban forests provides habitat for a variety of wildlife. The community prides itself on its environmental stewardship, including an emphasis on sustainable land use and development patterns, landscaping that requires little watering, and other techniques to protect and conserve the natural environment, while flourishing as a successful urban community. People continue to enjoy Lake Sammamish and the Sammamish River for boating, swimming, and other types of recreation. Bear and Evans Creeks provide regionally significant habitat for wild salmon spawning and rearing. Other streams have also been restored and enhanced. Through many cooperative efforts, such as through watershed management planning, improved water quality is demonstrated annually in a productive aquatic ecosystem.

#### Comprehensive Plan requirements:

A Natural Environment element is not a requirement under the Growth Management Act. It does require that the Land Use element provide for protection of the quality and quantity of groundwater used for public water supplies and shall review drainage, flooding, and stormwater runoff in the area and nearby jurisdictions, and provide guidance for corrective actions to mitigate or cleanse those discharges that pollute waters of the state, including Puget Sound or waters entering Puget Sound.

Policies supporting this requirement are included in the Natural Environment element.

Additionally, policies supporting the Shoreline Master Program are found in the Natural Environment element.

Other efforts have also increased the health and safety of the community, through increased air and water quality, reductions in noise and light pollution, limiting development in hazardous areas such as floodplains and steep slopes, and reducing the risk of wildfires. Combined with other city programs and operations, the City is also resilient to the impacts of climate change.

## Comprehensive Plan Guiding Principles

The following policies in this element support the Redmond 2050 guiding principles of equity and inclusion, resiliency, sustainability.



## **Existing Conditions**

#### Background

The Natural Environment Element implements the vision of Redmond as a city enriched with valued natural features that enhance the quality of life for the community and support the Redmond 2050 vision of equity and inclusion, sustainability, and resilience. This element provides policies to maintain key natural processes and functions that provide the natural physical foundation for the community while acknowledging the need to accommodate growth.

It is important to be responsible stewards of natural resources so that future generations enjoy and benefit from them as we do today. It is equally important to recognize that resources exist for the benefit of not only humans, but also for other living creatures and plants as well. The "green infrastructure" of the city provides the backbone on which physical development occurs.

Key strategies to maintaining the city's environmental assets are summarized below:

- Work actively to address informational gaps in the environmental network;
- Use a science-based approach to ensure no net loss of critical areas' significant ecological functions;
- Maintain and strive to enhance a healthy natural ecosystem;
- Monitor and report on the effectiveness of Redmond's environmental protection programs, policies, and regulations;
- Foster a high quality of life by retaining trees, promoting clean air, ensuring high water quality, and limiting noise and light pollution.

- Strive towards becoming an equitable, resilient, and sustainable community; and
- Promote the economic vitality of the community.

#### **Future needs**

The City's vision, policies, plans, codes, and regulations will continue to be implemented, and updated as needed, to ensure that the City's continued growth and development supports and enhances the natural environment.

### **Policies**

The policies identified in the following sections provide the framework for the city to fulfill its natural environment vision and needs while improving the quality of life in the natural and built environment.

#### A. Environmental Stewardship

#### **Policy Table of Contents**

- A. Environmental Stewardship
- B. Environmentally Critical Areas

#### Enhancing Redmond's Quality of Life

- C. Tree Preservation and Canopy Enhancement
- D. Air Quality
- E. Noise
- F. Light Pollution
- FW-NE-1 Emphasize Redmond's role as an environmental steward by conducting City business in a manner that:
  - Increases community understanding of the natural environment through education and involvement programs to promote active participation in addressing environmental challenges and solutions;
  - Promotes sustainable land use patterns and low-impact development practices;
  - Leads by example in the conservation of natural resources, such as energy, water, and habitat; and
  - Avoids adverse environmental impacts.

The environmental stewardship policies address the need to consider the long-range implications of City policies on the environment, to conduct City operations in a manner that protects the environment, provide education on how the City, its businesses, and community members can improve the quality of the environment through conservation and sustainable practices, while also ensuring equitable access to a clean, healthy, and safe natural environment.

NE-1 Incorporate a whole-system approach into policy, regulatory, and service decisions, recognizing the interrelationships among people, nature, and the economy. Consider broader implications and look for ways to accomplish multiple goals.

- NE-2 Conserve resources and minimize adverse environmental impacts in municipal service provision.
- NE-3 Maintain and strengthen efforts to improve air quality, water quality, soil quality, and ecosystem function to ensure the health and well-being of people, animals, and natural systems.
- NE-4 Strengthen efforts to reduce or eliminate the release of harmful substances into the air, surface water, soil, and groundwater that degrade the quality of Redmond's natural systems.
- NE-5 Encourage the judicious use of renewable natural resources and conserve nonrenewable resources.
- NE-6 Conserve water and optimize reuse of material resources to protect natural systems by reducing resource extraction, greenhouse gas emissions, and air and water pollution.
- NE-7 Promote sustainable consumption strategies and zero waste of resources.
- NE-8 Promote and lead education and involvement programs to raise public understanding of environmental issues and encourage environmental stewardship.
- NE-9 Support sustainable development and strive towards becoming a sustainable community.
- NE-10 Advance environmentally responsible construction practices that minimize natural resource use, reduce waste, advance net zero energy, and leverage low impact development strategies.
- NE-11 Encourage projects that utilize alternative technologies, engineering, and designs that emphasize low-impact development strategies through incentives and flexibility in meeting regulatory requirements.
- NE-12 Collaborate with public, tribal, non-profit, and private sector organizations to advance sustainability and conservation goals to protect and enhance the environment.
- NE-13 Ensure that the planning and implementation of environmental sustainability and hazard mitigation projects are equitable and do not disproportionally impact vulnerable populations.

#### **B.** Environmentally Critical Areas

FW-NE -2 Protect, enhance, and restore habitat and natural ecosystems, including shorelines, to functional levels that provide resilience and adaptability, reduce impacts from natural hazards, and support biological imperatives for clean water and air.

The environmentally critical areas policies provide for the protection of designated critical areas identified in the Growth Management Act. This includes Fish and Wildlife Habitat Conservation Areas, Wetlands, Frequently Flooded Areas, Critical Aquifer Recharge Areas, and Geologically Hazardous Areas. The policies in this section are also adopted as part of the Shoreline Master Program (SMP).

Environmentally critical areas are important contributors to Redmond's high quality of life. Some critical areas are protected to preserve and maintain their ecological functions and values, and the quality of life and livability for humans. Others that present public health and safety hazards are protected to prevent loss of property and human life caused by inappropriate development in these areas.

Science plays a central role in delineating critical areas, identifying functions and values, and identifying protection strategies. The State's Best Available Science (BAS) rule requires the integration of science into the establishment and update of critical areas regulations.

- NE-14 Use Best Available Science to preserve and enhance the functions and values of critical areas through policies, regulations, programs, and incentives. Periodically update through adaptive management to reflect scientific advances and changes in local circumstances.
- NE-15 Use the precautionary principle when there is an absence of, or incomplete, valid scientific information accompanying a development application. Use rigorous analysis to appropriately limit development and land use activities until the uncertainty is sufficiently resolved.
- NE-16 Conserve and protect environmentally critical areas from loss or degradation. Maintain these areas in native growth protection tracts.
- NE-17 Allow modification of critical areas when it is scientifically documented they have relatively low ecological value, and the functions and values will be fully replaced and provide an ecological lift. Avoid land uses and developments that are incompatible with environmentally critical areas.
- NE-18 Avoid the creation of new parcels with building sites entirely within wetlands, streams, steep slopes, frequently flooded areas, and their associated buffers. Configure future parcels to have a building site outside of these areas.
- NE-19 Encourage use of creative and appropriate site design and housing types to balance environmental protection and achievable density.
- NE-20 Require buffers adjacent to critical areas to protect the ecological functions integral to healthy critical areas ecosystems and/or avoid risk to human life and safety.

NE-21 Require a building setback from critical areas buffers to protect the critical area buffer from temporal loss during project construction and to provide useable yard areas for both residential and commercial developments.

While protection of critical areas is important to the Redmond community, allowing all properties some reasonable economic use also is important. This policy does not guarantee that each property will be able to be used for its theoretically highest and best use or that all portions of a property can be used for development. Rather, the policy provides that the critical areas regulations be administered so that each property has some community-appropriate economic use.

## NE-22 Ensure critical area regulations provide reasonable economic use for all property within Redmond when taking into account the entire property.

While local variations need to be accommodated, consistency between King County jurisdictions can help community members and the development community work more efficiently with critical areas regulations.

NE-23 Work cooperatively with other jurisdictions in King County to develop and implement critical area regulations, designations, and education programs that meet the goals of the Redmond community and provide for optimal consistency among jurisdictions.

#### **Geologically Hazardous Areas**

Geologic hazards include areas susceptible to erosion, sliding, earthquake, or other geologic events. They pose a threat to the health and safety of citizens when incompatible residential and nonresidential development is sited in areas of significant hazards.

- NE-24 Avoid or minimize potential impacts to life and property from geologic hazards such that the site is rendered as safe as one not containing such hazard. Support this using geotechnical studies and analysis that reflect sound engineering principles.
- NE-25 Strictly limit disturbance in Landslide Hazard Areas.
- NE-26 Manage development in Geologically Hazardous Areas using Best Management Practices (BMPs) to promote soil stability, maximize tree retention, follow natural drainage patterns, minimize erosion, and avoid potential landslides during construction and use.
- NE-27 Require site-specific seismic hazard preparedness studies for essential public facilities and utility services.

#### **Critical Aquifer Recharge Areas**

Critical Aquifer Recharge Areas (CARAs) are areas with a critical recharging effect on aquifers used for potable water. Redmond's CARA is highly susceptible and vulnerable to contamination from surface activities due to the shallow depth to groundwater.

A significant portion of the city's water supply is obtained from wells. Once groundwater is contaminated, it is difficult, costly, and sometimes impossible to clean up. Preventing contamination is necessary to avoid exorbitant costs, hardships, and potential physical harm to people.

The risk of groundwater contamination depends on two main sets of conditions. One set of conditions relates to the ground itself and how easy it is for water to pass through to groundwater. This is what is meant by hydrologic susceptibility. The other set of conditions relate to how likely it is for potential contaminants to reach groundwater. This is known as contaminant loading potential or source loading. Vulnerability is the combined effect of these two conditions.

- NE-28 Protect the quality of groundwater used for public water supplies to ensure adequate sources of potable water for Redmond and the region. Ensure that the level of protection provided corresponds with the potential for contaminating the municipal water supply aquifer.
- NE-29 Ensure degradation of groundwater quality does not occur. Where appropriate, prohibit the infiltration of runoff from pollution generating surfaces and prohibit infiltration into contaminated soil.
- NE-30 Prohibit discharge of wastewater and potentially contaminated stormwater to groundwater. Prohibit reclaimed water and greywater from infiltrating in the critical aquifer recharge area to preserve drinking water quality.

For water to be pumped on a sustainable basis, new water must enter the aquifer. The best available data indicates the aquifer is recharged by rainwater infiltrating into the ground through permeable soils and by recharge from rivers, streams and lakes. Wetlands and natural areawide landscape depressions with standing water likely aid in groundwater infiltration by slowing runoff and allowing it to seep into the ground when located in suitable areas. Impervious surfaces and wetland fill associated with development decreases aquifer recharge.

NE-31 Retain aquifer recharge capacity by requiring infiltration of clean runoff citywide to recharge the drinking water aquifer where feasible and limiting the impacts of temporary construction dewatering on groundwater quantity.

In urbanized areas, maintaining open space, areas of natural vegetation, and wetlands also can help recharge aquifers. By siting these areas on lands with the highest potential for groundwater recharge, they can provide both aesthetic and recreational functions and groundwater recharge.

## NE-32 Encourage retention of open spaces, tree protection areas, and other areas of protected native vegetation with a high potential for groundwater recharge.

Hazardous material cleanups have the potential to protect and improve ground and surface water quality. State and federal programs require that certain properties contaminated with hazardous materials be cleaned up. In addition, many property owners voluntarily clean up contaminated land. Redmond does not have many contaminated sites, but the City should encourage cleanups. Staff should work with property owners and state and federal agencies to ensure that site cleanup that may affect groundwater supplies are thorough and do not present a future threat to groundwater quality.

- NE-33 Clean up contaminated sites within critical aquifer recharge areas that may affect Redmond's groundwater supplies to such a standard that the sites will not present a risk to drinking water supplies.
- NE-34 Encourage cleanup of contaminated sites outside of critical aquifer recharge areas. To encourage such cleanups, ensure regulations and standards are performance based, do not duplicate state and federal requirements, and provide for expeditious approval where local review is required.

#### **Frequently Flooded Areas**

Frequently Flooded Areas are open channel and overbank areas that together constitute the floodplain; they are frequently inundated with floodwater. Floodplains are generally flat, low-lying areas adjacent to rivers or streams that periodically flood during storm events. These areas move large volumes of water and debris downstream during storms.

The Federal Emergency Management Agency (FEMA) delineates flood hazards along major river and stream corridors, such as the Sammamish River, Bear Creek, and Evans Creek, to identify areas at risk from floodwater. This information is used for both floodplain management and insurance rating.

Flooding can damage structures in the floodplain. Persons living or working within a floodplain are at risk of injury from floods and the disease that can spread from flood waters.

As an environmental asset, floodplains provide critical functions for fish species. They provide important areas of riparian habitat, habitat formation, connectivity to wetlands, store and convey stormwater and floodwater, and recharge groundwater.

- NE-35 Reduce the amount of effective impervious surface in floodplains and uplands contributing runoff to downstream floodplains.
- NE-36 Employ no net impact floodplain management to avoid impacts to both upstream and downstream properties.
- NE-37 Achieve no net loss of the structure, value, and functions of natural systems constituting Frequently Flooded Areas.
- NE-38 Regulate development in the 100-year floodplain to avoid substantial risk and damage to public and private property and loss of life. Ensure these regulations, as a minimum, comply with state and federal requirements for floodplain regulations.
- NE-39 Locate public facilities outside of the 100-year floodplain unless needed to serve development within areas characterized by urban development or because efficiencies from locating near existing public facilities already within the 100-year floodplain would clearly outweigh the risk of damage to the facility.
- NE-40 Cooperate with flood hazard reduction planning carried out by King County and update policies and development regulations to incorporate appropriate recommendations from these studies.
- NE-41 Require compensatory floodplain storage for all projects constructed within the 100year floodplain.

As a watershed develops the amount of impervious surfaces increase, increasing runoff and consequently flood depths. One way of anticipating and responding to these changes as well as impacts from climate change, is to identify the future-conditions floodplain. The future-conditions floodplain is the area that will be inundated by a 100-year flood when the watershed is fully developed. FEMA flood hazard maps are based on current and historic conditions, not build-out. Additional work is needed to identify the future-conditions floodplain.

## NE-42 Include flood flow estimates anticipating climate change and representing build-out conditions into the City's floodplain regulations as it becomes available.

Properties outside the 100-year floodplain can aggravate flooding and flood damages. Development in landslide or erosion prone areas can lead to the clogging of streams and drainage systems, increasing flooding within and outside the 100-year floodplain. As areas outside the 100-year floodplain develop, increased impervious surfaces may increase runoff during storms and thus increase flood heights within the 100-year floodplain and cause flooding outside the existing 100-year floodplain. Increased stormwater runoff can significantly impact salmon and steelhead habitat by literally washing it away. Reducing the amount of

impervious surface and implementing stormwater detention can help reduce these impacts, but not eliminate them entirely.

- NE-43 Mimic natural systems by limiting impervious surfaces and increasing infiltration where appropriate.
- NE-44 Explore new methods to limit effective impervious surface to protect environmental resources such as streams and allow for groundwater recharge, allow for efficient land use, reduce potential for flooding, and accommodate the level of development intensity planned for the area.

#### Wetlands

Wetlands are areas that are inundated by ground or surface water frequently enough to support vegetation typically adapted to live in saturated soils. They perform many ecological functions, including flood control, reductions of erosion and siltation, water storage, groundwater recharge, maintain water quality, nutrient absorption, and fish and wildlife habitat. Additionally, wetlands provide opportunities for research and scientific study, outdoor education, and open space.

Wetlands can be hazardous areas to develop. Their organic soils are generally poorly suited for development and may not support foundations, streets, or utilities.

It is the City's goal to achieve no net loss of wetlands through retention of function, value, and acreage of wetlands. Mitigation sequencing is used to ensure impacts to wetlands are avoided, where possible, and mitigated, when necessary.

- NE-45 Preserve wetlands to achieve no net loss of functions and values. Strive to maintain wetlands acreage over the long term.
- NE-46 Use federal mitigation sequencing guidelines when reviewing projects impacting wetlands. This involves, in the following order: avoiding the impact altogether by not taking a certain action or parts of actions; minimizing the impact by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.
- NE-47 Ensure the amount of mitigation required reflects the values and functions of wetlands affected by development, the temporal loss of these functions and values, the risk that the mitigation may fail, the spatial locations of the mitigation, and the difficulty of

replacing many wetlands functions and values. For these reasons, require in general a significantly larger area of mitigation than the area of wetlands impacted.

- NE-48 Pursue opportunities to enhance and restore degraded wetlands.
- NE-49 Support the use of mitigation banks located in the City for capital improvement projects that are linear, such as road and utility projects.

#### Water Quality and Basin Planning

Development in the watersheds of rivers, streams, and lakes must be carefully managed to retain water quality and prevent flooding.

Redmond is located in Water Resources Inventory Area (WRIA) 8, which represents the salmon recovery planning area of the Lake Washington/Cedar/Sammamish watershed. Chinook salmon are listed as threatened under the Endangered Species Act (ESA). In WRIA 8, residents, scientists, businesses, environmentalists, and governments are cooperating on protection and restoration projects and on developing a science-based plan to conserve salmon today and for future generations. Funding for the salmon conservation plan is provided by the 29 local governments, including Redmond, in the watershed.

- NE-50 Maintain surface water quality necessary to support the protection of native fish and wildlife meeting state and federal standards over the long term.
- NE-51 Restore, protect, and support the biological health and diversity of Water Resource Inventory Area (WRIA) 8 within the city and those natural systems that underpin watershed health and hydrological integrity.
- NE-52 Control the flow of nutrients (especially phosphorus), heavy metals, and other emerging pollutants (such as 6PPD-quinone) into streams, rivers, Lake Sammamish and other area lakes, and natural wetlands. Require treatment measures where development results in discharges to surface or groundwaters.

The City uses watershed management planning to address water impairments and reduce impacts to water resources caused by urbanization, as supported by the Washington State Department of Ecology (DOE) and the U.S. Environmental Protection Agency (EPA).

- NE-53 Cooperate regionally with state agencies in developing and implementing watershed management plans, water quality management plans, and monitoring programs.
- NE-54 Complete and maintain watershed management plans for all areas in the city. Address water quality, habitat, stormwater runoff, and flooding issues. Review each plan for effectiveness at least once each five years.

#### NE-55 Use recommendations of watershed management plans to inform Comprehensive Plan policies, development regulations, and capital facility plans.

The habitat in Redmond's rivers, streams and lakes is important to protecting the area's high quality of life, valuable aquatic resources, and the area's natural beauty. The Sammamish River, with its trails and parks, is an important focal point for Redmond and ties the city into a regional recreational network. These areas are important to all stages of the salmon life cycle.

- NE-56 Protect, enhance, and restore rivers, streams and lakes, including riparian and shoreline habitat, to protect water quality, reduce public costs, protect fish and wildlife habitat, and prevent environmental degradation. Protect both perennial and intermittent streams to preserve natural hydraulic and ecological functions, fish and wildlife habitat, recreational resources, and aesthetics.
- NE-57 Maintain natural hydrological functions within the city's ecosystems and watersheds and encourage their restoration to a more natural state.
- NE-58 Protect and restore the near shore habitat of Lake Sammamish to encourage green shorelines by avoiding bulkheads within the 100-year floodplain elevation.

Riparian corridors consist of vegetation along river and stream banks that are influenced by the surface waters. Ecological processes of riparian corridors include water flow, sediment routing, vegetation succession, woody debris recruitment, and plant and animal speciation.

NE-59 Avoid development impacts to riparian corridors. Protect riparian vegetation within stream buffers to maintain ecological functions. Enhance and rehabilitate these areas if they are impacted by development and encourage this when development takes place on adjacent uplands. Establish stream buffers to protect riparian ecological functions that contribute to healthy stream systems.

Channelization and urbanization have impacted the Sammamish River and city streams. Restoring rivers and streams to their original conditions can improve fish and wildlife habitat, environmental functions, recreational uses and aesthetics, and reduce flood damage.

- NE-60 Reroute Evans Creek from its current degraded position in a highly industrialized setting to an area to the north that allows for improved conditions, floodplain and wetland connectivity, and ample buffer widths.
- NE-61 Encourage improvements such as removal of fish barriers when abutting properties are developed.

Public education is an important component in efforts to protect surface and groundwater. Individual choices can either protect or adversely impact surface water and groundwater.

Education can help residents and businesses choose options that meet their needs and desires while protecting surface and groundwater quality.

## NE-62 Support public education to protect and improve surface and groundwater resources by:

- Increasing the public's awareness of potential impacts on water bodies and water quality and what they can do to help and get involved in their community;
- Encouraging the use of safer, less toxic lawn, gardening and farming practices, including environmentally appropriate fertilizers, chemicals, and natural yard care;
- Encouraging proper use, recycling, and disposal of chemicals;
- Educating businesses on surface and groundwater protection Best Management Practices in cooperation with other government agencies and other organizations; and
- Educating the public and businesses on identifying and using less toxic chemicals and eliminating or reducing pollution generating practices and activities.

Natural drainage courses can function to lessen flood damages. Properly functioning natural streams and drainage ways include pools and overflow areas that slow stormwater runoff. Retaining natural drainage courses also helps to accommodate stormwater flows from upstream properties.

- NE-63 Avoid alteration of riparian stream corridors to the maximum extent possible. Whenever possible, avoid reduction in the capacity of natural drainage courses and minimize enclosures of natural drainage ways. Discourage stream relocation except for City-approved relocation to provide improved ecological lift due to current development encroachment and poor existing ecological lift. Replace and enhance the flood control and habitat values of drainage courses when relocation or alteration is necessary for public benefit. Require enhancement when alteration of a stream to increase the usability of a site is permitted.
- NE-64 Use bridges as the preferred method of crossing a watercourse that has habitat suitable for fish use or may be rehabilitated for fish use in the future. Design these bridges to allow small animal migration. Consider allowing fish passable culverts that provide stream beds similar to natural channels where there is no loss of habitat and the cost of a bridge does not justify its benefits to fish passage, flood control, wildlife passage or other resources.
- NE-65 Prohibit creation of fish barriers and remove existing fish barriers.

- NE-66 Stabilize stream banks and shorelines, as necessary, by bioengineering techniques except where infeasible.
- NE-67 Daylight natural drainage channels that have been placed within culverts and have had their capacity or habitat value reduced as development or redevelopment occurs. Allow retention of existing culverts for stream crossings where they do not result in a fish barrier in streams that contain or have the potential to contain fish habitat.

#### **Fish and Wildlife Habitat**

The Growth Management Act defines Fish and Wildlife Habitat Conservation Areas. These lands primarily include areas with which endangered, threatened, sensitive, candidate, and priority species have a primary association. They also include aquatic areas and lands critical for habitat connectivity.

Fish and wildlife enhance the quality of life in a community. Salmon and steelhead are enduring symbols of the Northwest. Birds are valued for their songs and appearance. Other wildlife is attractive and helps maintain the valued character of the area. Wildlife diversity is often an indicator of environmental health.

Native American tribes in the region retain strong spiritual and cultural ties to aquatic species based on thousands of years of use for tribal religious/cultural ceremonies, subsistence, and commerce. In particular, these species include salmon and steelhead.

Wildlife habitats are characterized by a variety of internal (site specific) and external (contextual) habitat conditions. Internal conditions include: structural diversity (horizontally and vertically) of habitat; edge conditions; presence of snags or large trees; presence of downed logs; and presence or nearness of water and its safe accessibility. External conditions include: the size of the habitat patch; ability of the habitat to serve as a corridor or link to otherwise isolated natural areas, parks, preserves, or open spaces; the area is surrounded by a buffer or serves as a buffer; and the surrounding habitat types or land uses.

## NE-68 Maintain a rich ecosystem supporting a variety of wildlife, as well as opportunities for education and appreciation of native habitats.

## NE-69 Preserve and restore regional biodiversity with a focus on promoting native species and preventing and eliminating invasive species.

The central planning concept for wildlife habitat in urban environments is to create an integration of habitat reserves and interconnecting corridors. Habitat reserves are generally considered to be areas of differing sizes that meet the basic needs of wildlife. Corridors are regarded as narrow, linear strips of habitat that have wildlife value. The corridors serve as interconnecting links between or along the habitat reserves.

Core Preservation Areas form the backbone of the habitat areas within the city. These areas are already protected through other regulatory mechanisms.

Quality Habitat Areas provide significant wildlife value by virtue of their characteristics.

#### NE-70 Protect, restore, and enhance Core Preservation Areas within the city.

NE-71 Pursue opportunities to preserve Quality Habitat Areas and ensure all development, parks, and recreation areas minimize impacts to, and retain the character of, these areas.

Species protection is identified and accomplished during a site-specific study. Development is regulated through a series of management recommendations as established by state and federal agencies.

- NE-72 Protect natural resources having a primary association with Species of Concern, Priority Species, and Species of Local Importance.
- NE-73 Modify City plans, programs, and policies, such as public projects, private development standards, maintenance standards, and utility practices, to be consistent with Endangered Species Act (ESA) policies and requirements.
- NE-74 Give special consideration to conservation and protection measures to preserve and enhance anadromous fisheries.

Habitat fragmentation occurs when wildlife habitats become separated from each other due to urbanization. In part, this is a natural consequence of the development of urban areas Where sections of critical habitat are linked, populations can move between the habitat areas.

## NE-75 Minimize habitat fragmentation caused by public and private development by linking wildlife habitats via corridors.

Many species of fish and wildlife are quite mobile and move from jurisdiction to jurisdiction during their life or with the seasons. This mobility requires a regional approach to their management.

# NE-76 Coordinate land use planning and management of fish and wildlife resources with other local governments within the region, affected state and federal agencies, and affected tribal communities.

Monitoring and managing urban wildlife habitats are critical to maintaining their integrity against numerous outside influences and managed landscapes surrounding them. A management strategy is needed for the maintenance of wildlife habitat.

## NE-77 Develop a wildlife habitat management strategy and well-defined goals to monitor and maintain wildlife habitat, with mechanisms for City and volunteer support.

Pesticides can kill birds, cause cancer, and decimate prey. Use of these substances to maintain City-owned rights-of-way, parklands, and public spaces should be reduced to the maximum extent practical. Alternatives to using pesticides and fertilizers, such as employing compost-amended soils or compost tea during development and redevelopment, could minimize use of these synthetic and harmful products.

#### NE-78 Encourage conservation and sustainability throughout the city by minimizing impacts to wildlife and water quality through practices, such as limiting the use of toxic pesticides and fertilizers, incorporating alternative pest management methods, and providing public education about such practices.

Noxious weeds are a problem because they replace native plant species and provide little to no value in terms of forage, cover, or nest sites for the wildlife community. These weeds spread quickly from one area to another and already adversely affect most native habitats.

- NE-79 Use native or Northwest adaptive vegetation on City capital projects, preventing the continued spread of invasive and noxious weeds to habitat areas through implementation of Integrated Pest Management practices.
- NE-80 Use a majority of native or Northwest adaptive vegetation that is supportive of wildlife for new developments, including City capital projects, adjacent to wildlife habitats.
- NE-81 Ensure management of noxious weeds and invasive species are an integral part of landscape plans for new development. Work with King County and Washington State to target the management of noxious weeds.

Non-regulatory measures are a key component of a comprehensive wildlife habitat management strategy. Additionally, education is integral to fostering an appreciation for wildlife habitat management. City certification as a Community Wildlife Habitat involves the entire community. This designation may include certified backyard sites, certified school sites, a public demonstration garden, participation by the business community, and related projects, such as wildlife surveys, sensitive areas mapping, and creation of wildlife corridors.

## NE-82 Support urban wildlife habitat management through education, City actions, and demonstration projects.

NE-83 Employ wildlife habitat-friendly practices in designing and maintaining city parks.

#### **Enhancing Redmond's Quality of Life**

The following sections contain additional policies that the City will utilize to enhance its quality of life through an improved natural and built environment, including an increased tree canopy, as well as reduced impacts and nuisances from air, noise, and light pollution. These policies, when implemented, provide added benefits from better stormwater management, improved water quality, and reduced risks from wildfire.

## FW-NE-3 - Enhance Redmond's quality of life through tree preservation, improved air quality, and reduced impacts from noise and light pollution.

#### C. Tree Preservation and Canopy Enhancement

The tree preservation and canopy enhancement policies address the value of protecting trees and enhancing the placement of trees within the city. A healthy tree canopy supports stormwater management and provides water quality improvements in receiving waters, as well as helps resists the spread of wildfire during drier months.

The City maintains and regularly updates a Tree Canopy Strategic Plan to implement the policies found in this section.

#### NE-84 Enhance green space, tree canopy, habitat quality, and natural drainage systems.

- NE-85 Increase Redmond's tree canopy to 40% of city's land area by 2050.
- NE-86 Maximize tree retention and a treed appearance when development occurs through the following:
  - Require the retention of viable tree clusters, forested slopes, treed gullies, and specimen trees that are of species that are long-lived, not dangerous, well-shaped to shield wind, and located so that they can survive within a development without other nearby trees.
  - Design and construct developments to retain trees.
  - Identify and protect trees during land divisions and site development.
  - Allow some tree removal in Centers when required to allow development of climate-friendly higher-density and transit-oriented development.
  - Allow removal of nonsignificant trees to provide for project construction.
  - Plant replacement trees on appropriate areas of the site or off-site locations to replace significant trees removed during construction.
  - Encourage appropriate tree pruning, avoiding topping.

NE-87 Design and construct City capital projects to maximize tree canopy by:

- Identifying and protecting trees during site development.
- Allowing removal and replacement of trees that are impacting critical infrastructure.
- Planting replacement trees on appropriate areas of the site or off-site locations to replace significant trees removed during construction.
- Encouraging appropriate tree pruning, avoiding topping.

#### Trees for water quality improvement

Trees along waterways, wetlands and lakes provide many important functions. Along streams and rivers, trees shade the water, which reduces temperatures in the summer and helps salmon, steelhead, and other fish to survive. Trees in gullies and along streams help slow stormwater and reduce erosion. The root systems of trees can also help stabilize streams, reducing erosion and stream migration. Leaves and insects falling from trees into streams, wetlands, and lakes provide important food sources for fish and other aquatic creatures. Trees also provide habitats for birds and animals.

- NE-88 Preserve trees within streams, wetlands, and their associated buffers, including building setbacks from said streams, wetlands, and associated buffers.
- NE-89 Plant suitable native and Northwest adaptive trees and vegetation within degraded stream, wetlands, and lake buffers. Encourage planting suitable native and Northwest adaptive trees and vegetation within steep slopes.

#### **Street Trees**

Street trees provide an important visual amenity to the community. They provide a unifying look within diverse areas of the city and integrate buildings with each other and the landscape. Street trees help to develop a sense of place. Many streets are remembered because of their trees. Street trees also shade streets and parking areas in summer, reducing temperatures and building cooling loads, and conserving energy.

NE-90 Require street trees along all arterial streets and along local streets designated in neighborhood policies. Select, place, and install street trees to maximize tree life, provide shade to sidewalk users, and reduce safety hazards.

Another method of encouraging trees in the city is to make it easy for property owners to plant trees on their property or in planting strips adjacent to their property. Over the years, these voluntary efforts can result in many trees in the community. Maintaining lists of suitable trees, telling community members how to find good locations for trees, and informing community members how to have underground utilities located so they will not be damaged during tree planting can help encourage people to plant trees.

NE-91 Provide resources and incentives to residents and property owners that encourage them to plant trees on their properties.

Ensuring that Redmond remains a city with many trees requires that they be managed and maintained. The City maintains street trees in many areas. Property owners also must properly maintain trees to provide for their future.

- NE-92 Maintain and enhance a street tree maintenance program on arterial streets and Cityowned trees.
- NE-93 Establish private maintenance provisions for trees that will be retained within developments.

#### **D.** Air Quality

Clean outdoor air quality supports human health and well-being, together with the health of the natural environment. Clean air helps to keep the mountains, Lake Sammamish, Sammamish River, and other areas visible from many areas in Redmond. These are views that the community values. Continued federal funding for transportation improvements is dependent on complying with federal air quality standards. While other agencies regulate air quality, Redmond and other cities have an important role to play in maintaining high air quality. This includes transportation planning to reduce emissions and land use planning to internalize trips and reduce emissions.

More recently, smoke from wildfires has been the primary contributor to degraded air quality in Redmond, especially during the summer. Redmond maintains policies in its Climate Resilience and Sustainability Element to help mitigate the negative impacts of wildfire smoke. The City also maintains regulations to reduce the impacts of wildfire and smoke, and has programs and initiatives to support those most vulnerable to wildfire-related smoke.

- NE-94 Promote compliance with federal and state air pollution control laws and improvements to regional air quality in collaboration with the Puget Sound Clean Air Agency.
- NE-95 Achieve criteria air pollutant reductions in both municipal operations and the community at large, with attention given to social equity.
- NE-96 Maintain high air quality through land use and transportation planning and management.
- NE-97 Reduce airborne particulates through a street sweeping program, dust abatement on construction sites, covered loads of hauled materials, and other innovative methods.

#### E. Noise

Noise is a pollutant that can have significant negative impacts on human health. Excessive noise also makes neighborhoods less desirable places to live and can contribute to deterioration of those areas. The Washington State Department of Ecology has adopted noise standards, but does not enforce them; therefore, the City should continue to enforce noise regulations.

In addition to the policies identified here, other City goals and policies will contribute to the reduction of excessive noise, such as reduced reliance on personal vehicles as well as the electrification of trucks, machinery, and tools such as leaf blowers.

- NE-98 Maintain noise regulations to limit noise to levels that protect the public health and that allow residential, commercial and manufacturing areas to be used for their intended purposes. Provide flexibility in the regulations to allow construction at night when necessary to protect worker safety and minimize service disruptions, while maintaining the tranquility of the city.
- NE-99 Provide noise reduction and mitigation measures to reduce the noise and visual impacts of freeways and arterials on residential areas. Ensure the Washington State Department of Transportation provides appropriate levels of noise suppression when expanding or improving state highways.
- NE-100 Require buffering or other noise reduction and mitigation measures to reduce noise impacts from Manufacturing Park, Business Park, and Industrial zones on residential areas.

#### F. Light Pollution

Light Pollution policies address the protection of the community from excessive glare and promote the concept of "dark skies." Glare is strong, steady light that shines away from the area that is meant to be illuminated. Glare interferes with views and, in extreme cases, may interfere with the normal use of nearby properties. Inappropriate overhead lighting along the city's river and streams can interfere with the rearing, migration and spawning activities of salmon and trout. Night lighting is an important safety feature and should be allowed, but lighting should be designed and directed to minimize glare.

- NE-101 Minimize and manage ambient light levels to protect the integrity of ecological systems and public health without compromising public safety and cultural expression.
- NE-102 Design and construct night lighting to minimize excessive glare and to avoid spillover onto nearby properties.

NE-103 Encourage the use of low-intensity lights that are located and shielded to prevent light from reaching the water surface of Lake Sammamish or the city's various streams. Encourage the use of pedestrian level or shaded lighting when providing lighting along trails and walkways in natural areas.

The "dark skies" policy seeks to reduce glare and maintain views of stars and planets. Redmond recognizes that night lighting is needed, but seeks to minimize artificial light spillage into the sky.

NE-104 Encourage dark night skies in Redmond's residential neighborhoods, in the Sammamish Valley, in the Bear Creek Valley, and over Lake Sammamish through development regulations, design standards, and development review.

#### ATTACHMENT C: PROPOSED REGULATIONS

#### Chapter 21.64 (v.5)

#### **CRITICAL AREAS REGULATIONS**

#### Sections:

- 21.64.010 Critical Areas.
- 21.64.020 Fish and Wildlife Habitat Conservation Areas.
- 21.64.030 Wetlands.
- 21.64.040 Frequently Flooded Areas.
- 21.64.050 Critical Aquifer Recharge Areas.
- 21.64.060 Geologically Hazardous Areas.
- 21.64.070 Procedures.

#### 21.64.010 Critical Areas.

A. Purpose. The purposes of this chapter are to:

1. Preserve the City's important environmental features while allowing development to occur if compatible with and in consideration of these critical areas;

2. Assure the conservation and protection of critical areas from loss or degradation by classifying and designating the same and to restrict land uses and development which are incompatible with environmentally critical areas;

3. Achieve no net loss of core preservation areas within fish and wildlife habitat conservation areas, which includes riparian corridors, and minimize impact to and retain character of quality habitat areas, and protect species of concern, priority species, and species of local importance;

4. Avoid wetland impacts and achieve a goal of no net loss of wetland function, value, and acreage; and where possible enhance and restore wetlands;

5. Achieve no net loss of structure, value, and functions of natural systems within frequently flooded areas and to employ no net impact floodplain management in

order to avoid impacts to upstream and downstream properties and substantial risk and damage to public and private property and loss of life;

6. Protect critical aquifer recharge areas by avoiding land use activities that pose potential contamination, and minimize impacts to recharge areas through the application of strict performance standards;

7. Avoid and minimize potential impacts to life and property from geologic hazards such that sites are rendered as safe as one not containing such hazard through appropriate levels of study and analysis, application of sound engineering principles, and regulation or limitation of land uses;

8. Avoid impacts to critical areas and preserve the functions of critical areas. In appropriate circumstances, impacts to specified critical areas resulting from regulated activities may be minimized, rectified, reduced, and/or compensated for, consistent with the requirements of this chapter;

9. By limiting development <u>within</u> and alteration of critical areas:

a. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, or flooding;

b. Protect unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, and fish and wildlife and their habitats;

c. Direct activities not dependent on critical area resources to less ecologically sensitive sites and mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas; and

d. Prevent cumulative adverse environmental impacts to water quality, wetlands, and fish and wildlife habitat, and the overall net loss of wetlands, frequently flooded areas, and habitat conservation areas;

10. Provide standards, guidelines, and criteria to guide application of these critical areas goals and policies when considered with other goals and policies of the RZC, including those pertaining to natural features and environmental protection;

11. Serve as a basis for exercise of the City's substantive authority under the State Environmental Policy Act (SEPA) and the City's SEPA rules;

12. Protect critical areas in accordance with the Growth Management Act and through the application of best available science, as determined according to
WAC 365-195-900 through 365-195-925, and in consultation with state and federal agencies and other qualified professionals; and

13. Coordinate environmental review and permitting of proposals to avoid duplication and delay.

B. Findings. The City finds that:

1. Redmond contains certain areas that <u>can beare</u> identified and characterized as environmentally sensitive or critical. Such areas within the City include fish and wildlife habitat conservation areas, wetlands, frequently flooded areas, geologically hazardous areas, and critical aquifer recharge areas and their associated buffers.

2. Past growth patterns have in some cases contributed to natural disastersexacerbated impacts stemming from weather related events which threaten public health and safety, and that by preventing development on certain critical areas the City can better maintain public health, safety and welfare. In addition, by preserving features that provide for clean water, fisheries, and wildlife, the City can help maintain a positive ecological balance that provides for the immediate and long-term public welfare.

3. Critical areas perform a variety of valuable and beneficial biological and physical functions that benefit the City and its residents. <u>Identification, regulation, and protection of critical areas are necessary to protect the public health, safety, and general welfare.</u> Some types of critical areas may also pose a threat to human safety or to public and private property. The functions of critical areas include the following:

a. Fish and Wildlife Habitat Conservation Areas. Wildlife areas are ecosystem composed of unique interacting systems of soils, geology, topography, and plant and animal communities. They consist of land-based areas and aquatic areas. Wildlife habitat provides opportunities for food, cover, nesting, breeding, and movement for fish and wildlife within the City; maintains and promotes diversity of species and habitat within the City; helps to maintain air and water quality; controls erosion; serves as areas for recreation, education and scientific study, and aesthetic appreciation; and provides neighborhood separation and visual diversity within urban areas. Riparian corridorsManagement Zones are essential for wild fish populations. Healthy riparian zones are dynamic ecosystems that perform various functions that form salmonid habitat. Some of the major functions include producing and delivering large and small woody debris to shorelines and stream channels; shoreline protection and habitat formation; removing sediments and dissolved chemicals from water; moderating water temperature; providing favorable

microclimate; providing habitat for terrestrial animals; and providing proper nutrient sources for aquatic life. Additionally, aquatic areas and their associated buffers store and convey stormwater and floodwater; recharge groundwater; and serve as areas for recreation, education and scientific study and aesthetic appreciation. The City's overall goal shall be no net loss of riparian corridor functions and values.

b. Wetlands. Wetlands are fragile ecosystems which serve <u>several</u> important beneficial functions. Wetlands assist in the reduction of erosion, siltation, flooding, ground and surface water pollution, and provide wildlife, plant, and fisheries habitats. Wetlands destruction and impairment may result in increased public and private costs or property losses. Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment, chemical nutrient and toxic pollutants; provide shading to maintain desirable water temperatures; provide habitat for wildlife; protect wetland resources from harmful intrusion; and generally preserve the ecological integrity of the wetland area.

c. Frequently Flooded Areas. Floodplains and other areas subject to flooding perform important hydrologic functions and may present a risk to persons and property. Floodplains help to store and convey storm water and flood water; recharge ground water; provide important areas for riparian habitat; and serve as areas for recreation, education, and scientific study. Development within floodplain areas can be hazardous to those inhabiting such development, and to those living upstream and downstream. Floods also cause substantial damage to public and private property that result in significant costs to the public and individuals.

d. Critical Aquifer Recharge Areas. Potable water is an essential life-sustaining element. Aquifer recharge areas provide a source of potable water and contribute to stream discharge during periods of low flow. Certain portions of the City's planning area are susceptible to contamination of drinking water and watercourse supplies through rapid infiltration of pollutants through the soil to ground-water aquifers. Critical Aquifer Recharge Areas I and II are designated under the provisions of the Growth Management Act, RCW Chapter 36.70A, and are established based on proximity to and travel time of groundwater to the City's public water source wells.

e. Geologically Hazardous Areas. Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events. <u>These areas are further defined in WAC 360-190-120</u>. They pose a threat to the health and safety of citizens when incompatible commercial, residential, or industrial development is sited in or near areas of significant hazard. Some geological hazards can be reduced or mitigated by engineering, design, or

modified construction so that risks to health and safety are acceptable. When technology cannot reduce risks to acceptable levels, building in geologically hazardous areas should be avoided.

4.–Identification, regulation, and protection of critical areas are necessary to protect the public health, safety, and general welfare.

54. This section of the RZC contains standards, guidelines, criteria, and requirements intended to identify, analyze, preserve, and mitigate potential impacts to the City's critical areas and to enhance and restore degraded resources, such as wetlands, riparian stream corridors, or habitat, where possible.

C. Applicability - Regulated Activities.

1. The provisions of this chapter shall apply to any activity that has a potential to significantly adversely impact a critical area or its established buffer unless otherwise exempt. Such activities include but are not limited to:

a. Removing, excavating, disturbing, or dredging soil, sand, gravel, minerals, organic matter, or materials of any kind;

b. Dumping, discharging, or filling with any material;

- c. Draining, flooding, or disturbing the water level or water table;
- d. Driving pilings or placing obstructions;

e. Constructing, reconstructing, demolishing, or altering the size of any structure or infrastructure that results in disturbance of a critical area or the addition of any impervious surface coverage to a site;

f. Destroying or altering vegetation through clearing, grading, harvesting, shading, or planting vegetation that would alter the character of a critical area;

g. Activities that result in significant changes in water temperature and physical or chemical characteristics of water sources, including quantity and pollutants; and

h. Any other activity that has a potential to significantly adversely impact a critical area or established buffer not otherwise exempt from the provisions of this chapter;

i. <u>Regarding</u> frequently flooded areas, the provisions of this chapter shall apply to any activity that would result in change to the flood storage capacity of a floodplain or flood fringe area, or cause an increase in the base flood elevation, unless otherwise exempt. 2. To avoid duplication, Types I, II, III, IV, V, and VI Permits shall be subject to and coordinated with the requirements of this chapter.

3. For the purposes of this chapter, "Department" shall mean the City of Redmond Department of Planning and Community Development and "Committee" shall mean the City of Redmond Technical Committee.

#### D. Exemptions.

1. The following activities shall be exempt from the provisions of this chapter securing a separate permit:

a. Existing and ongoing agricultural activities provided no alteration of flood storage capacity or conveyance occurs and the activity does not adversely affect critical areas, and existing and ongoing agricultural activities identified in a farm plan approved by both the King County Conservation District and the City;

b. Activities involving artificially created wetlands or streams intentionally created from non-wetland sites, including but not limited to grass-lined swales, irrigation and drainage ditches, detention facilities, and landscape features, except wetlands, streams, or swales created as mitigation or that provide habitat for salmonid fishes;

c. <u>ActivitiesDisturbance or development</u> occurring in areas of 40 percent slope or greater with a vertical elevation change of up to 10 feet upon based upon City review and acceptance of a soils report documentation and analysis prepared by a <u>gualified professional such as a geologist</u> or geotechnical engineer which demonstrates proves that the slope was man-made, was approved as part of legal grading activities, and that no significant adverse impact will result from the exemptionactivity. In addition, activities occurring in man-made steep slopes shall be exempt provided the applicant submits documentation from a geotechnical engineer that the slope was man-made and there will be no resulting adverse impacts. the construction of a singlefamily dwelling unit in man-made steep slopes which were created as part of an approved legal grading activity shall be exempt provided the applicant submits documentation from a qualified professional that the slope was manmade and there will be no resulting significant adverse impacts. This latter exemption applies to one stand-alone single-family residence and is not to be construed to apply to a series of proposed dwellings as part of a subdivision or short plat application;

d. Normal and routine maintenance, operation and reconstruction of existing <u>public roads</u>, streets, utilities, and associated rights-of-way and structures, provided <del>that</del> reconstruction of any structures may not increase the impervious

area, <u>expand the roadway,</u> remove flood storage capacity, or further encroach into a critical area or its buffer;

e. Normal maintenance, and repair, and reconstruction or remodeling of residential or commercial structures, or legal pre-existing and ongoing uses of the site, provided that there is no expansion of the structure and no increase to the existing nonconforming condition of the structure relative to the reconstruction of any structures mayshall not increase the size of the previously approved building footprint (see subsection D.5 of this section), remove flood storage capacity, or further encroach into a critical area or its buffer based on a current delineation;

f. Reconstruction of a structure that has been fully or partially destroyed by fire, explosion, or other unforeseen circumstances not caused by the owner subject to subsections D.5 and D.6 of this section;

g. Continuation of legal pre-existing and ongoing uses of a site provided there is no increase to the existing nonconforming condition of the use relative to the critical area or its buffer based on a current delineation;

fh. Site investigative work and studies necessary for preparing land use applications, including soils tests, water quality studies, wildlife studies and similar tests and investigations, provided that any disturbance of the critical area shall be the minimum necessary to carry out the work or studies and provided that the area is restored to its previous condition;

<u>gi</u>. Educational activities, scientific research, and outdoor recreational activities, including but not limited to interpretive field trips, and bird watching that will not have a significant adverse effect on the critical area;

hj. Emergency activities necessary to prevent an immediate threat to public health, safety, or property. Once the immediate threat has been addressed, any adverse impacts on critical areas shall be minimized and mitigated as noted in (2) below;

ik. Normal and routine maintenance and operation of existing landscaping and gardens provided they comply with all other regulations in this chapter;

<u>jl</u>. Construction of pedestrian trails which are permeable, have a maximum width of six feet, <u>minimize the need for tree removal</u>, and are located in the outer 25 percent of the buffer. <u>Tree removal must be compliant with RZC</u> <u>21.72</u>, <u>Tree Protection</u>;

k.-Minor activities not mentioned above and determined by the Department to have minimal impacts to a critical area;

Im. Previously legally filled wetlands or wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway, or wetlands accidentally created by other human actions within 20 years of the date the development application is filed. The latter shall be documented by the applicant through photographs, statements, and/or other evidence;

mn. Activities affecting Category IV wetlands which are 250 square feet in size or smaller and hydrologically isolated;

no. Installation, construction, replacement, repair, or alteration of utilities and their associated facilities, lines, pipes, mains, equipment, or appurtenances in improved City road rights-of-way and provided that the area is restored to its previous condition;

op. Removal of nonnative vegetation providing removal is accomplished using hand methods and that removal is in compliance with this chapter. Hand removal does not include using mechanical equipment, such as weed wackers, mowers, power hedge trimmers, or other similar devices. Also, this does not include the use of herbicides.

2. Notwithstanding the exemptions provided by this section, any otherwise exempt activities occurring in or near a critical area shouldshall meet the purpose and intent of RZC 21.64.010.A and should consider on-site alternatives that avoid or minimize significant adverse impacts.

3. Exempt activities occurring in flood hazard areas shall not alter flood storage capacity or conveyance.

4. With the exception of subsections D.1.a, D.1.gi, D.1.h; and D.1.+k of this section, and normal maintenance and repair of residential and commercial structures as in subsection D.1.e of this section, no property owner or other entity shall undertake exempt activities prior to providing 10 days' notice to the Department. In case of any question as to whether a particular activity is exempt from the provisions of this section, the Department's determination shall prevail and shall be confirmed in writing within 10 days of receipt of the owner's or applicant's letter. Those persons performing emergency activities falling under subsection D.1.h of this section shall provide telephone or written communication with the Department within 48 hours of the activity notifying such emergency activity was taken.

5. Structures <u>in a critical area or buffer</u> shall be allowed to be reconstructed if <u>fully</u> <u>or partially</u> destroyed <u>by fire, explosion, or other unforeseen circumstances not</u> <u>caused by the ownerby fire or other natural disasters</u> by more than 50 percent of <u>its assessed or appraised value, whichever is greater</u>, if <u>located in a critical area or</u>

buffer.- A complete building permit for such reconstruction shall be submitted within 3 years of the destruction event. The reconstruction can include structure modification and an increase in height provided the building footprint is not expanded and there is no permanent disturbance to the critical area or its buffer. If there is no temporary disturbance to the critical area or buffer, a critical area delineation is required. If the process of reconstruction results in temporary disturbance to the critical Areas Report per RZC Appendix 1 is required.

<u>6.—Reconstruction of thea structure in a critical area or critical area buffer shall not</u> further encroach into the <u>critical area or critical area</u> buffer area or increase the building footprint.<u>The reconstruction can include structure modification and an</u> increase in height provided the building footprint is not increased and there is no site disturbance in the critical area or its buffer. A critical areas delineation is required but a full Critical Areas Report per RZC Appendix 1 is not required.

76. The provisions of RZC 21.76.100.F, Legal Nonconforming Uses and Structures do not apply to Sstructures that are nonconforming solely due to the provisions of this chapter shall not be governed by RZC 21.76.100.F, Legal Nonconforming Uses and Structures. The structure may be increased in height subject to the building height standard of the underlying zoning provided the building footprint is not increased. ModificationsExpansion of to the nonconforming structure may occur. aslf the expansion is outside of the critical areas and their buffers, a critical area delineation is required., may increase in height per the underlying zoning provided the building footprint is not increased. If the expansion is within a critical area or buffer, a Critical Areas Report per RZC Appendix 1 is required, including and must demonstrated mitigation sequencing per RZC 21.64.010.I. Projects under this provision shall submit critical areas reports per RZC Appendix 1, Critical Areas Reporting Requirements.

E. Critical Areas Maps.

1. Critical Areas Generally. The following critical areas maps are adopted and included as a part of this chapter:

- a. Fish and Wildlife Habitat Conservation Areas (Map 64.1);
- b. Critical Wildlife Habitat Map Willows/Rose Hill Neighborhood (Map 64.2);
- cb. Streams Classifications (Map 64.23);
- dc. Wetlands (Map 64.<u>3</u>4);
- ed. Frequently Flooded Areas (Map 64.45);

fe. Critical Aquifer Recharge Areas (Map 64.56);

- f. Critical Aquifer Recharge Areas Full Extent (Map 64.6);
- g. Critical Aquifer Recharge Areas Time of Travel (Map 64.7);
- h. Critical Aquifer Recharge Areas Time of Travel Full Extent Map (Map 64,8);
- <u>gi</u>. Landslide Hazard Areas (Map 64.<u>8</u>7);
- hj. Erosion Hazard Areas (Map 64.<u>98); and</u>
- ik. Seismic Hazard Areas (Map 64.<u>10</u>9)<del>; and</del>.

j.-Critical Aquifer Recharge Areas Full Extent (Map 64.10).

2. These maps shall be used as a general guide only for the assistance of property owners and other interested parties; boundaries are generalized. The actual type, extent, and boundaries of critical areas shall be determined in the field by a qualified consultant according to the procedures, definitions, and criteria established by this chapter. In the event of any conflict between the critical area location and designation shown on the City's map and the criteria or standards of this section, the criteria and standards shall prevail.

F. Relationship to Other Regulations.

1. These critical area regulations shall apply as an overlay and in addition to zoning, land use, and other regulations established by the City of Redmond. In the event of any conflict between these regulations and any other regulations of the City, the regulations which provide greater protection to environmentally critical areas shall apply.

2. Areas characterized by particular critical areas may also be subject to other regulations established by this chapter due to the overlap or multiple functions of some sensitive or critical areas. Wetlands, for example, may be defined and regulated according to the wetland and fish and wildlife habitat conservation area provisions of this chapter. In the event of any conflict between regulations for particular critical areas in this chapter, the regulations which provide greater protection to environmentally critical areas shall apply.

3. 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.

G. Permit Process and Application Requirements.

1. Pre-Application Conference. All applicants are encouraged to meet with the City prior to submitting an application subject to this section. The purpose of this meeting shall be to discuss the City's critical area requirements, processes and procedures; to review any conceptual site plans prepared by the applicant; to identify potential impacts to critical areas and appropriate mitigation measures; and to generally inform the applicant of any federal or state regulations applicable to the subject critical area. Such conference shall be for the convenience of the applicant and any recommendations shall not be binding on the applicant or the City. The pre-application conference provided for in this section shall be consolidated with any pre-application conference held on any land use permit application.

2. Application Requirements.

a. Timing of Submittals. A critical areas report, if applicable, must be submitted to the City during application submittal. This is a required component of determining application completeness. The purpose of the report is to determine the extent, characteristics, and functions of any critical areas located on or that have a potential to be significantly adversely impacted by activities on a site where regulated activities are proposed. The report will also be used by the City to assist in the determination of the appropriate critical area rating and establishment of appropriate buffer requirements in accordance with this chapter.

b. Critical Areas Report Contents. Reports and studies required to be submitted by this chapter shall contain the information indicated in RZC Appendix 1, Critical Areas Reporting Requirements, applicable to each critical area.

3. Consultant Qualifications and City Review. All reports and studies required of the applicant by this section shall be prepared by a qualified consultant as that term is defined in the 21.50.01078, Definitions. The City may, at its discretion and at the applicant's expense, retain a qualified consultant to review and confirm the applicant's reports, studies, and plans.

4. Permit Process. This section is not intended to create a separate critical areas permit process for development proposals. The City shall consolidate and integrate the review and processing of critical areas aspects of proposals with other land use and environmental considerations and approvals.

H. Alteration or Development of Critical Areas - Standards and Criteria. Standards and criteria are set forth in subsequent sections of this chapter.

I. General Mitigation Standard.

1. All significant adverse impacts to critical areas functions and values shall be mitigate<u>d</u>. Mitigation actions by an applicant or property owner shall occur in the following sequence:

a. Avoiding the impact altogether by not taking a certain action or parts of actions;

b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps such as project redesign, relocation, or timing, to avoid or reduce impacts;

c. Rectifying the impact to the critical area by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project;

d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

e. Compensating for the impact by replacing or providing substitute resources or environments; and/or

f. Monitoring the hazard or other required mitigation and taking remedial action when necessary.

J. Other Appropriate Mitigation Actions. Where impacts cannot be avoided and the applicant has exhausted feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards, and criteria of this chapter. In an individual case, these actions may include consideration of alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in subsequent sections of this chapter.

K. Proposed Developments. Development proposed in critical areas shall incorporate and reflect the performance standards contained in subsequent sections of this chapter.

L. Mitigation Standards, Criteria, and Plan Requirements.

1. Mitigation Performance Standards. Significant adverse impacts to critical area functions and values shall be mitigated. Mitigation actions shall be implemented in the preferred sequence identified in RZC 21.64.010.I. General Mitigation Standard, which include less preferred and/or compensatory mitigation shall demonstrate that:

a. All feasible and reasonable measures will be taken to reduce impacts and losses to the critical area or to avoid impacts where avoidance is required by these regulations; and

b. The restored, created or enhanced critical area or buffer will be as viable and persistent as the critical area or buffer area it replaces; and

c. In the case of wetlands and riparian stream corridors, no overall net loss will occur in wetland or riparian stream corridor functions and values.

2. Location and Timing of Mitigation.

a. Mitigation shall be provided on-site, unless on-site mitigation is not scientifically feasible due to physical features of the property. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on-site.

b. When mitigation cannot be provided on-site, mitigation shall be provided in the immediate vicinity of the permitted activity on property owned or controlled by the applicant, such as an easement, provided such mitigation is beneficial to the critical area and associated resources. Credits from a state certified wetland mitigation bank may be used to compensate for wetland impacts consistent with i. below.

c. In-kind mitigation shall be provided except when the applicant demonstrates and the Department concurs that greater functional and habitat value can be achieved through out-of-kind mitigation.

d. Only when it is determined by the Department that subsections L.2.a, L.2.b, and L.2.c of this section are inappropriate and impractical, shall off-site, out-of-kind mitigation be considered.

e. When wetland or riparian stream corridor mitigation is permitted by these regulations on-site or off-site, the mitigation project shall occur near an adequate water supply (river, stream, ground-water, stormwater facility outfall) with a hydrologic connection to the critical area to ensure successful development or restoration.

f. Any agreed upon mitigation proposal shall be completed concurrently with project construction, unless a phased schedule that assures completion prior to occupancy has been approved by the Department.

- g. Wetland acreage replacement ratios shall be as specified in RZC
- 21.64.030.C.<del>7</del>8.b, Wetland Replacement Ratios.

h. Restored or created riparian stream corridors, where permitted by these regulations, shall be an equivalent or higher riparian stream corridor value or function than the altered riparian stream corridor.

i. All off-site mitigation shall be provided within the Redmond city limits.

M. Performance Standards for Mitigation Planning. The performance standards noted in subsequent sections of this chapter shall be incorporated into mitigation plans submitted to the City for impacts to critical areas. Mitigation plans shall contain the information indicated in RZC Appendix 1, Critical Areas Reporting Requirements.

N. Approved Mitigation Projects - Signature. On completion of construction, any approved mitigation project must be signed off by the applicant's qualified consultant and approved by the Department. Signature will indicate that the construction has been completed as planned.

O. Approved Mitigation Projects - Contingency Planning. Approved mitigation projects shall implement the monitoring and contingency planning requirements of RZC 21.64.010.P below.

P. Monitoring Program and Contingency Plan.

1. A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met.

2. A contingency plan shall be established for correction <u>if</u> the mitigation project is inadequate or fails. A performance and maintenance bond or other acceptable security device is required to ensure the applicant's compliance with the terms of the mitigation agreement. The bond or other security shall meet the requirements set forth in RZC 21.76.090.F, Performance Assurance.

3. Monitoring programs prepared to comply with this chapter shall reflect the following guidelines:

a. Use scientific procedures for establishing the success or failure of the project;

b. For vegetation determinations, permanent sampling points shall be established;

c. Vegetative success equals 80 percent per year survival of planted trees and 80 percent cover of shrubs, groundcover, and emergent species, and less than 20 percent cover of invasive species;

d. Submit monitoring reports on the current status of the mitigation project to the Department. The reports are to be prepared by a qualified consultant and reviewed by the City, and shall be produced on the following schedule: 30 days after planting, early in the growing season of the second year, end of the growing season of the second year, and annually thereafter;

e. The monitoring reports shall contain the following information on monitoring method and monitoring components, as relevant:

i. Vegetation Monitoring: Methods shall include counts, photo points, random sampling, sampling plots, transects, visual inspections, and/or other means deemed appropriate by the Department and a qualified consultant. Vegetation monitoring components shall include general appearance, health, mortality, colonization rates, percent cover, percent survival, volunteer plant species, invasive weeds, and/or other components deemed appropriate by the Department and a qualified consultant.

ii. Water Quantity Monitoring: Methods shall include piezometers, sampling points, stream gauges, visual observation, and/or other means deemed appropriate by the Department and a qualified consultant. Water quantity monitoring components shall include water level, peak flows, soil saturation depth, soil moisture within root zone, inundation, overall water coverage, and/or other components deemed appropriate by the Department and a qualified consultant.

iii. Water Quality Monitoring: Methods shall include testing, plant indicators, and/or other means deemed appropriate by the Department and a qualified consultant. Water quality monitoring components shall include temperature, pH, dissolved oxygen, total suspended solids, total metals, herbicides, pesticides, and/or other components deemed appropriate by the Department and a qualified consultant.

iv. Wildlife Monitoring: Methods shall include visual sightings, aural observations, nests, scat, tracks, and/or other means deemed appropriate by the Department and a qualified consultant. Wildlife monitoring components shall include species counts, species diversity, breeding activity, habitat type, nesting activity, location, usage, and/or other components deemed appropriate by the Department and a qualified consultant.

v. Geomorphic Monitoring: Methods shall include cross-sectional surveys, profile surveys, point surveys, photo-monitoring, and/or other means deemed appropriate by the Department and a qualified consultant. Monitoring components shall include location and effect of large woody

debris, depth and frequency of pools, bank erosion, channel migration, sediment transport/deposition, structural integrity of weirs, and/or other components deemed appropriate by the Department and a qualified consultant.

f. Monitoring programs shall be established for a minimum of five years to ensure the performance standards have been met. The project mitigation plan shall include monitoring elements such as those identified above, that ensure certainty of success for the project's natural resource values and functions. If the mitigation goals are not obtained within the initial five-year period, the applicant remains responsible for restoration of the natural resource values and functions until the mitigation goals agreed to in the mitigation plan are achieved;

g. If necessary, correct for failures in the mitigation project;

h. Replace dead or undesirable vegetation with appropriate plantings;

i. Repair damages caused by erosion, settling, or other geomorphological processes to all affected properties and structures, both on and off the property;

j. Redesign mitigation project (if necessary) and implement the new design; and

k. Correction procedures shall be approved by a qualified consultant and the Department.

#### Q. Buffer Areas.

1. The establishment of buffer areas may be required for development proposals and activities in or adjacent to critical areas. The purpose of the buffer shall be to protect the integrity, function, value, and resource of the subject critical area, and/or to protect life, property, and resources from risks associated with development on unstable or sensitive lands. Buffers shall consist of an undisturbed area of native vegetation established to achieve the purpose of the buffer. Lawns, walkways, driveways, paved areas, and mowed or developed areas will not be considered wetland or stream buffers or included in buffer area calculations when assessing whether adequate compensatory mitigation buffers have been provided. If the site has previously been disturbed, the buffer area shall be revegetated pursuant to an approved planting plan. Buffers shall be protected during construction by placement of a temporary barricade, on-site notice for construction crews of the presence of the critical area, and implementation of appropriate erosion and sedimentation controls. 2. Required buffer widths shall reflect the sensitivity of the particular critical area and resource or the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the critical area.

3. See individual critical areas regulations in RZC 21.64.020.B, 21.64.030.B, and 21.64.060.B for required buffer widths.

4. A residential lot approved in a subdivision that has designated streams or wetlands and their associated buffer in a Native Growth Protection Area established at plat approval shall be allowed to be improved honoring the wetland and stream buffers already established in the plat.

5. See also 21.64.010.S regarding hazardous tree removals.

#### R. General Critical Area Protective Measures.

1. Critical Area Markers and Signs.

a. The boundary at the outer edge of critical areas tracts and easement shall be delineated with permanent survey stakes, using iron or concrete markers as established by local survey standards.

b. The boundary at the outer edge shall be identified with temporary signs prior to any site disturbance. The temporary signs shall be replaced with permanent signs prior to occupancy or use of the site. The number and spacing of permanent signs shall be designated by the Planning Department.

c. Stream name signs shall be installed per the City's standard details whenever stream crossings are approved with a land development activity.

2. Critical Area Fencing. In order to inform subsequent purchasers of real property of the location of the critical area buffer boundaries and to discourage encroachment into that buffer, the developer of the property shall install split rail fencing or a similar fencing to allow for the free movement of expected terrestrial wildlife species approved by the Department along the boundary of the critical area. Property owners, or in the case of subdivisions the Homeowners Assocation, shall be responsible for maintenance of critical area fencing.

3. Notice on Title.

a. In order to inform subsequent purchasers of real property of the existence of critical areas, the owner of any property containing a critical area or buffer on which a development proposal is submitted shall file a notice with the King County Department of Records and Elections. The notice shall state the presence of the critical area or buffer on the property, of the application of the Critical Areas Ordinance to the property, and the fact that limitations on actions in or affecting the critical area or buffer may exist. The notice shall run with the land.

b. The applicant shall submit proof that the notice has been filed for public records before the City approves a building permit or, in the case of subdivision of land or binding site plans, at or before recording.

4. Critical Areas Tracts.

a. Critical areas tracts, or other mechanisms as deemed appropriate by the Department, shall be used to delineate and protect contiguous critical areas and buffers. Areas in critical areas tracts can be included in determining gross site density, floor area ratios, and other area and dimensional regulations for five or fewer lots. Critical area tracts may not be used through the preliminary plat process to credit lot area and dimensional regulations for proposed residential lots.

b. Critical areas tracts shall be recorded on all documents of title or record for all affected lots.

c. Critical areas tracts shall be designated on the face of the plat or recording drawing in a format provided by the City Attorney.

d. The City may require that any required critical areas tract be held in an undivided interest by each owner of a building lot within the development, with the ownership interest passing with the ownership of the lot, or held by an incorporated homeowners' association, or other legal entity which assures the ownership, maintenance, and protection of the tract.

S. Hazardous Trees. Hazardous trees physically located within a Native Growth Protection Area (NGPA), Native Growth Protection Easement (NGPE), critical area, or critical area buffer may not be removed. However, hazardous trees within these areas that are within striking distance of a structure may be snagged to avoid potential damage to the structure and provide habitat benefit. The height of the snag shall be less than the striking distance to the structure. Tree remains after snagging shall be left within the NGPA/NGPE, critical area, and critical area buffer. See also RZC 21.72, Tree Regulations.

**ST**. Critical Areas Reasonable Economic Use Exception - Private Property. These standards and regulations are not intended, and shall not be construed or applied in a manner, to deny all reasonable economic use of private property. Any private property owner who claims that strict application of these standards would deny all reasonable economic use of their property may apply for an exception under RZC

21.76.070.U.3, Decision Criteria - Critical Areas Reasonable Economic Use (Private). <u>This is a Type III process.</u>

**TU**. Critical Areas Reasonable Use Exception - Public Project. **1**. Any public agency or City department claiming that strict application of these standards would deny construction of a public project may apply for a Critical Areas Reasonable Use Exception - Public Project under RZC 21.76.070.U.4, Decision Criteria - Critical Areas Reasonable Use (Public Project). This is a Type II process.

(Ord. 2661; Ord. 2803; Ord. 2957; Ord. 2968)

Effective on: 4/27/2019

21.64.020 Fish and Wildlife Habitat Conservation Areas.

A. Classification and Rating of Fish and Wildlife Habitat Conservation Areas.

1. The Growth Management Act identifies fish and wildlife habitat conservation areas. These areas include:

a. Areas with which where endangered, threatened, and sensitive species of concern have a primary association.

i. Federally designated endangered and threatened species are those fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted as necessary for current listing status.

ii. State-designated endangered, threatened, and sensitive species are those fish and wildlife species native to the State of Washington, identified by the Washington State Department of Fish and Wildlife, that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. State-designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered species), and WAC 232-12-011 (state threatened and sensitive species). The Washington State Department of Fish and Wildlife maintains the most current listing and should be consulted as necessary for current listing status. Also included are state candidate species which include fish and wildlife species that the Washington Department of Fish and Wildlife will review for possible listing as endangered, threatened, or sensitive.

b. State Priority Habitats and Areas Associated with State Priority Species. Priority habitats and species are considered to be priorities for conservation and management. Priority species require protective measures for their perpetuation due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority habitats are those habitat types or elements with unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. Priority habitats and species are identified by the Washington State Department of Fish and Wildlife.

c. Habitats and Species of Local Importance. Habitats and species of local importance are those identified by the City of Redmond, including those that possess unusual or unique habitat warranting protection because of qualitative species diversity or habitat system health indicators. The City Council shall formally designate habitats and species of local importance, if any, through the Zoning Code amendment process.

d. Naturally Occurring Ponds Under 20 Acres. Naturally occurring ponds are those ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat, including those artificial ponds intentionally created from dry areas in order to mitigate impacts to ponds. Naturally occurring ponds do not include ponds deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farm ponds, temporary construction ponds, and landscape amenities, unless such artificial ponds were intentionally created for mitigation.

e. Waters of the State. Waters of the state include lakes, rivers, ponds, streams, inland waters, underground waters, and other surface waters and watercourses within the jurisdiction of the State of Washington, as classified in WAC 222-16-031.

f. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity.

g. Land essential for preserving <u>fish and wildlife habitat</u> connections between habitat blocks and open spaces.

<u>h. Riparian Management Zones and riparian ecosystems, including salmonid</u> <u>habitat.</u> 2. To promote consistent application of the standards and requirements of this chapter, fish and wildlife habitat conservation areas within the City of Redmond shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance.

a. Core Preservation Areas. Core preservation areas include those areas of the City which are already protected through other regulatory mechanisms. They include Native Growth Protection Areas, <u>Class IType S</u> streams and their buffers, and <u>Class II through IVTypes Fs</u>, <u>Ff</u>, <u>N</u> and <u>O</u> streams, and other areas similarly protected. They may also include lands where development rights have been sold and some lands with recorded open space easements, depending on the purpose of the easement. The core preservation area includes wetlands and streams and their associated buffers as they become identified at a site-specific level.

b. Species Protection. Species of concern, priority species, and species of local importance shall be protected through management recommendations. "Species of concern" includes those species listed as state endangered, threatened, sensitive, or candidate, as well as those species listed or proposed for listing by the federal government. Priority species are those species considered to be priorities for conservation and management and are identified in the Washington Department of Fish and Wildlife Priority Habitat and Species (PHS) List. In Redmond, "species of local importance" refers to the Great Blue Heron.

c. Quality Habitat Areas. As sites are assessed for development, the Department shall evaluate each site for the presence of quality habitat using the following methodology. Sites will be qualitatively scored based upon several parameters indicative of habitat qualities. These parameters include size, community diversity, interspersion (spatial patterns), continuity, forest vegetation layers, forest age, and invasive plants. This assessment will allow the City to identify remaining quality habitat in the City; to protect remaining quality habitat by imposition of the performance standards outlined in RZC 21.64.020.G, Fish and Wildlife Habitat Conservation Area Performance Standards, so long as there is no significant adverse economic impact to the developer; and to provide incentives to preserve such quality habitat.

d. Riparian <u>StreamManagement</u> <u>CorridorsZones</u>. Riparian <u>streamManagement</u> <u>corridorsZones are the areas with the potential to provide full riparian</u> <u>functions</u>. <u>They</u> include <u>Class I through IV</u> streams and adjacent riparian habitat areas (stream buffers). Streams shall be designated <u>Class I, Class II,</u> <u>Class III, and Class IV</u> <u>Type S, Type Fs, Type Ff, N, and O</u> according to the criteria in this subsection. When more than one classification is present in short, alternating segments on the property in question, it will be classified according to the stream class which is more restrictive. <u>See also WAC 222-16-</u>031 for additional stream classification guidance.

i. "Class IType S" streams are all waters, within the ordinary high water mark, as inventoried as "shorelines of the state" under Chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW, but not including those waters associated with wetlands as defined in Chapter 90.58 RCW. These those streams identified as "Shorelines of the State" under the City of Redmond Shoreline Master Program.

ii. "Class IIType Fs" streams are those natural streamssegments of natural waters that are not Class I Type S and are either perennial or intermittent and have salmonid fish use or the potential for salmonid fish use. These streams have connectivity to Type S streams, confirmed salmonid use, or documented historic presence. The connectivity can be either at the surface or a pipe.

iii. "Class III<u>Type Ff</u>" streams are those natural streams<u>segments of natural</u> waters that are not <u>Class IType S</u> or <u>Class IIType Fs</u> and are either perennial or intermittent and have one of the following characteristics:

A. Non-salmonid fish use or the potential for non-salmonid fish use. <u>They have at less than a two-foot bankful width and a greater than 16%</u> <u>slope where the upstream basin is less than 50 acres or a greater than</u> <u>20% slopes where the upstream basin is greater than 50 acres;</u> or

B. Headwater streams with a surface water connection to salmonbearing or potentially salmon-bearing streams (<del>Class | or II</del><u>Type S or</u> <u>Type Fs</u>).

iv. "Class IV Type N" streams are those natural streams segments of natural waters that are not Class I, Class II, or Class III Type S, Type Fs, or Type Ff. They are either perennial or intermittent, do not have fish or the potential for fish, and are non-headwater streams.

v. "Type O" streams have no natural surface water connection to Ttype S, Fs, Ff, or N.

v<u>i</u>. Intentionally Created Streams. These are manmade streams defined as such in these regulations and do not include streams created as mitigation. Purposeful creation must be demonstrated to the Committee through documentation, photographs, statements, and/or other evidence. Intentionally created streams may include irrigation and drainage ditches, grass-lined swales, or other artificial watercourses unless they are used by salmonid fish or created for the purpose of stream mitigation.

e. Classification of fish and wildlife habitat conservation areas shall be determined by the Department based on consideration of the following factors:

i. Maps adopted pursuant to this chapter, including the fish and wildlife habitat conservation area core preservation areas map, Critical Area Wildlife Habitat Willows/Rose Hill Neighborhood Map, and stream classification map. These maps shall be used as a general guide only for the assistance of property owners and other interested parties; boundaries are generalized. The actual type, extent, and boundaries of fish and wildlife habitat conservation areas and streams shall be determined in the field by a qualified consultant according to the procedures, definitions, and criteria established by this chapter. In the event of any conflict between the critical area location and designation shown on the City's map and the criteria or standards of this section, the criteria and standards shall prevail;

ii. Department of Fish and Wildlife priority habitat and species maps;

iii. Anadromous and resident salmonid distribution maps contained in the habitat-limiting factors reports published by the Washington State Conservation Commission;

iv. Federal and state information and maps related to species of concern;

v. Application of the criteria contained in these regulations; and

vi. Consideration of the technical reports submitted by qualified consultants in connection with the applications subject to these regulations.

#### B. Stream Buffers Riparian Management Zones.

1. <u>Stream buffersRiparian Management Zones, also referred to as stream buffers</u> <u>in these regulations</u>, shall be sufficiently wide to achieve the full range of riparian and aquatic ecosystem functions, which include but are not limited to protection of instream fish habitat through control of temperature and sedimentation in streams, preservation of fish and wildlife habitat, and connection of riparian wildlife habitat to other habitats.

2. Stream buffers shall be measured perpendicular from the ordinary high water mark. <u>Existing streams in pipes do not require buffers.</u>

3. A 15-foot building setback is required from the edge of a riparian management zone.

<u>34</u>. The following stream buffers<u>Riparian Management Zones</u> are established for streams:

<u>Table 21.64.020</u> Riparian Management Zone (RMZ)		
Riparian Stream Corridor Type	RMZ Width (feet)	
Type S	200	
Type Fs	<u>150</u>	
<u>Type Ff</u>	<u>100</u>	
Type N	<u>50</u>	
<u>Type O</u>	<u>25</u>	

Table 21.64.020 Stream Buffers		
Riparian Stream Corridor Classification	Stream Buffer Width (feet)	
Class I		
Sammamish River north of PSE powerline crossing	<del>150-foot inner buffer + 50-foot outer</del> <del>buffer</del>	
Sammamish River south of PSE powerline crossing	<del>150 feet</del>	
Bear Creek west of Avondale Road	<del>150 feet</del>	
Bear Creek east of Avondale Road	<del>150-foot inner buffer + 50-foot outer</del> <del>buffer</del>	
Evans Creek	<del>150-foot inner buffer + 50-foot outer</del> <del>buffer</del>	
<del>Class II</del>		
Class II	100 feet + 50-foot outer buffer	
Class III		
Class III	<del>100 feet</del>	

Class IV	
Perennial	<del>36 feet</del>
Intermittent	<del>25 feet</del>

5. Temporary stream buffer impacts shall be mitigated at a ratio of at least 1:1 area for area.

6. Functionally Disconnected Buffer Area. Buffers may exclude areas that are functionally and effectively disconnected from the stream by an existing public or private road or legally established development, as determined by the Administrator. Functionally and effectively disconnected means the road or other significant development blocks the protective measures provided by a buffer.

47. Increased Stream Buffer Widths. The recommended stream buffer widths may be increased as follows:

a. When the Department determines that the recommended width is insufficient to prevent habitat degradation and to protect the structure and functions of the habitat areas;

b. When the frequently flooded area exceeds the recommended stream buffer width, the stream buffer shall extend to the outer edge of the frequently flooded area;

c. When the stream buffer is within a landslide hazard area or its buffer, the stream buffer shall be the recommended distance, or the landslide hazard area buffer, whichever is greater. Similarly, if the stream buffer is within an erosion hazard area, the stream buffer shall be the recommended distance or the extent of the erosion hazard area.

58. Reduced Stream Buffer Widths. Stream buffer widths must meet the required width as described in the table in subsection B.<u>3-4</u> above in this section. This does not refer to stream buffer width averaging. See below provisions under which stream buffer width averaging is permitted.

<u>69</u>. Stream Buffer Width Averaging. The Administrator may allow the recommended stream buffer width to be reduced in accordance with best available science only if:

a. The width reductions will not reduce stream or habitat functions, including those of non-fish habitat;

b. The width reduction will not degrade the habitat, including habitat for salmonid fisheries;

c. The proposal will provide additional habitat protection<u>a net improvement in</u> <u>overall buffer ecological functions;</u>

d. Averaging shall not preclude the opportunity for future recovery of structure and function;

<u>de</u>. The total area contained in the stream buffer area after averaging is no less than that which would be contained within the standard stream buffer area; <del>and</del>

ef. The buffer width is not reduced to less than 25 percent of the standard stream buffer width or  $\frac{2550}{2550}$  feet, whichever is greater.; and

g. The use of stream buffer averaging does not expand the buffer further onto any adjoining property not a part of the subject land development application.

7.–For Class II streams, buffer averaging may be applied to the inner buffer. The following provisions apply to the inner buffer:

a.–The width of the inner buffer shall not be reduced below 75 percent of the required inner buffer width at any point;

b.-Encroachment shall not occur into the buffer of an associated wetland;

c.–The area of the inner buffer after averaging shall be equivalent to the area of the inner buffer prior to averaging;

d.–There is a net improvement in overall buffer ecological functions; and

e.–Averaging shall not preclude the opportunity for future recovery of structure and function.

8.—For Class I and II streams, maximum clearing and grading within the outer 50foot buffer is 35 percent of the outer buffer area. Nothing in this provision shall be construed to require remediation of existing situations where the current clearing and grading is in excess of 35 percent. No net effective impervious surface may be created within this area.

 $9\underline{10}$ . No structures or improvements shall be permitted within the stream buffer, including buildings, decks, and docks, except as otherwise permitted or required under the City's adopted Shoreline Master Program, or under one of the following circumstances:

a. When the improvements are part of an approved rehabilitation or mitigation plan; or

b. For construction of new road crossings and utilities, and accessory structures, when no feasible alternative location exists; or

c. Trails, according to the following criteria:

i. Constructed of permeable materials. Gravel is considered impermeable.;

ii. Designed to minimize impact on the stream system;

iii. Of a maximum trail corridor width of six feet; and

iv. Located within the outer <u>half25%</u> of the buffer; i.e., the portion of the buffer that is farther away from the stream; See also RZC 21.68.180, Shoreline Access, for trail construction in shorelines of the state; <u>and</u>

v. Located to minimize the need for tree removal.

- d. Footbridges; or
- e. Minor educational facilities, such as informational signs; or

f. Stormwater conveyance systems, provided that they are designed to maintain the buffers' functions and values<del>; or</del>.

g.–When improvements are part of an approved plan consistent with the no net effective impervious surface provisions of (8) above.

<u>11. Mitigation Requirements. Mitigation measures shall achieve equivalent or greater ecological function including, but not limited to:</u>

a. Habitat complexity, connectivity, and other biological functions;

b. Seasonal hydrological dynamics, water storage capacity and water quality; and

c. Geomorphic and habitat processes and functions.

1012. Businesses currently located in the stream buffers may continue to operate. A nonconforming use may be expanded provided the expansion does not create significant additional impacts to the stream buffers. Nonconforming structures may be maintained and repaired, and may be enlarged or expanded provided said enlargement does not extend the structure closer to the riparian stream corridor. <u>1113</u>. Where an approved City capital improvement project moves the ordinary high water mark of a stream from its pre-project location, the buffer width for adjacent properties shall continue to be measured from the pre-capital improvement project ordinary <u>high-water</u> mark.

1214. Nothing in this section shall be construed to require the removal of existing structures within stream buffers.

C. Alteration of Fish and Wildlife Habitat Conservation Areas - Generally. Alteration of fish and wildlife habitat conservation areas may only be permitted subject to the criteria in <u>RZC 21.64.020.D</u>, RZC 21.64.020.E, RZC 21.64.020.F, <u>and RZC 21.64.020.C</u>, RZC 21.64.040.C<u>B</u>, <del>RZC 21.64.050.C</del>, and <u>RZC 21.64.020.D</u>.

D. Alteration of Riparian Stream Corridors.

1. Relocation of a Class I, II, or III Type S, Fs, or Fs riparian stream corridor in order to facilitate general site design will not be allowed. Relocation of these riparian stream corridors may take place only when it is part of an approved mitigation or rehabilitation plan, will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream. Type N and O streams may be relocated to facilitate general site design provided the criteria in this section are met.

2. Bridges shall be used to cross <del>Class IType S</del> streams.

3. Culverts are allowable only under the following circumstances:

a. Only in Class II, III, and IVType Fs, Ff, N, and O streams;

b. When fish passage and wildlife movement will not be impaired;

c. When the design criteria of the Washington State Department of Fish and Wildlife, Design of Road Culverts for Fish Passage, 2003, <u>as revised</u> are met; <del>and</del>

d. When culverts are designed to be resilient to future changes in stream conditions due to climate change; and

<u>de</u>. The applicant or successors shall, at all times, keep any culvert free of debris and sediment to allow free passage of <u>the 100-year flow and associated</u> <u>debris water</u> and, if applicable, <u>all life stages of all</u> fish <u>species</u>.

4. Stream-bank stabilization to protect new <u>or existing</u> structures from future channel migration is not permitted except when such stabilization is achieved through bioengineering or soft <u>armoringstabilization</u> techniques in accordance

with an approved critical areas report. <u>The potential for channel migration, wind</u> and wave action, and climate change shall be taken into consideration when <u>determining if bank protection is warranted in the future.</u>

5. All stream crossings shall be designed according to the Department of Fish and Wildlife's Water Crossing Design Guidelines, 2013, as revised.

56. Construction of roads and minor road bridging may be permitted in accordance with an approved critical areas report subject to the following:

a. There is no other feasible alternative route with less impact on the environment;

b. The crossing minimizes interruption of downstream movement of wood and gravel;

c. Roads in riparian habitat areas shall not run parallel to the water body;

d. Crossings, where necessary, shall only occur as near to perpendicular with the water body as possible;

e. Mitigation for impacts is provided pursuant to an approved mitigation plan; and

f. Road bridges are designed according to the Department of Fish and Wildlife Design of Culverts for Fish Passage, 2003, <u>as revised</u>, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, <u>as revised</u>.

<u>67</u>. The City may require that a stream be removed from a culvert <u>and/or</u> <u>stormwater pipe</u> as a condition of approval, unless <u>the culvertit</u> is not detrimental to fish habitat or water quality, or removal would be detrimental to fish or wildlife habitat or to water quality. <u>The latter shall be documented by a qualified</u> <u>consultant based upon best available science and requires concurrence by the Department.</u>

### E. Alteration of Fish and Wildlife Habitat Conservation Areas.

1. Alterations that create adverse impacts to core preservation areas shall be avoided, subject to Section 21.64.010.<u>ST</u>, Critical Areas Reasonable Economic Use Exception - Private Property, and Section 21.64.010.<u>TU</u>, Critical Areas Reasonable Use Exception - Public Project.

2. Species Protection. Species management recommendations for development impacting species of concern, priority species, and species of local importance

shall be implemented. Management recommendations are based on the following factors: species recommendations of the Washington State Department of Fish and Wildlife; recommendations contained in the wildlife study submitted by a qualified consultant; and the nature and intensity of land uses and activities occurring on the site and on adjacent sites.

3. Alteration of Quality Habitat Areas. RZC 21.64.020.G, Fish and Wildlife Habitat Conservation Area Performance Standards, shall apply to quality habitat areas unless application of such standards would result in a significant adverse economic impact on the owner or developer.

F. Riparian Stream Corridor Performance Standards. The following standards apply to riparian stream corridor restoration and enhancement:

1. Use plants indigenous to the region (not introduced or foreign species);

- 2. Use plants adaptable to a broad range of water depths;
- 3. Plants should be commercially available or available from local sources;
- 4. Plant species high in food and cover value for fish and wildlife must be used;
- 5. Plant mostly perennial species;

6. Avoid committing significant areas of the site to species that have questionable potential for successful establishment;

7. Plant selection must be approved by a qualified consultant and the City;

8. Substrate should consist of a minimum of one foot, in depth, of clean (uncontaminated with chemicals or solid/hazardous wastes) inorganic/organic materials;

9. Planting densities and placement of plants <u>shall follow those identified in REZC</u> <u>Appendix 1, Critical Areas Reporting Requirements</u> <del>should be determined by a</del> <del>qualified consultant</del> and shown on the design plans;

10. The planting plan must be approved by the Department;

11. Confine stockpiling to upland areas and ensure contract specifications should limit stockpiling of earthen materials to durations in accordance with City clearing and grading standards, unless otherwise approved by the Committee;

12. Planting instructions shall be submitted which describe proper placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock;

13. Apply controlled-release nonphosphorus fertilizer at the time of planting and afterward only as plant conditions warrant (determined during the monitoring process);

14. Install an irrigation system, if necessary, for the initial establishment period;

15. Construction specifications and methods must be approved by a qualified consultant and the Department;

16. Construction management should occur by a qualified consultant and be inspected by the City; and

17. Limit the use of pesticides near streams.

G. Fish and Wildlife Habitat Conservation Area Performance Standards. The following standards shall apply to all sites where a species protected under this chapter has been identified. These standards shall also apply to sites where quality habitat has been identified unless application of any of these standards would result in a significant adverse economic impact on the owner or developer.

1. Relevant performance standards from RZC 21.64.020.F, Riparian Stream Corridor Performance Standards, and RZC 21.64.030.D, Wetlands Performance/Design Standards, as determined by the Department, shall be incorporated into mitigation plans.

2. The following additional mitigation measures shall be reflected in mitigation planning:

a. ConsiderIncorporate habitat in site planning and design;

b. Locate buildings and structures in a manner that preserves and minimizes adverse impacts to important habitat areas;

c. Integrate retained habitat into open space and landscaping, consistent with the provisions of RZC 21.32, Landscaping;

d. Where possible, consolidate habitat and vegetated open space in contiguous blocks;

e. Locate habitat contiguous to other habitat, open space, or landscaped areas to contribute to a continuous system or corridor that provides connections to adjacent habitat areas;

f. Use native species in any landscaping of disturbed or undeveloped areas and in any enhancement of habitat or buffers;

g. Emphasize heterogeneity and structural diversity of vegetation in landscaping;

h. Limit soil compaction;

i. Remove fish barriers;

j. Increase off-channel habitat;

k. Increase presence of large wood;

<u>h</u>]. Remove and/or control any noxious weeds or animals <u>following state</u> <u>protocol and provide the City 48 hours' notice in advance of the workas</u> <del>defined by the City</del>; and

im. Preserve significant trees, preferably in groups, consistent with RZC 21.72, Tree Preservation, and with achieving the objectives of these standards.

3. Landscape plan shall be submitted consistent with the requirements of RZC 21.32.040, Landscape Area Requirements, and with the goals and standards of this chapter. The plan shall reflect the report prepared pursuant to RZC 21.64.010.G, Permit Process and Application Requirements.

(Ord. 2968)

Effective on: 4/16/2011

21.64.030 Wetlands.

A. Classification and Rating of Wetlands. To promote consistent application of the standards and requirements of this chapter, wetlands within the City of Redmond shall be classified according to their characteristics, function and value, and/or their sensitivity to disturbance. Wetlands shall be rated and regulated according to the categories defined by the Washington State Department of Ecology Wetland Rating System for Western Washington (Ecology Publication No. 14-06-029) as revised. This document contains the methods for determining the wetland category.

1. Wetland Classification. Wetlands, as defined by this chapter, shall be designated Category I, Category II, Category III, and Category IV.

a. Category I wetlands are those wetlands that represent a unique or rare wetland type, are more sensitive to disturbance than most wetlands, are relatively undisturbed, and contain ecological attributes that are impossible to replace within a human lifetime, or provide a high level of functions. All wetlands with one or more of the following criteria shall be considered a Category I wetland:

i. Wetlands that are identified by scientists of the Washington Natural Heritage Program/DNE as high-quality, relatively undisturbed wetlands, or wetlands that support state-listed threatened or endangered plants; or

ii. Bogs; or

iii. Mature and old-growth forested wetlands over one acre in size; or

iv. Wetlands that provide a very high level of functions as evidenced by a score of 23 points or more on the Western Washington Rating System form.

b. Category II wetlands are those wetlands that provide high levels of some functions which are difficult to replace. Category II wetlands meet the following criteria:

i. Wetlands scoring between 20 to 22 points on the Western Washington Rating System form; or

ii. Wetlands that do not meet the criteria of Category I.

c. Category III wetlands are those wetlands that provide a moderate level of functions. They are typically more disturbed and have less diversity or are more isolated from other natural resources in the landscape. Category III wetlands meet the following criteria:

i. Wetlands scoring between 16 to 19 points on the Western Washington Rating System form; or

ii. Wetlands that do not meet the criteria of Category I.

d. Category IV wetlands are those wetlands that provide the lowest level of function. These wetlands score less than 16 points on the Western Washington Rating System form.

2. Classification of wetlands shall be determined by the Committee based on consideration of the following factors:

a. Maps adopted pursuant to this chapter, including the wetland map, which identifies the approximate location and extent of wetlands. This map shall be used as a general guide only for the assistance of property owners and other interested parties; boundaries are generalized. The actual type, extent, and boundaries of wetlands shall be determined in the field by a qualified consultant according to the procedures, definition, and criteria established by this chapter. In the event of any conflict between the critical area location and designation shown on the City's map and the criteria or standards of this section, the criteria and standards shall prevail;

b. National Wetlands Inventory Maps prepared by the U.S. Fish and Wildlife Service;

c. Application of the criteria contained in these regulations; and

d. Consideration of the technical reports submitted by qualified consultants in connection with applications subject to these regulations.

3. Identification and Delineation. Identification of wetlands and delineation of their boundaries pursuant to this Chapter shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplement. All areas within the City meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this chapter. Wetland delineations shall be documented on a ground verified map using either professional surveying methods or an equivalent professional method using GPS with sub-meter accuracy. Wetland delineations are valid for five years; after such date the City shall determine whether a revision or additional assessment is necessary.

B. Wetland Buffers.

Wetland buffers are vegetated areas adjacent to wetlands that can reduce impacts from adjacent land uses through physical, chemical, and biological processes. They provide their own habitat, water quality and quantity, and climate change mitigation values independent of wetlands.

1. Required buffer widths shall reflect the sensitivity of the particular wetland or the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the critical area.

2. Wetland buffers shall be measured perpendicular from the wetland edge as delineated and marked in the field.

3. A 15-foot building setback is required from the edge of a wetland buffer.

<u>4.</u> Wetland buffers shall be established as follows:

# Table 21.64.030A.1Wetland Buffer Requirements

	Buffer Width (feet) Based on Habitat Score		
	3-5 points	6-7 points	8-9 points
Wetland Category			
Category I: Wetlands of High Conservation Value	<del>250<u>N/A</u></del>	<del>250<u>N/A</u></del>	300
Category I	100	150	300
Category II	100	150	300
Category III	80	150	300
Category IV	50	50	50

5. Wetlands that score six points or more for habitat function can use the buffers in Table 21.64.030A.2 below provided all of the below criteria are met. For wetlands that score five or fewer habitat points, only the measures in Table 21.64.030.A3 are required.

- a. A relatively undisturbed vegetation corridor at least 100 feet wide is protected between the wetland and:
  - i. A legally protected, relatively undisturbed and vegetated area (e.g. Priority Habitats, compensatory mitigation sites, wildlife areas/refuges, county and state parks where they have management plans with identified areas designated as Natural, Natural Forest, or Natural Area Preserve), or
  - ii. An area that is the site of a Watershed Project, identified within, and fully consistent with, a Watershed Plan as defined by RCW 89-08-460, or
  - iii. An area where development is prohibited according to the provisions of the City's Shoreline Master Program, or
  - iv. An area with equivalent habitat quality that has conservation status in perpetuity, in consultation with WDFW.

- b. The corridor is permanently protected for the entire distance between the wetland and the shoreline or legally protected area by a conservation easement, deed restriction, or other legal site protection mechanisms.
- c. Presence or absence of the shoreline or Priority Habitat must be confirmed by a qualified biologist and Shoreline Administrator.
- d. The measures in Table 21.64.030A.3 are implemented, as applicable, to minimize impacts of the adjacent land uses.

## Table 21.64.030A.2

Wetland Buffer Requirements When Table 21.64.030A.3 is Implemented and a Habitat Corridor is Provided

Buffer Width Based on Habitat Score (feet)			
	Buffer Width (feet) Based on Habitat Score		
	3-5 points ( <u>Corridor Not</u> <u>Required)</u>	6-7 points	8-9 points
Wetland Category			
Category I: Wetlands of High Conservation Value	<del>190<u>N/A</u></del>	<del>190<u>N/A</u></del>	225
Category I	75	110	225
Category II	75	110	225
Category III	60	110	225
40Category IV	<del>5</del> 40	40	40

6. Developments that produce the listed disturbances in Table 21.64.030A.3 and are requesting a buffer reduction are required to address the disturbance through the use of all minimization measures identified below.

Table 21.64.030A.3           Requirement Measures to Minimize Impacts to Wetlands Measures Required		
Examples of Disturbance	• Required Measure to Minimize ImpactsActivities and uses that cause disturbance	Examples of measures to minimize impacts
Lights	<ul> <li>Direct lights away from wetland</li> <li>Parking lots</li> <li>Commercial/Industrial</li> <li>Residential</li> <li>Recreation (e.g., athletic fields)</li> <li>Agricultural buildings</li> </ul>	<ul> <li><u>Direct lights away from</u> <u>wetland</u></li> <li><u>Only use lighting where</u> <u>necessary for public safety</u> <u>and keep lights off when not</u> <u>needed</u></li> <li><u>Use motion-activated</u> <u>lights</u></li> <li><u>Use full cut-off filters to</u> <u>cover light bulbs and direct</u> <u>light only where needed.</u></li> <li><u>Limit use of blue-white</u> <u>colored lights in favor of</u> <u>red-amber hues</u></li> <li><u>Use lower-intensity LED</u> <u>lighting</u></li> <li><u>Dim light to the lowest</u> <u>acceptable intensity</u></li> </ul>
Noise	<ul> <li>Locate activity that generates noise away from wetland</li> <li>If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source</li> <li>For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry, establish an additional 10' heavily vegetated buffer strip immediately adjacent to the outer wetland buffer</li> <li>Commercial</li> </ul>	<ul> <li>Locate activity that generates noise away from wetland</li> <li>Construct a fence to reduce noise impacts on adjacent wetland and buffer</li> <li>Plant a strip of dense shrub vegetation adjacent to wetland buffer.</li> </ul>

		1
	<ul> <li>Industrial</li> <li>Recreation (e.g. athletic fields, bleachers, etc.)</li> <li>Residential</li> <li>Agriculture</li> </ul>	
Toxic Runoff	<ul> <li>Parking Lots</li> <li>Roads</li> <li>Commercial/Industrial</li> <li>Industrial</li> <li>Residential areas</li> <li>Application of pesticides</li> <li>Landscaping</li> <li>Agriculture</li> <li>Route all new, untreated</li> <li>runoff away from wetland</li> <li>while ensuring wetland is not</li> <li>dewatered</li> <li>Establish covenants limiting</li> <li>use of pesticides within 150</li> <li>feet of wetland</li> <li>Apply integrated pest</li> </ul>	<ul> <li>Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered</li> <li>Establish covenants limiting use of pesticides within 150 feet of wetland</li> <li>Apply integrated pest management (These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)</li> </ul>
Stormwater Runoff	<ul> <li>management</li> <li>Retrofit stormwater detention and treatment for roads and existing adjacent developments</li> <li>Prevent channelized flow from lawnsdisturbed or developed areas that directlydirectly enterings the buffer</li> <li>Use Low Impact Development techniques</li> <li>Parking lots</li> <li>Roads</li> <li>Residential areas</li> <li>Commercial/industrial</li> <li>Recreation</li> <li>Landscaping/lawns</li> <li>Other impermeable surfaces, compacted soils, etc.</li> </ul>	<ul> <li>Retrofit stormwater detention and treatment for roads and existing adjacent developments</li> <li>Prevent channelized or sheet flow from lawns that directly enters the buffer</li> <li>Infiltrate or treat, detain, and dispense new runoff from impervious surfaces and lawns</li> </ul>
<del>Changes in Water</del> <del>Regime</del>	<ul> <li>Infiltrate or treat, detain, and disperse into buffer new<u>the</u> runoff from <u>new</u> impervious surfaces and new lawns</li> </ul>	
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Pets and Human Disturbance	<ul> <li>Use fencing or plant dense vegetation to delineate buffers edge and to discourage disturbance using vegetation appropriate for the ecoregion</li> <li>Place wetland and its buffer in a separate tract</li> <li>Residential areas</li> <li>Recreation</li> </ul>	<ul> <li>Use privacy fencing</li> <li>Plant dense native</li> <li>vegetation to delineate</li> <li>buffer edge and to</li> <li>discourage disturbance</li> <li>Place wetland and its</li> <li>buffer in a separate tract</li> <li>Place signs around the</li> <li>wetland buffer every 50-200</li> <li>feet, and for subdivisions</li> <li>place signs at the back of</li> <li>each residential lot</li> <li>When platting new</li> <li>subdivisions, locate</li> <li>greenbelts, stormwater</li> <li>facilities, and other lower-</li> <li>intensity uses adjacent to</li> </ul>
Dust	<ul> <li>Use best management practices to control dust</li> <li><u>Tilled fields</u></li> <li><u>Roads</u></li> </ul>	Use best management     practices to control dust

Elements in Table 21.64.030A.3 shall be fully documented by a qualified wetland professional.

7. The required buffer widths identified in the tables above assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions the buffer must either be planted to create the appropriate native plant community or be widened to ensure that the buffer provides adequate functions to protect the wetland.

38. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be that required for the category of the wetland.

<u>9. Temporary buffer impacts shall be mitigated at a ratio of at least 1:1, area for area.</u>

10. Functionally Disconnected Buffer Area. Buffers may exclude areas that are functionally and effectively disconnected from the wetland by an existing public or private road or legally established development, as demonstrated in a report from a qualified wetland biologist and accepted by the Administrator. Functionally and effectively disconnected means the road or other significant development blocks the protective measures provided by a buffer.

**411**. Increased Buffer Widths. The Department may extend the width of the buffer in accordance with the recommendations of a qualified wetland professional 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. The determination shall be supported by appropriate documentation showing that it is reasonably related to protection of the functions and values <u>of</u> the wetland. The documentation must include the following criteria:

a. The wetland is used by a state or federally listed plant or animal species (species listed under WAC 220-610-010, 50 CFR 17-11, 50 CFR 17-12, or other federal or state regulations) or has essential or outstanding habitat for those species, or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees; or

<u>b. The wetland has critical habitat; or a priority area for a priority species as</u> <u>defined by WDFW; or wetlands of High Conservation Value as defined by the</u> <u>WA Department of Natural Resources' Natural Heritage Program; or</u>

 $b_{\underline{c}}$ . The adjacent land is susceptible to severe erosion, and erosion-control measures will not effectively prevent adverse wetland impacts; or

<u>cd</u>. The adjacent land has minimal vegetation cover or slopes greater than 30 percent.

512. Wetland Buffer Width Averaging. Wetland buffer widths may be modified by averaging buffer widths to improve wetland protection as set forth herein. The Department may allow modification of the standardapplicable wetland buffer width in accordance with the best available science on a case-by-case basis by averaging buffer widths. Averaging buffer widths may only be allowed when all of the following conditions are met as demonstrated by a qualified wetland professional:

a. It will not reduce the functions or values;

b. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from increased buffers adjacent to the higher functioning area of habitat or more sensitive portion of the wetland and would

not be adversely impacted by a decreased buffer adjacent to the lowerfunctioning or less-sensitive portion of the wetland;

c. The total area contained in the buffer area after averaging is equal to the area required in the standardrequired buffer without averaging;

d. The buffer width is not reduced more than 25 percent of the<u>at its narrowest</u> point is never less than 75% of the required buffer width or 75 feet for Category I and II wetlands, - 50 feet for Category III wetlands, and 25 feet for Category IV wetlands, whichever is greater and;

e. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component<u>or a dual rated wetland with a Category I area</u> adjacent to a lower rated wetland<del>;</del> and

f. The use of wetland buffer averaging does not expand the buffer further onto any adjoining property not a part of the subject land development application.

<u>136</u>. <u>Above ground Ss</u>tormwater management facilities\_, such as biofiltration swales, and outfalls, may be located within the outer 25 percent of the buffer, provided that no other location is feasible, and the location of such facilities will not degrade the functions or values of the wetland. Stormwater ponds must be located outside of the required buffer. Underground vaults are also permitted within the outer 25 percent of the buffer and the area above the vault is planted with native vegetation.

14. Drilling for utilities/utility corridors is permitted under a buffer, with entrance/exit portals located completely outside of the wetland buffer boundary, provided that the drilling does not alter the groundwater connection to the wetland or percolation of surface water down through the soil column. This shall be demonstrated by specific studies prepared by a licensed hydrologist.

C. Alteration of Wetlands.

1. Draining or disturbing a wetland is prohibited, except as provided for in this Chapter. Disturbances include changing the physical structure within a wetland, changing the amount and velocity of water, and changing the fluctuation of water levels.

2. Wetland alteration shall result in no net loss of wetland area, except where the following criteria are met:

a. The lost wetland area provides minimal functions and the mitigation action(s) results in a net gain in wetland functions as determined by a site-specific assessment; or

b. The lost wetland area provided minimal functions as determined by a sitespecific functional assessment and other replacement habitats provide greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

3. Category I Wetlands. Alterations of Category I wetlands shall be prohibited subject to the reasonable use provisions of this chapter.

4. Category II, III, and IV Wetlands.

a. Any proposed alteration and mitigation shall comply with the mitigation performance standards and requirements of these regulations; and

b. No net loss of wetland function and value may occur.

c. Where enhancement or replacement is proposed, ratios shall comply with the requirements of subsection C.7 below in this section.

5. Mitigation for alterations to wetlands shall achieve equivalent or greater biological functions. Mitigation plans shall be consistent with the Department of Ecology Guidance on Wetland Mitigation in Washington State, Part 2: Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, April, 2004, as revised.

6. Mitigation actions shall address functions affected by the alteration to achieve functional equivalency or improvement, and shall provide similar wetland functions as those lost except when:

a. The filled/impacted wetland provides minimal functions as determined by a site-specific function assessment; and the proposed mitigation action(s) will provide equal or greater functions, or will provide functions shown to be limiting within a watershed through a formal watershed assessment plan or protocol; or

b. Out-of-kind replacement will best meet formerly identified regional goals, such as replacement of historically diminished wetland types.

7. Mitigation actions that require compensation by replacing, enhancing, or substitution shall occur in the following order of preference:

a. <u>Creating or establishing wetlands on disturbed upland sites, such as those</u> with vegetative cover consisting primarily of exotic introduced species. <del>Preserving high-quality wetlands that are under imminent threat.</del>

b. <u>RestoringReestablishing</u> wetlands on upland sites that were formerly wetlands.

c. Creating wetlands on disturbed upland sites, such as those with vegetative cover consisting primarily of exotic introduced species. Rehabilitating a degraded wetland by restoring its hydrological processes.

d. Preserving high-quality wetlands that are under imminent threat.

<u>e</u><del>d</del>. Enhancing significantly degraded wetlands <u>to heighten, intensify, or</u> <u>improve specific wetland functions</u>.

8. Wetland Replacement Ratios.

a. Where wetland alterations are permitted by the City, the applicant shall restore or create areas of wetlands in order to compensate for wetland losses. Equivalent areas shall be determined according to acreage, function, type, location, timing factors, and projected success of restoration or creation.

b. When creating or enhancing wetlands, the following acreage replacement ratios shall be used:

Table 21.64.030B Acreage Replacement Ratios				
Category and Type of Wetland	Creation or Reestablish <u>-</u> ment <u>or</u> Creation	Rehabilitation <del>(Restoration)<u>o</u></del>	Enhancement OnlyPreservation	<u>Enhancement</u>
Category I Forested	6:1	12:1	24:1	<u>24:1</u>
Category I based on function	4:1	8:1	16:1	<u>16:1</u>
Category II	3:1	6:1	12:1	<u>12:1</u>
Category III	2:1	4:1	8:1	<u>8:1</u>

				<u>6:1</u>
Category <mark>+</mark> IV	1.5:1	3:1	6:1	

c. These ratios do not apply to the use of credits from a state certified wetland mitigation bank. When credits from a certified bank are used, replacement ratios shall be consistent with the requirements of the <u>certified</u> mitigation banking instrument.

d. Enhanced and created wetlands shall be appropriately classified and buffered.

e. The following areas within a proposed compensation site shall not contribute to satisfying the requirements for compensatory mitigation:

<u>i. Easements for utility corridors, stormwater facilities, rights-of-way, and streams conveyed underground.</u>

<u>ii. Driveways</u>

<u>iii. Roads</u>

iv. Any paved or graveled areas intended to convey vehicle or foot traffic.

<u>9</u>. Indirect Impacts. Indirect impacts, also known as paper fill, are adverse effects on wetlands that occur outside the footprint of direct impacts. Indirect impacts result in a reduction of wetland function, and compensatory mitigation is needed to offset these losses.

a. Determine the extent of indirect impact by taking the required buffer width from the edge of the proposed development extending into the wetland. The superimposed area within the wetland would be the area of indirect impacts.

b. Compensation for indirect impacts shall be one-half of the recommended ratio for permanent impacts identified in Table 21.64.030B. If more than half of the wetland is affected by indirect impacts, the replacement ratios established in Table 21.64.030B shall be used.

#### 10.Temporary Impacts

a. Short-term temporary impacts last for a limited time, and functions return to pre-impact performance within about a year or within one growing season. Wetland impacts are considered short term only if it involves emergent vegetation or cutting shrubs without removing roots. Mitigation for short-term temporary impacts occur at a 1:1 replacement ratio returning the area to preproject conditions and planting with native species. b. Long-term temporary impacts affect functions that will eventually be restored or recover over time, but not within a year or so. Long-term temporary impacts carry a risk of permanent loss, such as when soil structure is altered by deep excavation or compacted by equipment. Mitigation for longterm temporary impacts lasting less than two years shall be one quarter of the require replacement ratios identified in Table 21.64.030B. Restoration activities shall be completed within two years. Long-term temporary impacts lasting longer than two years shall mitigate at the replacement ratios identified in Table 21.64.030B.

D. Wetlands Performance/Design Standards.

1. Use plants indigenous to the Pacific Northwest region (not introduced or foreign species)Plantings used in mitigation actions shall be native species appropriate to the ecoregion;

2. Use plants adaptable to a broad range of water depths;

3. Plants should be commercially available or available from local sources;

4. Plant species high in food and cover value for fish and wildlife must be used;

5. Avoid committing significant areas of the site to species that have questionable potential for successful establishment;

6. Plant selection must be approved by a qualified wetland specialist;

7. Water depth is not to exceed six and one-half feet (two meters);

8. The grade or slope that water flows through the wetland is not to exceed six percent for wetland creation sites;

9. Slopes within the wetland basin and the buffer zone may not be steeper than 3:1 (horizontal to vertical) for wetland creation sites;

10. Substrate should consist of a minimum of one foot, in depth, of clean (uncontaminated with chemicals or solid/hazardous wastes) inorganic/organic materials for wetland creation sites;

11. Planting densities and placement of plants should be determined by a qualified wetland professional and shown on the design plans;

12. The planting plan must be approved by the Department;

13. Confine stockpiling to upland areas and ensure contract specifications limit stockpiling of earthen materials to durations in accordance with City clearing and grading standards, unless otherwise approved by the Committee;

14. Planting instructions shall be submitted which describe proper placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock;

15. Apply controlled-release, non-phosphorus fertilizer at the time of planting and afterward only as plant conditions warrant (determined during the monitoring process);

16. Install an irrigation system, if necessary, for the initial establishment period;

17. Construction specifications and methods must be approved by a qualified consultant and the Department; and

18. Construction management should occur by a qualified consultant and be inspected by the City.

<u>E. Other Agencies. Compliance with this Chapter does not necessarily constitute</u> compliance with other federal and state regulations. The applicant is responsible for securing and complying with these latter regulations, such as Hydraulic Project Approvals, Clean Water Act Section 404 and 401 certifications, and Administrative Orders.

(Ord. 2803; Ord. 2968)

Effective on: 10/17/2015

21.64.040 Frequently Flooded Areas.

A. Classification and Rating of Frequently Flooded Areas. To promote consistent application of the standards and requirements of this chapter, frequently flooded areas within the city of Redmond shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance.

1. Frequently Flooded Areas Classifications. Frequently flooded areas shall be classified according to the criteria in this section.

a. Floodplain. The total area subject to inundation by the base flood (the flood that has a one percent chance of occurring in any given year).

b. Flood Fringe. The portion of the floodplain outside of the floodway which is generally covered by flood waters during the base flood and is generally associated with standing water rather than rapidly flowing water.

c. FEMA Floodway. The channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the FEMA base flood flow without increasing the FEMA base flood elevation more than one foot.

d. Zero-Rise Floodway. The channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the base flood flow without increasing the base flood elevation. The zero-rise floodway will always include the FEMA floodway.

2. Classification of frequently flooded areas shall be determined by the Committee based on consideration of the following factors:

a. Maps adopted pursuant to this chapter including the frequently flooded areas map, which identifies the approximate location and extent of the 100year floodplain. This map shall be used as a general guide only for the assistance of property owners and other interested parties; boundaries are generalized. The actual type, extent, and boundaries of frequently flooded areas shall be determined in the field by a gualified consultant according to the procedures, definitions, and criteria established by this chapter. In the event of any conflict between the critical area location and designation shown on the City's map and the criteria or standards of this section, the criteria and standards shall prevail. The City will employ hydraulic models to define the extent of the zero-rise floodway. If the zero-rise floodway has not yet been defined for the property in question, the applicant will be responsible for modeling the base flood elevation and delineating the extent of the zero-rise floodway, consistent with the assumptions in the Bear Creek Basin Plan as adopted by the City. In the absence of a City hydraulic model, FEMA data will be acceptable;<u>RMC</u>

b. <u>Digital</u> Flood Insurance Rate Maps published by the Federal Emergency Management Agency;

c. Application of the criteria contained in these regulations; and

d. Consideration of the technical reports submitted by qualified consultants in connection with applications subject to these regulations.

B. Alteration of Frequently Flooded Areas. Alteration of frequently flooded areas may only be permitted subject to the criteria in RZC 21.64.020.D through, RZC

21.64.020.E, RZC 21.64.030.C, RZC 21.64.040.C, RZC 21.64.050.B, and RZC 21.64.060.D.

C. Flood Hazard Areas - Development Standards. <u>No structure or land shall be</u> constructed, located, extended, covered, or altered without full compliance with RMC <u>Chapter 15.04</u>, Flood Control. <u>Temporary floodplain impacts occurring between</u> <u>October 1 and April 30 may require additional analysis showing Frequently Flooded</u> <u>Areas requirements are met.</u>

1. Flood Hazard Areas Generally. For all new structures or substantial improvements, the applicant must provide certification by a qualified consultant of the actual as-built elevation of the lowest floor<u>and all machinery and equipment</u> servicing these structures, including basement, and, if applicable, the actual as-built elevation to which the structure is flood-proofed. If the structure has a basement, this must be indicated.

2. The Flood Fringe Outside the Zero-Rise Floodway.

a. Development shall not reduce the effective base flood storage volume of the floodplain. Grading or other activity which would reduce the effective storage volume must be mitigated by creating compensatory storage on the site. Developments in Downtown in the Sammamish River floodplain have the option to participate in the city's Sammamish River Regional Compensatory Floodplain Storage Project. This option allows developers to compensate for on-site floodplain fill volume in this regional project by having their storage volume allocated to this project.

b. No structure shall be allowed which would be at risk due to stream bank destabilization, including that associated with channel relocation or meandering.

c. All elevated construction must be designed and certified by a professional structural engineer registered in the State of Washington and must be approved by the City prior to construction.

d. Subdivisions, short subdivisions, binding site plans, site plan review, special Land Use Permits, and general Land Use Permits shall follow the following requirements:

i. New building lots shall contain 3,600 square feet or more of buildable land outside the zero-rise floodway and building setback lines shall be shown on the face of the plat to restrict permanent structures to the area so defined; ii. All utilities and facilities, such as sewer, gas, electrical, telephone, cable communications, and water systems, shall be located and constructed consistent with subsection C.2.i of this section;

iii. Base flood data and flood hazard notes shall be shown on the face of the recorded plat, including but not limited to the base flood elevation, required flood protection elevations, and the boundaries of the floodplain and the floodway, if determined; and

iv. The following note shall be recorded with the King County Department of Records and Elections for all affected lots:

### NOTICE

Lots and structures located within flood hazard areas may be inaccessible by emergency vehicles during flood events.

Residents and property owners should take appropriate advance precautions.

e. New residential construction and substantial improvement shall meet the following criteria:

i. The lowest floor <u>and all machinery and equipment servicing the structure</u>, including basements and below-grade crawl spaces per FEMA regulations, shall be elevated to the flood protection elevation.

ii. Portions of the building that are below the flood protection elevation shall not be fully enclosed. The areas below the lowest floor shall be designed to automatically equalize hydrodynamic flood forces on exterior walls by allowing the entry and exit of floodwaters. Designs for meeting this requirement must meet or exceed the following minimum criteria:

A. Minimum of two openings on opposite walls having a total open area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

B. The bottom of all openings shall be no higher than one foot above grade.

iii. Openings may be equipped with screens, louvers, or other coverings or devices, provided that they permit the unrestricted entry and exit of floodwaters.

iv. A garage attached to a residential structure, constructed with the garage door slab below the BFE, must be designed and allow for automatic entry and exit of floodwaters.

f. New nonresidential construction and substantial improvement of any existing commercial, industrial, or other nonresidential structure shall meet the elevation requirements of residential construction.

g. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

h. For all mobile and manufactured homes, all standards for flood hazard protection for conventional residential construction shall apply. All manufactured and mobile homes must be anchored and by providing over-the-top and frame ties to ground anchors. The shall be installed using methods and practices that minimize flood damage. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

i. Utilities shall meet the following criteria:

i. All new and replacement utilities, including sewage treatment facilities, shall be flood-proofed to, or elevated above, the flood protection elevation.

ii. New on-site sewage disposal systems shall be located outside the limits of the 100-year floodplain. The installation of new on-site sewage disposal systems in the floodplain is prohibited.

iii. Sewage and agricultural waste storage facilities shall be flood-proofed to the base flood elevation plus three feet.

iv. Aboveground utility transmission lines, other than electrical transmission lines, shall only be allowed for the transport of nonhazardous substances.

v. Buried utility transmission lines transporting hazardous substances (as defined by the Washington State Hazardous Waste Management Act in RCW 70.105.005) shall be buried at a minimum depth of four feet below the maximum depth of scour for the base flood predicted by a professional civil engineer licensed by the State of Washington and shall achieve sufficient negative buoyancy so that any potential for flotation or upward migration is eliminated.

j. Critical facilities may be allowed within the flood fringe of the floodplain. All such proposed uses shall be evaluated as part of the underlying land use permit. Critical facilities constructed within the flood fringe shall have the lowest floor elevated to three or more feet above the base flood elevation. Flood-proofing and sealing measures must be taken to ensure that hazardous or toxic substances will not be displaced by or released into floodwaters. Access routes elevated to the flood protection elevation shall be provided to all critical facilities to the nearest maintained public street or roadway located outside of the floodplain.

k. The Committee shall review all Land Use Permits to determine that all necessary permits have been obtained as required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334, as required by Section 60.3(a)(2) of 44 CFR.

I. Storage and containment of hazardous or dangerous chemicals, substances or materials, as those terms are determined by applicable state and federal regulations, shall be prohibited, provided that existing uses involving storage, etc., shall conform to the flood protection elevation when applying for any permit.

3. Development in the Zero-Rise Floodway.

a. Activities allowed within the zero-rise floodway must conform to the requirements of this section, as well as the requirements that apply to the flood fringe outside the zero-rise floodway as identified in subsection C.2 of this section.

b. No development activity shall reduce the effective storage volume of the floodplain.

c. No development, including permitted new construction or reconstruction, shall cause any increase in the zero-rise base flood elevation.

d. No temporary structures or storage of materials hazardous to public health, safety, and welfare shall be permitted in the zero-rise floodway.

e. Construction of new residential or nonresidential structures is permitted in the zero-rise floodway only in the following circumstances:

i. The structure must be on a lot legally in existence at the time the ordinance codified in this chapter becomes effective;

ii. The structure must be on a lot that contains less than 3,600 square feet of buildable land outside the zero-rise floodway; and

iii. The structure must meet the construction standards set forth in subsections C.2 and C.3.b, C.3.c, and C.3.d of this section.

f. New lots that include part of the zero-rise floodway may be created only if the lots meet the requirements of subsection C.2.d of this section and administrative rules, or are declared as nonbuilding lots on the face of the plat.

g. The following circumstances are presumed to produce no increase in base flood elevation and shall not require special studies to establish this fact:

i. Substantial improvement on existing residential structures outside the zero-rise floodway where the building footprint is not increased.

ii. Substantial improvement of an existing residential structure shall meet the requirements for new residential construction set forth in subsection C.2.e of this section.

h. Reconstruction of an existing residential structure shall meet the requirements for new residential construction set forth in subsection C.2.e of this section

i. Utilities and roads are permitted in the zero-rise floodway only when no other location is practicable, or when mitigating measures achieve zero-rise floodway elevations, and shall meet the minimum criteria set forth in subsection C.2.i of this section and the following requirements:

i. Construction of sewage treatment facilities shall be prohibited.

ii. Utility transmission lines transporting hazardous substances shall be buried at a minimum depth of four feet below the maximum depth of scour for the base flood as predicted by a professional civil engineer licensed by the State of Washington, and shall achieve sufficient negative buoyancy so that any potential for flotation or upward migration is eliminated.

j. Critical facilities shall not be constructed in the zero-rise floodway.

k. Floodway Dependent Structures. Installations or structures that are floodway dependent may be located in the floodway, provided that the development proposal receives approval from all other agencies with jurisdiction and meets all standards in RZC 21.64.020.D, Alteration of Riparian Stream Corridors, and 21.64.030.C, Alteration of Wetlands. Such installations include but are not limited to:

i. Dams or diversions for water supply, flood control, hydroelectric production, irrigation, or fisheries enhancement;

ii. Flood damage reduction facilities, such as levees and pumping stations;

iii. Stream bank stabilization structures where no feasible alternative exists to protecting public or private property;

iv. Stormwater conveyance facilities subject to the requirements of the development standards for streams and wetlands, and other relevant City of Redmond development standards;

v. Boat launches, docks, and related recreation structures;

vi. Bridge piers and abutments; and

vii. Fisheries enhancement or stream restoration projects.

I.–Development of the area located downstream of Redmond Way on Bear Creek may be allowed:

i.-when mitigating measures achieve zero-rise floodway elevations, or

ii.-when surface water elevations are not increased over one foot provided no significant unmitigated upstream, downstream, or on-site environmental impacts are created.

4. Development in the FEMA Floodway.

a. Construction or placement of new residential or nonresidential structures is prohibited within the FEMA floodway. Shoreline protective structures, bridges, roads, trails, and railroads are permitted within the FEMA floodway.

b. No development subject to these regulations, including permitted new construction or reconstruction, shall cause any increase in the FEMA base flood elevation.

c. Substantial improvement of an existing residential structure located in the floodway must meet the requirements set out in WAC 173-158-070 as amended. Such substantial improvement is presumed to produce no increase in base flood elevation and shall not require special studies to establish this fact.

(Ord. 2663; Ord. 2958)

Effective on: 4/27/2019

21.64.050 Critical Aquifer Recharge Areas.

A. Classification and Rating of Critical Aquifer Recharge Areas. To promote consistent application of the standards and requirements of this chapter, Critical Aquifer Recharge Areas within the City of Redmond shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance.

1. Critical Aquifer Recharge Areas Classification. Critical aquifer recharge areas are those areas with a critical recharging effect on aquifers used for potable water. Wellhead protection involves the management of activities that have a potential to degrade the quality of groundwater produced by a supply well. The City of Redmond is classified into two aquifer recharge areas that are based on proximity to and travel time of groundwater to the City's public water source wells, and are as follows:

a. Critical Aquifer Recharge Area I is the land area overlying the aquifer in which it will take a maximum of five years for the groundwater to reach any public water source well owned by the City.

b. Critical Aquifer Recharge Area II is the land area overlying the aquifer in which it will take over five to ten years to reach any public water source well owned by the City as well as lands outside the 10-year groundwater capture zone that have a critical recharging effect on the aquifer.

2. Classification of Critical Aquifer Recharge Areas shall be determined in accordance with the City's adopted Critical Aquifer Recharge Areas Map.

3. Relationship of Critical Aquifer Recharge Areas to Wellhead Protection Zones (WAC 246-290). The City of Redmond Water System Plan and Washington State Department of Health require public water supply wells have wellhead protection zones delineated based on the time of travel of groundwater to a public drinking water supply well. The relationship between the Wellhead Protection Zones and the Critical Aquifer Recharge Areas are as follows:

Table 21.64.050A				
Wellhead Protection Zone	Wellhead Protection Zone Time of Travel	Critical Aquifer Recharge Areas		
Sanitary Control Area	150 foot radius, no horizontal time travel	Critical Aquifer Recharge Area 1		
Wellhead Protection Zone 1	6-month and 1-year horizontal time of travel			

Wellhead Protection Zone 2	5-year horizontal time of travel	
Wellhead Protection Zone 3	10-year horizontal time of travel	Critical Aquifer Recharge Area II
Wellhead Protection Zone 4	Area outside of the 10- year time of travel that has a critical recharging effect on the aquifer.	Critical Aquifer Recharge Area II (includes all other lands providing critical recharging effect on the aquifer)

B. Alteration of Critical Aquifer Recharge Areas. Alteration of critical aquifer recharge areas may only be permitted subject to the criteria in RZC 21.64.020.D, RZC 21.64.020.E, RZC 21.64.030.C, RZC 21.64.040.B, RZC 21.64.050.B, and RZC 21.64.060.D. <u>All lands within designated critical aquifer recharge areas are subject to full compliance with RMC Chapter 13.07, Wellhead Protection.</u>

C. Prohibited Land Uses and Activities in Critical Aquifer Recharge Areas I and II.

1. Land uses or activities that pose a hazard to the City's groundwater resources, resulting from storing, handling, treating, using, producing, recycling, or disposing of hazardous materials or other deleterious substances, shall be prohibited in Critical Aquifer Recharge Area I. Legal preexisting uses may continue to operate, however, they may not intensifty the existing use. These land uses and activities include:

a. Large on-site sewage systems, as defined in WAC Chapter 246-272A;

b. Hazardous liquid pipelines as defined in RCW Chapter 81.88 and RZC 21.78;

- c. Solid waste landfills;
- d. Solid waste transfer stations;
- e. Liquid petroleum refining, reprocessing, and storage;
- f. Bulk storage facilities as defined in RZC 21.78, Definitions;

g. Hazardous waste treatment, storage, and disposal facilities except those defined under permit by rule for industrial wastewater treatment processes per WAC 173-303-802(5)(c);

h. Chemical manufacturing, including but not limited to organic and inorganic chemicals, plastics and resins, pharmaceuticals, cleaning compounds, paints and lacquers, and agricultural chemicals;

i. Dry cleaning establishments using the solvent perchloroethylene;

j. Primary and secondary metal industries that manufacture, produce, smelt, or refine ferrous and nonferrous metals from molten materials;

- k. Wood preserving and wood products preserving;
- I. Mobile fleet fueling operations;

m. Class I, Class III, Class IV, and the following types of Class V wells: 5A7, 5F1, 5D3, 5D4, 5W9, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 as regulated under RCW Chapter 90.48 and WAC Chapters 173-200 and 173-218, as amended;

- n. Permanent dewatering of the aquifer;
- o. Irrigation with graywater;

p. Reclaimed or recycled water use with the exception of uses that discharge to the sanitary sewer;

- q. Sand, gravel, and hard rock mining;
- r. Mining of any type below the upper surface of the saturated groundwater;
- s. Disposal of radioactive wastes, as defined in chapter 43.200 RCW;
- t. Hydrocarbon extraction;
- u. Golf courses;
- v. Cemeteries;
- w. Vehicle wrecking yards;
- x. Vehicle towing yards that store vehicles on permeable surfaces; and
- y. Metal recycling facilities with outdoor storage and handling activities.

2. The following are prohibited in Critical Aquifer Recharge Area II. Legal preexisting uses may continue to operate, <u>however</u>, <u>they may not intensify the</u> <u>existing use</u>:

a. Permanent dewatering; and

b. Reclaimed or recycled water use with the exception of uses that discharge to the sanitary sewer.

3. Other land uses and activities <u>in Critical Aquifer Recharge Area 1 and Critical Aquifer Recharge Area II</u> that the City determines would pose a significant groundwater hazard to the City's groundwater supply <u>are prohibited</u>.

D. Critical Aquifer Recharge Areas Performance Standards. - Development or redevelopment in the Critical Aquifer Recharge Areas shall implement the following performance standards:

1. Any uses or activities locating in Critical Aquifer Recharge Areas which involve storing, handling, treating, using, producing, recycling, or disposing of hazardous materials or other deleterious substances shall comply with the following standards that apply to the Critical Aquifer Recharge Area in which they are located. Single-family residential uses of hazardous materials or deleterious substances are exempt from the following standards.

2. If a property is located in or straddles more than one Critical Aquifer Recharge Area, the Director of Public Works shall determine which standards shall apply based on an assessment evaluation of the risk posed by the facility or activity. The assessment evaluation shall include, but not be limited to: (a) the location, type, and quantity of the hazardous materials or deleterious substances on the property; (b) the geographic and geologic characteristics of the site; and (c) the type and location of infiltration on the site.

3. Development or redevelopment within Critical Aquifer Recharge Area I and II. Any facility or activity shall implement the following performance standards:

a. Secondary Containment.

i. The owner or operator of any facility or activity shall provide secondary containment for hazardous materials or other deleterious substances in aggregate quantities equal to or greater than 20 gallons liquid or 200 pounds solid or in quantities specified in the Redmond Fire Code, RMC Chapter 15.06, whichever is smaller.

ii. All seams and cracks on Portland cement concrete pad containment or fueling/maintenance areas must be sealed with chemical resistant sealers. Inspect and repair the Portland cement concrete pad annually to ensure the functional integrity of the pad is maintained to prevent fuel and/or chemicals from reaching the ground. iii. Facilities or activities located in Critical Aquifer Recharge Area II are exempt from secondary containment requirements in item i above for indoor storage of hazardous materials and deleterious substances. Requirements in RMC 15.06 still apply.

b. Vehicle Fueling, vehicle and equipment maintenance facilities, and wrecked vehicle storage facilities shall have the following to control release of hazardous materials to the soil/groundwater during operations:

i. Underground storage tank pits and trenches for fuel piping will be contained with tertiary containment liner and tank pit observation ports shall be installed in a low point in the pit.

ii. Fueling facility shall be staffed with Class 3 trained staff on site at all times during fueling operations.

iii. All vehicle fueling and vehicle and equipment maintenance shall be conducted under cover on a Portland cement concrete or equivalent pad treated with chemical resistant sealer and drain to the sanitary sewer or dead-end sump.

c. Loading and Unloading Areas. Secondary containment or equivalent best management practices, as approved by the City, shall be required at loading and unloading areas that store, handle, treat, use, produce, recycle, or dispose of hazardous materials or other deleterious substances in aggregate quantities equal to or greater than 20 gallons liquid or 200 pounds solid.

d. Stormwater Infiltration Systems. Design and construction of stormwater infiltration systems must address site-specific risks of releases posed by all hazardous materials on-site. These risks may be mitigated by physical design means or equivalent best management practices. Design and construction of said stormwater infiltration systems shall also be in accordance with RMC Chapter 15.24.020.

e. Well construction and operation shall comply with the standards in RMC 15.24.095.

f. Fill Materials. Fill material shall comply with the standards in RMC 15.24.095.

g. Cathodic Protection Wells. Design for cathodic protection wells shall be submitted to the City for review and approval prior to initiation of drilling. Cathodic protection wells shall be constructed such that the following does not occur: i. Vertical cross-connection of aquifers normally separated by confining geologic units;

ii. Migration of contaminated surface water along improperly sealed well borings or casings;

iii. Introduction of electrolytes or related solutions into the subsurface; and

iv. Any of the above conditions caused by improperly abandoned cathodic protection wells that are no longer in use.

h. Underground Hydraulic Elevator Cylinders. All underground hydraulic elevator pressure cylinders shall be encased in an outer plastic casing constructed of schedule 40 or thicker polyethylene or polyvinyl chloride (PVS) pipe or equivalent. The plastic casing shall be capped at the bottom and all joints shall be solvent or heat welded to ensure water tightness. The neck of the plastic casing shall provide a means of inspection to monitor the annulus between the pressurized hydraulic elevator cylinders and protective plastic casing. Vegetable oil shall be used for hydraulic fluid in elevator cylinders.

<u>i. Geothermal Well Systems. Geothermal wells within CARA I and II must meet</u> <u>the following requirements:</u>

- i. No deep geothermal wells that penetrate the Redmond Alluvial Aquifer;
- ii. Closed loop system with potable water or food safe additives only in well;
- iii. Minimum standards for vertical borings constructed for the purpose of installing a closed loop heat exchange system per WAC 173-160-453;
- iv. Leak or pressure testing of wells per WAC 173-160-453 (c). If any leaks are detected then well must be decommissioned;
- v. Geothermal systems will not be allowed in contaminated groundwater or soils or near a contaminated site;
- vi. A heat study may be required to ensure no geochemical change to Redmond's drinking water aquifer.

4. Relationship of Critical Aquifer Recharge Areas to the Groundwater Protection Incentive Program for Existing Stormwater Infiltration Modifications (RMC 13.07.115).

a. Except as provided in subsection (b) below, the construction or location of stormwater infiltration system modifications to protect groundwater shall not be permitted to alter, expand, or intensify any legal nonconforming use or structure in a manner that increases the degree of nonconformity. However, upon the Technical Committee's approval of a modification to a stormwater infiltration system protective of groundwater, the improvement may be constructed without the property owner having to meet the following City codes:

i. The provisions of RZC 21.64 regarding critical areas buffers, if the footprint of the original system protective of groundwater is located with the same critical area buffer, and it can be demonstrated through the best available science that there will be no significant adverse impacts to the critical area and its buffer;

ii. The provisions of RZC 21.76.100.F.9.b and F.9.c requiring nonconforming structures, landscaping, and pedestrian system areas to be brought into compliance with current building, fire, or land use codes, to the extent that the requirement is triggered by the value or design of the incremental environmental improvement to a system protective of groundwater; and

iii. The provisions of RZC 21.64.050.C.1 prohibiting the redevelopment of certain land uses and activities in Critical Aquifer Recharge Areas I and II.

b. Improvements required through the groundwater protection incentive program in order to mitigate potential stormwater impacts to groundwater may alter, expand, or intensify existing legal nonconforming uses and structures in a way that increases the degree of nonconformity where the Technical Committee determines that no economically, technologically, and environmentally reasonable alternative exists that meets the requirement to protect groundwater and fulfills the operational needs of the existing development served by the stormwater infiltration system. By way of example and not by way of limitation, groundwater protection incentive program improvements may alter, expand, or intensify the degree of nonconformity of existing landscaping, parking, and covered storage structures that are legally nonconforming, as long as the requirements of this subsection are met.

5. Phase 1 Environmental Site Assessments (ESA) required. Any development or redevelopment project that disturbs 5,000 square feet or more soil in the Critical

Aquifer Recharge Area shall include a Phase 1 ESA with the project's Critical Area Report.

6. Monitoring Required at High Risk Sites. Any land use in the Critical Aquifer Recharge Areas that poses a high risk of contaminating groundwater, in the opinion of the City, will be required to be equipped for long term monitoring of groundwater. For example, land uses including fueling are considered high risk.

(Ord. 2704; Ord. 2957; Ord. 2968)

Effective on: 4/27/2019

21.64.060 Geologically Hazardous Areas.

A. Classification and Rating of Geologically Hazardous Areas. To promote consistent application of the standards and requirements of this chapter, geologically hazardous areas within the City of Redmond shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance.

1. Geologically Hazardous Area Classifications. Geologically hazardous areas shall be classified according to the criteria in this section.

a. Erosion Hazard Areas. Erosion hazard areas are those areas containing soils which, according to the U.S. Department of Agriculture Natural Resource Conservation Service Soil Survey Program, may experience significant erosion. Erosion Hazard Areas include areas likely to become unstable, such as steep slopes, areas with unconsolidated soils, and channel migration zones. Erosion hazard areas are lands or areas underlain by soils identified by the U.S. Department of Agriculture Soil Conservation Service (SCS) as having "severe" or "very severe" rill and inter-rill erosion hazards. This includes, but is not limited to, the following group of soils when they occur on slopes of 15 percent or greater: Alderwood-Kitsap (AkF), Alderwood gravelly sandy loam (AgD), Kitsap silt loam (KpD), Everett (EvD), and Indianola (InD).

b. Landslide Hazard Areas. Landslide hazard areas are areas potentiallyinclude areas subject to significant or severe risk of landslides based on a combination of geologic, topographic, and hydrogeologic factors. They include areas susceptible because of any combination of bedrock, soil, slope, slope aspect, structure, hydrology, or other factors. They are areas of the landscape that are at a high risk of failure or that presently exhibit downslope movement of soil and/or rocks and that are separated from the underlying stationary part of the slope by a definite plane of separation. The plane of separation may be thick or thin and may be composed of multiple failure zones depending on local conditions, including soil type, slope gradient, and groundwater regime.

Landslide hazard areas include:

i. Areas of historic failures, such as:

A. Areas designated as quaternary slumps, <u>earthflows</u>, <u>mudslides</u> or landslides on maps published by the United States Geologic Survey (USGS) or WA. Department of Natural Resources</u>; or

B. Those areas designated by the United States Department of Agriculture (USDA) SoilNatural Resources Conservation Service (SCSNRCS) as having a "severe" significant limitation for building site development.

ii. Areas containing a combination of slopes steeper than 15 percent, springs or groundwater seepage, and hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock;

iii. Areas that have shown movement during the Holocene epoch (from 10,000 years ago to the present) or which are underlain or covered by mass wastage debris of that epoch;

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

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

vi. Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action <u>including stream channel</u> <u>migration zones</u>; or

vii. Any area with a slope <u>of</u> 40 percent or steeper <u>and</u> with a vertical relief of 10 feet or more<u>except areas composed of bedrock</u>.

c. Seismic Hazard Areas. Seismic hazard areas are lands subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, soil liquefaction, or surface faulting. <u>Settlement and soil</u> <u>liquefaction conditions occur in areas underlain by cohesionless soils of low</u> <u>density, typically in association with a shallow groundwater table.</u> 2. Classification of geologically hazardous areas shall be determined by the Committee based on consideration of the following factors:

a. Maps adopted pursuant to this chapter include the landslide hazard area, erosion hazard area, and seismic hazard areas maps, which identify the approximate location and extent of these hazard areas. These maps shall be used as a general guide only for the assistance of property owners and other interested parties; boundaries are generalized. The actual type, extent, and boundaries of geologically hazardous areas shall be determined in the field by a qualified consultant, surveyed, and then mapped according to the procedures, definitions, and criteria established by this chapter. In the event of any conflict between the critical area location and designation shown on the City's map and the criteria or standards of this section, the criteria and standards shall prevail;

b. Maps published by other governmental agencies such as:

i. USGS landslide hazard and seismic hazard maps;

ii. Department of Natural Resources (DNR) seismic hazard maps for western Washington and slope stability maps;

iii. Washington Geological Services (WGS) Geologic Information Portal interactive database.

c. Application of the criteria contained in these regulations; and

d. Consideration of the technical reports submitted by qualified consultants in connection with applications subject to these regulations.

B. Landslide Hazard Area Buffers.

1. <u>Measurement.</u> Landslide hazard area buffers shall be measured from the top and toe<u>of the slope</u>, and along sides of the slope.

2. A 15-foot building setback is required from the edge of a landslide hazard area buffer.

23. Minimum Landslide Hazard Area Buffer. Required buffers shall be 50 feet. The width of the buffer shall reflect the sensitivity of the landslide hazard area in question and the types and density of uses proposed on or adjacent to the geologic hazard. In determining the appropriate buffer width, the Committee shall consider the recommendations contained in any technical report required by these regulations and prepared by an applicant's qualified consultant.

<u>34</u>. Buffer Reduction. Buffers may be reduced to a minimum of <u>1525</u> feet when a qualified professional demonstrates through technical studies that the reduction will adequately protect the proposed and surrounding development from the critical landslide hazard. <u>There shall be no buffer reduction for active slides</u>.

4<u>5</u>. Increased Buffer. The buffer may be increased where the Technical Committee determines a larger buffer is necessary to prevent risk of damage to proposed and existing development.

6. Buffer Impacts. There shall be no disturbance or construction activity within the designated buffer. If the development can't meet the required buffer, the applicant can apply for Alteration of a Geologically Hazardous Area as set forth in D below and RZC 21.76.070.E, Alteration of Geologic Hazard Areas.

C. Alteration of <u>GeologicallyLandslide</u> <u>Geologically</u> Hazardous Areas - General<del>ly</del> <u>requirement</u>. Alteration of geologically hazardous areas or their established buffers may only be permitted subject to the criteria in RZC 21.64.050.D, RZC 21.64.020.E, RZC 21.64.030.C, RZC 21.64.040.B, RZC 21.64.050.B, RZC 21.64.060.D, and RZC 21.76.070.E.

D. Alteration of Geologically Hazardous Areas.

1. The City shall approve, condition, or deny proposals in a geologically hazardous area as appropriate based upon the effective mitigation of risks posed to property, health, and safety. The objective of mitigation measures shall be to render a site containing a geologically hazardous site as safe as one not containing such hazard. Conditions may include limitations of proposed uses, modification of density, alteration of site layout, and other appropriate changes to the proposal. Where potential impacts cannot be effectively mitigated, or where the risk to public health, safety and welfare, public or private property, or important natural resources is significant notwithstanding mitigation, the proposal shall be denied.

2. Landslide Hazard Areas. Development shall be prohibited in landslide hazard areas <u>and their buffers</u> except as noted below:

a. Pin pilings or footings for decks are permitted provided that they do not impact the stability of the slope, as demonstrated by geotechnical studies; and

b. The installation and construction of streets and/or utilities<u>identified in</u> <u>currently adopted plans</u>, subject to the criteria and process set forth in RZC 21.76.070.E, Alteration of Geologic Hazard Areas.<u>Trails</u>, <u>streets</u>, <u>and utilities</u> <u>proposed to use this exemption shall be designed to adequately protect the</u> <u>proposed and surrounding development from the critical landslide hazard</u> E. Geologically Hazardous Area Performance Standards.

1. Relevant performance standards from RZC 21.64.020.F, RZC 21.64.020.G, and RZC 21.64.030.D, as determined by the Committee, shall be incorporated into mitigation plans.

2. Development within a geologically hazardous area shall meet the following basic requirements unless it can be demonstrated that an alternative design that deviates from one or more of these standards provides equivalent or greater long-term slope stability. The following performance standards shall be reflected in proposals within landslide and erosion hazard areas:

a. Geotechnical studies shall be prepared by a qualified consultant to identify and evaluate potential hazards and to formulate mitigation measures;

b. Construction methods will reduce or not adversely affect geologic hazards;

c. 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;

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

e. Structures and improvements shall be clustered to avoid geologically hazardous areas;

f. Unless otherwise provided or as part of an approved alteration, removal of vegetation from an erosion or landslide hazard area or related buffer shall be prohibited;

g. Development shall be designed to minimize impervious surface coverage;

h. Disturbed areas should be replanted as soon as feasible pursuant to an approved landscape plan;

i. Clearing and grading regulations as set forth by the City shall be followed;

j. Use of retaining walls that allow maintenance of existing natural slope areas are preferred over graded artificial slopes;

k. Temporary erosion and sedimentation controls, pursuant to an approved plan, shall be implemented during construction;

I. A master drainage plan shall be prepared for large projects as required by the City Engineer;

m. A monitoring program shall be prepared for construction activities permitted in geologically hazardous areas;

n. Development shall not increase instability or create a hazard to the site or adjacent properties, or result in a significant increase in sedimentation or erosion; and

o. Point discharges from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited except as follows:

i. Conveyed via continuous storm pipe downslope to a point where there are no erosion hazard areas downstream from the discharge;

ii. Discharged at flow durations matching predeveloped conditions, with adequate energy dissipation, into existing channels that previously conveyed stormwater runoff in the predevelopment state; or

iii. Dispersed discharge upslope of the steep slope onto a low-gradient undisturbed buffer<u>having a width of at least 50 feet and</u> demonstrated to be adequate to infiltrate all surface and stormwater runoff, and where it can be demonstrated that such discharge will not increase the saturation of the slope.

Effective on: 4/16/2011

21.64.070 Procedures.

A. Procedural Provisions.

1. Interpretation and Conflicts. Any question regarding interpretation of these regulations shall be resolved pursuant to the procedures set forth in RZC Article VI, Review Procedures.

2. Penalties and Enforcement. Compliance with these regulations and penalties for their violation shall be enforced pursuant to the procedures set forth in RZC Article VI.

3. Appeals from Permit Decisions. Appeals from permit decisions shall be governed by the procedures set forth in RZC Article VI.

B. Severability. If any provision of these regulations or its application to any person or circumstance is held invalid by a court of competent jurisdiction, the remainder of

these regulations or the application to other persons or circumstances shall not be affected.

Effective on: 4/16/2011

#### RZC 21.68 SHORELINE MASTER PROGRAM (v2)

- 21.68.030 Shoreline Master Program and Relationship to Other Policies and Regulations.
- A. Shoreline Master Program.

1. Shoreline Master Program Policies. The following policies shall constitute the Redmond Shoreline Master Program policies.

a. Comprehensive Plan Shoreline Master Program Element.

b. Comprehensive Plan Natural Environment Element<u>, Section B</u>, <u>Environmentally Critical Areas</u> <del>policies NE-12 through NE-17 and NE-19</del> through NE-101. (Ord. 2968)

c. Comprehensive Plan Parks and Recreation Element policies <u>PR-43 and PR-31.PR-16 and PR-17.</u>(Ord. <u>24863132</u>)

2. Shoreline Master Program Regulations. The following regulations shall constitute the Redmond Shoreline Master Program development regulations:

a. RZC 21.68, Shoreline Regulations.

b. RZC 21.64, Critical Areas (Ord. 2259, dated May 28, 2005), with the exception of the following subsections:

i. RZC 21.64.010.D, Exemptions

ii. RZC 21.64.010.<del>S</del>T, <u>Critical Areas</u> Reasonable <u>Economic</u> Use <u>ProvisionException - Private Property</u>

iii. RZC 21.64.010.<del>T</del><u>U</u>, <u>Critical Areas</u> <u>Public Project</u> Reasonable Use <u>ProvisionException - Public Project</u>

iv. RZC 21.64.020.C, Alteration of Fish and Wildlife Habitat Conservation Areas

# Critical Areas Regulations Update Relevant Definitions v3 [Existing definitions with no edits are included for context.]

#### A Definitions

Anadromous Fish. Fish that spawn and rear in freshwater and mature in the marine environment.

*Aquifer.* A body of soil or rock that contains sufficient saturated material to conduct groundwater and yield useable quantities of groundwater to springs and wells.

Aquifer Recharge Area. Areas where water infiltrates into the subsurface and travels downward through the soil to a ground=water aquifer.

Artificially Created Wetland. Wetlands created from non-wetland sites through purposeful, legally authorized human action, such as irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities.

### **B** Definitions

Base Flood. A flood having a one percent chance of being equaled or exceeded in any given year, also referred to as the 100-year flood., <u>The base flood can be the</u> <u>effective FEMA flow or best available data as approved by the City.which is based</u> upon built-out conditions. The base flood will be determined through hydrologic modeling and will assume fully developed land use conditions in tributary basins, such as defined in the Bear Creek Community Basin Plan. If the City has not modeled the base flood, the applicant shall be responsible for doing so, consistent with the assumptions set forth in this code and the Bear Creek Community Basin Plan.

*Base Flood Elevation*. The water surface elevation of the base flood. It shall be referenced to the National Geodetic Vertical Datum of 1929<u>effective FIRM datum</u>.

*Best Available Science*. Current scientific information used in the process to designate, protect, or restore critical areas that is derived from a valid scientific process as defined by WAC 365-195-900 through 365-195-925.

*Buffer or Buffer Area.* A zone surrounding a critical area that protects the critical area from adverse impacts to its integrity, functions, and values, or is an integral part of the resource's ecosystem. The buffer shall consist of a naturally vegetated and

undisturbed, enhanced, or revegetated zone for streams, wetlands, and the top of slope for landslide hazard areas. The buffer shall be a vegetated zone (may include grass) and free of permanent structures for the toe of slope for landslide hazard areas. For the purpose of Class I and II streams, "inner buffer" refers to that portion of the buffer closest to the stream whose distance is established in RZC 21.64.020.B, Stream Buffers. This area is to be treated the same as a buffer as defined above in this definition. The outer buffer is that portion of the buffer furthest away from the stream, whose distance is established in RZC 21.64.020.B, Stream Buffers. Disturbance is permitted in the outer buffer as defined in RZC 21.64.020.B, Stream Buffers. Otherwise these areas are to remain as a naturally vegetated zone.

## **C** Definitions

*Candidate Species.* Fish and wildlife species that the Washington State Department of Fish and Wildlife will review for possible listing as endangered, threatened, or sensitive.

*Channel Migration Zone*. The area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings. (SMP)

*Clearing - Critical Areas.* For the purposes of administering, RZC 21.64, Critical Areas Regulations, "clearing" is the removal of timber, brush, grass, ground cover or other vegetative matter from a site which exposes the earth's surface of the site or any actions which disturb the existing ground surface.

*Core Preservation Area.* Those areas that protect habitat and that are preserved through any of the regulatory mechanisms provided in this Zoning Code, including Native Growth Protection Areas, Class I streams and their buffers, Class II through IV streams, and other areas similarly protected. Core Preservation Areas may also include lands where development rights have been sold and some lands with recorded open space easements, depending on the purpose of the easement. These areas include wetlands and streams and their associated buffers as they become identified at a site-specific level.

*Creation of Critical Areas*. The purposeful and legally authorized or accidental producing or forming of a wetland or stream from an upland (non-wetland or dry) site through artificial means. For wetlands, the manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a

wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.

*Critical Aquifer Recharge Areas*. Areas, defined under the provisions of the Growth Management Act (RCW Chapter 36.70A), as areas with a critical recharging effect on aquifers used for potable water.

*Critical Areas.* Critical areas include any of the following areas or ecosystems: fish and wildlife habitat conservation areas, wetlands, frequently flooded areas, critical aquifer recharge areas, and geologically hazardous areas, as defined in RCW Chapter 36.70A and RZC 21.64, Critical Areas Regulations.

Critical Facilities. Those facilities necessary to protect the public health, safety, and general welfare which are defined in IBC Table 1604.5 (2003), Categories III and IV. These facilities include, but are not limited to, schools, hospitals, police stations, fire departments and other emergency response facilities, and nursing homes. Critical facilities also include sites of hazardous waste materials and storage.

### **E** Definitions

*Enhancement*. The improvement of an existing viable wetland, stream or habitat area or the buffers established for such areas, such as by increasing plant diversity, increasing wildlife habitat, installing environmentally compatible erosion controls, or removing nonindigenous plant or animal species. Enhancement also includes actions performed to improve the quality of an existing degraded wetland, stream or habitat area or buffer. For wetlands, enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres.

*Erosion Hazard Areas.* Those areas containing soils which, according to the United States Soil Conservation Service Soil Classification System, may experience severe to very severesignificant erosion. Erosion hazard areas also include channel migration zones.

*Establishment (Creation).* The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.

#### **F** Definitions

FEMA (Federal Emergency Management Administration) Floodway. The channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the FEMA base flood flow without increasing the FEMA base flood elevation more than one foot.

Fish and Wildlife Habitat Conservation Areas. Areas necessary for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created as designated by WAC 365-190-080(5). These areas are further defined in RZC 21.64.020.A, Classification and Rating of Fish and Wildlife Habitat Conservation Areas. Areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may incude, but are not limited to rare and vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness.

*Flood Fringe.* That portion of the floodplain outside of the floodway which is generally covered by floodwaters during the base flood; it is generally associated with standing water rather than rapidly flowing water.

*Flood Insurance Rate Map.* The official map on which the Federal Emergency Management Administration has delineated some areas of flood hazard.

*Flood Insurance Study*. The official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Maps, and the FEMA water surface elevations of the base flood.

*Flood Protection Elevation*. The elevation that is one foot above the base flood elevation.

*Floodplain*. Synonymous with the 100-year floodplain and means the land susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon flood ordinance regulations maps or a reasonable method which meets the objectives of the Shoreline Management Act. (SMP). This term also applies Citywide.

*Floodway.* The area that has been established in effective federal emergency management agency flood insurance rate maps or floodway maps. The floodway does not include lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state. (SMP)

*Frequently Flooded Areas.* Areas and lands withinLands in the flood plainfloodplain subject to <u>at least</u> a one percent or greater chance of flooding in any given year. These areas include, but are not limited to, streams, rivers, lakes, coastal areas, wetlands, and the likeareas where high groundwater forms ponds on the ground <u>surface</u>.

*Functions and Values.* The beneficial roles served by critical areas, including but not limited to water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance, and attenuation, groundwater recharge and discharge, erosion control, wave attenuation, protection from hazards, historical and archaeological and aesthetic value protection, and recreation. These beneficial roles are not listed in order of priority.

# **G** Definitions

*Geologically Hazardous Areas.* Areas that, because of their susceptibility to erosion, sliding, earthquake, or other geologic events, are not suited to siting commercial, residential, or industrial development consistent with public health and safety concerns.

Geotechnical Report or Geotechnical Analysis. A scientific study or evaluation conducted by a qualified expert that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts on the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by qualified professional engineers (or geologists) who have professional expertise about the regional and local shoreline geology and processes. (SMP)

*Groundwater*. Water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

## H Definitions

Habitat Management. Management of land to maintain species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not

created. This does not imply maintaining all habitat or individuals of all species in all cases.

Habitats of Local Importance. "Habitats of local importance" include a seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over time. These might include areas of high relative density or species richness, breeding habitats, winter range, and movement corridors. These might also include habitats that are of limited availability or high vulnerability to alterations, such as cliffs, talus, and wetlands.

Headwater Stream. A stream that is in the uppermost regions of a watershed or catchment area <u>that flows into a larger stream, main stem river, or lake</u>. <u>Also</u> <u>synonymous with "tributary to."</u>

### I Definitions

*Incremental Environmental Improvement.* An improvement to a system protective of groundwater at an existing facility where the improvement reduces the facility's impact on groundwater, provided the improvement is not one of the prohibited activities identified in RZC 21.64.050.C, Prohibited Activities in Wellhead Protection Zones.

*In-Kind Mitigation.* Replacement of critical areas with substitute critical areas whose characteristics closely approximate those destroyed or degraded by a regulated activity.

*Intentionally Created Streams.* Streams created through purposeful human action, such as irrigation and drainage ditches, grass-lined swales, and canals.

*Intermittent Stream.* A stream that flows only part of the year after precipitation events and receives some water during that time from groundwater sources.

### L Definitions

*Landslide*. Episodic downslope movement of a mass of soil or rock, including snow avalanches.

*Landslide Hazard Areas.* Areas potentially subject to<u>at</u> risk of mass movement due to a combination of geologic, topographic, and hydrologic features.

*Large Woody Debris (LWD).* Trunks and branches of trees that have fallen into a stream or have been placed in a stream, stabilizing the streambed and providing for
fish and aquatic insects. This definition includes any piece of wood that is at least 10 centimeters in diameter (midpoint) and is at least two meters in length. (SMP)

#### **M** Definitions

Moderate Impact Land Use. Land uses which are likely to have a moderate impact on wetlands because of the intensity of the use and levels of human activity. Moderate impact land uses include the following: residential (one unit per acre or less), moderate-intensity open space (parks), new agriculture (moderate-intensity such as orchards and hay fields), paved trails, and building of logging roads.

#### **N** Definitions

Noxious Weed. See Redmond Municipal Code, Chapter 6.12, Noxious Weed Control and Tree Regulations.

#### **O** Definitions

Ordinary High Water Mark (OHWM). The mark that will be found on all lakes and streams by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation, as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department, provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining fresh water shall be the line of mean high water. (SMP)

*Out-of-Kind Mitigation*. Replacement of critical areas with substitute critical areas whose characteristics do not closely approximate those destroyed or degraded by a regulated activity.

#### **P** Definitions

Priority Habitat/Species or Priority Wildlife Habitat/Species. Habitats and species of local importance and concern in urban areas, as identified by the Washington Department of Wildlife Priority Habitat and Species (PHS) program. "Priority species" are wildlife species of concern due to their population status and their sensitivity to habitat alteration. "Priority habitats" are areas with one or more of the following attributes: comparatively high wildlife density, high wildlife species richness, significant wildlife breeding habitat, significant wildlife seasonal ranges, significant movement corridors for wildlife, limited availability, or high vulnerability. General types of priority habitat identified in the PHS program potentially found in Redmond include meadows, oak woodlands, old-growth/mature forests, riparian areas, snagrich areas, urban natural open space, and wetlands.

### **Q** Definitions

Qualified Consultant. For purposes of administering the Critical Areas regulations, "qualified consultant" shall mean a person who has attained a degree in the subject matter necessary to evaluate the critical area in question (e.g., biology or ecology for wetlands, streams and wildlife habitat; geology and/or civil engineering for geologic hazards and <u>hydrogeologist for</u> aquifer recharge areas), and who is professionally trained and<del>/or</del> certified or licensed to practice in the scientific disciplines necessary to identify, evaluate, manage, and mitigate impacts to the critical area in question. Specifically, for wetlands, a qualified professional shall have at least two years of fulltime work experience as a wetlands professional, including delineating wetlands using Federal manuals, preparing wetland reports, conducting functional assessments, and developing and implementing mitigation plans.

*Quality Habitat Areas.* Areas that provide significant wildlife value by virtue of their characteristics. These characteristics include several parameters indicative of quality habitat, including size, community diversity, interspersion (spatial patterns), continuity, forest vegetation layers, forest age, and lack of invasive plants. <u>Also referred to as primary habitat.</u>

### **R** Definitions

*Reestablishment.* The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former critical area. Reestablishment is a type of restoration. For wetlands, reestablishment results in a gain in wetland acres and functions. Activities could include removing fill material, plugging ditches, or breaking drain tiles.

<u>Reconstruction</u>. To rebuild, repair, or restore a structure into its original exterior form after it has been damaged or destroyed.

*Regulated Activity.* Activities that have a potential to significantly impact a critical area that is subject to the provisions of RZC 21.64, Critical Areas Regulations. Regulated activities generally include, but are not limited to, any filling, dredging, dumping or stockpiling, draining, excavation, flooding, clearing or grading, construction or reconstruction, driving pilings, obstructing, shading, or harvesting.

*Rehabilitation*. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded critical area. Rehabilitation is a type of restoration. For wetlands, 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.

*Riparian Stream Corridor.* Areas adjacent to stream systems that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. These areas provide a myriad of functions to support a healthy stream system.

<u>Riparian Management Zone (RMZ).</u> Often synonymous with riparian buffer. The RMZ is the area that has the potential to provide full riparian functions.

*Riparian Zone.* The area of vegetation adjacent to a body of water that influences (and is influenced by) the water; an area typically used by more species of wildlife than other land areas. (SMP)

#### **S** Definitions

Salmon and Steelhead Habitat. Submerged areas that provide significant habitat or critical habitat components for salmon and steelhead at various life cycle stages, including gravel-bottomed streams and rivers used for spawning; streams, rivers, lakes, wetlands and side channels used for rearing or feeding, and refuge from predators and high waters; and shallow areas along lakeshores used for rearing, feeding, and refuge. Salmon and steelhead habitat is mapped on the Stream Map in the Shoreline Master Program. (SMP)

*Salmonid.* A species of the family Salmonidae: the salmons, trouts, chars, and whitefishes. (SMP)

*Seismic Hazard Areas*. Lands or areas<u>Areas</u> subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

*Significant Groundwater Hazard.* A condition in which there is a reasonable probability of release of a hazardous material or deleterious substance that, if reached groundwater, would degrade, alter or form part of a process of degradation

or alteration of the groundwater quality so that it becomes or is likely to become harmful for consumption.

*Slope*. A degree of deviation of a surface from the horizontal, measured as a numerical ratio, percentage, or in degrees. Expressed as a ratio, the first number is the horizontal distance (run) and the second is the vertical distance (rise), as 2:1. Expressed as a percentage, the vertical distance (rise) is divided by the horizontal distance (run) and is then multiplied by 100. A 2:1 slope is a 50 percent slope. Expressed in degrees, the slope is the angle from the horizontal plane, with a 90-degree slope being vertical and 45 degrees being a 1:1, or 100 percent slope.

*Species of Concern.* Those species listed as state endangered, state threatened, state sensitive, or state candidate, as well as species listed or proposed for listing by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

Species of Local Importance. Species Those species identified by the City of Redmond, including those that possess unusual or unique habitat warranting protection because of qualitative species diversity or habitat system health indicators. that are of local concern due to their population status or their sensitivity to habitat alteration.-It may also include species which are culturally important to the City. Species of local importance are designated through the development guidezoning code amendment process.

Steep Slopes. Slopes of 40 percent gradient or steeper.

*Stream.* Those areas where surface waters produce a defined channel or bed. A defined channel or bed is an area which demonstrates clear evidence of the passage of water and includes, but is not limited to, bedrock, channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This includes watercourses where there is some component of natural flow (groundwater, spring, etc.) or when an artificial stormwater system is incorporated within a natural stream. A watercourse also includes all surface water connected wetlands that provide or maintain habitat that supports fish. This definition is not meant to include artificially created irrigation ditches, canals, storm, or surface water runoff devices or other entirely artificial watercourses unless they are used by salmonid or created for the purposes of stream mitigation.

*Stream Reconnaissance Report.* A report prepared by an applicant's qualified consultant to describe a stream and to characterize its conditions, wildlife, habitat values, and water quality.

*Structural Diversity.* The relative degree of diversity or complexity of vegetation in a wildlife habitat area as indicated by the stratification or layering of different plant

communities (e.g., ground cover, shrub layer and tree canopy), the variety of plant species, and the spacing or pattern of vegetation.

#### **T** Definitions

*Time-of-Travel Zone*. The delineated area within which groundwater moves towards, and eventually reaches, a water supply well within a given period of time.

#### W Definitions

*Wellhead Protection <u>ZoneArea</u>. <u>A zoneAn area</u> designated under guidance from the Washington Department of Health Wellhead Protection Program pursuant to WAC Chapter 246-290 to protect areas with a critical recharging effect on aquifers used for potable waters.* 

Wetland or Wetlands. Areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas created to mitigate conversion of wetlands.

*Wetland Class.* A hierarchy of systems, subsystems, classes, and subclasses used by the U.S. Fish and Wildlife Service wetland classification scheme to describe wetland types (refer to USFWS, December 1979, Classification of Wetlands and Deepwater Habitats of the United States, for a complete explanation of the wetland classification scheme). Eleven class names are used to describe wetland and deepwater habitat types. These include the following examples which may be found in Redmond: forested wetland, scrub-shrub wetland, emergent wetland, moss-lichen wetland, unconsolidated shore, and aquatic bed.

*Wetland Determination.* A report prepared by a qualified consultant that identifies, characterizes, and analyzes potential impacts to wetlands consistent with applicable provisions of these regulations.

*Wetland Delineation Manual.* Guideline document used to identify and delineate wetland boundaries. This is the approved federal wetland delineation manual and applicable regional supplements.

*Wetland Mitigation Banking*. The act of restoring, establishing, or enhancing a wetland, stream, or other aquatic resource for the purpose of providing compensation in advance for unavoidable impacts to similar aquatic resources.

*Wetland Subclass.* Any of twenty-eight subclass names are used in the USFWS wetland classification scheme to distinguish between different types of wetland classes. Subclass names include, but are not limited to, the following: persistent, non-persistent, broad-leaved deciduous, needle-leafed deciduous, broad-leaved evergreen, and needle-leafed evergreen. The classification system is fully described in USFWS, 1979, Classification of Wetlands and Deepwater Habitats of the United States.

*Wildlife Report.* A report, prepared by a qualified consultant, that evaluates plant communities and wildlife functions and values on a site, consistent with the format and requirements established by RZC 21.64, Critical Areas Regulations.

#### Z Definitions

Zero-Rise Floodway. The channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the base flood flow without increasing the base flood elevation. The zero-rise floodway will always include the FEMA floodway.

v. RZC 21.64.060.C, Alteration of Geologically Hazardous Areas - Generally

c. RZC 21.66, Dredging (Ord. 2486)

d. 21.78, Definitions - Those specific to shorelines and so noted with an "SMP" following their definition.

21.68.060 Shoreline Buffers.

A. Shoreline Buffers.

1. Shoreline buffers are established for Type <u>HS</u> streams; those streams identified as Shorelines of the State. Stream buffers for the Shorelines of the State (Sammamish River, Bear Creek, and Evans Creek) are 200 feet. established for the Sammamish River, Bear Creek, and Evans Creek as follows:

<del>a.–Sammamish River:</del>

i.–North of Puget Sound Energy powerline crossing: 150-foot inner buffer plus a 50-foot outer buffer.

ii.-South of Puget Sound Energy powerline crossing: 150-foot buffer.

<del>b.–Bear Creek:</del>

i.--West of Avondale Road: 150-foot buffer.

ii.-East of Avondale Road: 150-foot inner buffer plus a 50-foot outer buffer.

c.-Evans Creek: 150-foot inner buffer plus a 50-foot outer buffer.

Buffers are established to protect the integrity, function, and value of the riparian corridor, and shall be an area of undisturbed vegetation where development is prohibited, subject to 2 through 5 below. There are no The required building setbacks from these buffers is 15 feet.

Where a City-sponsored stream or river restoration project remeandered a Type I stream, adjacent buffers may be reduced so that the buffers will extend no farther

than the extent of the buffers immediately prior to the restoration project, provided no net loss of shoreline ecological functions can be demonstrated, and the reduced buffer is no less than 100 feet in width. This provision shall not be construed to allow automatic reduction of the buffer on the corresponding opposite side of the stream when the stream is being located further away from said property.

2.–Subject to 3 through 5 below, maximum clearing and grading within the outer 50-foot buffer is 35 percent of the outer buffer area. Nothing in this provision shall be construed to require remediation of existing situations where the current clearing and grading is in excess of 35 percent. Subject to 3 through 5 below, no net effective impervious surfaces may be created within this area.

<u>32</u>. Except as otherwise specifically permitted in this section, RZC 21.68.060.A or in any other portion of the Shoreline Master Program, development, including clearing, grading, disturbing, or altering of a stream buffer is strictly prohibited, except for the following activities that are permitted within all buffer areas:

a. Stormwater conveyance systems and underground utilities;

b. Trails subject to the Public Access policies and regulations of the Shoreline Master Program; and

c. Bridges which are part of a regional transit system where there is a demonstrated public need and the location has been selected through a regional transit planning process. Buffer setbacks do not apply to transportation crossings; however, buffer crossing impacts shall be minimized and mitigated.

**43**. Businesses currently located in the stream buffers or stream setbacks may continue to operate. A nonconforming use in the stream buffers or stream setbacks may be expanded, provided the expansion does not result in a net loss of shoreline ecological functions over existing conditions. Nonconforming structures may be maintained and repaired and may be enlarged or expanded, provided said enlargement does not extend the structure closer to the shoreline. Businesses currently located in the stream setbacks may sell their land to entities for redevelopment in the same general land use category; e.g., an industrial user may sell to a different type of industrial user, who may continue forward as a nonconforming use and with the existing nonconforming structures and may also

redevelop pursuant to this section, RZC 21.68.060.A, and other applicable portions of the Shoreline Master Program.

54. In any High-Intensity/Multiuse location within a buffer where the land is actively being used as part of a legitimate business operation, such land, including either structures or active operational areas, established prior to January 1, 2008, may continue to operate. New structures, pavement, and other improvements are permitted within this area so long as incremental environmental benefit is provided, and no net loss of shoreline ecological functions is demonstrated.

B. Lake Sammamish Setback. Lake Sammamish has no buffer, as noted in RZC 21.68.060.A above, but rather has a building setback. The waterfront-building setback for new development and redevelopment (teardowns) along Lake Sammamish shall be a minimum of 35 feet. The building setback can be reduced to 20 feet if the setback area is revegetated with primarily native vegetation. Establishment of a tree canopy is encouraged. No constructed structures other than those required for waterfront access/docks are allowed within the 20-foot setback. The applicant shall record on the title documentation from the City of Redmond, confirming that the structure has been built under the flexible setback option and as such, the structure is conforming and the area within the 20-foot lakefront setback is to remain planted primarily with native vegetation, as described above. The City shall assist the applicant in determining appropriate native vegetation requested and will coordinate with the applicant on the planting success the following year. New development adhering to the 35-foot setback and/or reconstruction that involves greater than 50 percent of the value of existing improvements shall be required to plant 50 percent of the area in the minimum 20-foot building setback with native vegetation.

C. Buffer and <u>Waterfront Building</u> Setback Measurements. Shoreline buffers and <u>Lake Sammamish</u> waterfront building setbacks are measured from the ordinary high water mark.

Effective on: 4/16/2011

## ATTACHMENT D

#### **CRITICAL AREAS MAP PORTFOLIO UPDATE**

- 1. Streams
- 2. Wetlands
- 3. Frequently Flooded Areas
- 4. Critical Aquifer Recharge Areas
- 5. Critical Aquifer Recharge Areas Full Extent
- 6. Critical Aquifer Recharge Areas Time of Travel
- 7. Critical Aquifer Recharge Areas Time of Travel Full Extent











#### Note: This map shall be used as a general guide. It represents approximate locations. Consult RZC 21.64, Critical Areas Regulations, for reporting requirements. In the event there is a conflict between the map and the Critical Areas Regulations, the City's regulations will be applied.

# **Critical Aquifer Recharge Areas**

City of Redmond, Washington

Effective on: ?????



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Disclaimer: This map is created and maintained by GIS Services Group, Transportation and Information Services, City of Redmond, Washington, for reference purposes only.

The City makes no guarantee as to the accuracy of the features shown on this map.

Redmond



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