



## Memorandum

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**Date:** July 13, 2004

**To:** Rebecca Lind, Principal Planner, City of Renton

**From:** Lisa Grueter, Senior Planner

**Subject:** Transmittal of Parametrix Review of Wetlands Regulations

### Introduction/Purpose

This memo transmits Parametrix's evaluation of Renton's wetland regulations for compliance with Growth Management Act best available science requirements.

The purposes of the work program were to:

- Review Best Available Science Documents from the State Department of Ecology, State Department of Community, Trade, and Economic Development, and King County, as well as Available Data; and
- Review Existing Regulations and Identify Recommendations.

The recommendations are attached in a summary matrix format. For ease of review, Jones & Stokes has added row numbers.

### Wetlands Location

In 1991, the City inventoried and identified 32 wetlands, totaling approximately 367 acres within the City limits. Within Renton's sphere of influence, approximately 67 wetlands, totaling 1,067 acres, were identified. Wetland types found in Renton and its sphere of influence include bogs, emergent marshes, shrub/scrub, forested and old growth wetlands. Most of the wetlands are adjacent to rivers and streams although other smaller concentrations are found elsewhere. Most are located in the "Valley" area of Renton inside the City limits.<sup>1</sup> Wetland inventories have been updated in some portions of the City, such as through the City's 1997 *Eastside Green River Watershed Plan* and Environmental Impact Statement.

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<sup>1</sup> Jones and Stokes Associates (June 1991). *Critical Areas Inventory: City of Renton Wetlands and Stream Corridors*. Prepared for the City of Renton, Planning/Building/Public Works Department. Renton, Washington.

## Renton Wetlands Regulations History

In 1992 the City adopted wetland regulations. The City considered the use of DOE's 1990 Model Regulations, as well as King County's regulations, ultimately adopting a classification and buffer system fairly similar to King County regulations in effect at that time.<sup>2</sup> In the Year 2000 the City's wetland regulations were integrated as part of a comprehensive critical areas ordinance. In 2000, following a public and agency review process consistent with the Growth Management Act, the City's wetlands regulations were modified. The key changes made at that time are summarized below:

- Exemptions were added, deleted, and amended.
- Wetland delineation procedures recognized the 1997 Statewide manual.
- Wetland classifications could result in dual ratings/classifications, using a State manual, rather than a single rating in all cases.
- Buffer enhancement was added as a requirement for buffer averaging proposals.
- Wetland enhancement *in conjunction with* wetland creation or restoration was newly allowed (enhancement as mitigation was not allowed previously).

## Parametrix Recommendations

Parametrix has found that the City's wetland regulations are supported by current best available science for wetlands in Washington State. However, several recommendations are proposed that could be implemented as administrative rules (e.g. references to recommended scientific papers to help guide staff) or specific code revisions to improve or better document the City's decision-making process. Parametrix's recommendations are attached.

## Key Policy Issues

Specific amendments are proposed to the following sections of the Wetlands regulations:

- Exemptions for small Category 2 and 3 wetlands – those that provide functions should not be exempt.
- Exemptions for ongoing agriculture, vegetation management, stormwater management facilities in buffers, and trails and open space facilities in buffers should be amended to ensure de minimus impacts.
- A measure to enhance the City's classification system could be to reference or translate the State Department of Ecology's rating system to the City's (meaning identify how the State's four-way system translates to the City's three-way class system). However, at present, the City's wetland class system was found to be sound.

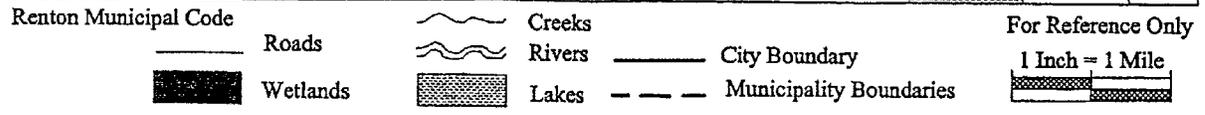
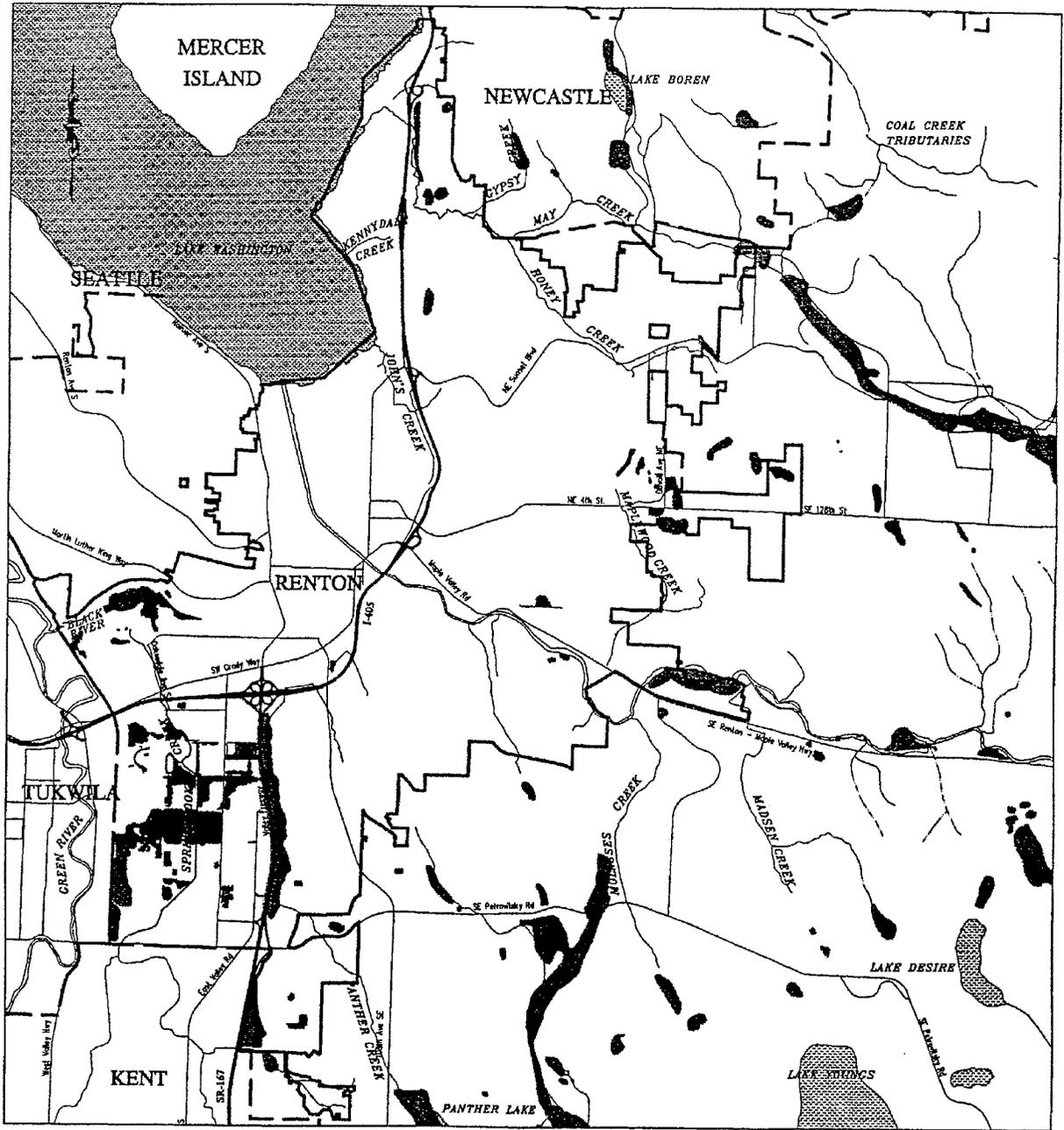
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<sup>2</sup> Washington State Department of Ecology (September 1990). *Model Wetlands Protection Ordinance*. Olympia, Washington.

- Wetland classification criteria relying on the County's 1991 inventory should be deleted. Vague terms in the classification system should be amended (e.g. plant associations of infrequent occurrence and headwaters).
- Wetland assessments should be required for proposals within 300 feet of a wetland rather than 100 feet. This is because in some cases the City may wish to expand wetland buffers beyond standard requirements.
- The City's standard buffers were found to meet best available science. It was recommended buffer size determinations should document how best available science is met. A particular reference/method is suggested: *The Science of Wetland Buffers and Its Implications for the Management of Wetlands*, McMillan 2000. This would be particularly appropriate for buffer reductions, buffer averaging, modifications, variances and similar actions.
- Since the City's buffer averaging criteria include science based provisions (e.g. variation in wetland sensitivity), it was recommended that reasonable use be removed as a criterion for buffer averaging.
- Review criteria to expand buffers should be amended to remove vague terms.
- Definitions of restoration, creation, and enhancement as well as protection/maintenance should be revised to be consistent with State and Federal agencies.
- Parametrix noted that the City may wish to allow enhancement alone as a mitigation option for certain lower quality wetlands. A City staff review team reviewed this policy issue and recommends continuing with the requirement to allow for enhancement in conjunction with wetland creation/restoration, given the City's policy to achieve no-net-loss of wetland acres as well as functions.
- Enhancement criteria should be amended to allow some desirable changes in functions.
- Off-site mitigation may be more desirable than on-site mitigation, and some criteria are proposed for amendment.

As part of the City Review Team consideration, it was noted that the scientific citations included in the Parametrix review are helpful. While it is possible to include these citations in an administrative rule, it was thought that it was unnecessary. The City has instituted a third-party review which should allow for appropriate preparation of wetland assessments and mitigation plans. In any case the Parametrix report will be made available to staff.

The attached memo and matrix elaborate on the above summary of amendments.



**Renton Wetlands**

## M E M O R A N D U M

Date: **June 28, 2004**  
To: **Lisa Grueter  
Jones and Stokes**  
From: **Jim Kelley, Ph.D.**  
Subject: **Best Available Science Ordinance Review**  
cc: **Andy Kindig**

Project Number:

Project Name: **City of Renton Ordinance Review**

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This memorandum addresses a review of Best Available Science (BAS) for wetlands within the City of Renton to assist the City in complying with Growth Management Act requirements and guidelines. The overall goal of the Best Available Science Review is to comply with the procedural rule (WAC 365-195-900 to 925) to consider Best Available Science in developing critical area regulations. The evaluation considered whether:

- Existing wetland regulations are consistent with the BAS.
- Existing regulations adequately protect the functions and values provided by wetlands within the City of Renton.

The review of the above issues was largely based on BAS standards and justifications for wetlands identified in:

- *Freshwater Wetlands in Washington State Volume I: A synthesis of the Science*, Ecology 2003
- *Washington State Wetland Rating System for Western Washington Revised Draft*, Ecology 2004
- *Guidance on Wetland Mitigation in Washington State*, Ecology et. al. 2004

My analysis is summarized in the attached table. As documented in the table, in general, the City's ordinance is supported by current BAS for wetlands in Washington State. However, I have made several recommendations that can be implemented as administrative rules or code revisions to improve or better document the City's decision-making process.

## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

#	Wetland Issue	Relation to City Code	Evaluation in Consideration of Best Available Science
1.	Applicability and Exemptions	Section C and M(1) of the City Code allows exemptions to Category 2 wetlands less than 2,200 ft <sup>2</sup> and Category 3 wetlands less than 5,000 ft <sup>2</sup>	<p>Several scientific studies have demonstrated that some small wetlands can provide important wetland functions (see <i>Freshwater Wetlands in Washington State Volume I: A synthesis of the Science</i>, Ecology 2003). Thus, exemptions of all small wetlands, as currently provided in the code, may not be consistent with best available science. However, studies of the functions of small (2,200-5,000 ft<sup>2</sup>) wetlands are limited and detailed investigations have not been completed in Washington State or Renton. Since many small wetlands lack the characteristics of those examined in scientific study, and are often highly modified, many of them may not provide significant wetland functions.</p> <p>A qualified biologist should review the environmental condition of each small wetland proposed for alteration. The biologist should determine if the small wetland(s) are providing substantial wetland functions. Wetlands that are determined to be providing substantial functions should be subject to further regulation. Exemptions are warranted where small wetlands are determined to provide no wetland functions or insignificant wetland functions.</p>
2.		<p>The City's Code (Section C(5)) identifies exempt activities that are permitted within wetlands and associated buffers. These activities include:</p> <ul style="list-style-type: none"> <li>a. Conservation, Enhancement, Education, and Related Activities</li> <li>b. Research and Site Investigations</li> <li>c. Agricultural, Harvesting, and Vegetation Management</li> <li>d. Surface Water</li> <li>e. Roads, Parks, Public Utilities</li> <li>f. Wetland Disturbance, Modification, and Removal</li> <li>g. Maintenance and Construction – Existing Uses</li> <li>h. Emergency Activities</li> </ul>	<p>Activities that are exempt from Critical Areas regulation in the City's ordinance are activities that are typically recognized as resulting in no or "de minimus" wetland impacts. These activities typically do not physically alter the condition of wetlands or buffers in a manner that affects function or reduces wetland area. Where temporary wetland or buffer modifications may occur (i.e. for utility installation or repair) mitigation to include restoration of disturbed areas is required,</p> <p>Several modifications are recommended where the existing exemptions could result in impacts that exceed the "de minimus" threshold. These recommendations are:</p> <p>Exemption c (ii) addresses ongoing agriculture in wetlands and states that: "Operations cease to be ongoing when the area on which it was conducted has been converted to another use or it has laid idle so long that modifications to the hydrological regime are necessary to resume operations". I suggest rewriting this to read: "Operations cease to be ongoing when the area on which it was conducted has been converted to another use or it has laid idle so long that modifications to the hydrological regime or the removal of native vegetation are necessary to resume operations". This change would assure that long abandoned agricultural</p>

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			lands are not cleared of native plants, which may be providing habitat or other functions. Exemption c (iii), e, and h(ii) address limited removal of hazardous trees or removal of other vegetation. Where feasible, the cutting of hazard trees or other woody vegetation should be accomplished such that trees will be retained in the wetland or buffer, where feasible. Limits to vegetation removal e(5) should also be expanded to permit the removal of non-native invasive vegetation or weeds listed by the King County Noxious Weed Board or other government agency.
3.		The City's Code (Section C(7)) identifies exempt activities that are permitted within wetland buffers. These include: a(i) Trails and Open Space a(ii) Stormwater Management Facilities	Activities in wetland buffers that are exempt from Critical Areas regulation in the City's ordinance are activities that are typically recognized as resulting in no or "de minimus" wetland buffer impacts. These activities typically do not physically alter the condition of wetlands or buffers in a manner that affects function or reduces buffer area. The following modifications are recommended where the existing exemptions could result in impacts that exceed the "de minimus" threshold. These are: a(i)(3) where enhancement of the buffer area adjacent to a trail is not feasible due to existing high quality vegetation, additional buffer area or other mitigation may be required. a(ii) storm water management facilities located in wetland buffers should require buffer enhancement or buffer averaging when they are sited in areas of forest vegetation.
4.	Classification / Rating System	Section M (1)a of the City Code provides a wetland classification system for rating wetlands and for (in part) determining the regulatory standards that apply to them. The system establishes 3 categories of wetlands.	The City's rating system provides objective criteria that have been routinely incorporated into wetland classification and evaluation criteria in the Puget Sound region to differentiate between higher and lower quality wetlands. The rating criteria are especially useful in identifying wetlands with higher and lower wildlife habitat functions (see <i>Methods for Assessing Wetland Functions Volume I: Riverine and depressional wetlands in the Lowlands of Western Washington</i> , Ecology 1999).
5.		The City's rating system differs from current and proposed Ecology or other guidance.	Other rating systems ( <i>Washington State Wetland Rating System for Western Washington</i> , Ecology 1993 and <i>Washington State Wetland Rating System for Western Washington Revised Draft</i> , Ecology 2004) use a 4-tiered approach for determining wetland categories that Ecology considers Best Available Science. The criteria used in establishing these categories vary and are more numerous than those considered by the City's code.

## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

#	Wetland Issue	Relation to City Code	Evaluation in Consideration of Best Available Science								
			<p>The revised draft Ecology approach has the benefit of documenting all wetland functions as a factor in rating wetlands.</p> <p>It is appropriate that a rating system, such as the City's system, that covers just a few square miles of relatively homogeneous lands does not fully mirror the system that Ecology has developed for all of Western Washington State. The variability in wetlands throughout western Washington is much broader than that found in Renton, and therefore, more wetland categories may be needed to reflect that variability in a wetland rating system. For most situations, the Renton system and Ecology's 1993 system compare as follows:</p> <table border="1" data-bbox="1199 602 1696 764"> <thead> <tr> <th data-bbox="1213 607 1423 630">Renton Category</th> <th data-bbox="1457 607 1675 630">Ecology Category</th> </tr> </thead> <tbody> <tr> <td data-bbox="1310 651 1325 673">1</td> <td data-bbox="1562 651 1577 673">I</td> </tr> <tr> <td data-bbox="1310 691 1325 714">2</td> <td data-bbox="1520 691 1625 714">II and III</td> </tr> <tr> <td data-bbox="1310 732 1325 755">3</td> <td data-bbox="1562 732 1577 755">IV</td> </tr> </tbody> </table> <p>The 2004 revised Ecology rating system appears to be a quantitative and objective; however, like other systems, the assessment is based on broad generalizations and judgments that are ultimately based on limited data and many assumptions. The limited data and many assumptions may or may not hold for local conditions within the City of Renton.</p> <p>The City's system provides for substantial differentiation of wetland types that are present in the local area. The Renton ordinance uses site-specific wetland information, site-specific ecological evaluations, other available tools (inventory and functional assessment models), and professional judgments to characterize how a specific development project may impact all wetland functions. Based on this analysis, a no net loss (both area and function) standard is applied. Because of this comprehensive approach to protecting wetlands, a detailed and comprehensive rating system would not improve the wetland protections provided by the City's Code.</p> <p>A potential benefit to the proposed Ecology system is that it documents that all key wetland functions have been considered early on in any wetland evaluation, whereas the City's current classification is largely focused on habitat functions. The Ecology 2004 system (currently in draft) could be incorporated into the City's code, as indicated in the above table.</p>	Renton Category	Ecology Category	1	I	2	II and III	3	IV
Renton Category	Ecology Category										
1	I										
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## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

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6.		Portions of Section M(1)a rely on King County's wetland inventory of 1991, or as amended.	It may be desirable to break ranks with King County's system. The rating system is currently undergoing County review and revision, and is likely to differ from the City's system.
7.		Portions of Section M(1)a rely on vague or undefined terms.	<p>Terms in the existing classification section that are vague and/or ambiguous include "plant associations of infrequent occurrence" and "plant associations at the geographic limits of their occurrence". Different biologists could define each of these terms variously, and a comprehensive list of these features for King County or Washington State that can be readily integrated into this ordinance is not available. As a result, these terms create uncertainty in how some wetlands may be regulated.</p> <p>A wetland in the "headwater of a watercourse" appears to refer to a wetland with a perennial or seasonal outflow channel, but with no defined influent channel.</p>
8.	Identification and Delineation	Section M(1)c and M(4) of the City's Code requires use of the <i>Washington State Wetlands Identification and Delineation Manual</i> , Ecology 1997.	<p>This manual is consistent with federal wetland delineation procedures, and is considered best available science for identifying wetlands and wetland boundaries. The Renton Municipal Code 4-8-120.D23 provides criteria for wetland delineation reports. These criteria are sufficient to provide the City with the information needed to make decisions regarding the location and types of wetlands on a project site. Item h of the delineation report criteria should be modified to include a requirement to identify the direct and indirect impacts of the project to wetland area and wetland functions.</p> <p>In some situations, wetlands edges may be poorly defined and difficult to establish. In these circumstances, additional information may be useful in reaching a scientifically defensible determination of a wetland edge. These include:</p> <p>National Academy of Sciences. 1995. <i>Wetlands: Characteristics and Boundaries</i>. National Research Council.</p> <p>Richardson, J. and M. Verpraskas. 2001. <i>Wetland soils</i>. Lewis Publishers, Boca Raton, Florida.</p> <p>National Resources Conservation Service. 2002. <i>Field Indicators of Hydric Soils in the United States, Version 5.0</i>. NRCS in cooperation with the National Technical Committee for Hydric Soils, Fort Worth, TX.</p>
9.	Approval Standards -	Minimization and Compensation of Impacts - Section M(2) a, b, and c establish requirements requires	These measures establish a high standard for approving and mitigation for wetland impacts. They are consistent with best available science that indicate uncertainty associated with mitigation (see <i>Compensating for</i>

## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

#	Wetland Issue	Relation to City Code	Evaluation in Consideration of Best Available Science
		affirmative actions to minimize and compensate for unavoidable wetland impacts. A compensation standard of no net loss of wetland area or function, by drainage basin, is established.	<p><i>Wetland Losses Under the Clean Water Act</i>, National Research Council 2001; <i>Washington State Wetland Mitigation Evaluation Study Phase 1</i>, Ecology 2000 and <i>Washington State Wetland Mitigation Evaluation Study Phase 2</i>, Ecology 2001.</p> <p>Renton Municipal Code 4-8-120.D23 provides criteria for wetland mitigation plans. These criteria are sufficient to provide the City with the information needed to evaluate mitigation proposals.</p>
10.	Assessing Wetland Functions - Section M(2) (and other subsections) consider wetland functions and values as criteria for permit approval.		<p>Approaches to assessing wetland functions should rely on scientific and accepted agency methods. They should include evaluation of and application of relevant scientific literature and professional judgments where more generalized assessment methods are not applicable. Special considerations must be given to the habitat requirements of the specific wetland dependent wildlife species or groups that occur or are likely to occur on the site because wildlife functions are often most sensitive to wetland mitigation and buffer protection decisions.</p> <p>For some projects, hydrologic studies and stormwater management analysis will provide additional information regarding the potential hydrologic and water quality functions of wetlands on or near the project site.</p> <p>The following documents should be considered when making functions and values assessments:</p> <p>Hruby, T. 1999. <i>Assessments of Wetland Functions: What They Are and What They Are Not</i>. Environmental Management. 23:1.</p> <p>Washington Department of Ecology. 2000. <i>Methods for Assessing Wetland Functions – Volume I: Riverine and Depressional Wetlands in the Lowlands of Puget Sound</i>.</p> <p>ODSL (Oregon Division of State Lands). 2001. <i>Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites I. Willamette Valley Eco-region Riverine Impounding and Slope/Flats Subclasses Volume IA: Assessment Methods</i>. Oregon Division of State Lands, Salem, Oregon.</p> <p>Johnson, H. and T. O’Neil. 2000. <i>Wildlife-Habitat Relationships in Oregon and Washington</i>. Oregon State University Press, Corvallis, Oregon.</p> <p>Washington State Department of Transportation. 2000. <i>Wetland Functions Characterization Tool for Linear Projects</i>. Environmental Affairs</p>

## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

#	Wetland Issue	Relation to City Code	Evaluation in Consideration of Best Available Science
			Office, Olympia Washington ACOE (U.S. Army Corps of Engineers, New England District). 1995. <i>Highway Methodology Workbook: Supplement to Wetland Functions and Values: A Descriptive Approach</i> . Boston, Massachusetts.
11.	Assessing Wetland Impacts - Section M(2) (and other subsections) consider wetland and buffer impacts as criteria for permit approval.		The City's requirement of basing wetland evaluations avoidance, minimization, and compensation for wetland impacts is sound. A wetland impact analysis should be completed that considers both direct impacts to wetlands (e.g. filling, clearing, etc.) and less direct alterations (e.g. modifications to buffers, hydrology, water quality, or landscape conditions), and included in wetland reports. A general treatment of wetland potential wetland impacts is discussed in <i>Freshwater Wetlands in Washington State Volume I: A synthesis of the Science</i> (Ecology 2003). Site-specific evaluations should be performed by identifying the ecological characteristics of the wetland (including its adjacent area) that may change due to the project and then by evaluating how these changes may impact wetland functions.
12.	Planning Wetland Mitigation - Section M(2) (and other subsections) consider wetland mitigation as criteria for permit approval.		The City's code provides for the planning and implementation of mitigation following current agency guidelines and recommendations. These guidelines address wetland function assessment, setting goals and objectives, site selection, site design and construction, and developing conceptual and final mitigation plan. Monitoring during and following installation of mitigation is necessary to assure that mitigations are installed properly and ultimately meet performance criteria.  Relevant documents to consider in planning mitigation include: Guidance on Wetland Mitigation in Washington State, Ecology et. al. 2004 Washington Department of Ecology. 1994. <i>Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals</i> . National Research Council. 2001. <i>Compensating for Wetland Losses Under the Clean Water Act</i> . National Academy Press, Washington, D.C. National Research Council. 1996. <i>Guidelines for the Development of Wetland Replacement Areas</i> . Transportation Research Board, Report 379. Washington Department of Ecology. 2000. <i>Washington State Wetland Mitigation Evaluation Study, Phase 1: Compliance</i> . Washington Department of Ecology. 2002. <i>Washington State Wetland Mitigation Evaluation Study- Phase 2, Evaluating Success</i> .

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			<p>Washington Department of Ecology. 1992. <i>Wetland Mitigation Replacement Ratios: Defining Equivalency</i>.</p> <p>Washington State Department of Transportation. 1999. <i>Success Standards for Wetland Mitigation Projects- A Guideline</i>.</p>								
13.	Required Studies	Section M(3) specifies studies be completed to classify and delineate wetlands.	<p>Classifications are required when the project area or subject property is within 100-feet of a wetland. This provision is to ensure that potential impacts to protective wetland buffers are recognized and evaluated during the review process. However, the 100-foot threshold is not consistent with other sections of the ordinance (i.e. Section M(6)d) which may require protective buffers in excess of 100-feet. The threshold for evaluation and study should be increased to 300 feet to match the Department of Ecology’s recommended buffers for Category I wetlands. This approach will ensure that all potential impacts to nearby wetlands and buffers are evaluated.</p>								
14.	Wetland Buffers	Section M(6)c of the City’s Code establishes standard buffers as follows:	<p>Best available science demonstrates that buffers are required to protect wetland functions. Generally, buffers should be established so adjacent development will not adversely impact the functions and values provided by the wetland, and the City’s ordinance, as currently written provides this protection. The City’s standard buffer requirements provide substantial protection to all wetland functions, as documented in <i>Freshwater Wetlands in Washington State Volume I: A synthesis of the Science</i> (Ecology 2003, see Chapter 5).</p> <p>Science-based evaluations of buffer requirements are not available for all wetland conditions and all adjacent land uses. Therefore, most wetland regulations make provisions for adjusting standard buffer guidelines (see <i>Freshwater Wetlands in Washington State Volume I: A synthesis of the Science</i> and <i>The Science of Wetland Buffers and Its Implications for the Management of Wetlands</i>, McMillan 2000). Further, existing buffer evaluations that are cited in Ecology’s (2004) review have not considered the wide range of water quality and water quantity protections that existing stormwater management and site development ordinances provide to wetlands. Generally, wetland buffers are not expected to control water quality (i.e. remove sediments, nutrients, and potentially toxic compounds) because City code requires stormwater management facilities that are designed to perform these functions.</p> <p>Therefore, the primary need for wetland buffers is to protect the wildlife functions of wetlands for wetland dependent species. Ecology (page 5-45,</p>								
		<table border="1"> <thead> <tr> <th>Wetland Category</th> <th>Standard Buffer</th> </tr> </thead> <tbody> <tr> <td>1 – Very High Quality</td> <td>100 feet</td> </tr> <tr> <td>2 – High Quality</td> <td>50 feet</td> </tr> <tr> <td>3 – Lower Quality</td> <td>25 feet</td> </tr> </tbody> </table>	Wetland Category	Standard Buffer	1 – Very High Quality	100 feet	2 – High Quality	50 feet	3 – Lower Quality	25 feet	
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## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

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3 – Lower Quality	These standard buffers can be increased or decreased, based on factors identified in Sections M(6)d or e	25 feet	<p>2004) states that “there is no simple generalized answer for what constitutes an effective buffer width for wildlife considerations. The width of the buffer is dependent upon the species in question and its life-history needs, whether the goal is to maintain connectivity of habitats across a landscape, or whether one is simply trying to screen wildlife from human interactions.” Basic criteria recognized as important considerations in determining the width of a buffer are:</p> <ul style="list-style-type: none"> <li>– the value of the aquatic resource to be protected by the buffer;</li> <li>– the characteristics of the aquatic resource in question, of the watershed contributing to the aquatic resource, and of the buffer itself;</li> <li>– the intensity of the existing adjacent land use (or proposed land use); and</li> <li>– the specific functions that the buffer is to provide, especially the life-history needs of wildlife using the adjacent wetland.</li> </ul> <p>For the City of Renton, consideration of the general land uses, watershed conditions, wetland habitat conditions, and high levels of habitat fragmentation that are present restricts many highly sensitive wildlife species from using many wetlands in the City. Therefore, to assure that existing wildlife uses are maintained, wetlands in the City will often not require the level of buffer protection identified by Ecology.</p> <p>McMillian (2000) identifies the value of site specific buffer determinations that that allow consideration of detailed site specific information relevant buffer needs and effectiveness. This general approach is currently used by the City, and it is protective of wetlands and wetland functions.</p> <p>Currently, it appears that reviews for buffer adequacy may not be fully documented. A site-specific evaluation and documentation approach similar to that presented in McMillian(2000) could be implemented to improve the decision-making process that Renton uses for determining the appropriate buffer width for specific projects and wetlands. This improved evaluation approach would help document how each buffer determination reflects BAS.</p>
15.	Section M(6)d(i) identifies the potential need for larger buffers to support “viable	The determination of buffer sizes required to support “viable populations” of wetland dependent wildlife is generally not practicable. The habitat area(s)	

## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

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		populations of existing species”	<p>and condition(s) required to maintain viable populations are generally not known, nor readily determined. These determinations are confounded because many species of wildlife are mobile and use a variety of wetland and non-wetland habitats (often in non-contiguous areas) to meet their life history needs.</p> <p>A more general approach to meeting the intent of this requirement is recommended. The term “viable populations of” could be replaced with “use by” or “habitat conditions for”. Analysis of wildlife habitats should be largely based on species-specific scientific literature and other sources. The following summarize requirements for wildlife species in Washington:</p> <p>Johnson, H., and T. O’Neil. 2000. <i>Wildlife-Habitat Relationships in Oregon and Washington</i>. Oregon State University Press, Corvallis, Oregon.</p> <p>Brown, E. R. 1985. <i>Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington</i>. U.S. Forest Service, Portland, OR</p>
16.		Section M(6)f i-vi identify criteria for buffer width averaging. Criteria iii specifies that buffer averaging must not adversely impact wetland functions and values	<p>Criteria ii and iii seem to be the key science based criteria that must be met. If these criteria are met, it is unclear why an additional demonstration of reasonable use, is required.</p> <p>Buffers of wetland mitigation sites should generally be established as necessary to protect the identified functions of the mitigation. Where impacted wetlands currently lack adequate buffers, case-by-case determinations on the buffers appropriate for mitigation sites may be warranted.</p>
17.	Wetland Mitigation	Section M(10) addresses wetland mitigation.	<p>The wetland mitigation standards and approach are protective, and conform with most BAS recommendations.</p> <p>For reasons of consistency, the City may want to revise definitions of wetland mitigation to conform to current definitions used by state and federal agencies. These are:</p> <p><b>Restoration:</b> the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into:</p> <p><i>Re-establishment:</i> the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland acres.</p>

## City of Renton – Wetlands Critical Area Ordinance Review for Best Available Science

#	Wetland Issue	Relation to City Code	Evaluation in Consideration of Best Available Science
			<p><i>Rehabilitation:</i> the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions of degraded wetland. Rehabilitation results in a gain in wetland function, but does not result in a gain in wetland acres.</p> <p><b>Creation (or Establishment):</b> the manipulation of the physical, chemical, or biological characteristics present to develop a wetland that did not previously exist on an upland or deepwater site. Establishment results in a gain in wetland acres.</p> <p><b>Enhancement:</b> the manipulation of the physical, chemical, or biological characteristics of a wetland (undisturbed or degraded) site the heighten, intensify, or improve specific function(s) or for a purpose such as water quality improvement, flood water retention or wildlife habitat. Enhancement results in a change in wetland function(s) and can lead to a decline in other wetland function, but does not result in a gain in wetland acres. This term includes activities commonly associated with the terms enhancement, management, manipulation, directed alteration.</p> <p><b>Protection/Maintenance:</b> the removal of a threat to, or preventing decline of, wetland conditions be an action in of near a wetland. Includes purchase of land or easement, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation. Protection/Maintenance does not result in a gain of wetland acres or function.</p>
18.	Wetland Enhancement	Section M(12)a identifies that enhancement activities are only allowed in conjunction with proposals to restore or create a wetland.	The City’s Code is protective by limiting the use of enhancement to ensure no net loss of wetland area. In some cases (for example where small wetland fragments are determined to provide low levels of function, enhancement activities alone may be suitable mitigation. There may be cases where functional losses to certain lower quality wetlands can be fully mitigated by enhancement proposals, as suggested by current and proposed federal and state guidance.
19.		Section M(12)b identifies evaluation criteria for enhancement that require the proposed enhancement of function not degrade another function.	The City’s Code is protective by limiting the use of enhancement to ensure no net loss of wetland area. However, when evaluated in detail and on a case-by-case basis, there may be desirable changes in wetland functions that can best be accomplished by enhancement. For example, it may be desirable to plant an emergent wetland pasture that provides function to over-wintering waterfowl with native forest vegetation to improve various functions, including native wildlife. Technically, this “degrades” habitat for

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20.	Off-site Compensation	Section M(14)a identifies restrictions on when off-site compensation is an acceptable option.	<p>waterfowl but overall, it results in wetlands that provide higher function to a wider variety of wildlife species.</p> <p>Current scientific evaluations of wetland mitigation approaches suggest that off-site mitigation should be more widely encouraged in order to increase the success of wetland mitigation and to increase the overall function of mitigation sites (see <i>Guidance on Wetland Mitigation in Washington State</i>, Ecology et.al. 2004). Therefore, criteria iv should be revised to indicate that “the proposed wetland functions at the mitigation site are significantly greater than the wetland functions that could be reasonably achieved with on-site mitigation”.</p>