

**CITY OF EDGEWOOD
COUNCIL STUDY SESSION AGENDA**

Tues., August 29, 2017 – 7:00 PM ♦ City Hall – 2224 104th Avenue East ♦ Edgewood, WA

1. CALL TO ORDER

Pledge of Allegiance & Roll Call

2. COUNCIL BUSINESS

A. Review/Discussion (pg. 3) - Ordinance – Public Records Act

B. Review/Discussion (pg. 18) - Year End Revenues & Expenditures/2017 Estimated Actuals

C. Review/Discussion (pg. 45) - Planning Commission recommendation- Code Modifications

D. Discussion (pg. 308) - Surface Water Management Plan Update (*no material*)

3. OTHER COUNCIL ITEMS

4. ADJOURN

Study Sessions are meetings for Council to review upcoming and pertinent business of the City, no action is taken by the City Council. Study Sessions are open to the public, but public input is reserved for the regular Council meetings

CITY OF EDGEWOOD
STAFF REPORT
STUDY SESSION AGENDA ITEM: Public Records Act

Date: August 29, 2017

Title: Public Records Act

Attachments: DRAFT Ordinance, Exhibit A

Submitted By: Rachel Pitzel, City Clerk

Approved For Agenda By: Daryl Eidinger, Mayor

Discussion: The City of Edgewood is required to adopt rules establishing the manner in which the City complies with Chapter 42.56 RCW- Public Records Act. State Law recently adopted new laws that took effect July 23, 2017. A few of the changes in the Draft ordinance include the newly updated laws, such as:

- Charges for electronic records *(a city may establish different fees by conducting its own cost-study, but staff is recommending use of the default charges, which are noted in draft ordinance).*
- Ability to deny “Bot” requests *(a request for public records that an agency reasonably believes was automatically generated by a computer program or script).*
- Allows an agency to charge a flat fee of \$2 for providing copies when the estimated costs are expected to be \$2 or more
- Prohibits overly broad requests for all of a city’s records
- Creates a way for cities to apply a service charge to exceptionally complex requests

Recommendation: Staff is recommending placing on next regular Council meeting agenda for adoption.

Fiscal Impact:

ORDINANCE NO. ~~02-019717-xxx~~

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, DESCRIBING THE PROCEDURES FOR THE CITY TO FOLLOW IN THE DISCLOSURE OF PUBLIC RECORDS, PURSUANT TO CHAPTER 42.56 RCW, INCLUDING CHARGES FOR COPYING AND PRODUCTION OF ELECTRONIC VERSIONS OF SUCH RECORDS, REPEALING AND REPLACING EDGEWOOD MUNICIPAL CODE CHAPTER 2.50 AND ADOPTING A NEW CHAPTER 2.50, PUBLIC RECORDS INSPECTION AND COPYING PROCEDURES.

WHEREAS, the City of Edgewood is required to adopt rules establishing the manner in which the City will comply with chapter 42.56 RCW, the Public Records Act (PRA); and

WHEREAS, the Washington State Legislature recently adopted new laws affecting the manner in which public agencies must comply with the PRA; and

WHEREAS, RCW 42.56.070(7) allows the City to charge for responding to public records requests by charging its actual costs for producing photocopies or electronically produced records, and this statute also requires that the City provide public notice and public hearing on the City's statement of the factors and manner used to determine the actual costs; ~~the City Council enacted public records and inspection procedures by the adoption of Ordinance 96-0001, which adopted Pierce County Code Chapter 2.04 Sections 2.04.010 to 2.04.130 by reference, codified as Chapter 2.50 of the Edgewood Municipal Code; and~~

~~WHEREAS, the City Council repealed and replaced EMC Ch. 2.50 Public Records on November 26, 2002 eliminated the references to the Pierce County Code from EMC and adopted procedures specific to the City's needs; and~~

~~WHEREAS, the City Council wishes to eliminate the references to the Pierce County Code from the Edgewood Municipal Code and adopt procedures specific to the City's needs; the City Council has determined that it is in the best interest of the City of Edgewood to repeal and replace EMC Chapter 2.50 to reflect and be consistent with RCW 42.56 and current practice;~~

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. Repealer. EMC Code Chapter 2.50 is repealed in its entirety.

Section 2. A new chapter 2.50 EMC is hereby adopted to read as follows; and replaced with the following new Chapter 2.50.

Chapter 2.50
**PUBLIC RECORDS INSPECTION AND
COPYING PROCEDURES**

Sections:

2.50.010 Policy.

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2.50.020 Office Hours.
2.50.030 Requests for Public Records.
2.50.040 Procedure for ~~Providing Copies of~~ Responding to Requests for Public Records.
2.50.050 Copying and Fees.
2.50.060 Disposition of Funds
2.50.070 Access to Public Records.
2.50.080 Protection of Public Records.
~~2.50.090 Review of Denials of Public Records Requests.~~
2.50.100 Misuse of Public Records - Penalty.
~~2.05.110 Fees, Exemptions.~~
~~2.05.120 Severability.~~
~~2.05.130 Effective Date.~~

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2.50.010 Policy.

- A. These procedures are established to provide a uniform system for all City departments to follow when requested to provide access to public records for inspection and copying.
- ~~B. It shall be the policy of the City to follow the requirements of Initiative 276, as codified in RCW Chapter 42.17, in accordance with the procedures set forth in this Chapter. All City departments, divisions, bureaus, boards, committees, commissions and officers are required to follow these procedures and to demand full compliance with them. This Chapter constitutes the city's rules and regulations to carry out and implement the Public Records Act, Chapter 42.56 RCW. Except as provided in this chapter, Chapter 42.56 RCW shall apply to all city public records.~~
- ~~C. The City is required to maintain a current list of laws other than chapter 42.56 RCW that the City believes exempts or prohibits disclosure of specific information or records of the City. Attached to this Ordinance is the City's list of such laws (Exhibit A).~~
- ~~D. Pursuant to RCW 42.56.070(4), the City does not maintain an index of all records listed in RCW 42.56.070(3) because to do so would be unduly burdensome. The City of Edgewood is a small city with limited staff, and is unable to provide an integrated index of all of its public records.~~
- ~~E. The City shall designate a public records officer(s) under RCW 42.56.580, and such officer(s) must complete training as required by RCW 42.56.152. Any person wishing to request access to public records of the City, or seeking assistance in making such a request, should follow the procedures set forth in Section 2.50.030 and contact the Public Records Officer (the City Clerk) of the City to submit such a request or to obtain assistance in making such a request:~~

~~City Clerk
City of Edgewood
2224 104th Avenue East
Edgewood, WA 98372-1513
Phone (253)952-3299
B. Fax 253-952-3537~~

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- ~~F. 2.50.020 Office Hours. Public records shall be available for inspection and copying during customary office hours. For the purposes of this Chapter, the customary office hours shall be from 8:30 a.m. to 5:00 p.m., Monday through Friday, excluding legal holidays.~~

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2.50.030 Requests for Public Records. ~~In accordance with the requirements of The Public Records Act (RCW 42.56.100) State law that allows~~ agencies ~~to adopt rules to~~ prevent unreasonable invasions of privacy, ~~to~~ protect public records from damage or disorganization, and ~~to~~ prevent excessive interference with essential functions of the City. ~~P-~~public records may be inspected or copied or copies of such records may be obtained, by members of the public, ~~as set forth in this Chapter.~~

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~~, upon compliance with the following procedures:~~

~~A. A request shall be made in writing upon a standard form which shall be available at City Hall. Any person wishing to inspect or copy identifiable public records of the City should make the request in one of the following ways:~~

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- ~~• On the provided request form (available at City Hall or online;~~
www.cityofedgewood.org);
- ~~• By letter, fax, phone call or e-mail addressed to the City Clerk; or~~
- ~~• In person at City Hall.~~

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~~B. The completed form~~Any/all requests shall be presented to the City Clerk who shall coordinate with the staff member responsible for the record requested, during customary office hours. The request shall include the following information:

1. The name of the person requesting the record;
2. The calendar date on which the request was made;
3. The nature of the request ~~(If the request is for a list of individuals, the City Clerk may ask the requestor if he/she intends to use the records for commercial purposes. The City is not authorized to provide lists of individuals for commercial purposes. The City Clerk may also seek sufficient information to determine if another statute may prohibit disclosure).~~ The City shall not distinguish among persons requesting records and such persons shall not be required to provide information as to the purpose of the request except to establish whether inspection or copying would violate RCW 42.56.070(9) (release of lists of individuals for commercial purposes prohibited) or RCW 42.56.240(14) (body camera recordings are exempt under certain circumstances), or other statute which exempts or prohibits disclosure of specific information or records to certain persons.
4. An accurate description of the record requested;
5. The signature and other identifying information of the requestor.

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~~B. Persons requesting public records will be required to complete a statement agreeing not to release or use the information for commercial purposes.~~

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The City Clerk may accept requests for public records that contain the above information by telephone or in person. If an oral request is made, the City Clerk will generally confirm receipt of the information and the substance of the request in writing by filling out the City's public request form, as well as the necessary contact information from the requestor so that the City can respond. The confirmation will be deemed the correct statement of the scope of the request unless the requestor responds with a different statement of the scope.

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Many records are also available on the City of Edgewood's website at www.cityofedgewood.org. Requestors are encouraged to view the documents available on the website prior to submitting a public records request.

G. The City may deny a request that is one of multiple requests from the requestor to the city within a twenty-four hour period, if the city establishes that responding to the multiple requests would cause excessive interference with other essential functions of

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the city. For purposes of this subsection, "bot request" means a request for public records that an agency reasonably believes was automatically generated by a computer program or script.

- H. If a public record request is made at a time when such record exists but is scheduled for destruction in the near future, the City may not destroy or erase the record until the request is resolved.

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2.50.040 Procedure for ~~Providing Copies Responding to Requests for~~ of Public Records.

- A. Requests for copies of public records shall be recorded (indexed) in sequence.
- B. Within five business days of receiving a public record request, the City must respond by (1) providing the record; (2) providing an internet address and link on the City's website to the specific records requested, except that if the requester notifies the agency that he or she cannot access the records through the internet, then the City shall provide copies of the record or allow the requestor to view the copies using the City's computer; (3) acknowledging that the City has received the request and providing a reasonable estimate of the time the City will require to respond to the request; or (4) denying the request.
- C. Additional time required to respond to a request may be based upon the need to clarify the intent of the request, to locate and assemble the information requested, to notify third persons or agencies affected by the request, to locate and assemble the information requested, to notify third persons or agencies affected by the request, or to determine whether any of the information is exempt and that a denial should be made as to all or part of a request.
- D. If the requestor fails to respond to an agency request to clarify the request, and the entire request is unclear, the City need not respond to it. Otherwise, the City must respond, pursuant to this Section 2.50.040, to those portions of the request that are clear. ~~and will be provided at a time determined to be reasonable, in order to prevent unreasonable invasions of privacy, to protect public records from damage or disorganization and to avoid excessive interference with essential functions of the City Clerks Office.~~
- E. Upon request for identifiable public records, the City shall make public records promptly available to any person, including, if applicable, on a partial or installment basis as records that are part of a larger set of requested records are assembled or made ready for inspection or disclosure.
- F. A public records request must be for identifiable public records. A request for substantially all records prepared, owned, used or retained by the City is not a valid request for identifiable records under this chapter, provided that a request for all records regarding a particular topic or containing a particular keyword or name shall not be considered a request for all of the City's records.
- G. The City shall not deny a request for identifiable public records solely on the basis that the request is overbroad.
- H. A requestor may ask the City to provide, and if requested, the City shall provide, a summary of the applicable charges before any copies are made and the requestor may revise the request to reduce the number of copies to be made and reduce the applicable charges.

I. Redactions of specific portions of public records and denials of requests for public records must be accompanied by a written statement of the specific reason for the redaction or denial.

A-J. If a decision is made to deny inspection/disclosure of a public record, the decision denying disclosure shall be reviewed by the Mayor, upon consultation with the City Attorney, which review shall be deemed complete within the second business day following the denial of inspection/disclosure, and shall constitute the final decision for purposes of judicial review.

~~Searching fees shall be levied in accordance with the City's established fee schedule and only when the person making the request cannot clearly identify the document requested.~~

B-K. Records requests may only encompass existing records. They cannot be used to obtain copies of records not yet in existence or in the possession of the City.

2.50.050 Copying and Fees. The City will charge a fee in the amount necessary to reimburse the department for its actual costs incident to providing copies of public records, in accordance with the adopted fee schedule, which schedule shall be available to the public upon request. No fee shall be charged for the inspection of public records or locating public documents and making them available for copying, except as provided in RCW 42.56.240(14) and RCW 42.56.120(3).

When calculating any fees authorized under this section, the City may include all costs directly incident to copying public records, including the factors set forth in RCW 42.56.070(7)(a). ~~shall use the most reasonable cost efficient method available to the city as part of its normal operations~~ shall use the most reasonable cost efficient method available to the city as part of its normal operations. If the city translates a record into an alternative electronic format at the request of a requestor, the copy created does not constitute a new public record. Scanning paper records to make electronic copies of such records is a method of copying paper records and does not amount to the creation of a new public record.

~~Actual costs may only be imposed in accordance with the costs established and published by the city pursuant to RCW 42.56.070(7), an in accordance with the statement of factors and manner used to determine the actual costs.~~

~~Per state law, the City is not allowed to charge for locating a public records or for making records available for review or inspection. The City may charge, however, for reimbursement of certain costs associated with copying public records.~~

A. Fee Schedule. The charge for standards black-and-white photocopies is fifteen cents (\$0.15) per page. Ten cents (\$0.10) per page for public records scanned into an electronic format or for the use of agency equipment to scan the records; Five cents (\$0.05) per each four electronic files or attachment uploaded to email, cloud-based data storage service, or other means of electronic delivery; and Ten cents (\$0.10) per gigabyte for the transmission of public records in an electronic format or for the use of agency equipment to send the records electronically. The city shall take reasonable steps to provide the records in the most efficient manner available in its normal operations; and the actual cost of any digital storage media or device provided by the city, the actual cost of any container or envelope used to mail the copies to the requestor, and the actual postage or delivery charge.

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The City may charge a flat fee of up to two dollars (\$2.00) for any request as an alternative to fees authorized under this section when the city reasonably estimates and documents that the costs allowed under this subsection are clearly equal to or more than two dollars (\$2.00). An additional flat fee shall not be charged for any installment after the first installment of a request produced in installments. If the city has elected to charge the flat fee for an initial installment, it may not charge the fees authorized under this section on subsequent installments.

B. Certified Copies. Where the request is for a certified copy, an additional charge may be applied to cover the additional expense and time required for certification. Charges for certification may be found in the fee schedule on the Finance webpage of the city's website www.cityofedgewood.org.

C. Sales Tax. The City will not charge sales tax on copies of records.

D. Use of Copying Services. The City is not required to copy records at its own facilities and may determine to use a commercial copying center. The City will bill the requestor for the amount charge by the vendor.

E. Deposit or Payment by Installments. Before beginning to copy or scan records, the City Clerk or designee may require a deposit of up to ten percent (10%) of the estimated costs of copying or scanning the records selected by a requestor. The City Clerk may also require the payment of the remainder of the copying or scanning costs before providing all the records, or the payment of the costs of copying an installment before providing that installment.

F. Method of Payment. Payment may be made by cash, check, credit card, or money order to the City of Edgewood.

2.50.060 Disposition of Funds. Cash receipts shall be given for all money received for copies provided and duplicate receipt shall be retained in the Finance Department.

2.50.070 Access to Public Records. The providing of public records shall be governed by the following procedures:

A. Public records shall be made available without disrupting essential functions of the office. Any City employee who believes that essential functions will be interrupted shall consult with the ~~City Manager~~ Mayor.

~~B. Retrieval of a record from off-premises storage shall occur no more than once per week.~~

~~C. B.~~ Duplicate, carbon copy or other secondary records are to be dealt with in the same manner as the original or primary copy.

~~D. C.~~ With regard to photocopying, prearrangement for copies of records is recommended so that they can be accommodated within the City Clerk's Office work schedule. With regard to other printing which cannot be produced within the City Clerk's Office will be forwarded to the appropriate City department or outside business. The requestor will be billed for such services.

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~~E.~~ D. With regard to taped or digital recordings, all of the provisions of this Section and Section 2.50.050 shall apply.

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2.50.080 Protection of Public Records. The City shall enforce reasonable rules to protect public records from damage, disappearance, ~~disorganization~~ or destruction. Public records consist mainly of operational files that are subject to high usage. Public records will be inspected in the City Hall offices. Inspection shall be in the presence of the authorized department staff employee. Prior arrangements should be made for a convenient time for a staff member to assist and supervise the inspection so that essential functions of the office are not disrupted. No records shall be removed from a file except by a staff member. The staff member who will supervise the inspection will be assigned ~~on the basis of~~ based on the work schedule at the time and availability.

2.50.090 Review of Denials of Public Records Requests.

~~B.~~ Upon any denial of a request for a public record, the public official or staff member who denied the record shall initiate a prompt review of the decision by referring the request and denial to the City Attorney who shall consider the matter and recommend to affirm or reverse such denial or call a special meeting as soon as legally possible to review the denial. In any case, the request shall be returned with a final decision within two business days following the original denial.

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~~C.A.~~ Administrative remedies shall not be considered exhausted until the City has returned the review of a denial with a decision or until the close of the second business day following denial of inspection, whichever occurs first.

2.50.100 Misuse of Public Records - Penalty. Every person who shall unlawfully remove, alter, mutilate, destroy, disorganize, conceal, erase, ~~obliterate~~ or falsify any public record shall be guilty of a misdemeanor.

2.50.110 Exemptions. ~~Fees.~~ Appropriate fees will be charged in accordance with the City's fee schedule.

A. The exemptions to the disclosure of public records identified in RCW 42.56, and future amendments thereto, are incorporated in this chapter. Attached to this Ordinance is the City's list of such exemptions (Exhibit A). The city clerk shall maintain and make available for public inspection and copying a current version of RCW 42.56.

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B. The exemptions from public disclosure set forth in RCW 42.56 and as incorporated into subsection A of this section, shall be inapplicable to the extent that information, the disclosure of which would violate personal privacy, can be deleted from the specific public record sought. A person's right to personal privacy is violated if disclosure of information about the person would be highly offensive to a reasonable person and is not of legitimate concern to the public. No exemption shall be construed to permit the non-disclosure of statistical information not descriptive of any readily identifiable person or persons.

C. Inspection or copying of any public records exempt under this section may be permitted if any superior court finds, after a hearing with notice to the requester, all persons mentioned in the public records and the city, that the exemption of such public records is clearly unnecessary to protect any individual's right of privacy or any vital governmental function.

D. Nothing in this section shall affect a duty of the city to disclose or withhold information pursuant to any other law.

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Section 3. Severability. Should any section, paragraph, sentence, clause or phrase of this Code, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason or should any portion of this Code be pre-empted by state or federal law or regulation, such decision or preemption shall not affect the validity of the remaining portions of this Code or its application to other persons or circumstances.

Section 4. Effective Date. A summary of this Ordinance consisting of its title shall be published in the official newspaper of the City, and shall take effect and be in full force 5 days after the date of publication.

~~Presented to Council for First Reading on November 12, 2002.~~

~~Presented to Council for Second Reading on November 26, 2002.~~

ADOPTED BY THE CITY COUNCIL ON THE 26th DAY OF ~~NOVEMBER, 2002.~~

~~John F. Powers~~Daryl Eidinger, Mayor

ATTEST:

~~Terri Berry~~Rachel Pitzel, City Clerk

APPROVED AS TO FORM:

~~Wayne Tanaka~~Carol Morris, City Attorney

Date Published: ~~December 5, 2002~~

Effective Date: ~~December 10, 2002~~

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EXHIBIT A

Exemption and Prohibition Statutes Not Listed in Chapter 42.56 RCW (Appendix C from MRSC Public Records Act)

RCW 42.56.070(2) requires an agency to:

publish and maintain a current list containing every law, other than those listed in the PRA, that the agency believes exempts or prohibits disclosure of specific information or records of the agency. An agency's failure to list an exemption shall not affect the efficacy of any exemption.

The following list provides exemptions and prohibition statutes not listed in the PRA. Some of the exemptions and prohibitions on the list concern public record information that may not be relevant for your jurisdiction. For instance, cities would not normally have records regarding marriage license applications or adoption records.

MRSC will periodically update this list; the date of the last update is reflected in the footer. If you become aware of additions or corrections that should be made to the list, please notify one of the staff attorneys at MRSC.

The Attorney General's Sunshine Committee webpage also provides a list of public disclosure exemptions created annually by the Code Reviser's Office.

Washington State Statutes

<u>RCW 2.64.111</u>	Judicial conduct commission investigations of judges and initial proceedings
<u>RCW 4.24.550</u>	Information on sex offenders
<u>RCW 4.24.601</u> and <u>.611</u>	Trade secrets and confidential research, development or commercial information re products or business methods
<u>RCW 5.60.060</u>	Privileged communications
<u>RCW 5.60.070</u> ; <u>RCW 7.07.070</u>	Mediation records
<u>RCW 7.68.140</u>	Victims' compensation claims
<u>RCW 7.69A.030(4)</u>	Name, address and photograph of child victim or child witness
<u>RCW 7.69A.050</u>	Child victims and witnesses of certain crimes – protection of address
<u>RCW 7.75.050</u>	Records of Dispute Resolution Centers
<u>RCW 9.02.100</u>	Reproductive privacy
<u>RCW 9.41.097(2)</u>	Mental health information re persons buying pistols or applying for CPLs
<u>RCW 9.41.129</u>	Concealed pistol license applications

<u>RCW 9.73.230</u>	Name of confidential informants in written report on wire tapping
<u>RCW 9.51.050</u>	Disclosing transaction of grand jury
<u>RCW 9.51.060</u>	Disclosure of grand jury deposition
<u>RCW 9.73.090(1)(c)</u>	Prohibition on disclosure of law enforcement dash cam videos until final disposition of litigation
<u>RCW 9A.44.138</u>	Offender registration information given to high school or institution of higher education re an employee or student
<u>RCW 9A.82.170</u>	Financial institution records re criminal profiteering act
<u>RCW 10.27.090</u>	Grand jury testimony/evidence
<u>RCW 10.27.160</u>	Grand jury reports – release to public only by judicial order
<u>RCW 10.52.100</u>	Records identifying child victims of sexual assault
<u>RCW 10.77.205</u>	Information re victims, next of kin, or witnesses requesting notice of release of person found not guilty of a sex, violent, or felony harassment offense by reason of criminal insanity and the notice itself
<u>RCW 10.52.100</u>	Records identifying child victim of sexual assault
<u>RCW 10.77.210</u>	Records of persons committed for criminal insanity
<u>RCW 10.97.040</u>	Criminal history information released must include disposition, with some exceptions
<u>RCW 10.97.050</u>	Conviction and criminal history information
<u>RCW 10.97.060</u>	Deletion of certain criminal history record information, conditions
<u>RCW 10.97.070</u>	Disclosure of identity of suspect to victim
<u>RCW 10.97.080</u>	Inspection of criminal record by subject
<u>RCW 10.97.130</u>	Information about victims of sexual assault under age eighteen
<u>RCW 10.101.020(3)</u>	Information given by an accused regarding determination for indigent defense
<u>RCW 13.34.115</u>	Court dependency proceedings
<u>RCW 13.40.217</u>	Juveniles adjudicated of sex offenses – release of information
<u>RCW 13.50.010</u>	Maintenance of and access to juvenile records
<u>RCW 13.50.050</u>	Juvenile offender records
<u>RCW 13.50.100</u>	Juvenile/children records not relating to offenses
<u>RCW 13.60.020</u>	Missing children or endangered person information
<u>RCW 18.04.405</u>	Confidentiality of information gained by CPA
<u>RCW 18.19.060</u>	Notification to clients by counselors
<u>RCW 18.19.180</u>	Confidential communications with counselors
<u>RCW 19.215.020</u>	Destruction of personal health and financial information
<u>RCW 19.34.240(3)</u>	Private digital signature keys

<u>RCW 19.215.030</u>	Compliance with federal rules
<u>RCW 26.04.175</u>	Name and address of domestic violence victim in marriage records
<u>RCW 26.12.170</u>	Reports of child abuse/neglect with courts
<u>RCW 26.23.050</u>	Child support orders
<u>RCW 26.23.120</u>	Child support records
<u>RCW 26.26.041</u>	Uniform Parentage Act – protection of participants
<u>RCW 26.26.450</u>	Confidentiality of genetic testing
<u>RCW 26.33.330</u>	Sealed court adoption records
<u>RCW 26.33.340</u>	Agency adoption records
<u>RCW 26.33.343</u>	Access to adoption records by confidential intermediary
<u>RCW 26.33.380</u>	Adoption – identity of birth parents confidential
<u>RCW 26.44.010</u>	Privacy of reports on child abuse and neglect
<u>RCW 26.44.031</u>	Information related to reports of child abuse or neglect
<u>RCW 26.44.125</u>	Reports, reviews and hearings related to a review of abuse finding
<u>RCW 27.53.070</u>	Records identifying the location of archaeological sites
<u>RCW 29A.08.720</u>	Voter registration records – place of registration and any decision not to register to vote confidential
<u>RCW 29A.08.710</u>	Voter registration records – certain information exempt
<u>RCW 35.102.145</u>	Municipal business and occupation tax – local ordinance can protect return or tax information
<u>RCW 36.28A.060(8)</u>	Tactical and intelligence information provided to WASPC
<u>RCW 39.10.470(2)</u>	Alternative public works - trade secrets or other proprietary information submitted by bidder in connection with an alternative public works transaction if data identified and reasons stated in writing
<u>RCW 39.10.470(3)</u>	Alternative public works – proposals submitted by design-build finalists until notification of highest scoring finalist is made
<u>RCW 42.23.070(4)</u>	Municipal officer disclosure of confidential information prohibited
<u>RCW 42.41.030(7)</u>	Identity of local government whistleblower
<u>RCW 42.41.045</u>	Non-disclosure of protected information (whistleblower)
<u>RCW 43.43.762</u>	Contents of statewide criminal street gang database
<u>RCW 46.52.065</u>	State toxicologist records relating to analyses of blood samples
<u>RCW 46.52.080</u>	Traffic accident reports – confidentiality
<u>RCW 46.52.083</u>	Traffic accident reports – available to interested parties
<u>RCW 46.52.120</u>	Traffic crimes and infractions – confidential use by police and courts
<u>RCW 46.52.130(2)</u>	Abstract of driving record – limited disclosure

<u>RCW 48.62.101</u>	Local government insurance/risk management liability reserve funds established to settle claims
<u>RCW 50.13.060</u>	Access to employment security records by local government agencies
<u>RCW 50.13.100</u>	Disclosure of confidential employment security records allowed if identifying information deleted or with consent
<u>RCW 51.28.070</u>	Worker's compensation records confidential – limited disclosure
<u>RCW 51.36.060</u>	Physician information on injured workers
<u>RCW 60.70.040</u>	No duty to disclose record of common law lien
<u>RCW 68.50.105</u>	Autopsy reports – confidential – limited disclosure
<u>RCW 68.50.320</u>	Dental identification records – available to law enforcement agencies
<u>Ch. 70.02 RCW</u>	Medical records – access and disclosure – entire chapter (information from HC providers)
<u>RCW 70.05.170</u>	Child mortality reviews by local health departments
<u>RCW 70.24.022</u>	Public health agency information regarding sexually transmitted disease investigations - confidential
<u>RCW 70.24.024</u>	Transcripts and records of hearings regarding sexually transmitted diseases
<u>RCW 70.28.020</u>	Local health department TB records – confidential
<u>RCW 70.41.200</u>	Hospital quality improvement committee records and accreditation reports
<u>RCW 70.48.100</u>	Jail records and booking photos
<u>RCW 70.58.055</u>	Birth certificates – certain information confidential
<u>RCW 70.58.104</u>	Vital records, research confidentiality safeguards
<u>RCW 70.94.205</u>	Washington Clean Air Act – confidentiality of data.
<u>RCW 70.96A.150</u>	Registration and other records of alcohol and drug abuse treatment programs
<u>RCW 70.123.075</u>	Client records of domestic violence programs
<u>RCW 70.125.065</u>	Records of community sexual assault program and underserved populations provider in discovery
<u>RCW 71.05.425</u>	Notice of release or transfer of committed person after offense dismissal
<u>RCW 71.05.445</u>	Release of mental health information to Dept. of Corrections
<u>RCW 71.05.620</u>	Access to court records related to mental health cases under chapter 71.05 RCW
<u>RCW 71.24.035(5)(g)</u>	Mental health information system – state, county and regional support networks – confidentiality of client records
<u>RCW 71.34.335</u>	Mental health treatment of minors – records confidential
<u>RCW 71A.14.070</u>	Records regarding developmental disability – confidentiality

<u>RCW 72.09.345</u>	Notice to public about sex offenders – department of corrections access to information
<u>RCW 72.09.585</u>	Disclosure of inmate records to local agencies – confidentiality
<u>RCW 73.04.030</u>	Veterans discharge papers exemption (see related RCW 42.56.440)
<u>RCW 74.04.060</u>	Applicants and recipients of public assistance
<u>RCW 74.04.520</u>	Food stamp program confidentiality
<u>RCW 74.13.075(5)</u>	Juvenile's status as a sexually aggressive youth and related info
<u>RCW 74.13.280</u>	Children in out-of-home placements - confidentiality
<u>RCW 74.20.280</u>	Child support enforcement – local agency cooperation, information
<u>RCW 74.34.095</u>	Abuse of vulnerable adults - confidentiality of investigations and reports
<u>RCW 82.32.330</u>	Disclosure of tax information
<u>RCW 84.36.389</u>	Confidential income data in property tax records held by assessor
<u>RCW 84.40.020</u>	Confidential income data supplied to assessor regarding real property

Selected Federal Confidentiality Statutes and Rules

18 USC § 2721 - 2725	Driver and License Plate Information
20 USC § 1232g	Family Education Rights and Privacy Act
23 USC § 409	Evidence of certain accident reports
42 USC 290dd-2	Confidentiality of Substance Abuse Records
42 USC § 405(c)(2)(C)(viii) (I)	Limits on Use and Disclosure of Social Security Numbers.
42 USC 654(26)	State Plans for Child Support
42 USC 671(a)(8)	State Plans for Foster Care and Adoption Assistance
42 USC 1396a(7)	State Plans for Medical Assistance
7 CFR 272.1(c)	Food Stamp Applicants and Recipients
34 CFR 361.38	State Vocational Rehabilitation Services Programs
42 CFR Part 2 (2.1 - 2.67)	Confidentiality of Alcohol and Drug Abuse Patient Records
42 CFR 431.300 - 307	Safeguarding Information on Applicants and Recipients of Medical Assistance
42 CFR 483.420	Client Protections for Intermediate Care Facilities for the Mentally Retarded

42 CFR 5106a	Grants to States for Child Abuse and Neglect Prevention and Treatment Programs
45 CFR 160-164	HIPAA Privacy Rule
46 CFR 40.321	USCG regulations regarding confidentiality

**CITY OF EDGEWOOD
REQUEST FOR COUNCIL ACTION
STAFF REPORT-2ND QUARTER FINANCIAL REPORT**

Date Action Requested: August 29, 2017

Title: 2nd Quarter Financial Position Statements

Attachments: 2nd Quarter Financial Position Statement, Budget to Actual Summary & Line Item Detail, Key Revenue Year-to-Date Comparative Charts, First Review of 2017 Year Ending Revenue & Expenditure Estimates.

Submitted By: Dave Gray, ACA/Finance Director

Approved For Agenda By: Daryl Eiding, Mayor

Recommendation: To authorize the Mayor to cause the 2nd Quarter Financial Position Statements & Attachments to be posted on the City Web Site and made available as a public document & 1st Review by Council of the Estimated 2017 Year End Revenue & Expenditures with Fund Balances for 2018 Budget Planning

Fiscal Impact: All fiscal impacts are stated as a variance of budget to actual. Significant impacts upon the 2017 Budget are noted in the Position Statement Narrative.

CITY OF EDGEWOOD
QUARTERLY FINANCIAL DISCLOSURE TO THE COUNCIL
SECOND QUARTER 2017 REVIEW OF FINANCIAL POSITION

General Statement of Financial Position:

The City has a strong Fund Balance position for all current expense funds for General Government operations, Street and Surface Water operations, Equipment Replacement needs and the ability to fund 2017 Budgeted Capital needs.

Fees for Services are forecast above budget, as building permit and inspection fee generating activity has significantly increased. It is anticipated some of the increase in revenue will be offset by third party on-call professional services costs associated with the increased volume.

Debt Service for the City Hall bond is fully funded for 2017 via ongoing 2017 Budgeted revenues. As authorized by the Council, the Mayor executed a pay down of the LID NO. 1 USDA debt in response to robust LID Assessment payoffs, mostly coming from meridian development activity. The LID Debt (No 2 on the Debt Map) was completely paid off, releasing the City from its first place position assumed during financing due to the LID lawsuits pending at the time. In addition, just over a million dollars was paid down on LID Debt No 5 (Debt Map). The payments reduce the corresponding interest cost to the LID Fund which is important, as the paid off assessments no longer generate interest income to the LID Fund. Assessment payoffs continue to be received and the Mayor will bring forward more pay down requests as appropriate

The Strategic Reserve Fund balance, which can only be expended via Council resolution, is \$1,004,748.11 as of July 31, 2017. Council has resolved to guarantee the availability of \$100,000 to secure a Pierce County Conservation Grant from the Strategic Reserve Fund, to send a message to the Grantor the money for matching grant purposes is banked and available. Should the Grant be funded matching dollars would likely come from the Park Impact Fee Fund, leaving the Strategic Reserve fund balance intact. Council authorized the purchase of one million in government securities increasing the interest income to the Fund significantly. The purchases were made with staggered maturity dates to ensure fund availability for several grant matching projects, should the City execute on the grants and need the reserve to bridge any gap in REET or Impact Fee Revenue collections.

Quarterly Reporting:

- Council has chosen to receive formalized financial position statements quarterly throughout the fiscal year. The Mayor will advise Council of any interim financial concern if/when they occur. Council and the Public have full access to any interim financial data including the City's month end closing documents, as well as any ongoing financial documents such as invoices paid or receipts received, all of which are public records and available by contacting staff. The goal is to provide total access of all financial documentation and tracking information at any point on any day, while streamlining the information into a formalized standardized quarterly update that gives Council and the Public a succinct picture of the City's financial health.
- Quarterly financial disclosure documents will be posted to the City Web site after review by Council in a Study session and review and distribution to the public in a Regular Council Meeting.
- The Mayor and/or the Council have the ability to modify the presentation format and/or the timing of the release of financial information at any time or on an ad hoc basis.

Budget Amendments:

Adjustments to the Budget, which are a normal governmental process, happen through a formalized Budget Amendment presented to Council by the Mayor, specifically amending budget line items, requiring approval of a Budget Amendment Ordinance

FINANCIAL POSITION

2ND QUARTER

Fiscal: 2017 - June

Unaudited Financial Data Used For Quarterly Interim Disclosure: some activity has been eliminated for internal transfers, investment transfers & fund balances.

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-000-000-311-10-00-01	Property Tax	\$1,506,712.00	\$1,531,292.46	\$1,577,690.00	\$872,346.29	\$788,845.00	\$83,501.29	10.6%
001-000-000-313-11-00-01	Sales & Use Tax	\$800,000.00	\$876,627.43	\$875,000.00	\$459,517.96	\$437,500.00	\$22,017.96	5.0%
001-000-000-313-17-10-02	Local Parks - Sales/Use Tax	\$77,700.00	\$89,389.76	\$85,000.00	\$53,649.20	\$42,500.00	\$11,149.20	26.2%
001-000-000-313-71-00-01	Local Criminal Justice	\$143,986.00	\$159,496.15	\$150,000.00	\$67,833.98	\$75,000.00	(\$7,166.02)	-9.6%
001-000-000-317-20-00-01	Leasehold Excise Tax Revenue	\$713.00	\$95.16		\$95.18		\$95.18	
	001-000-000-31 Total	\$2,529,111.00	\$2,656,900.96	\$2,687,690.00	\$1,453,442.61	\$1,343,845.00	\$109,597.61	8.2%
001-000-000-321-60-00-04	Conditional Use Permit	\$0.00	\$5,730.00	\$3,820.00	\$6,330.00	\$1,910.00	\$4,420.00	231.4%
001-000-000-321-60-00-05	Temporary Use Permit	\$0.00	\$3,035.00	\$2,826.67	\$610.00	\$1,413.34	(\$803.34)	-56.8%
001-000-000-321-60-00-06	Sign Permit	\$0.00	\$1,141.96	\$1,141.96	\$0.00	\$570.98	(\$570.98)	-100.0%
001-000-000-321-91-00-01	Cable Franchise Fees	\$195,502.00	\$171,456.15	\$175,000.00	\$91,451.57	\$87,500.00	\$3,951.57	4.5%
001-000-000-321-99-00-01	Business Licensing	\$26,260.00	\$29,302.10	\$29,945.04	\$20,785.41	\$14,972.52	\$5,812.89	38.8%
001-000-000-322-10-00-01	Building Permit	\$360,000.00	\$290,809.14	\$260,000.00	\$281,079.68	\$130,000.00	\$151,079.68	116.2%
001-000-000-322-10-00-02	Mechanical Permit	\$31,200.00	\$36,046.77	\$40,000.00	\$30,554.60	\$20,000.00	\$10,554.60	52.8%
001-000-000-322-10-00-03	Plumbing Permit	\$46,800.00	\$45,575.85	\$60,000.00	\$34,820.00	\$30,000.00	\$4,820.00	16.1%
001-000-000-322-10-00-04	Conditional Use Permit	\$17,810.00	\$0.00	\$14,000.00	\$0.00	\$7,000.00	(\$7,000.00)	-100.0%
001-000-000-322-10-00-05	Temporary Use Permit	\$720.00	\$180.00	\$500.00	\$0.00	\$250.00	(\$250.00)	-100.0%
001-000-000-322-10-00-06	Other/Miscellaneous Permits	\$0.00	\$75.00	\$2,000.00	\$1,571.25	\$1,000.00	\$571.25	57.1%
	001-000-000-32 Total	\$678,292.00	\$583,351.97	\$589,233.67	\$467,202.51	\$294,616.84	\$172,585.68	58.6%
001-000-000-333-20-60-01	U.S. Dept. of Transp. Grant	\$0.00	\$2,000.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-336-00-98-01	City Assistance	\$107,339.00	\$116,828.99	\$123,523.00	\$49,023.73	\$61,761.50	(\$12,737.77)	-20.6%
001-000-000-336-06-21-01	Local Criminal Justice - Pop.	\$2,770.00	\$2,648.28	\$3,000.00	\$1,346.45	\$1,500.00	(\$153.55)	-10.2%
001-000-000-336-06-25-01	Criminal Justice-Contract Svs.	\$12,139.00	\$16,398.47	\$16,000.00	\$23,087.28	\$8,000.00	\$15,087.28	188.6%
001-000-000-336-06-26-01	Criminal Justice-Special Prog.	\$9,597.00	\$9,655.71	\$10,000.00	\$4,898.58	\$5,000.00	(\$101.42)	-2.0%
001-000-000-336-06-41-01	Marijuana Enforcement	\$48.00	\$8.32	\$8.32	\$0.00	\$4.16	(\$4.16)	-100.0%
001-000-000-336-06-51-01	DUI Cities	\$1,750.00	\$1,499.14	\$1,500.00	\$742.39	\$750.00	(\$7.61)	-1.0%
001-000-000-336-06-94-01	Liquor Excise Tax	\$18,000.00	\$44,860.27	\$45,000.00	\$23,809.87	\$22,500.00	\$1,309.87	5.8%
001-000-000-336-06-95-01	Liquor Board Profits	\$84,000.00	\$82,826.31	\$90,000.00	\$41,108.79	\$45,000.00	(\$3,891.21)	-8.6%
001-000-000-338-71-00-00	L & I Internship	\$0.00	\$2,187.50	\$2,187.50	\$0.00	\$1,093.75	(\$1,093.75)	-100.0%
	001-000-000-33 Total	\$235,643.00	\$278,912.99	\$291,218.82	\$144,017.09	\$145,609.41	(\$1,592.32)	-1.1%
001-000-000-341-81-00-02	Duplication Services	\$100.00	\$531.65	\$500.00	\$211.20	\$250.00	(\$38.80)	-15.5%
001-000-000-341-81-00-03	Publication Services	\$0.00	\$7,800.00	\$0.00	\$8,400.00	\$0.00	\$8,400.00	
001-000-000-341-82-00-01	Engineering Fees	\$170,000.00	\$61,173.62	\$290,000.00	\$0.00	\$145,000.00	(\$145,000.00)	-100.0%
001-000-000-342-10-00-00	Law Enforcement Services	\$0.00	\$425.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-81-00-01	Zoning & Subdivision Fees & Services	\$0.00	\$0.00	\$500.00	\$0.00	\$250.00	(\$250.00)	-100.0%
001-000-000-345-81-00-05	Final Short Plat	\$3,040.00	\$3,560.00	\$3,500.00	\$2,870.00	\$1,750.00	\$1,120.00	64.0%
001-000-000-345-81-00-06	Preliminary Short Plat	\$9,000.00	\$8,950.00	\$10,000.00	\$5,490.00	\$5,000.00	\$490.00	9.8%
001-000-000-345-81-00-07	Clearing and Grading	\$0.00	\$2,669.65	\$4,000.00	\$2,554.92	\$2,000.00	\$554.92	27.7%
001-000-000-345-81-00-08	Preliminary Subdivision	\$16,900.00	\$44,030.00	\$35,000.00	\$8,520.00	\$17,500.00	(\$8,980.00)	-51.3%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-000-000-345-81-00-09	Boundary Line Adjustment	\$3,600.00	\$3,330.00	\$5,000.00	\$5,355.00	\$2,500.00	\$2,855.00	114.2%
001-000-000-345-81-00-10	Final Subdivision	\$3,880.00	\$6,090.00	\$5,000.00	\$2,350.00	\$2,500.00	(\$150.00)	-6.0%
001-000-000-345-81-00-11	Binding Site Plan - Admin.	\$0.00	\$0.00	\$0.00	\$1,435.00	\$0.00	\$1,435.00	
001-000-000-345-83-00-01	Plan Review & Inspection Fees & Services	\$214,500.00	\$243,599.50	\$240,000.00	\$207,221.01	\$120,000.00	\$87,221.01	72.7%
001-000-000-345-83-00-02	Planning Review Fee	\$0.00	\$0.00	\$0.00	\$6,920.17	\$0.00	\$6,920.17	
001-000-000-345-83-00-03	Inspection Fee	\$0.00	\$461.86	\$0.00	\$500.00	\$0.00	\$500.00	
001-000-000-345-83-00-04	Stormwater Inspection	\$0.00	\$8,871.50	\$0.00	\$10,555.90	\$0.00	\$10,555.90	
001-000-000-345-83-00-05	Energy Code Review	\$20,000.00	\$18,076.09	\$15,000.00	\$13,812.00	\$7,500.00	\$6,312.00	84.2%
001-000-000-345-85-00-01	TIF Administrative Fees	\$13,184.00	\$19,396.41	\$20,000.00	\$16,430.20	\$10,000.00	\$6,430.20	64.3%
001-000-000-345-89-00-01	Other/Environmental Review Fees & Services	\$0.00	\$78,340.00	\$0.00	\$30,079.46	\$0.00	\$30,079.46	
001-000-000-345-89-00-02	SW Engineering Review	\$20,000.00	\$22,794.38	\$20,000.00	\$8,405.00	\$10,000.00	(\$1,595.00)	-16.0%
001-000-000-345-89-00-04	SEPA - Major	\$26,520.00	\$29,160.00	\$28,000.00	\$39,277.50	\$14,000.00	\$25,277.50	180.6%
001-000-000-345-89-00-07	Posting Sign Fee	\$0.00	\$900.00	\$1,000.00	\$660.00	\$500.00	\$160.00	32.0%
001-000-000-345-89-00-10	Design Standards Review	\$7,680.00	\$8,960.00	\$15,000.00	\$27,675.00	\$7,500.00	\$20,175.00	269.0%
001-000-000-345-89-00-13	Pre-Dev. Conference	\$5,000.00	\$16,780.00	\$20,000.00	\$7,745.00	\$10,000.00	(\$2,255.00)	-22.6%
001-000-000-345-89-00-15	Right of Way	\$0.00	\$350.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-17	Driveway Access Review Fee	\$8,450.00	\$1,500.00	\$2,000.00	\$3,375.00	\$1,000.00	\$2,375.00	237.5%
001-000-000-345-89-00-18	Site Development	\$18,820.00	\$38,590.00	\$30,000.00	\$32,320.00	\$15,000.00	\$17,320.00	115.5%
001-000-000-345-89-00-20	Engineering Fee	\$0.00	\$66,967.83	\$0.00	(\$4.50)	\$0.00	(\$4.50)	
001-000-000-345-89-00-22	Admin Interpretation/Decision	\$0.00	\$1,300.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-23	Administrative Variance	\$0.00	\$1,100.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-25	Pre-Application - Minor	\$4,740.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-26	Billable Staff Time	\$0.00	\$4,152.02	\$0.00	\$2,530.00	\$0.00	\$2,530.00	
001-000-000-345-89-00-28	Subdivision Community Meeting	\$0.00	\$1,460.00	\$0.00	\$640.00	\$0.00	\$640.00	
001-000-000-345-89-00-29	Administrative Decision Appeal	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-31	Critical Areas Checklist	\$0.00	\$540.00	\$0.00	\$270.00	\$0.00	\$270.00	
001-000-000-345-89-00-32	Developer Agreement	\$0.00	\$7,140.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-34	Site Plan Review	\$0.00	\$170.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-345-89-00-35	Critical Areas Review	\$0.00	\$0.00	\$0.00	\$45.00	\$0.00	\$45.00	
001-000-000-347-30-00-01	Edgemont Park Facility Fee	\$2,505.00	\$2,150.00	\$2,150.00	\$1,460.00	\$1,075.00	\$385.00	35.8%
	001-000-000-34 Total	\$547,919.00	\$711,319.51	\$746,650.00	\$447,102.86	\$373,325.00	\$73,777.86	19.8%
001-000-000-356-50-00-01	Restitution - Investigative Fund Assess	\$600.00	\$7.91		\$43.63		\$43.63	
	001-000-000-35 Total	\$600.00	\$7.91		\$43.63			
001-000-000-361-11-00-02	Investment Pool Interest	\$300.00	\$5,892.33	\$5,000.00	\$2,678.46	\$2,500.00	\$178.46	7.1%
001-000-000-361-11-00-03	Interest on Property Tax	\$180.00	\$0.00		\$0.00			
001-000-000-361-11-00-40	Interest Income - Bonds	\$1,620.00	\$0.00		\$0.00			
001-000-000-361-40-00-01	Other Interest	\$200.00	\$587.85	\$500.00	\$294.87	\$250.00	\$44.87	17.9%
001-000-000-361-40-00-02	Interest on Interfund Loan	\$0.00	\$33.00		\$86.82		\$86.82	
001-000-000-362-40-00-01	Facilities Rental - Mtg Rm & Com Rm Rental	\$1,201.00	\$0.00		\$0.00		\$0.00	
001-000-000-369-40-00-02	Reimbursement of City Expenses	\$0.00	\$10,055.57	\$0.00	\$658.00	\$0.00	\$658.00	
001-000-000-369-81-00-01	Cashier Over/Short	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
001-000-000-369-90-00-01	NSF Returned Check Fee	\$0.00	\$0.00	\$0.00	\$40.00	\$0.00	\$40.00	

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-000-000-369-90-00-02	Misc. General Fund Revenue	\$0.00	\$0.00	\$0.00	\$182.04	\$0.00	\$182.04	
	001-000-000-36 Total	\$3,501.00	\$16,568.75	\$5,500.00	\$3,940.19	\$2,750.00	\$1,190.19	43.3%
001-086-000-386-10-00-01	Assignment of Funds	\$0.00	\$3,512.00					
001-086-000-386-10-00-03	Bldg Rental Deposit	\$0.00	\$0.00					
001-086-000-386-10-00-04	State Building Code Fee	\$0.00	\$760.00					
001-086-000-386-10-00-05	Animal Licenses	\$0.00	\$2,325.00					
001-086-000-386-10-00-06	Fire Plan Review	\$0.00	\$13,536.55					
001-086-000-386-10-00-07	City Hall Tenant Excise Tax	\$0.00	\$0.00					
	001-086-000-38 Total	\$0.00	\$20,133.55					
	Fund Total	\$3,995,066.00	\$4,267,195.64	\$4,320,292.49	\$2,515,748.89	\$2,160,146.25	\$355,602.65	16.5%
005-000-000-361-11-00-02	Investment Pool Interest	\$500.00	\$659.52	\$500.00	\$548.74	\$250.00	\$298.74	119.5%
005-000-000-361-11-00-40	Interest Income - Bonds	\$1,500.00	\$817.71	\$1,500.00	\$0.00	\$750.00	(\$750.00)	-100.0%
	Fund Total	\$2,000.00	\$1,477.23	\$2,000.00	\$548.74	\$1,000.00	(\$451.26)	-45.1%
101-000-000-317-60-00-01	Received from ETB - Veh License Fees	\$0.00	\$271,348.02	\$146,000.00	\$95,752.80	\$73,000.00	\$22,752.80	
	101-000-000-31 Total	\$0.00	\$271,348.02	\$146,000.00	\$95,752.80	\$73,000.00	\$22,752.80	
101-000-000-322-40-00-02	Street Vacation	\$0.00	\$5,760.00	\$0.00	\$0.00	\$0.00	\$0.00	
101-000-000-322-40-00-04	Right-of-Way Permit	\$0.00	\$30,302.35	\$0.00	\$60,738.28	\$0.00	\$60,738.28	
	101-000-000-32 Total	\$0.00	\$36,062.35	\$0.00	\$60,738.28	\$0.00	\$60,738.28	
101-000-000-336-00-71-01	Multimodal Transpo City	\$0.00	\$9,838.40	\$0.00	\$3,257.90	\$0.00	\$3,257.90	
101-000-000-336-00-87-01	MV Fuel Tax-City Streets	\$205,454.00	\$207,559.04	\$217,000.00	\$98,080.32	\$108,500.00	(\$10,419.68)	-9.6%
	101-000-000-33 Total	\$205,454.00	\$217,397.44	\$217,000.00	\$101,338.22	\$108,500.00	(\$7,161.78)	-6.6%
101-000-000-344-10-00-01	Road/Street Services (TBD Work)	\$0.00	\$0.00	\$168,000.00	\$0.00	\$84,000.00	(\$84,000.00)	-100.0%
101-000-000-344-10-00-02	Traffic Eng. Peer Review	\$0.00	\$36,951.78	\$0.00	\$10,426.11	\$0.00	\$10,426.11	
	101-000-000-34 Total	\$0.00	\$36,951.78	\$168,000.00	\$10,426.11	\$84,000.00	(\$73,573.89)	-87.6%
101-000-000-361-11-00-02	Investment Pool Interest	\$26.43	\$121.30	\$26.43	\$96.80	\$13.22	\$83.59	632.5%
101-000-000-369-10-00-01	Sales of Scrap/Junk	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	101-000-000-36 Total	\$26.43	\$121.30	\$26.43	\$96.80	\$13.22	\$83.59	632.5%
	Fund Total	\$205,480.43	\$561,880.89	\$531,026.43	\$268,352.21	\$265,513.22	\$2,839.00	1.1%
110-000-000-345-85-00-01	Park Impact Fee	\$421,747.00	\$378,330.00	\$200,000.00	\$261,986.00	\$100,000.00	\$161,986.00	162.0%
	110-000-000-34 Total	\$421,747.00	\$378,330.00	\$200,000.00	\$261,986.00	\$100,000.00	\$161,986.00	162.0%
110-000-000-361-11-00-02	Investment Pool Interest	\$46.00	\$201.18	\$45.69	\$167.40	\$22.85	\$144.56	632.8%
	110-000-000-36 Total	\$46.00	\$201.18	\$45.69	\$167.40	\$22.85	\$144.56	632.8%
	Fund Total	\$421,793.00	\$378,531.18	\$200,045.69	\$262,153.40	\$100,022.85	\$162,130.56	162.1%
111-000-000-345-85-00-01	Traffic Mitigation Impact Fees	\$269,279.00	\$387,928.21	\$269,279.18	\$328,604.00	\$134,639.59	\$193,964.41	144.1%
	111-000-000-34 Total	\$269,279.00	\$387,928.21	\$269,279.18	\$328,604.00	\$134,639.59	\$193,964.41	144.1%
111-000-000-361-11-00-02	Investment Pool Interest	\$8.00	\$0.00	\$7.74	\$0.00	\$3.87	(\$3.87)	-100.0%
	111-000-000-36 Total	\$8.00	\$0.00	\$7.74	\$0.00	\$3.87	(\$3.87)	-100.0%
	Fund Total	\$269,287.00	\$387,928.21	\$269,286.92	\$328,604.00	\$134,643.46	\$193,960.54	144.1%
130-000-000-318-34-00-01	Real Estate Excise Tax (REET1)	\$175,856.00	\$244,330.90	\$250,000.00	\$182,199.51	\$125,000.00	\$57,199.51	45.8%
	130-000-000-31 Total	\$175,856.00	\$244,330.90	\$250,000.00	\$182,199.51	\$125,000.00	\$57,199.51	45.8%
130-000-000-361-11-00-02	Investment Pool Interest	\$7.00	\$32.61	\$7.38	\$27.12	\$3.69	\$23.43	635.0%
	130-000-000-36 Total	\$7.00	\$32.61	\$7.38	\$27.12	\$3.69	\$23.43	635.0%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
	Fund Total	\$175,863.00	\$244,363.51	\$250,007.38	\$182,226.63	\$125,003.69	\$57,222.94	45.8%
132-000-000-318-34-00-01	Real Estate Excise Tax (REET 2)	\$175,857.00	\$244,225.85	\$250,000.00	\$182,199.40	\$125,000.00	\$57,199.40	45.8%
	132-000-000-31 Total	\$175,857.00	\$244,225.85	\$250,000.00	\$182,199.40	\$125,000.00	\$57,199.40	45.8%
132-000-000-361-11-00-02	Investment Pool Interest	\$24.00	\$105.70	\$24.03	\$87.96	\$12.02	\$75.95	632.1%
	132-000-000-36 Total	\$24.00	\$105.70	\$24.03	\$87.96	\$12.02	\$75.95	632.1%
	Fund Total	\$175,881.00	\$244,331.55	\$250,024.03	\$182,287.36	\$125,012.02	\$57,275.35	45.8%
201-000-000-397-00-00-01	Oper. Trn. - General Fund	\$186,063.00	\$0.00	\$186,063.00	\$93,031.50	\$93,031.50	\$0.00	0.0%
201-000-000-397-00-00-03	Transfer In - Sewer	\$123.00	\$0.00	\$123.00	\$61.50	\$61.50	\$0.00	0.0%
201-000-000-397-00-00-04	Transfer In - Surface Water	\$12,044.00	\$0.00	\$12,044.00	\$6,022.00	\$6,022.00	\$0.00	0.0%
201-000-000-397-00-00-07	Oper. Trn. - MCR-REET1	\$203,690.00	\$0.00	\$203,690.00	\$101,845.00	\$101,845.00	\$0.00	0.0%
	Fund Total	\$401,920.00	\$0.00	\$401,920.00	\$200,960.00	\$200,960.00	\$0.00	0.0%
310-000-000-361-11-00-02	Investment Pool Interest	\$27.00	\$152.40	\$26.91	\$126.82	\$13.46	\$113.37	842.5%
	310-000-000-36 Total	\$27.00	\$152.40	\$26.91	\$126.82	\$13.46	\$113.37	842.5%
310-000-000-397-00-00-04	Oper. Trn. - PIF	\$100,000.00	\$0.00	\$100,000.00	\$50,000.00	\$50,000.00	\$0.00	0.0%
310-000-000-397-00-00-09	Oper. Trn. - SWM	\$10,000.00	\$0.00	\$10,000.00	\$5,000.00	\$5,000.00	\$0.00	0.0%
	310-000-000-39 Total	\$110,000.00	\$0.00	\$110,000.00	\$55,000.00	\$55,000.00	\$0.00	0.0%
	Fund Total	\$110,027.00	\$152.40	\$110,026.91	\$55,126.82	\$55,013.46	\$113.37	0.2%
340-000-000-333-20-20-05	STPUL HLP 3290(010) Jovita Seismic Walls Grant	\$0.00	\$45,543.57	\$0.00	\$0.00	\$0.00	\$0.00	
340-000-000-334-03-60-01	State Grant - WSDOT	\$0.00	\$569,493.08	\$0.00	\$415,857.05	\$0.00	\$415,857.05	
	Fund Total	\$0.00	\$615,036.65	\$0.00	\$415,857.05	\$0.00	\$415,857.05	
401-000-000-343-50-00-01	Sewer Revenue	\$7,429.00	\$13,324.45	\$15,000.00	\$14,382.00	\$7,500.00	\$6,882.00	91.8%
	Fund Total	\$7,429.00	\$13,324.45	\$15,000.00	\$14,382.00	\$7,500.00	\$6,882.00	91.8%
410-000-000-343-10-00-01	Surface Water Fees	\$661,550.00	\$653,298.29	\$661,550.00	\$373,836.65	\$373,836.65	\$0.00	0.0%
410-000-000-343-83-00-01	Storm Drainage Fees & Charges	\$0.00	\$5,075.91	\$0.00	\$0.00	\$0.00	\$0.00	
410-000-000-345-89-00-01	SW Plan Reviews	\$0.00	\$0.00	\$0.00	\$11,700.00	\$0.00	\$11,700.00	
410-000-000-345-89-00-02	Inspections	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	410-000-000-34 Total	\$661,550.00	\$658,374.20	\$661,550.00	\$385,536.65	\$373,836.65	\$11,700.00	3.1%
410-000-000-361-11-00-02	Investment Pool Interest	\$161.00	\$710.40	\$161.34	\$591.07	\$80.67	\$510.40	632.7%
410-000-000-361-11-00-40	Interest Earnings - Bond	\$1,175.00	\$0.00	\$1,175.34	\$0.00	\$587.67	(\$587.67)	-100.0%
	410-000-000-36 Total	\$1,336.00	\$710.40	\$1,336.68	\$591.07	\$668.34	(\$77.27)	-11.6%
	Fund Total	\$662,886.00	\$659,084.60	\$662,886.68	\$386,127.72	\$374,504.99	\$11,622.73	3.1%
411-000-000-359-00-00-02	LID No. 1 Penalties Received	\$79,936.00	\$50,488.56	\$79,936.17	\$6,805.95	\$39,968.09	(\$33,162.14)	-83.0%
	411-000-000-35 Total	\$79,936.00	\$50,488.56	\$79,936.17	\$6,805.95	\$39,968.09	(\$33,162.14)	-83.0%
411-000-000-361-11-00-02	Investment Pool Interest	\$1,144.00	\$5,035.75	\$1,143.63	\$4,189.85	\$571.82	\$3,618.04	632.7%
411-000-000-361-40-00-01	LID No. 1 Interest Received	\$883,159.00	\$609,932.84	\$610,341.00	\$75,229.09	\$305,170.50	(\$229,941.41)	-75.3%
411-000-000-368-10-00-01	LID #1 Principal Received	\$1,211,563.00	\$1,366,331.21	\$758,515.00	\$1,314,765.84	\$379,257.50	\$935,508.34	246.7%
	411-000-000-36 Total	\$2,095,866.00	\$1,981,299.80	\$1,369,999.63	\$1,394,184.78	\$684,999.82	\$709,184.97	103.5%
	Fund Total	\$2,175,802.00	\$2,031,788.36	\$1,449,935.80	\$1,400,990.73	\$724,967.90	\$676,022.83	93.2%
412-000-000-397-00-00-01	Transfer In - Temp. LID Fund	\$118,116.00	\$118,116.00	\$118,116.00	\$59,058.00	\$59,058.00	\$0.00	
	412-000-000-39 Total	\$118,116.00	\$118,116.00	\$118,116.00	\$59,058.00	\$59,058.00	\$0.00	
	Fund Total	\$118,116.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
501-000-000-361-11-00-02	Investment Pool Interest	\$65.00	\$285.76	\$64.89	\$237.75	\$32.45	\$205.31	632.8%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
501-000-000-362-00-00-01	Comcast PEG Fees	\$0.00	\$0.00	\$0.00	\$14,982.61	\$0.00	\$14,982.61	
	Fund Total	\$65.00	\$285.76	\$64.89	\$15,220.36	\$32.45	\$15,187.92	46811.3%
630-000-000-317-60-00-01	Transportation Benefit Dist Vehicle Fee	\$146,000.00	\$162,082.80					
	Fund Total	\$146,000.00	\$162,082.80					
	Total General Fund				\$2,515,705.26	\$2,160,146.25	\$355,559.02	

Note: Labor costs are collected in Central Services and journalized back to the individual cost centers. These statements do not reflect that activity.

Estimated Expenditure Summary								
Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
Legislative								
001-011-000-511-60-11-01	Salaries and Wages	\$30,000	\$33,875	\$50,400	\$25,200	\$25,200	\$0	
001-011-000-511-60-21-01	Benefits	\$435	\$491	\$795	\$398	\$398	\$1	
001-011-000-511-60-31-01	Office & Operational Supplies	\$457	\$149	\$400	\$200	\$200	\$0	
001-011-000-511-60-31-05	Meeting Meals Expense	\$0	\$245	\$500	\$210	\$250	-\$41	-16.2%
001-011-000-511-60-35-01	Small Tools/Minor Equipment	\$0	\$0	\$0	\$0	\$0	\$0	
001-011-000-511-60-41-01	Professional Services	\$500	\$2,000	\$0	\$0	\$0	\$0	
001-011-000-511-60-43-01	Travel/Training Costs	\$750	\$0	\$750	\$0	\$375	-\$375	
001-011-000-511-60-43-02	Lodging Charges	\$750	\$0	\$750	\$0	\$375	-\$375	
001-011-000-511-60-43-03	Mileage Reimbursement	\$250	\$0	\$0	\$0	\$0	\$0	
001-011-000-511-60-43-04	Conference Meals	\$0	\$352	\$250	\$0	\$125	-\$125	
001-011-000-511-60-49-01	Memberships	\$150	\$50	\$150	\$50	\$75	-\$25	-33.3%
001-011-000-511-60-49-03	Registration	\$500	\$0	\$500	\$0	\$250	-\$250	
001-011-000-511-60-49-04	Subscriptions	\$350	\$380	\$400	\$0	\$200	-\$200	
001-011-000-594-11-64-01	Office Furniture	\$0	\$0	\$35,974	\$0	\$17,987	-\$17,987	
Executive	Legislative Total	\$34,142	\$37,542	\$90,869	\$26,058	\$45,435	-\$19,377	
001-013-000-513-10-11-01	Salaries and Wages	\$15,600	\$43,187	\$119,971	\$59,985	\$59,985	\$0	
001-013-000-513-10-21-01	Benefits	\$226	\$625	\$39,272	\$19,636	\$19,636	\$0	
001-013-000-513-10-31-01	Office & Operational Supplies	\$0	\$0	\$0	\$0	\$0	\$0	
001-013-000-513-10-31-05	Meeting Meals Expense	\$250	\$600	\$500	\$476	\$250	\$226	90.5%
001-013-000-513-10-43-01	Travel/Training Costs	\$1,500	\$70	\$1,500	\$50	\$750	-\$700	-93.3%
001-013-000-513-10-43-02	Lodging Charges	\$750	\$0	\$750	\$330	\$375	-\$45	-11.9%
001-013-000-513-10-43-03	Mileage Reimbursement	\$250	\$0	\$250	\$314	\$125	\$189	150.8%
001-013-000-513-10-43-04	Conference Meals	\$350	\$0	\$350	\$26	\$175	-\$149	-85.1%
001-013-000-513-10-43-05	Parking	\$150	\$9	\$150	\$0	\$75	-\$75	-100.0%
001-013-000-513-10-49-01	Memberships	\$160	\$0	\$160	\$0	\$80	-\$80	-100.0%
001-013-000-513-10-49-03	Registration	\$250	\$0	\$250	\$400	\$125	\$275	220.0%
001-013-000-513-10-49-04	Subscriptions	\$50	\$0	\$50	\$0	\$25	-\$25	-100.0%
001-013-000-594-13-64-01	Office Furniture	\$0	\$0	\$85,538	\$0	\$42,769	-\$42,769	-100.0%
Administrative/Clerk	Executive Total	\$19,536	\$44,490	\$248,741	\$81,217	\$124,370	-\$43,153	-34.7%
001-014-000-511-30-41-02	Legal Publications	\$5,000	\$4,065	\$5,000	\$2,500	\$2,500	\$0	0.0%
001-014-000-514-20-11-01	Salaries and Wages	\$95,590	\$98,338	\$99,570	\$49,785	\$49,785	\$0	0.0%
001-014-000-514-20-21-01	Benefits	\$1,386	\$1,422	\$44,703	\$22,352	\$22,352	\$1	0.0%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-014-000-514-20-31-01	Office & Operational Supplies	\$200	\$0	\$0	\$22,750	\$0	\$22,750	
001-014-000-514-20-31-05	Meeting Meals Expense	\$0	\$507	\$0	\$353	\$0	\$353	
001-014-000-514-20-41-01	Professional Services	\$1,000	\$0	\$0	\$0	\$0	\$0	
001-014-000-514-20-42-05	Bank & Bond Fees	\$0	\$328	\$0	\$662	\$0	\$662	
001-014-000-514-20-43-01	Training & Travel Costs	\$1,500	\$0	\$3,500	\$790	\$1,750	-\$960	-54.9%
001-014-000-514-20-43-02	Lodging Charges	\$1,000	\$0	\$0	\$0	\$0	\$0	
001-014-000-514-20-43-03	Mileage Reimbursement	\$150	\$86	\$250	\$45	\$125	-\$80	-63.7%
001-014-000-514-20-43-04	Conference Meals	\$250	\$26	\$0	\$50	\$0	\$50	
001-014-000-514-20-48-02	Software Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	
001-014-000-514-20-49-01	Memberships	\$250	\$0	\$350	\$25	\$175	-\$150	-85.7%
001-014-000-514-20-49-03	Registration	\$610	\$0	\$0	\$0	\$0	\$0	
001-014-000-514-23-41-01	Accounting & Auditing Services	\$0	\$15,050	\$0	\$3,003	\$0	\$3,003	
001-014-000-514-30-11-01	Salaries & Wages	\$59,504	\$61,354	\$59,381	\$29,691	\$29,691	\$1	0.0%
001-014-000-514-30-21-01	Benefits	\$863	\$885	\$30,689	\$15,345	\$15,345	\$1	0.0%
001-014-000-514-30-31-01	Operational Supplies	\$300	\$131	\$300	\$150	\$150	\$0	0.0%
001-014-000-514-30-31-05	Meeting Meals & Expenses	\$0	\$23	\$0	\$0	\$0	\$0	
001-014-000-514-30-41-01	Professional Services	\$1,500	\$7,560	\$1,500	\$5,181	\$750	\$4,431	590.8%
001-014-000-514-30-42-06	Website Services	\$0	\$350	\$0	\$350	\$0	\$350	
001-014-000-514-30-43-01	Training & Travel Costs	\$200	\$338	\$200	\$0	\$100	-\$100	-100.0%
001-014-000-514-30-43-02	Lodging	\$600	\$114	\$600	\$0	\$300	-\$300	-100.0%
001-014-000-514-30-43-03	Mileage Reimbursement	\$150	\$0	\$150	\$128	\$75	\$53	71.2%
001-014-000-514-30-43-04	Conference Meals	\$150	\$0	\$150	\$0	\$75	-\$75	-100.0%
001-014-000-514-30-44-01	Legal Publication	\$500	\$2,092	\$500	\$0	\$250	-\$250	-100.0%
001-014-000-514-30-48-01	Equipment Repair	\$0	\$0	\$0	\$0	\$0	\$0	
001-014-000-514-30-49-01	Memberships	\$480	\$305	\$480	\$354	\$240	\$114	47.5%
001-014-000-514-30-49-03	Registration	\$350	\$45	\$350	\$0	\$175	-\$175	-100.0%
001-014-000-514-40-51-01	Election Costs	\$8,000	\$3,753	\$4,000	\$0	\$2,000	-\$2,000	-100.0%
001-014-000-514-90-51-01	Voter Registration	\$18,000	\$18,451	\$18,500	\$15,504	\$9,250	\$6,254	67.6%
001-014-000-518-10-49-01	Memberships	\$0	\$0	\$0	\$185	\$0	\$185	
001-014-000-518-10-49-03	Registrations	\$0	\$0	\$0	\$0	\$0	\$0	
001-014-000-518-80-31-01	IT Operating Supplies	\$0	\$0	\$1,296	\$0	\$648	-\$648	-100.0%
001-014-000-518-80-41-01	Contracted IT Services	\$19,760	\$19,558	\$26,000	\$4,508	\$13,000	-\$8,492	-65.3%
001-014-000-518-80-41-02	Web Site Services	\$1,800	\$1,860	\$4,500	\$2,100	\$2,250	-\$150	-6.7%
001-014-000-518-80-48-01	IT Repair & Maintenance	\$5,000	\$177	\$5,000	\$0	\$2,500	-\$2,500	-100.0%
001-014-000-518-80-49-03	Computer Subscriptions	\$16,000	\$12,881	\$13,518	\$33,737	\$6,759	\$26,978	399.1%
001-014-000-594-14-64-01	Office Furniture	\$0	\$0	\$71,148	\$0	\$35,574	-\$35,574	-100.0%
001-014-000-594-14-64-02	Central File Equipment	\$0	\$0	\$32,679	\$0	\$16,340	-\$16,340	-100.0%
001-014-000-594-14-64-03	Software - Computer	\$0	\$5,251	\$42,369	\$0	\$21,185	-\$21,185	-100.0%
001-014-000-594-18-64-02	IT Hardware	\$0	\$0	\$0	\$0	\$0	\$0	
001-014-000-594-18-64-05	A/V Equipment	\$0	\$0	\$0	\$0	\$0	\$0	
Legal Services Administrative/Clerk Total		\$240,093	\$254,950	\$466,683	\$209,548	\$233,342	-\$23,793	-10.2%
001-015-000-515-32-41-01	Legal Services	\$140,000	\$166,178	\$140,000	\$47,197	\$70,000	-\$22,803	-32.6%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-015-000-515-32-41-14	Hearing Examiner Legal Fees	\$7,500	\$14,757	\$25,000	\$7,915	\$12,500	-\$4,585	-36.7%
001-015-000-515-32-41-15	Code Enforcement Legal Fees	\$0	\$0	\$15,000	\$0	\$7,500	-\$7,500	-100.0%
Central Services	Legal Services Total	\$147,500	\$180,934	\$180,000	\$55,112	\$90,000	-\$34,888	-38.8%
001-018-000-512-50-51-01	Court Services	\$22,000	\$18,000	\$22,000	\$9,000	\$11,000	-\$2,000	-18.2%
001-018-000-518-10-11-01	Salaries & Wages	\$0	\$18,595	\$93,973	\$46,987	\$46,987	\$0	0.0%
001-018-000-518-10-21-01	Medicare	\$0	\$269	\$44,746	\$22,373	\$22,373	\$0	0.0%
001-018-000-518-10-21-02	Social Security Replacement	\$0	\$1,410	\$0	\$0	\$0	\$0	
001-018-000-518-10-21-05	PERS	\$0	\$2,118	\$0	\$0	\$0	\$0	
001-018-000-518-10-21-07	Labor & Industries	\$0	-\$562	\$0	\$0	\$0	\$0	
001-018-000-518-10-21-08	Unemployment	\$0	\$74	\$0	\$2,061	\$0	\$2,061	
001-018-000-518-10-21-10	Medical	\$0	\$4,204	\$0	\$0	\$0	\$0	
001-018-000-518-10-31-01	Operational Supplies	\$0	\$0	\$15,000	\$0	\$7,500	-\$7,500	-100.0%
001-018-000-518-20-11-01	Salaries & Wages	\$108,879	\$73,738	\$0	\$273,438	\$273,438	\$0	
001-018-000-518-20-21-01	Medicare	\$1,579	\$1,067	\$0	\$3,978	\$3,978	\$0	
001-018-000-518-20-21-02	Social Security Replacement	\$6,751	\$4,371	\$0	\$15,511	\$15,511	\$0	
001-018-000-518-20-21-05	PERS	\$12,173	\$8,393	\$0	\$25,971	\$25,971	\$0	
001-018-000-518-20-21-07	Labor & Industries	\$535	\$344	\$0	\$0	\$0	\$0	
001-018-000-518-20-21-08	Unemployment	\$1,960	\$295	\$0	\$1,412	\$1,412	\$0	
001-018-000-518-20-21-10	Medical	\$31,263	\$34,822	\$0	\$61,007	\$61,007	\$0	
001-018-000-518-20-31-01	Office & Operational Supplies	\$100	\$1,834	\$0	\$10,405	\$0	\$10,405	
001-018-000-518-20-35-01	Small Tools/Minor Equipment	\$250	\$85	\$500	\$401	\$250	\$151	60.2%
001-018-000-518-20-35-02	Office Furniture	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-20-41-01	Professional Service	\$1,500	\$3,010	\$12,800	\$371	\$6,400	-\$6,029	-94.2%
001-018-000-518-20-42-01	Telephone Charges	\$0	\$0	\$0	\$1,498	\$0	\$1,498	
001-018-000-518-20-42-02	Postage	\$0	\$4,411	\$7,000	\$2,287	\$3,500	-\$1,213	-34.6%
001-018-000-518-20-43-01	Travel/Training Costs	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-20-45-03	Postage Meter Lease	\$870	\$850	\$870	\$1,112	\$435	\$677	155.6%
001-018-000-518-20-45-06	Copier Lease	\$1,100	\$0	\$3,500	\$2,164	\$1,750	\$414	23.6%
001-018-000-518-20-47-01	Electricity	\$21,000	\$0	\$45,000	\$30,779	\$22,500	\$8,279	36.8%
001-018-000-518-20-47-02	Water	\$0	\$0	\$10,900	\$2,581	\$5,450	-\$2,869	-52.6%
001-018-000-518-20-47-50	LID Interest Payment	\$0	\$0	\$0	\$28,894	\$0	\$28,894	
001-018-000-518-20-47-60	LID Principal Payment	\$0	\$0	\$0	\$45,324	\$0	\$45,324	
001-018-000-518-20-49-01	Memberships	\$0	\$108	\$0	\$220	\$0	\$220	
001-018-000-518-20-49-05	Printing & Binding	\$15,000	\$20,180	\$25,000	\$9,176	\$12,500	-\$3,324	-26.6%
001-018-000-518-20-49-07	Copying Charge	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-30-11-01	Salaries & Wages	\$12,430	\$12,492	\$0	\$0	\$0	\$0	
001-018-000-518-30-21-01	Medicare	\$180	\$180	\$0	\$0	\$0	\$0	
001-018-000-518-30-21-02	Social Security Replacement	\$740	\$772	\$0	\$0	\$0	\$0	
001-018-000-518-30-21-05	PERS	\$1,334	\$1,450	\$0	\$0	\$0	\$0	
001-018-000-518-30-21-07	L&I	\$486	\$379	\$0	\$0	\$0	\$0	
001-018-000-518-30-21-08	Unemployment	\$224	\$50	\$0	\$0	\$0	\$0	
001-018-000-518-30-21-10	Medical	\$3,431	\$3,453	\$0	\$0	\$0	\$0	

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-018-000-518-30-31-01	Office & Operational Supplies	\$9,500	\$13,219	\$0	\$2,293	\$0	\$2,293	
001-018-000-518-30-31-09	Chemicals	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-30-32-01	Fuel	\$400	\$336	\$400	\$3,593	\$200	\$3,393	1696.6%
001-018-000-518-30-32-02	Fuel	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-30-35-01	Small Tools/Minor Equip.	\$0	\$2,199	\$0	\$994	\$0	\$994	
001-018-000-518-30-41-01	Professional Services	\$8,800	\$13,309	\$0	\$9,210	\$0	\$9,210	
001-018-000-518-30-41-05	Alarm Monitoring	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-30-42-01	Telecommunications Charges	\$17,000	\$15,105	\$10,800	\$10,554	\$5,400	\$5,154	95.4%
001-018-000-518-30-42-03	Postage	\$2,500	\$2,029	\$0	\$1,500	\$0	\$1,500	
001-018-000-518-30-45-03	Postage Meter Lease	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-30-45-06	Copier Lease	\$5,000	\$6,358	\$5,000	\$3,994	\$2,500	\$1,494	59.8%
001-018-000-518-30-45-07	Operating Permits	\$400	\$129	\$400	\$174	\$200	-\$26	-13.1%
001-018-000-518-30-46-01	Alarm Monitoring	\$2,000	\$1,293	\$2,000	\$360	\$1,000	-\$640	-64.0%
001-018-000-518-30-47-01	Electricity	\$22,660	\$16,745	\$0	\$0	\$0	\$0	
001-018-000-518-30-47-04	Sewer Charges	\$500	\$938	\$1,100	\$283	\$550	-\$267	-48.5%
001-018-000-518-30-48-03	Maintenance/Repairs - Buildings	\$45,000	\$33,564	\$90,000	\$97,615	\$45,000	\$52,615	116.9%
001-018-000-518-30-48-04	Repairs to Facility	\$0	\$275	\$0	\$0	\$0	\$0	
001-018-000-518-30-48-06	Equipment Repairs	\$12,000	\$4,260	\$10,000	\$0	\$5,000	-\$5,000	-100.0%
001-018-000-518-30-48-07	Maintenance & Repairs-Vehicles	\$0	\$0	\$0	\$5,317	\$0	\$5,317	
001-018-000-518-30-49-01	Memberships	\$0	\$0	\$0	\$0	\$0	\$0	
001-018-000-518-30-51-03	Surface Water Charge	\$240	\$189	\$240	\$189	\$120	\$69	57.6%
001-018-000-518-85-48-03	Computer Maintenance-Permitting SW	\$875	\$875	\$0	\$879	\$0	\$879	
001-018-000-518-85-49-04	Subscriptions	\$0	\$160	\$0	\$0	\$0	\$0	
001-018-000-518-90-46-50	WCIA Insurance Premium	\$41,500	\$41,462	\$48,096	\$46,477	\$48,096	-\$1,619	-3.4%
001-018-000-518-90-49-51	Puget Sound Clean Air Dues	\$5,836	\$8,199	\$6,000	\$6,734	\$6,000	\$734	12.2%
001-018-000-518-90-49-52	Puget Sound Regional Council	\$3,042	\$3,103	\$1,303	\$388	\$652	-\$264	-40.5%
001-018-000-518-90-49-53	AWC Dues	\$5,950	\$6,268	\$6,268	\$6,382	\$6,268	\$114	1.8%
001-018-000-518-90-49-55	Pierce County Regional Council	\$388	\$388	\$388	\$0	\$194	-\$194	-100.0%
001-018-000-518-90-49-57	Chamber Dues	\$500	\$450	\$500	\$0	\$250	-\$250	-100.0%
001-018-000-525-60-51-01	Emergency Services	\$8,172	\$8,173	\$8,421	\$8,275	\$4,211	\$4,064	96.5%
001-018-000-554-30-51-01	Animal Control Services	\$38,719	\$31,730	\$38,719	\$27,663	\$19,360	\$8,303	42.9%
001-018-000-591-18-79-01	LID NO. 1 Principal	\$45,324	\$45,324	\$45,324	\$0	\$22,662	-\$22,662	-100.0%
001-018-000-591-18-82-01	LID Interest Payment	\$0	\$0	\$30,820	\$0	\$15,410	-\$15,410	-100.0%
001-018-000-592-18-82-01	LID NO. 1 Interest	\$30,820	\$30,820	\$0	\$0	\$0	\$0	
001-018-000-594-18-63-01	City Hall Reader Board	\$0	\$200	\$0	\$0	\$0	\$0	
001-018-000-594-18-64-02	Hardware - Computer	\$16,500	\$15,712	\$16,500	\$0	\$8,250	-\$8,250	-100.0%
001-018-000-594-18-64-03	Software - Computer	\$4,000	\$0	\$4,000	\$0	\$2,000	-\$2,000	-100.0%
001-018-000-594-18-64-05	Council Chamber Video Equipment	\$0	\$0	\$40,000	\$0	\$20,000	-\$20,000	-100.0%
	Salary Distributed			-\$647,568	-\$273,438	-\$273,438	\$0	
	Benefits Distributed				-\$107,878	-\$107,878	\$0	
	Operations Distributed				-\$154,654	-\$161,893		
Law Enforcement	Central Service Total	\$571,412	\$519,206	\$0	\$293,852	\$192,074	\$94,539	49.2%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-021-000-521-10-49-01	Dues & Memberships	\$270	\$320	\$270	\$150	\$135	\$15	11.1%
001-021-000-521-10-52-01	Intergov. Chemical Dependency	\$2,100	\$2,557	\$2,100	\$1,921	\$1,050	\$871	82.9%
001-021-000-521-20-21-07	L&I Volunteers	\$100	\$30	\$100	\$16	\$50	-\$34	-67.4%
001-021-000-521-20-31-01	Office & Operational Supplies	\$150	\$1,094	\$150	\$267	\$75	\$192	256.4%
001-021-000-521-20-35-01	Small Tools/Minor Equipment	\$150	\$2,000	\$150	\$42	\$75	-\$33	-43.7%
001-021-000-521-20-43-02	Lodging	\$720	\$0	\$720	\$0	\$360	-\$360	-100.0%
001-021-000-521-20-43-04	Conference Meals	\$200	\$0	\$200	\$145	\$100	\$45	45.0%
001-021-000-521-20-49-01	Memberships	\$0	\$0	\$0	\$0	\$0	\$0	
001-021-000-521-20-49-03	Registration	\$400	\$0	\$400	\$0	\$200	-\$200	-100.0%
001-021-000-521-20-51-01	Police Services	\$1,815,948	\$1,786,418	\$1,885,093	\$1,058,693	\$942,547	\$116,146	12.3%
001-021-000-521-20-51-02	Police Overtime	\$50,000	\$55,363	\$50,000	\$5,668	\$25,000	-\$19,332	-77.3%
001-021-000-521-20-51-04	911 Call Responses	\$0	\$0	\$0	\$0	\$0	\$0	
001-021-000-521-40-43-01	Training/Travel Costs	\$0	\$0	\$0	\$574	\$0	\$574	
001-021-000-521-40-43-02	Lodging	\$0	\$0	\$0	\$0	\$0	\$0	
001-021-000-521-40-49-03	Registrations	\$0	\$0	\$0	\$0	\$0	\$0	
001-021-000-521-50-42-01	Telecommunications Charges	\$0	\$0	\$0	\$150	\$0	\$150	
001-021-000-523-60-51-01	Jail Services	\$17,500	\$8,046	\$17,500	\$11,691	\$8,750	\$2,941	33.6%
Building & Inspection Law Enforcement Total		\$1,887,538	\$1,855,828	\$1,956,683	\$1,079,317	\$978,342	\$100,975	10.3%
001-058-000-558-50-11-01	Salaries and Wages	\$256,619	\$234,336	\$217,920	\$120,041	\$108,960	\$11,081	10.2%
001-058-000-558-50-21-01	Benefits	\$3,721	\$3,386	\$105,375	\$52,687	\$52,687	\$0	0.0%
001-058-000-558-50-31-01	Office & Operational Supplies	\$1,250	\$4,119	\$0	\$352	\$0	\$352	
001-058-000-558-50-31-05	Meeting Meals Expense	\$0	\$80	\$0	\$460	\$0	\$460	
001-058-000-558-50-32-01	Fuel	\$600	\$1,632	\$0	\$0	\$0	\$0	
001-058-000-558-50-35-01	Small Tools/Minor Equipment	\$800	\$377	\$800	\$572	\$400	\$172	43.0%
001-058-000-558-50-41-01	Professional Service	\$0	\$3,250	\$0	\$0	\$0	\$0	
001-058-000-558-50-41-04	Contracted Labor	\$40,000	\$0	\$40,000	\$0	\$20,000	-\$20,000	-100.0%
001-058-000-558-50-42-01	Telephone Charges	\$2,000	\$0	\$0	\$0	\$0	\$0	
001-058-000-558-50-43-01	Training/Travel Costs	\$0	\$2,345	\$0	\$1,923	\$0	\$1,923	
001-058-000-558-50-43-02	Lodging Charges	\$0	\$0	\$0	\$351	\$0	\$351	
001-058-000-558-50-43-04	Conference Meals	\$0	\$24	\$0	\$58	\$0	\$58	
001-058-000-558-50-48-03	Maintenance & Repairs	\$0	\$1,179	\$0	\$0	\$0	\$0	
001-058-000-558-50-49-01	Memberships	\$1,500	\$400	\$1,500	\$300	\$750	-\$450	-60.0%
001-058-000-558-50-49-03	Registration	\$500	\$0	\$500	\$850	\$250	\$600	240.0%
001-058-000-558-50-49-04	Subscriptions	\$1,200	\$0	\$1,200	\$0	\$600	-\$600	-100.0%
001-058-000-558-50-49-05	Printing & Binding	\$0	\$418	\$0	\$0	\$0	\$0	
001-058-000-558-50-51-01	Building Inspection Services	\$0	\$0	\$0	\$0	\$0	\$0	
001-058-000-558-50-95-01	Interfund Operating Rentals	\$0	\$0	\$155,886	\$0	\$77,943	-\$77,943	-100.0%
001-058-000-558-51-21-10	Medical	\$0	\$0	\$0	\$0	\$0	\$0	
001-058-000-558-60-11-01	Salaries and Wages	\$220,487	\$263,698	\$125,093	\$62,546	\$62,546	\$0	0.0%
001-058-000-558-60-21-01	Medicare	\$3,197	\$3,813	\$46,317	\$23,158	\$23,158	\$0	0.0%
001-058-000-558-60-21-02	Social Security Replacement	\$13,670	\$16,303	\$0	\$0	\$0	\$0	
001-058-000-558-60-21-05	PERS	\$24,651	\$29,904	\$0	\$0	\$0	\$0	

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-058-000-558-60-21-07	Labor & Industries	\$913	\$1,069	\$0	\$0	\$0	\$0	
001-058-000-558-60-21-08	Unemployment	\$3,969	\$1,052	\$0	\$0	\$0	\$0	
001-058-000-558-60-21-10	Medical	\$40,590	\$42,682	\$0	\$0	\$0	\$0	
001-058-000-558-60-31-01	Office & Operational Supplies	\$600	\$1,794	\$0	\$0	\$0	\$0	
001-058-000-558-60-31-04	Office Publications	\$0	\$0	\$0	\$505	\$0	\$505	
001-058-000-558-60-31-05	Meeting Meals Exp.	\$0	\$20	\$0	\$0	\$0	\$0	
001-058-000-558-60-31-07	Maps	\$3,000	\$0	\$3,000	\$0	\$1,500	-\$1,500	-100.0%
001-058-000-558-60-31-11	Signs	\$2,000	\$0	\$2,000	\$0	\$1,000	-\$1,000	-100.0%
001-058-000-558-60-32-01	Fuel	\$600	\$113	\$0	\$0	\$0	\$0	
001-058-000-558-60-35-01	Small Tools/Minor Equipment	\$250	\$0	\$250	\$0	\$125	-\$125	-100.0%
001-058-000-558-60-41-01	Reim.Engineering - Prof. Serv	\$170,000	\$265,573	\$290,000	\$41,933	\$145,000	-\$103,067	-71.1%
001-058-000-558-60-41-03	Prof. Services (Non-reimbursable)	\$18,000	\$62,839	\$15,000	\$22,593	\$7,500	\$15,093	201.2%
001-058-000-558-60-41-04	Contracted Labor	\$0	\$0	\$0	\$0	\$0	\$0	
001-058-000-558-60-41-08	Legal Notices/Publications	\$14,000	\$16,418	\$15,000	\$12,653	\$7,500	\$5,153	68.7%
001-058-000-558-60-41-19	Ortho Photos	\$3,200	\$0	\$3,200	\$0	\$1,600	-\$1,600	-100.0%
001-058-000-558-60-41-23	Professional Serv-GMA	\$100,000	\$20,927	\$35,000	\$49,893	\$17,500	\$32,393	185.1%
001-058-000-558-60-42-01	Telephone Charges	\$0	\$484	\$0	\$56	\$0	\$56	
001-058-000-558-60-42-02	Postage	\$0	\$0	\$0	\$48	\$0	\$48	
001-058-000-558-60-43-01	Training/Travel Costs	\$800	\$829	\$2,500	\$193	\$1,250	-\$1,057	
001-058-000-558-60-43-02	Lodging Charges	\$600	\$385	\$1,000	\$25	\$500	-\$475	-95.0%
001-058-000-558-60-43-03	Mileage Reimbursement	\$600	\$346	\$600	\$0	\$300	-\$300	-100.0%
001-058-000-558-60-43-04	Conference Meals	\$300	\$88	\$500	\$0	\$250	-\$250	-100.0%
001-058-000-558-60-44-01	Legal Publications	\$0	\$0	\$0	\$0	\$0	\$0	
001-058-000-558-60-48-03	Maintenance	\$0	\$364	\$0	\$0	\$0	\$0	
001-058-000-558-60-49-01	Memberships	\$1,400	\$1,451	\$4,000	\$923	\$2,000	-\$1,077	-53.9%
001-058-000-558-60-49-03	Registration	\$2,000	\$45	\$2,000	\$0	\$1,000	-\$1,000	-100.0%
001-058-000-558-60-49-04	Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	
001-058-000-558-60-49-05	Printing & Binding	\$1,200	\$589	\$0	\$0	\$0	\$0	
001-058-000-558-60-51-01	Pierce County Recording Fees	\$0	\$407	\$5,000	\$0	\$2,500	-\$2,500	-100.0%
001-058-000-558-60-95-01	Interfund Operating Rentals	\$0	\$0	\$89,535	\$44,767	\$44,767	\$0	0.0%
001-058-000-558-70-41-26	Economic Development Services	\$0	\$35	\$0	\$0	\$0	\$0	
Parks & Recreation Building Inspection Services Total		\$934,217	\$982,775	\$1,163,174	\$436,886	\$581,587	-\$144,701	-24.9%
001-076-000-573-90-31-01	Operational Supplies	\$0	\$4	\$0	\$0	\$0	\$0	
001-076-000-576-80-11-01	Salaries and Wages	\$23,767	\$28,412	\$59,902	\$29,951	\$29,951	\$0	0.0%
001-076-000-576-80-21-01	Medicare	\$345	\$411	\$31,077	\$15,538	\$15,538	\$0	0.0%
001-076-000-576-80-31-01	Operational Supplies	\$1,500	\$621	\$3,500	\$675	\$1,750	-\$1,075	-61.4%
001-076-000-576-80-31-02	Operational Supplies	\$2,750	\$321	\$2,750	\$77	\$1,375	-\$1,298	-94.4%
001-076-000-576-80-31-09	Chemicals	\$0	\$247	\$500	\$199	\$250	-\$51	-20.4%
001-076-000-576-80-31-10	Outdoor Gear	\$200	\$0	\$800	\$150	\$400	-\$250	-62.6%
001-076-000-576-80-31-11	Signs	\$0	\$0	\$0	\$52	\$0	\$52	
001-076-000-576-80-32-01	Fuel	\$700	\$382	\$1,000	\$0	\$500	-\$500	-100.0%
001-076-000-576-80-35-01	Small Tools/Minor Equipment	\$2,300	\$2,046	\$1,500	\$271	\$750	-\$479	-63.9%

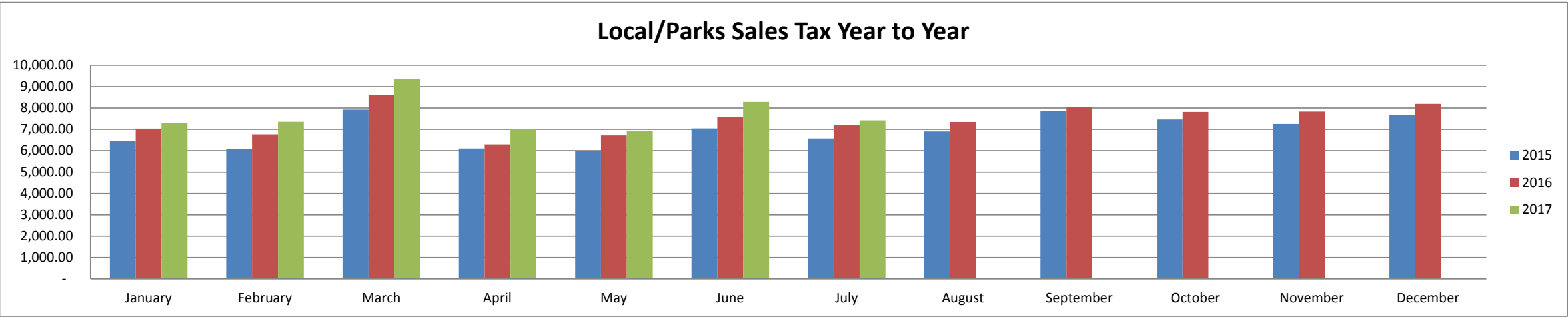
Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
001-076-000-576-80-35-05	Park Equipment	\$4,800	\$2,061	\$5,000	\$833	\$2,500	-\$1,667	-66.7%
001-076-000-576-80-41-01	Professional Services	\$14,000	\$3,379	\$2,500	\$235	\$1,250	-\$1,015	-81.2%
001-076-000-576-80-42-01	Telephone Charges	\$0	\$977	\$0	\$199	\$0	\$199	
001-076-000-576-80-43-03	Mileage Reimbursement	\$0	\$0	\$0	\$0	\$0	\$0	
001-076-000-576-80-45-03	Operating Rentals	\$4,000	\$5,614	\$3,500	\$3,256	\$1,750	\$1,506	86.1%
001-076-000-576-80-47-01	Electricity	\$1,500	\$1,719	\$0	\$0	\$0	\$0	
001-076-000-576-80-47-02	Water	\$0	\$0	\$0	\$41	\$0	\$41	
001-076-000-576-80-48-01	Equipment Repair & Maintenance	\$2,800	\$1,052	\$1,500	\$1,454	\$750	\$704	93.9%
001-076-000-576-80-48-04	Equipment Repairs	\$0	\$0	\$0	\$15	\$0	\$15	
001-076-000-576-80-48-05	Maintenance-Tank Pumping	\$1,000	\$1,057	\$10,000	\$412	\$5,000	-\$4,588	-91.8%
001-076-000-576-80-49-03	Registration	\$750	\$0	\$1,000	\$0	\$500	-\$500	-100.0%
001-076-000-576-80-51-01	Parks Maintenance	\$0	\$0	\$0	\$484	\$0	\$484	
001-076-000-576-80-51-03	Surface Water Fee	\$1,600	\$1,206	\$1,000	\$1,206	\$500	\$706	141.2%
001-076-000-576-80-95-01	Interfund Operating Rental	\$0	\$0	\$43,169	\$0	\$21,584	-\$21,584	-100.0%
Steet Fund	Parks Total	\$62,012	\$49,508	\$168,697	\$55,047	\$84,349	-\$29,302	-34.7%
101-000-000-541-30-51-01	Road Preservation (Intergov)	\$0	\$273,545	\$0	\$4,995	\$0	\$4,995	
101-000-000-542-30-31-01	Operational Supplies	\$554	\$493	\$5,000	\$2,926	\$2,500	\$426	17.0%
101-000-000-542-30-32-01	Fuel	\$630	\$459	\$4,000	\$78	\$2,000	-\$1,922	-96.1%
101-000-000-542-30-41-04	Contracted Labor	\$0	\$3,100	\$0	\$0	\$0	\$0	
101-000-000-542-30-48-03	Maintenance-Cleaning	\$2,500	\$0	\$1,500	\$0	\$750	-\$750	-100.0%
101-000-000-542-30-51-03	Surface Water Charge	\$2,957	\$0	\$2,957	\$0	\$1,478	-\$1,478	-100.0%
101-000-000-542-38-51-02	Road Maint (Intergov)	\$462,000	\$18,132	\$400,000	\$7,510	\$200,000	-\$192,490	-96.2%
101-000-000-542-63-47-01	Electricity	\$22,000	\$34,975	\$0	\$0	\$0	\$0	
101-000-000-542-64-31-11	Signs	\$0	\$3,067	\$0	\$1,013	\$0	\$1,013	
101-000-000-542-64-41-19	Guardrails	\$15,000	\$0	\$15,000	\$29,535	\$7,500	\$22,035	293.8%
101-000-000-542-64-51-02	Traffic Operations (Contract)	\$25,000	\$42,971	\$35,000	\$13,300	\$17,500	-\$4,200	-24.0%
101-000-000-542-66-51-03	Road Maint Snow & Ice (Intergov)	\$0	\$43,498	\$0	\$76,516	\$0	\$76,516	
101-000-000-542-70-31-09	Roadside Supplies - Chemicals	\$3,500	\$0	\$1,000	\$0	\$500	-\$500	-100.0%
101-000-000-542-70-48-04	Road Maint ROW Veg Maint Contractor	\$0	\$23,035	\$10,500	\$13,393	\$5,250	\$8,143	155.1%
101-000-000-542-70-51-04	ROW Veg Maint (Intergov)	\$0	\$117,711	\$5,800	\$94,280	\$2,900	\$91,380	3151.0%
101-000-000-542-90-11-01	Salaries and Wages	\$81,355	\$33,198	\$88,220	\$44,110	\$44,110	\$0	0.0%
101-000-000-542-90-21-01	Medicare	\$1,180	\$480	\$39,245	\$19,623	\$19,623	\$0	0.0%
101-000-000-542-90-31-01	Office Supplies	\$0	\$0	\$0	\$0	\$0	\$0	
101-000-000-542-90-31-10	Outdoor Gear	\$0	\$0	\$300	\$0	\$150	-\$150	-100.0%
101-000-000-542-90-35-01	Small Tools/Minor Equipment	\$600	\$650	\$1,000	\$122	\$500	-\$378	-75.5%
101-000-000-542-90-42-01	Telephone	\$750	\$864	\$750	\$199	\$375	-\$176	-46.8%
101-000-000-542-90-43-03	Mileage Reimbursement	\$850	\$881	\$150	\$507	\$75	\$432	576.5%
101-000-000-542-90-49-01	Memberships	\$250	\$0	\$2,000	\$0	\$1,000	-\$1,000	-100.0%
101-000-000-542-90-94-01	Interfund Operating Rental	\$0	\$0	\$63,154	\$0	\$31,577	-\$31,577	-100.0%
Capital Roads	Fund Total	\$619,125	\$597,059	\$675,575	\$308,109	\$337,788	-\$29,679	-8.8%
340-000-000-595-80-41-02	STPUL HLP 3290(010) Jovita Seismic Walls Constr	\$0	\$57,607	\$0	\$11,019	\$0	\$11,019	
340-000-000-595-80-63-01	STPUL HLP 3290(010) Jovita Seismic Walls Constr	\$0	\$917,355	\$0	\$4,250	\$0	\$4,250	

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
Surface Water	Fund Total	\$0	\$974,962	\$0	\$15,269	\$0	\$15,269	#DIV/0!
410-000-000-531-38-11-01	Salaries and Wages	\$91,692	\$97,711	\$204,934	\$102,467	\$102,467	\$0	0.0%
410-000-000-531-38-21-01	Benefits	\$1,330	\$1,416	\$95,607	\$47,803	\$47,803	\$0	0.0%
410-000-000-531-38-31-01	Operational Supplies	\$2,000	\$3,229	\$2,000	\$1,338	\$1,000	\$338	33.8%
410-000-000-531-38-31-09	Chemicals	\$7,000	\$5,356	\$1,000	\$5,166	\$500	\$4,666	933.2%
410-000-000-531-38-31-10	Outdoor Gear	\$500	\$0	\$500	\$92	\$250	-\$158	-63.1%
410-000-000-531-38-32-01	Fuel	\$1,500	\$802	\$1,000	\$0	\$500	-\$500	-100.0%
410-000-000-531-38-35-04	Software - Computer	\$2,000	\$1,712	\$0	\$0	\$0	\$0	
410-000-000-531-38-35-05	Equipment - Surface Water	\$4,000	\$5,186	\$1,000	\$1,741	\$500	\$1,241	248.1%
410-000-000-531-38-41-01	Professional Service	\$5,000	\$16,934	\$15,000	\$5,370	\$7,500	-\$2,130	-28.4%
410-000-000-531-38-41-02	Prof. Service-Plan Update	\$150,000	\$75,399	\$120,000	\$58,844	\$60,000	-\$1,156	-1.9%
410-000-000-531-38-41-03	Professional Service - SR161	\$5,500	\$2,041	\$7,500	\$116	\$3,750	-\$3,634	-96.9%
410-000-000-531-38-42-01	Telephone Charges	\$500	\$720	\$0	\$166	\$0	\$166	
410-000-000-531-38-43-01	Training/Travel Costs	\$2,000	\$1,601	\$2,000	\$272	\$1,000	-\$728	-72.8%
410-000-000-531-38-43-03	Mileage Reimbursement	\$2,000	\$2,057	\$500	\$1,344	\$250	\$1,094	437.7%
410-000-000-531-38-47-01	Dump Site Fees	\$500	\$0	\$500	\$0	\$250	-\$250	-100.0%
410-000-000-531-38-48-01	Repair & Maintenance Costs	\$750	\$650	\$750	\$0	\$375	-\$375	-100.0%
410-000-000-531-38-48-04	Equipment Repairs	\$500	\$0	\$500	\$0	\$250	-\$250	-100.0%
410-000-000-531-38-49-01	Memberships	\$350	\$260	\$500	\$370	\$250	\$120	48.0%
410-000-000-531-38-49-02	Non NPDES Permit Fees	\$10,000	\$9,879	\$14,000	\$6,779	\$7,000	-\$221	-3.2%
410-000-000-531-38-49-09	Misc. Fees & Charges	\$0	\$0	\$1,000	\$113	\$500	-\$388	-77.5%
410-000-000-531-38-51-01	PC SW PT Interlocal Collection Fee	\$70,000	\$53,698	\$150,000	\$69,620	\$75,000	-\$5,380	-7.2%
410-000-000-531-38-51-02	Drain Maint (Intergov)	\$320,000	\$114,997	\$250,000	\$21,537	\$125,000	-\$103,463	-82.8%
410-000-000-531-38-51-03	Structure Maint (Intergov)	\$0	\$153,233	\$75,000	\$151,091	\$37,500	\$113,591	302.9%
410-000-000-531-38-51-04	Ponds Maint (Intergov)	\$100,000	\$9,007	\$25,000	\$2,427	\$12,500	-\$10,073	-80.6%
410-000-000-531-38-51-05	Erosion Maint (Intergov)	\$0	\$493	\$0	\$0	\$0	\$0	
410-000-000-531-38-94-01	Interfund Operating Rental	\$0	\$0	\$146,293	\$73,147	\$73,147	\$0	0.0%
410-000-000-531-78-51-07	Polution Control (Intergov)	\$0	\$2,464	\$2,500	\$14,567	\$1,250	\$13,317	1065.4%
410-000-000-531-91-51-02	NPDES Permit Fees	\$4,000	\$12,007	\$6,500	\$0	\$3,250	-\$3,250	-100.0%
410-000-000-594-31-63-07	Land Impr-Jovita Rehab/Seismic Walls	\$105,000	\$0	\$0	\$3,250	\$0	\$3,250	
410-000-000-594-31-64-04	Equipment	\$0	\$52,025	\$335,000	\$0	\$167,500	-\$167,500	-100.0%
410-000-000-594-31-64-64	Infrastructure Spot Improvement	\$0	\$0	\$0	\$13,360	\$0	\$13,360	
410-000-000-597-00-00-02	Transfer Out - Civic Center Bond	\$0	\$0	\$12,044	\$6,022	\$6,022	\$0	0.0%
LID NO. 1	Fund Total	\$886,122	\$622,877	\$1,470,628	\$587,004	\$735,314	-\$148,310	-20.2%
411-000-000-535-10-41-02	Professional Services	\$108,171	\$23,313	\$15,000	\$6,228	\$7,500	-\$1,272	-17.0%
411-000-000-591-35-71-01	USDA-RD GO Principal Payments	\$29,412	\$75,920	\$78,957	\$2,445,123	\$39,479	\$2,405,645	6093.6%
411-000-000-591-35-73-01	USDA-RD LID Principal Payments	\$78,957	\$475,241	\$494,251	\$1,000,000	\$247,126	\$752,875	304.7%
411-000-000-591-35-78-01	Principal USDA/RD Loan Payment	\$193,566	\$0	\$0	\$0	\$0	\$0	
411-000-000-591-35-78-02	Principal PWTF Loan Payment	\$300,685	\$29,412	\$29,412	\$29,412	\$14,706	\$14,706	100.0%
411-000-000-592-35-83-02	Interest PWTF Loan Payment	\$1,912	\$1,912	\$1,912	\$1,765	\$956	\$809	84.6%
411-000-000-592-35-83-03	USDA/RD Loan Interest Payment	\$607,953	\$630,000	\$607,953	\$59,219	\$303,977	-\$244,758	-80.5%
411-000-000-597-00-00-02	Transfer Out - LID Bond Reserve	\$118,116	\$0	\$118,116	\$0	\$59,058	-\$59,058	-100.0%

Account Number	Description	Budget 2016	Actual 2016	Budget 2017	Actual 2017	Quarter to Date Budget	Actual Over/(Under)	Actual % Over/(Under)
	Fund Total	\$1,438,772	\$1,235,798	\$1,345,601	\$3,541,747	\$672,800	\$2,868,946	\$64
	Grand Total	\$6,840,468	\$7,355,929	\$7,766,653	\$6,689,166	\$4,075,400	\$2,606,528	

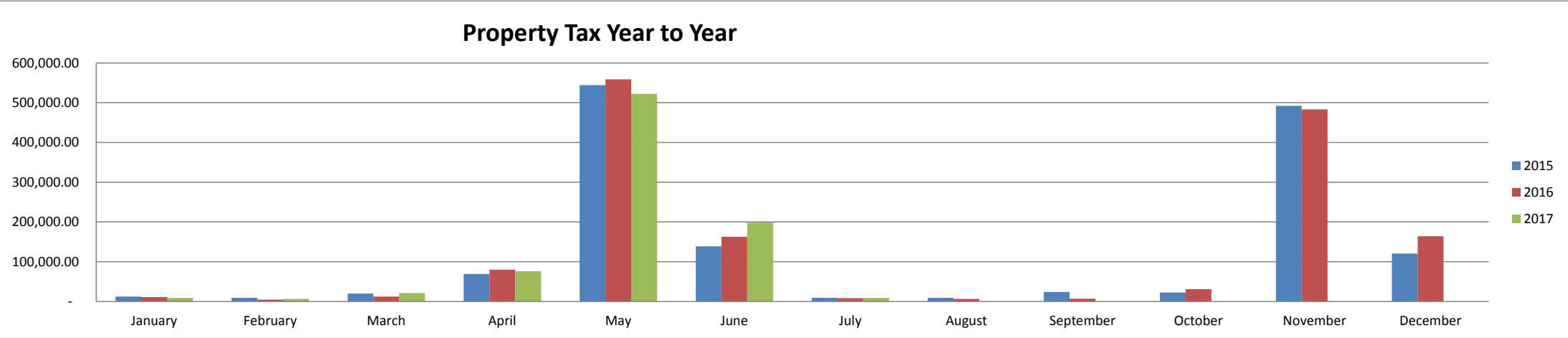
Local/Parks Sales Tax Collection

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Budget	Difference over/(under)	% Of Budget
2013	5,693.91	5,381.70	7,039.01	5,405.93	5,360.10	6,434.19	5,893.50	6,075.59	6,438.01	6,471.93	6,410.33	6,643.45	73,247.65	66,000.00	7,247.65	111.0%
2014	6,125.68	5,981.22	7,546.14	5,757.45	5,780.53	6,664.80	6,180.71	6,603.80	6,857.46	6,764.38	6,768.38	6,976.75	78,007.30	66,000.00	12,007.30	118.2%
2015	6,445.85	6,079.00	7,917.95	6,100.28	5,976.97	7,034.57	6,567.50	6,898.02	7,847.27	7,462.82	7,249.01	7,680.45	83,259.69	77,700.00	5,559.69	107.2%
2016	7,032.91	6,761.15	8,590.71	6,287.16	6,711.42	7,588.50	7,207.08	7,345.17	8,030.83	7,810.48	7,832.62	8,191.73	89,389.76	77,700.00	11,689.76	115.0%
2017	7,299.25	7,348.10	9,363.65	7,016.19	6,921.21	8,282.11	7,418.69						53,649.20	85,000.00	(31,350.80)	63.1%
															YTD Budget %	58.0%



Monthly Property Tax Collection Year Over Year

Property Tax Receipts													Total	Budget	over/(under)	% Of Budget
January	February	March	April	May	June	July	August	September	October	November	December					
2014	12,715.29	9,006.04	28,039.20	90,969.08	477,265.49	154,435.12	7,009.15	7,439.45	5,481.76	23,180.72	492,210.05	115,868.50	1,423,619.85	1,400,000.00	23,619.85	101.7%
2015	12,580.89	9,189.94	20,005.94	69,168.43	544,140.43	138,966.34	9,220.11	9,283.68	24,177.34	22,681.85	492,017.55	120,641.10	1,472,073.60	1,425,000.00	47,073.60	103.3%
2016	11,203.53	4,954.57	12,277.78	79,967.50	559,061.75	162,771.68	8,510.31	6,621.39	7,094.93	31,208.47	483,365.79	164,254.76	1,531,292.46	1,506,712.00	24,580.46	101.6%
2017	8,884.46	6,516.71	21,271.73	76,010.66	522,366.20	198,390.49	8,906.04						842,346.29	1,577,690.00	(735,343.71)	53.4%
													-		YTD Budget %	58.0%



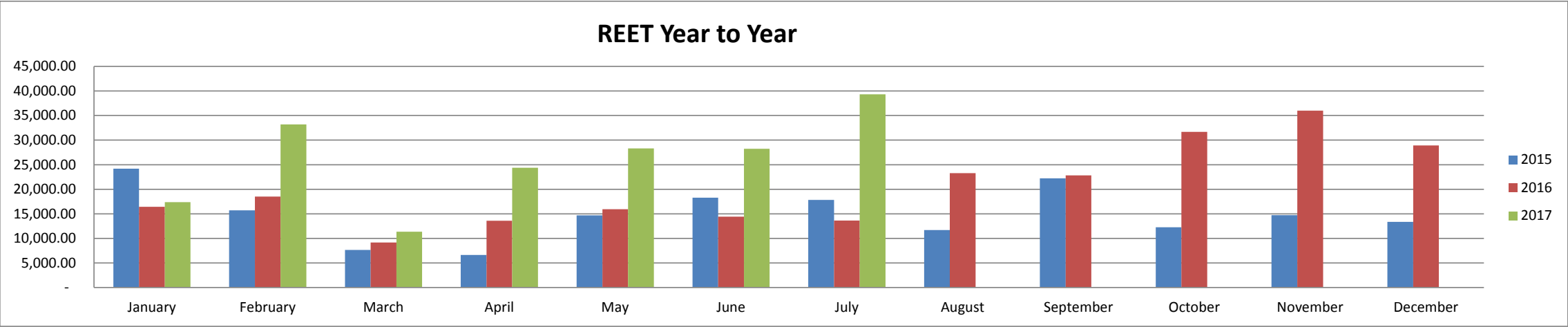
Monthly Real Estate Excise Tax Collection Year Over Year

Fund 130 REET1 (first 1/4% tax)

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Budget	Difference over/(under)	% Of Budget
2014	11,973.31	9,737.53	5,475.83	3,970.51	7,924.40	13,397.90	14,983.26	12,198.79	15,071.28	11,312.81	13,081.10	9,752.18	128,878.90	110,000.00	18,878.90	117.2%
2015	24,188.60	15,702.03	7,665.08	6,624.84	14,684.31	18,276.73	17,843.02	11,711.70	22,206.78	12,253.70	14,710.45	13,372.36	179,239.60	135,754.00	43,485.60	132.0%
2016	16,415.33	18,502.44	9,150.40	13,576.76	15,946.25	14,422.93	13,625.36	23,292.45	22,826.37	31,672.21	35,999.98	28,900.43	244,330.90	175,858.00	68,472.90	138.9%
2017	17,392.69	33,187.90	11,371.24	24,376.17	28,297.88	28,249.01	39,324.62						182,199.51	175,856.00	6,343.51	103.6%
															YTD Budget %	58.0%

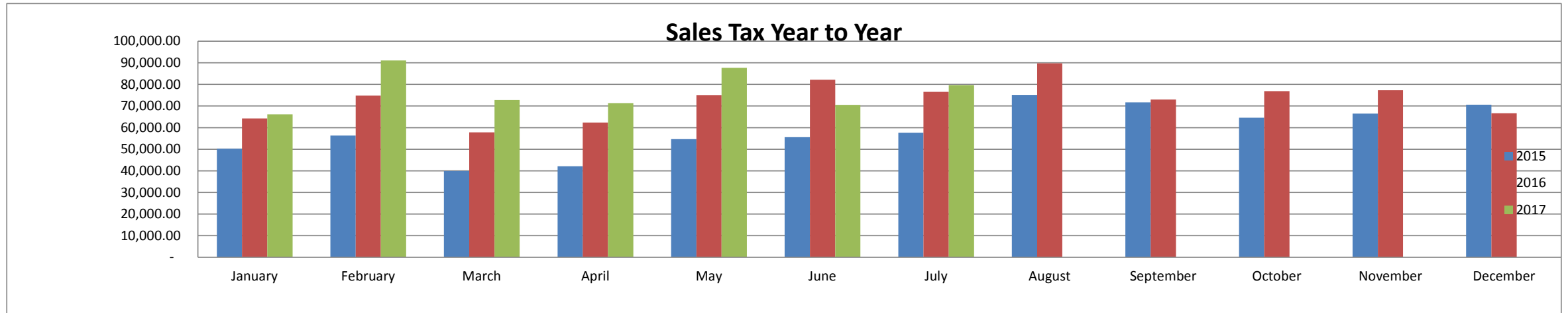
Fund 132 REET2 (second 1/4% tax)

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Budget	Difference over/(under)	
2014	11,973.29	9,737.50	5,475.82	3,970.50	7,924.36	13,397.89	14,983.24	12,198.79	15,071.28	11,312.78	13,081.08	9,752.17	128,878.70	110,000.00	18,878.70	117.2%
2015	24,188.57	15,702.00	7,665.07	6,624.82	14,684.28	18,276.73	17,843.02	11,711.70	22,206.78	12,253.70	14,710.45	13,372.36	179,239.48	135,754.00	43,485.48	132.0%
2016	16,415.33	18,502.44	9,150.36	13,576.76	15,946.25	14,422.93	13,625.36	23,292.45	22,721.36	31,672.20	35,999.38	28,901.03	244,225.85	175,858.00	68,367.85	138.9%
2017	17,392.68	33,187.88	11,371.21	24,376.16	28,297.88	28,248.97	39,324.62						182,199.40	175,857.00	6,342.40	103.6%
															YTD Budget %	58.0%



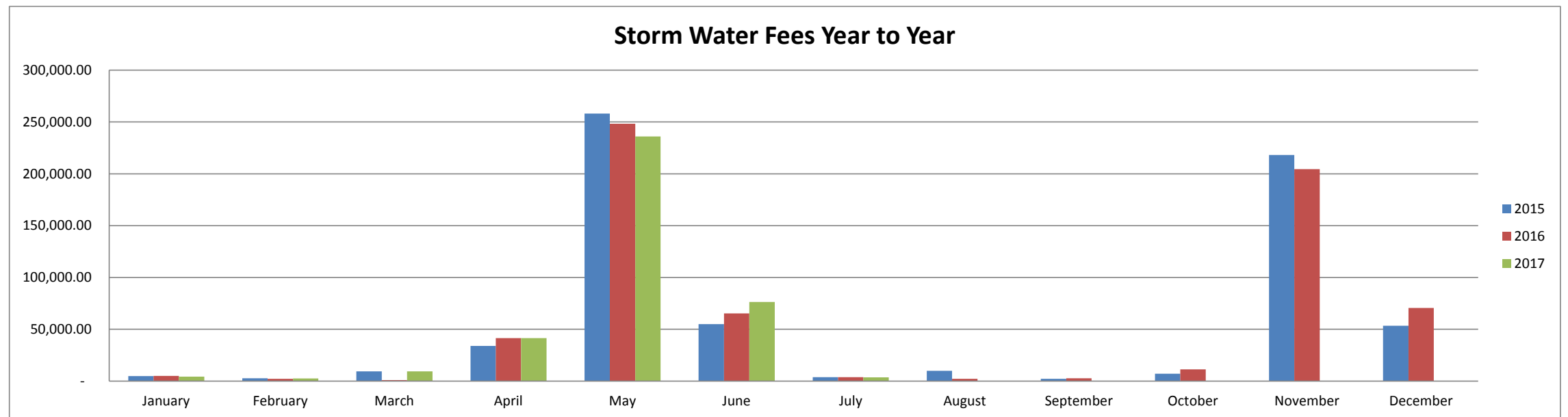
Monthly Sales Tax Collection

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Budget	Year-To-Date Difference over/(under)	% Of Budget
2014	36,391.84	48,129.62	39,465.12	48,148.24	42,678.78	34,512.65	41,699.06	38,964.97	42,994.87	40,412.78	44,930.42	48,929.86	507,258.21	438,000.00	69,258.21	115.8%
2015	50,255.78	56,309.51	39,937.04	42,167.44	54,660.08	55,558.39	57,665.95	75,155.12	71,676.29	64,555.12	66,491.14	70,633.76	705,065.62	506,116.00	198,949.62	139.3%
2016	64,263.55	74,801.64	57,823.65	62,355.17	75,050.54	82,141.62	76,554.81	89,737.40	72,994.04	76,928.27	77,302.89	66,673.85	876,627.43	800,000.00	76,627.43	109.6%
2017	66,151.15	91,055.90	72,773.93	71,353.92	87,680.73	70,502.33	79,678.67						539,196.63	875,000.00	(335,803.37)	61.6%
															Budgeted %	58.00%



Storm Water Fees Comparison

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Budget	Difference over/(under)	% Of Budget
2014	4,742.27	3,769.53	12,701.24	43,174.04	233,557.41	62,161.38	2,927.15	4,428.63	2,743.95	6,429.53	226,352.17	49,345.11	652,332.41	640,000.00	12,332.41	101.9%
2015	4,929.96	2,762.91	9,432.10	33,949.49	258,028.93	54,947.29	3,784.95	9,853.96	2,197.66	7,060.40	218,067.84	53,419.49	658,434.98	655,000.00	3,434.98	100.5%
2016	5,075.91	2,258.50	950.89	41,436.46	248,233.94	65,338.65	3,877.43	2,147.50	2,751.60	11,276.33	204,464.14	70,562.85	658,374.20	661,550.00	(3,175.80)	99.5%
2017	4,334.70	2,645.63	9,480.93	41,453.39	236,069.31	76,310.39	3,542.31						373,836.66	661,551.00	(287,714.34)	56.5%
															YTD Budget %	58.0%



2018 Budget-2017 Year Ending Revenue Forecast

Fiscal: 2017 - June

Account Number	Description	Actual 2015	Actual 2016	Budget 2017	Actual 2017	% Actual of Budget YTD	Year End Forecast
001-000-000-311-10-00-01	Property Tax	1,459,214	1,531,292	1,577,690	863,440	54.7%	1,577,690
001-000-000-313-11-00-01	Sales & Use Tax	705,056	876,627	875,000	459,518	52.5%	901,250
001-000-000-313-17-10-02	Local Parks - Sales/Use Tax	83,260	89,390	85,000	46,231	54.4%	92,461
001-000-000-313-71-00-01	Local Criminal Justice	149,109	159,496	150,000	67,834	45.2%	150,000
001-000-000-317-20-00-01	Leasehold Excise Tax Revenue	578	95	0	95	N/B	95
	001-000-000-31 Total	2,397,216	2,656,901	2,687,690	1,437,118	53.5%	2,721,496
001-000-000-321-60-00-04	Conditional Use Permit	2,740	5,730	3,820	6,330	165.7%	6,330
001-000-000-321-60-00-05	Temporary Use Permit	540	3,035	2,827	610	21.6%	2,827
001-000-000-321-60-00-06	Sign Permit	363	1,142	1,142	0	0.0%	0
001-000-000-321-91-00-01	Cable Franchise Fees	163,418	171,456	175,000	91,452	52.3%	182,903
001-000-000-321-99-00-01	Business Licensing	28,120	29,302	29,945	20,095	67.1%	29,000
001-000-000-322-10-00-01	Building Permit	308,916	290,809	260,000	270,875	104.2%	290,809
001-000-000-322-10-00-02	Mechanical Permit	39,887	36,047	40,000	29,495	73.7%	58,989
001-000-000-322-10-00-03	Plumbing Permit	59,851	45,576	60,000	33,370	55.6%	66,740
001-000-000-322-10-00-04	Conditional Use Permit	13,700	0	14,000	0	0.0%	0
001-000-000-322-10-00-05	Temporary Use Permit	540	180	500	0	0.0%	0
001-000-000-322-10-00-06	Other/Miscellaneous Permits	2,008	75	2,000	1,571	78.6%	3,143
	001-000-000-32 Total	620,082	583,352	589,234	453,798	77.0%	640,741
001-000-000-333-20-60-01	U.S. Dept. of Transp. Grant	0	2,000	0	0	N/B	0
001-000-000-336-00-98-01	City Assistance	113,853	116,829	123,523	49,024	39.7%	116,829
001-000-000-336-06-21-01	Local Criminal Justice - Pop.	2,545	2,648	3,000	1,346	44.9%	2,693
001-000-000-336-06-25-01	Criminal Justice-Contract Svs.	16,135	16,398	16,000	23,087	144.3%	23,087
001-000-000-336-06-26-01	Criminal Justice-Special Prog.	9,325	9,656	10,000	4,899	49.0%	9,797
001-000-000-336-06-41-01	Marijuana Enforcement	8	8	8	0	0.0%	8
001-000-000-336-06-51-01	DUI Cities	1,443	1,499	1,500	742	49.5%	1,485
001-000-000-336-06-94-01	Liquor Excise Tax	25,932	44,860	45,000	23,810	52.9%	47,620
001-000-000-336-06-95-01	Liquor Board Profits	83,461	82,826	90,000	41,109	45.7%	82,218
001-000-000-338-71-00-00	L & I Internship	0	0	2,188	0	0.0%	2,188
	001-000-000-33 Total	252,703	276,725	291,219	144,017	49.5%	285,924
001-000-000-341-81-00-02	Duplication Services	96	532	500	211	42.2%	422
001-000-000-341-81-00-03	Publication Services	0	7,800	0	7,800	N/B	7,800
001-000-000-341-82-00-01	Engineering Fees	14,214	61,174	0	0	N/B	0
001-000-000-342-10-00-00	Law Enforcement Services	0	425	0	0	N/B	0
001-000-000-345-81-00-01	Zoning & Subdivision Fees & Services	5,410	0	500	0	0.0%	0
001-000-000-345-81-00-05	Final Short Plat	0	3,560	3,500	2,870	82.0%	5,740
001-000-000-345-81-00-06	Preliminary Short Plat	8,790	8,950	10,000	3,080	30.8%	6,160

001-000-000-345-81-00-07	Clearing and Grading	3,117	2,670	4,000	2,555	63.9%	5,110
001-000-000-345-81-00-08	Preliminary Subdivision	25,620	44,030	35,000	8,520	24.3%	17,040
001-000-000-345-81-00-09	Boundary Line Adjustment	3,000	3,330	5,000	5,355	107.1%	5,355
001-000-000-345-81-00-10	Final Subdivision	0	6,090	5,000	2,350	47.0%	4,700
001-000-000-345-81-00-11	Binding Site Plan - Admin.	0	0	0	1,435	N/B	1,435
001-000-000-345-83-00-01	Plan Review & Inspection Fees & Services	220,338	243,600	240,000	204,812	85.3%	240,000
001-000-000-345-83-00-02	Planning Review Fee	1,590	0	0	6,920	N/B	6,920
001-000-000-345-83-00-03	Inspection Fee	150	462	0	500	N/B	500
001-000-000-345-83-00-04	Stormwater Inspection	2,475	8,872	0	10,156	N/B	20,312
001-000-000-345-83-00-05	Energy Code Review	26,317	18,076	15,000	13,412	89.4%	26,824
001-000-000-345-85-00-01	TIF Administrative Fees	18,520	19,396	20,000	15,768	78.8%	31,537
001-000-000-345-89-00-01	Other/Environmental Review Fees & Services	4,495	78,340	0	30,079	N/B	60,159
001-000-000-345-89-00-02	SW Engineering Review	17,631	22,794	20,000	8,405	42.0%	16,810
001-000-000-345-89-00-04	SEPA - Major	17,680	29,160	28,000	39,278	140.3%	39,278
001-000-000-345-89-00-07	Posting Sign Fee	840	900	1,000	540	54.0%	1,080
001-000-000-345-89-00-10	Design Standards Review	3,840	8,960	15,000	27,675	184.5%	27,675
001-000-000-345-89-00-13	Pre-Dev. Conference	9,750	16,780	20,000	6,900	34.5%	13,800
001-000-000-345-89-00-15	Right of Way	648	350	0	0	N/B	0
001-000-000-345-89-00-17	Driveway Access Review Fee	4,250	1,500	2,000	3,125	156.3%	6,250
001-000-000-345-89-00-18	Site Development	13,800	38,590	30,000	32,320	107.7%	38,590
001-000-000-345-89-00-20	Engineering Fee	90,491	66,968	0	-5	N/B	0
001-000-000-345-89-00-22	Admin Interpretation/Decision	0	1,300	0	0	N/B	0
001-000-000-345-89-00-23	Administrative Variance	0	1,100	0	0	N/B	0
001-000-000-345-89-00-24	Building Permit Ext.	0	0	0	0	N/B	0
001-000-000-345-89-00-25	Pre-Application - Minor	650	0	0	0	N/B	0
001-000-000-345-89-00-26	Billable Staff Time	385	4,152	0	2,275	N/B	2,275
001-000-000-345-89-00-28	Subdivision Community Meeting	760	1,460	0	640	N/B	640
001-000-000-345-89-00-29	Administrative Decision Appeal	1,300	0	0	0	N/B	0
001-000-000-345-89-00-31	Critical Areas Checklist	585	540	0	225	N/B	225
001-000-000-345-89-00-32	Developer Agreement	3,935	7,140	0	0	N/B	0
001-000-000-345-89-00-34	Site Plan Review	412	170	0	0	N/B	0
001-000-000-345-89-00-35	Critical Areas Review	45	0	0	45	N/B	45
001-000-000-347-30-00-01	Edgemont Park Facility Fee	1,720	2,150	2,150	1,430	66.5%	2,860
	001-000-000-34 Total	502,855	711,320	456,650	438,677	96.1%	589,541
001-000-000-356-50-00-01	Restitution - Investigative Fund Assess	586	8	0	21	N/B	21
	001-000-000-35 Total	586	8	0	21	N/B	21
001-000-000-361-11-00-02	Investment Pool Interest	2,474	5,892	5,000	2,518	50.4%	5,037
001-000-000-361-11-00-03	Interest on Property Tax	128	0	0	0	N/B	0
001-000-000-361-11-00-40	Interest Income - Bonds	1,080	0	0	0	N/B	0
001-000-000-361-40-00-01	Other Interest	349	588	500	295	59.0%	590

001-000-000-361-40-00-02	Interest on Interfund Loan	86	33	0	87	N/B	87
001-000-000-362-40-00-01	Facilities Rental - Mtg Rm & Com Rm Rental	2,300	0	0	0	N/B	0
001-000-000-362-50-00-01	Facilities Rental - Long Term	4,250	0	0	0	N/B	0
001-000-000-367-11-00-02	Park Contributions	30	0	0	0	N/B	0
001-000-000-369-40-00-01	Judgements and Settlements	53	0	0	0	N/B	0
001-000-000-369-40-00-02	Reimbursement of City Expenses	7,603	10,056	0	658	N/B	658
001-000-000-369-81-00-01	Cashier Over/Short	4	0	0	0	N/B	0
001-000-000-369-90-00-01	NSF Returned Check Fee	0	0	0	40	N/B	40
001-000-000-369-90-00-02	Misc. General Fund Revenue	0	0	0	182	N/B	182
	001-000-000-36 Total	19,529	16,585	5,500	3,822	69.5%	6,635
001-000-000-397-00-00-01	Opr. Tfr. In - Overhead Cost Recovery	208,813	0	0	0	N/B	0
001-000-000-397-00-00-03	Oper. Trn. - TMIF Fund	13,744	0	0	0	N/B	0
	001-000-000-39 Total	222,557	0	0	0	N/B	0
001-081-000-381-20-00-01	Loan Repayment Received	761,868	0	0	0	N/B	0
	001-081-000-38 Total	761,868	0	0	0	N/B	0
001-086-000-386-10-00-01	Assignment of Funds	65,933	3,512	0	0	N/B	0
001-086-000-386-10-00-03	Bldg Rental Deposit	1,750	0	0	0	N/B	0
001-086-000-386-10-00-04	State Building Code Fee	531	760	0	0	N/B	0
001-086-000-386-10-00-05	Animal Licenses	2,954	2,325	0	0	N/B	0
001-086-000-386-10-00-06	Fire Plan Review	21,716	13,537	0	0	N/B	0
001-086-000-386-10-00-07	City Hall Tenant Excise Tax	514	0	0	0	N/B	0
	001-086-000-38 Total	2,062,248	20,134	0	0	N/B	0
	Fund Total	3,792,971	4,244,890	4,030,292	2,477,453	61.5%	4,244,358
005-000-000-361-11-00-02	Investment Pool Interest	233	660	500	549	109.7%	1,097
005-000-000-361-11-00-40	Interest Income - Bonds	2,647	818	1,500	0	0.0%	0
005-000-000-361-40-00-02	Interest Intefund Loan	13	0	0	0	N/B	0
	005-000-000-36 Total	2,893	1,477	2,000	549	27.4%	1,097
005-000-000-381-20-00-01	Interfund Loan Payment	115,000	0	0	0	N/B	0
	005-000-000-38 Total	115,000	0	0	0	N/B	0
005-000-000-397-00-00-02	Transfer In - General Fund	376,325	0	0	0	N/B	0
	005-000-000-39 Total	376,325	0	0	0	N/B	0
	Fund Total	494,218	1,477	2,000	549	27.4%	1,097
101-000-000-317-60-00-01	Received from ETB - Veh License Fees	97,175	271,348	168,000	95,753	57.0%	178,100
	101-000-000-31 Total	97,175	271,348	168,000	95,753	57.0%	178,100
101-000-000-322-40-00-02	Street Vacation	2,000	5,760	0	0	N/B	0
101-000-000-322-40-00-04	Right-of-Way Permit	14,048	30,302	0	60,488	N/B	60,488
	101-000-000-32 Total	16,048	36,062	0	60,488	N/B	0
101-000-000-336-00-71-01	Multimodal Transpo City	0	9,838	0	3,258	N/B	0
101-000-000-336-00-87-01	MV Fuel Tax-City Streets	130,749	52,336	217,000	98,080	45.2%	196,160
101-000-000-336-00-87-02	MVFT Refund Cities	69,961	155,223	0	0	N/B	0

	101-000-000-33 Total	200,711	217,397	217,000	101,338	46.7%	256,649
101-000-000-344-10-00-01	Road/Street Services (TBD Work)	0	0	0	0	N/B	0
101-000-000-344-10-00-02	Traffic Eng. Peer Review	10,000	36,952	0	10,426	N/B	10,426
	101-000-000-34 Total	10,000	36,952	0	10,426	N/B	10,426
101-000-000-361-11-00-02	Investment Pool Interest	41	121	26	97	366.3%	194
101-000-000-369-10-00-01	Sales of Scrap/Junk	127	0	0	0	N/B	0
	101-000-000-36 Total	168	121	26	97	366.3%	194
101-000-000-397-00-00-02	Oper. Trn. - General Fund	10,000	0	0	0	N/B	0
101-000-000-397-00-00-04	Oper. Trn. - MCR-REET2	195,000	220,000	0	0	N/B	0
101-000-000-397-00-00-05	Oper. Trn. - Surface Water	73,150	0	0	0	N/B	0
	101-000-000-39 Total	278,150	220,000	0	0	N/B	0
	Fund Total	602,252	781,881	385,026	268,102	69.6%	445,368
110-000-000-345-85-00-01	Park Impact Fee	494,446	378,330	200,000	253,166	126.6%	506,332
	110-000-000-34 Total	494,446	378,330	200,000	253,166	126.6%	506,332
110-000-000-361-11-00-02	Investment Pool Interest	71	201	46	167	366.4%	335
	110-000-000-36 Total	71	201	46	167	366.4%	335
	Fund Total	494,517	378,531	200,046	253,333	126.6%	506,667
111-000-000-345-85-00-01	Traffic Mitigation Impact Fees	354,583	387,928	269,279	315,365	117.1%	630,730
111-000-000-345-89-00-01	Admin Fee - TMIF	116	0	0	0	N/B	0
	111-000-000-34 Total	354,700	387,928	269,279	315,365	117.1%	630,730
111-000-000-361-11-00-02	Investment Pool Interest	3	0	8	0	0.0%	0
	111-000-000-36 Total	3	0	8	0	0.0%	0
	Fund Total	354,702	387,928	269,287	315,365	117.1%	630,730
130-000-000-318-34-00-01	Real Estate Excise Tax (REET1)	179,240	244,331	250,000	142,875	57.1%	285,750
	130-000-000-31 Total	179,240	244,331	250,000	142,875	57.1%	285,750
130-000-000-361-11-00-02	Investment Pool Interest	12	33	7	27	367.5%	54
	130-000-000-36 Total	12	33	7	27	367.5%	54
	Fund Total	179,251	244,364	250,007	142,902	57.2%	285,804
132-000-000-318-34-00-01	Real Estate Excise Tax (REET 2)	179,239	244,226	250,000	142,875	57.1%	285,750
	132-000-000-31 Total	179,239	244,226	250,000	142,875	57.1%	285,750
132-000-000-361-11-00-02	Investment Pool Interest	37	106	24	88	366.0%	176
	132-000-000-36 Total	37	106	24	88	366.0%	176
	Fund Total	179,277	244,332	250,024	142,963	57.2%	285,925
201-000-000-397-00-00-01	Oper. Trn. - General Fund	186,063	136,063	186,063	175,340	94.2%	175,340
201-000-000-397-00-00-03	Transfer In - Sewer	123	123	123	123	100.0%	123
201-000-000-397-00-00-04	Transfer In - Surface Water	12,044	12,044	12,044	12,044	100.0%	12,044
201-000-000-397-00-00-07	Oper. Trn. - MCR-REET1	203,690	253,690	203,690	203,690	100.0%	203,690
	201-000-000-39 Total	401,920	401,920	401,920	391,197	97.3%	391,197
	Fund Total	401,920	401,920	401,920	391,197	97.3%	391,197
310-000-000-361-11-00-02	Investment Pool Interest	51	152	27	127	471.3%	254

	310-000-000-36 Total	51	152	27	127	471.3%	254
310-000-000-397-00-00-04	Oper. Trn. - PIF	100,000	0	100,000	100,000	100.0%	100,000
310-000-000-397-00-00-09	Oper. Trn. - SWM	10,000	10,000	10,000	10,000	100.0%	10,000
	310-000-000-39 Total	110,051	10,152	110,027	110,127	100.1%	110,000
	Fund Total	110,051	10,152	110,027	110,127	100.1%	110,000
340-000-000-333-20-20-01	STP-CMAQ Funding	753,423	0	0	0	N/B	0
340-000-000-333-20-20-05	STPUL HLP 3290(010) Jovita Seismic Walls Grant	146,104	45,544	0	0	N/B	0
340-000-000-334-03-60-01	State Grant - WSDOT	0	569,493	0	415,857	N/B	415,857
	340-000-000-33 Total	899,527	615,037	0	415,857	N/B	415,857
340-000-000-381-10-00-01	Interfund Loan Received	0	400,000	0	0	N/B	0
	340-000-000-38 Total	0	400,000	0	0	N/B	0
	Fund Total	899,527	1,015,037	0	415,857	N/B	415,857
341-000-000-397-00-00-01	Transfer In - REET2	20,000	0	0	0	N/B	0
341-000-000-397-00-00-02	Transfer In - TMIF Fund	180,000	0	0	0	N/B	0
341-000-000-397-00-00-03	Transfer In - SW Fund	50,000	0	0	0	N/B	0
	341-000-000-39 Total	250,000	0	0	0	N/B	0
	Fund Total	250,000	0	0	0	N/B	0
350-000-000-334-03-60-05	TIB Grant - Jovita Realignment	141,844	0	0	0	N/B	0
	350-000-000-33 Total	141,844	0	0	0	N/B	0
	Fund Total	144,846	0	0	0	N/B	0
401-000-000-343-50-00-01	Sewer Revenue	7,819	13,324	15,000	14,382	95.9%	28,764
	401-000-000-34 Total	7,819	13,324	15,000	14,382	95.9%	28,764
	Fund Total	35,439	45,781	15,000	46,885	312.6%	28,764
410-000-000-333-20-20-02	STP(U) Grant - Jovita Rehab-Seismic Walls	0	0	0	0	N/B	0
410-000-000-334-03-11-01	Dept of Ecology Grant Revenue	51,995	0	0	25,000	N/B	25,000
	410-000-000-33 Total	51,995	0	0	25,000	N/B	25,000
410-000-000-343-10-00-01	Surface Water Fees	654,095	653,298	661,550	370,294	56.0%	701,243
410-000-000-343-83-00-01	Storm Drainage Fees & Charges	0	5,076	0	0	N/B	0
410-000-000-345-89-00-01	SW Plan Reviews	1,110	0	0	11,260	N/B	22,520
410-000-000-345-89-00-02	Inspections	225	0	0	0	N/B	0
	410-000-000-34 Total	655,430	658,374	661,550	381,554	57.7%	773,763
410-000-000-361-11-00-02	Investment Pool Interest	251	710	161	591	366.4%	1,182
410-000-000-361-11-00-40	Interest Earnings - Bond	392	0	1,175	0	0.0%	0
	410-000-000-36 Total	643	710	1,337	591	44.2%	1,182
	Fund Total	708,068	659,085	662,887	407,145	61.4%	799,945
411-000-000-359-00-00-02	LID No. 1 Penalties Received	21,533	50,489	79,936	6,806	8.5%	13,612
	411-000-000-35 Total	21,533	50,489	79,936	6,806	8.5%	13,612
411-000-000-361-11-00-02	Investment Pool Interest	2,339	5,036	1,144	4,190	366.4%	7,187
411-000-000-361-40-00-01	LID No. 1 Interest Received	502,361	609,933	610,341	75,229	12.3%	610,341
411-000-000-368-10-00-01	LID #1 Principal Received	1,216,371	1,366,331	758,515	1,314,766	173.3%	2,315,076

	411-000-000-36 Total	1,721,071	1,981,300	1,370,000	1,394,185	101.8%	2,932,605
	Fund Total	1,742,604	2,031,788	1,449,936	1,400,991	96.6%	2,946,216
412-000-000-397-00-00-01	Transfer In - Temp. LID Fund	118,116	118,116	118,116	118,116	100.0%	118,116
	412-000-000-39 Total	118,116	118,116	118,116	118,116	100.0%	118,116
	Fund Total	118,116	118,116	118,116	118,116	100.0%	118,116
501-000-000-361-11-00-02	Investment Pool Interest	101	286	65	238	366.4%	476
501-000-000-362-00-00-01	Comcast PEG Fees	0	0	0	14,983	N/B	20,763
	501-000-000-36 Total	101	286	65	15,220	23455.6%	21,239
501-000-000-397-00-00-01	Oper. Trn. - In	0	4,000	0	0	N/B	0
	501-000-000-39 Total	0	4,000	0	0	N/B	0
	Fund Total	101	4,286	65	15,220	23455.6%	21,239
630-000-000-317-60-00-01	Transportation Benefit Dist Vehicle Fee	157,001	162,083	146,000	0	0.0%	0
	630-000-000-31 Total	157,001	162,083	146,000	0	0.0%	0
	Fund Total	211,581	273,848	146,000	0	0.0%	0
	Grand Total	10,719,440	10,843,416	8,290,633	6,506,206	78.5%	11,231,285



**CITY OF EDGEWOOD
STAFF REPORT**

**PLANNING COMMISSION AGENDA ITEM: CRITICAL AREAS
CODE MODIFICATIONS**

Date: August 29, 2017

Title: Critical Areas Code Modifications Discussion

Attachments: Draft Critical Areas Code Modifications, Best Available Science supporting documentation and updated critical areas maps.

Submitted By: Aaron C. Nix, ACA – Municipal Services

Approved For Agenda By: Daryl Eiding, Mayor

Discussion: The Council had initiated a contract with ESA, Inc. consultants to aid Staff in updating the City's critical areas code. This section of code was last updated in 2002. This update integrated a Best Available Science component, as required by GMA Cities within the Urban Growth Boundary that better protects Edgewood's natural resources, while providing more effective mitigation options to the development community when mitigation is the only option for property owners to realize the full economic potential of their properties.

A public hearing was held on August 21, 2017 by the Planning Commission to solicit public comment on the proposed CAO update, in which comments were received from the Department of Ecology and the City's Stormwater Manager. No Public comment was given at the time of hearing in front of the Planning Commission. It is Staff's intent to introduce this subject to the City Council at this study session and conduct any additional workshops, as needed, in order for the Council to feel comfortable with the proposed modifications and move forward with adoption as soon as they are comfortable with a proposed Ordinance.

Recommendation: None at this time. This is an introductory look into the proposed code modifications proposed to Chapter 14 (Critical Areas) of Edgewood Municipal Code.

Fiscal Impact: N/A

EDGEWOOD PLANNING COMMISSION RECOMMENDATION

A RECOMMENDATION OF THE CITY OF EDGEWOOD PLANNING COMMISSION RELATING TO FULFILLING THE REQUIREMENTS OF THE GROWTH MANAGEMENT ACT (36.70A) TO UPDATE THE CRITICAL AREAS REGULATIONS TITLE 14 OF THE EDGEWOOD MUNICIPAL CODE, ADDING CHAPTER 14.15 DEFINITIONS AND AMENDING CHAPTERS 14.10-.90, 14.110, AND 14.500.

WHEREAS, the Growth Management Act (GMA) requires the adoption of development regulations that designate and protect critical areas in accordance with RCW 36.70A.60 and RCW 37.70A.170; and

WHEREAS, the City is required to review its critical area regulations periodically and revise them if needed to comply with the requirements of RCW 36.70A; and

WHEREAS, the Planning Commission is authorized to review and make recommendation to the City Council for matters relating to land use and development regulations; and

WHEREAS, the Planning Commission has met to discuss the proposed revisions to the City's critical area regulations and has held a duly noticed public hearing on August 21, 2017 to take public testimony on the proposed revisions.

NOW, THEREFORE SHALL IT BE ADVISED by the Planning Commission that it hereby makes the following recommendations:

The Planning Commission recommends approval of the proposed revisions to Title 14 of the Edgewood Municipal Code (EMC) updating the City's critical area regulations consistent with the requirements of RCW 36.70A. Attached hereto, as presented following the Public Hearing and additional discussion and modification prior to taking action.

THIS RECOMMENDATION WAS UNANIMOUSLY APPROVED BY THE CITY OF EDGEWOOD PLANNING COMMISSION ON THE 21st DAY OF AUGUST 2017.



Mike Stanzel, Planning Commission Chair

Attest by:


Aaron Nix, Interim Community Development Director

8/22/2017

Title 14

CRITICAL AREAS

Chapters:

- 14.10 General Provisions
- 14.15 Definitions
- 14.20 Use and Activity Regulations
- 14.30 Wetlands
- 14.40 Critical Fish and Wildlife Habitat Areas
- 14.50 Aquifer Recharge and Wellhead Protection Areas
- 14.60 Volcanic Hazard Areas
- 14.70 Flood Hazard Areas
- 14.80 Landslide Hazard Areas
- 14.90 Seismic (Earthquake) Hazard Areas
- 14.110 Erosion Hazard Areas
- 14.500 Natural Resource Lands

Chapter 14.10
GENERAL PROVISIONS

Sections:

- 14.10.010 Authority.
- ~~14.10.020 Repeal.~~
- ~~14.10.025 Title.~~
- 14.10.030 Purpose.
- 14.10.040 Interpretation.
- ~~14.10.045 Best Available Science.~~
- 14.10.050 Applicability.
- ~~14.10.060 Definitions.~~
- 14.10.070 Administration.
- ~~14.10.075 Relationship to Other Regulations.~~
- 14.10.080 Critical area protective measures.
- ~~14.10.082 Critical areas reports~~
- ~~14.10.083 Mitigation plans~~
- 14.10.085 Variances to critical areas.
- 14.10.090 Reconsideration and appeal procedures.
- 14.10.100 Fees.
- 14.10.110 Compliance.
- 14.10.120 Warning and disclaimer of liability.
- 14.10.130 Severability.
- 14.10.135 Violation – Civil infraction.
- 14.10.140 Appendixes.

~~14.10.150 Figures.~~

14.10.010 Authority.

~~A. This title is established and adopted pursuant to the Growth Management Act (RCW 36.70A.060).~~

~~B. As provided herein, the director or his/her designee is given the authority to interpret and apply, and the responsibility to enforce this title to accomplish the stated purpose.~~

~~This title is established and adopted pursuant to:~~

~~A. Environmental policies and procedures for this title are established pursuant to Chapter 43.21C RCW, as amended and entitled the “State Environmental Policy Act” (SEPA), and Chapter 197-11 WAC, as amended and entitled “State Environmental Policy Act Rules”; and~~

~~B. The city adopts by reference WAC 197-11-300 through 197-11-800; and~~

~~C. Chapter 173-22 WAC; and~~

~~D. Chapter 86.16 RCW; and~~

~~E. The Growth Management Act (RCW 36.70A.060); and~~

~~F. The Tri-County Response to the 4(D) Rule Land Management Development Regulations; and~~

~~G. RCW 36.70A.172, Critical areas—Designation and protection. (Ord. 02-200 § 2).~~

~~14.10.020 Repeal.~~

~~The current EMC Title 19, Shoreline Management, and EMC Title 20, Critical Areas, are hereby repealed in their entirety and EMC Title 20 is replaced with this title (effective December 24, 2002). Repeal of EMC Title 20 does-~~

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not affect any existing permits, land use applications or requirements, or existing enforcement actions. (Ord. 02-200 § 2).

14.10.025 — Title.

The current EMC Title 14, Environment, is hereby renamed EMC Title 20, SEPA, and the new EMC Title 14 shall be known as EMC Title 14, Critical Areas (effective December 24, 2002). (Ord. 02-200 § 2).

14.10.030 Purpose.

The purpose of this title is to protect environmentally sensitive critical areas of Edgewood from the impacts of development and protect development from the impacts of hazard areas by establishing minimum standards for development of sites which contain or are adjacent to identified critical areas and thus promote the public health, safety, and welfare by:

- A. Avoiding impacts to critical areas;
- B. Mitigating unavoidable impacts by regulating development;
- C. Protecting critical areas from impacts of development;
- D. Protecting the public against losses from:
 - 1. Costs of public emergency rescue and relief operations where the causes are avoidable; and
 - 2. Degradation of the natural environment and the expense associated with repair or replacement;
- E. Preventing adverse impacts on water availability, water quality, wetlands, and streams;
- F. Protecting unique, fragile, and valuable elements of the environment, including critical fish and wildlife habitat;
- G. Providing department staff with sufficient information to adequately protect critical areas and proposed development when approving, conditioning, or denying public or private development proposals;
- H. Providing the public with sufficient information and notice of potential risks associated with development in natural hazard critical areas; and
- I. Implementing the goals and requirements of the Growth Management Act (RCW 36.70A.060) ~~Growth Management Act of 1990, the State Environmental Policy Act, the Puget Sound Water Quality Management Plan, the Pierce County Charter, the Pierce County Interim Growth Management Policies, and~~ the city of Edgewood comprehensive plan, and all updates and amendments, functional plans, and other land use policies formally adopted or accepted by the city of Edgewood.

~~J. This title also consolidates procedures and regulations that shall promote compatibility between the natural and built environment within the city of Edgewood. Chapters within this title detail the procedures for activities related to critical areas and natural resource lands. (Ord. 02-200 § 2).~~

14.10.040 Interpretation.

In the interpretation and application of this title, all provisions shall be:

- A. Considered the minimum necessary;
- B. Liberally construed to serve the purposes of this title; and
- C. Deemed neither to limit nor repeal any other powers under state statute. (Ord. 02-200 § 2).

14.10.045 Best Available Science.

Critical area reports and decisions to alter critical areas shall be based on the best available science to protect the functions and values of critical areas and must give special consideration to conservation or protection measures

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necessary to preserve or enhance anadromous fish, such as salmon and bull trout, and their habitat (WAC 365-195-900).

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14.10.050 Applicability.

A. This title shall apply to all lands and waters within Edgewood that are designated as critical areas and their corresponding buffer and setback.

B. No development (see “development” definition) shall hereafter be affected without full compliance with the terms of this title.

C. When the requirements of this title are more stringent than those of other Edgewood codes and regulations, including the International Building Code, the requirements of this title shall apply.

D. Compliance with these regulations does not remove an applicant’s obligation to comply with applicable provisions of any other federal, state, or local law or regulation.

E. Criteria for determining critical areas is contained within each chapter of this title.

F. When a site contains two or more critical areas, the site shall meet the minimum standards and requirements for each identified critical area as set forth in this title.

G. Critical areas, as defined and regulated by this title, are identified, but not limited to the following Edgewood critical areas atlas-maps:

1. Wetland inventory mapsWetlands; and
2. Landslide hazard area mapsGeologically hazardous areas; and
3. Erosion hazard area mapsCritical aquifer recharge areas; and
4. Seismic hazard area mapsStreams; and
5. Volcanic hazard area mapsFrequently flooded areas; and
6. Aquifer recharge and wellhead protection areas maps; and
7. Fish and wildlife habitat, and stream typing area maps; and
8. Flood hazard area maps; and
9. Resource lands maps; and
10. Soils maps; and
11. FIRM (flood insurance rate maps) maps;

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H. The exact boundary of each critical area depicted on the City’s critical areas atlas-maps is approximate and is only intended to provide an indication of the presence of a critical area on a particular site. Additional critical areas that have not been mapped may be present on a site. The actual presence of a critical area, or areas and the applicability of these regulations shall be determined based upon the classification or categorization criteria and review procedures established for each critical area. City staff and/or consultant(s) may conduct on-site inspections to assess the site in order to determine if additional studies or reports identified in this title are necessary. An inspection report of findings shall be written after the on-site inspection and will become a part of any site development application as a future reference.

I. The Edgewood critical areas atlas maps shall be updated and maintained by the city’s department of community development geospatial information system (GIS) division.

J. Development of the city's critical areas atlas maps were derived from the sources listed in EMC 14.10.140, Appendix A. These sources may be updated from time to time and will result in a correlating update to the applicable critical areas atlas maps. (Ord. 02-200 § 2).

14.10.060—Definitions.

A. This title shall rely on the definitions contained in Chapter 18.20 EMC, Definitions. The city also adopts by reference the definitions stated in WAC 197-11-700 through 197-11-799 as now or hereafter amended. In addition, the definitions in subsection (B) of this section shall also apply:

B. Additional definitions that apply to this title are:

“Abutting” means bordering upon, to touch upon, in physical contact with. Sites are considered abutting even though the area of contact may be only a point.

Act. See “State Environmental Policy Act (SEPA).”

“Actions” include, as further specified below:

1. New and continuing activities (including projects and programs) entirely or partly financed, assisted, conducted, regulated, licensed, or approved by agencies;
2. New or revised agency rules, regulations, plans, policies, or procedures; and legislative proposals. Actions fall within one of two categories:
 - a. Project Actions. Involves a decision on a specific project, such as a construction or management activity located in a defined geographic area. Projects include and are limited to agency decisions to:
 - i. License, fund, or undertake any activity that will directly modify the environment, whether the activity will be conducted by the agency, an applicant, or under contract;
 - ii. Purchase, sell, lease, transfer, or exchange natural resources, including publicly owned land, whether or not the environment is directly modified.
 - b. Nonproject Actions. Involve decisions on policies, plans, or programs:
 - i. The adoption or amendment of legislation, ordinances, rules, or regulations that contain standards controlling use or modification of the environment;
 - ii. The adoption or amendment of comprehensive land use plans or zoning ordinances;
 - iii. The adoption of any policy, plan, or program that will govern the development of a series of connected actions (WAC 197-11-060), but not including any policy, plan, or program for which approval must be obtained from any federal agency prior to implementation;
 - iv. Creation of a district or annexations to any city, town or district;
 - v. Capital budgets; and
 - vi. Road, street, and highway plans.

“Actions” do not include the activities listed above when an agency is not involved, or include bringing judicial or administrative civil or criminal enforcement actions (categorical exemptions in WAC 197-11-800 identify in more detail governmental activities that would not have any environmental impacts and for which SEPA review is not required).

“Activity” means any use conducted on a site.

“Addendum” means an environmental document used to provide additional information or analysis that does not substantially change the analysis of significant impacts and alternatives in the existing environmental document. The term does not include supplemental EISs. An addendum may be used at any time during the SEPA process.

“Addition” means an alteration to an existing structure that increases the floor area. There are two types of additions: additions affixed to the side of an existing structure and an upper story addition.

“Adjacent” means within 500 feet from the exterior boundaries of designated resource lands pursuant to RCW 36.70A.060.

“Aggrieved person” means the project sponsor, or any person affected by the proposal.

“Agricultural activities” means the production of crops and/or raising or keeping livestock, including operation and maintenance of farm and stock ponds, drainage ditches, irrigation systems, and normal operation, maintenance, and repair of existing serviceable agricultural structures, facilities, or improved areas, and the practice of aquaculture. Forest practices regulated under Chapter 76.09 RCW and WAC Title 222 are not included in this definition.

“Agricultural land” means land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by RCW 84.33.100 through 84.33.140, finfish in upland hatcheries, or livestock, and that has long-term commercial significance for agricultural production.

“Alluvial geologic unit” means geologically recent (Holocene) stream, lake, swamp, and beach deposits of gravel, sand, silt, and peat.

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“Animal containment area” means a site where two or more animal units of large animals per acre or 0.75 of an animal unit of small animals per acre are kept, and where a high volume of waste material is deposited in quantities capable of impacting groundwater resources.

“Animal unit” means the equivalent of 1,000 pounds of animal.

“Appeal” means a request for a review of the interpretation of any provision of this chapter, per EMC 14.10.090.

“Applicant” means any person or entity, including an agency, applying for a license from an agency.

“Application” means a request for a license.

“Aquifer” means a saturated geologic formation, which will yield a sufficient quantity of water to serve as a private or public water supply.

“Aquifer recharge area” means areas that have a critical recharging effect on groundwater used for potable water supplies and/or that demonstrate a high level of susceptibility or vulnerability to groundwater contamination from land use activities. Examples of aquifer recharge areas include:

1. Wellhead protection areas delineated pursuant to the Federal Safe Drinking Water Act; and
2. Other areas with a high level of susceptibility or vulnerability to contamination as demonstrated through the use of the DRASTIC (see DRASTIC) model.

“Area of shallow flooding” means areas designated as AO or AH zones on the FIRM(s). AO zones are characterized as sheet flows, having base flood depths that range from one to three feet above the natural ground, where a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident. AH zones indicate similar depth ponding, shown with standard base flood elevations on the FIRM(s).

“Area of special flood hazard” means land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Designation on FIRM(s) always includes the letter A or V.

“Base flood” means the flood having a one-percent chance of being equaled or exceeded in any given year, also referred to as the “100-year flood,” and is designated on FIRM(s) by the letter A or V.

“Basement” means any area of the building having its floor sub-grade (below ground level) on all sides, for the purposes of this title.

“Best available science” means as defined by WAC 365-195-905, Criteria for determining which information is the “best available science.”

“Best available technology” means the technology that provides the greatest degree of protection to the natural resource, taking into consideration processes that are developed, or could feasibly be developed given overall reasonable expenditures on research and development, and processes that are currently in use. In determining what is best available technology, the local government shall consider the effectiveness, engineering feasibility and commercial availability of the technology.

“Best management plan” means a plan developed for a property, which specifies best management practices for the control of animal wastes, stormwater runoff, and erosion.

“Breakaway wall” means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

“Buffer” means an area contiguous with a critical area that is required for the integrity, maintenance, function, and structural stability of the critical area.

“Building footprint” means the horizontal area measured within the outside of the exterior walls of the ground floor of all principal and accessory buildings on a lot.

“Cave” means a natural subterranean chamber greater than one foot in diameter and greater than three feet deep.

“City” means the city of Edgewood.

“Class” means one of the wetland classes in the United States Fish and Wildlife Service (USFWS) December 1979 publication, Classification of Wetlands and Deep Water Habitats of the United States.

“Classification” means defining value and hazard categories to which critical areas and land resource lands will be assigned.

“Clearing” means the removal of timber, brush, grass, ground cover, or other vegetative matter from a site, which exposes the earth’s surface on the site.

“Cliff” means a steep vertical or overhanging face of rock or earth greater than 25 feet in height.

“Colluvium” means loose materials deposited by gravity, on the face of or at the foot of a slope (e.g., talus, soil-creep, etc.).

“Compensatory mitigation” means mitigation to compensate for loss of wetland habitat due to filling of wetlands or other regulated activities in wetlands.

“Conservation easement” means a recorded deed restriction or covenant that runs in perpetuity on a parcel of land restricting the use of the property by preventing future real estate development such as residential, industrial, or commercial use. Conservation easements may allow for continued current uses (e.g., residential, recreational, agriculture, forestry, or ranching); however, conservation easements most often restrict both the current use as well as future uses of the land to some important conservation quality such as habitat preservation, open space, or scenic views. A land trust or governmental entity that manages properties for long-term goals typically holds conservation easements.

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“Contaminant” means any chemical, physical, biological, or radiological substance that does not occur naturally or occurs at concentrations and duration as to be injurious to human health or welfare or shown to be ecologically damaging.

“Council” means the Edgewood city council.

“County” means Pierce County.

“Crawl space” means the shallow space beneath the bottom floor of a house with no basement; used for access and inspection of framing, electrical, plumbing, insulation, vapor barriers, or duct work. For purposes of the National Flood Insurance Program Elevation Certificate, a crawl space that has subgrade around all sides shall be considered a basement.

“Creation” means producing or forming a wetland through artificial means from an upland (nonwetland) site.

“Critical areas” means erosion, landslide, seismic, volcanic, and flood hazard areas; streams; wetlands; fish and wildlife habitat; and aquifer recharge and (depressional) pothole areas as defined by RCW 36.70A.030. All of these areas are of special concern to the people of Edgewood and the state of Washington.

“Critical facilities” means those facilities occupied by populations or which handle dangerous substances including but not limited to hospitals, medical facilities, nursing homes; structures housing, supporting, or containing toxic or explosive substances; covered public assembly structures; school buildings through secondary, including daycare centers; buildings for colleges or adult education; police, fire, and emergency response installations; jails and detention facilities; and all structures with occupancy of greater than 5,000 people. These facilities are such that even a slight chance of flooding might be too great. Essential public facilities (as defined under EMC 18.20.080 and) are considered critical facilities, for floodplain management purposes.

“Debris flow” means the rapid downslope movement of a viscous mass of water-saturated regolith sediments.

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“Degraded” means to have suffered a decrease in naturally occurring functions and values due to activities undertaken or managed by persons on or off a site.

“Delineation” means a wetland study conducted in accordance with the Corps of Engineers Wetlands Delineation Manual 1987 edition and corresponding guidance letters and the Washington State Wetlands Identification and Delineation Manual.

“Delineation report” means a written document prepared by a wetland specialist, which includes data sheets, findings of the delineation, and a site plan, which identifies the wetland boundaries.

“Department” means any division, subdivision, or organizational unit of the city, established by regulations, resolution or order.

“Depressional pothole” means a relatively sunken or low-lying area of the earth’s surface, especially one having no natural outlet for surface drainage.

“Designation” means taking formal legislative action to adopt classifications, inventories, and regulations.

“Determination of”:

1. Nonsignificance (DNS);
2. Significance (DS);
3. Mitigated determination of nonsignificance (MDNS);

“Development” means any human-induced change to improved or unimproved real property, including but not limited to: the construction of buildings or other structures, placement of a manufactured home/mobile home, mining, dredging, clearing, filling, grading, paving, excavation, drilling operations, storage of equipment or

materials located within an area of special flood hazard, or activities otherwise governed by EMC Title 16, Subdivisions.

“Development activity” means any construction, development, earth movement, clearing, or other site disturbance of the land, except as listed under exemptions.

“Director” means the mayor or designee.

“Downed logs” means trees that have fallen or toppled which are dead or in the process of dying, and exhibit sufficient decay characteristics to enable use by fish or wildlife species as habitat. Also referred to as “large woody debris (LWD).”

“DRASTIC” is an acronym for a computer model developed by the National Water Well Association and Environmental Protection Agency used to measure aquifer susceptibility.

“Drift” means a nearly horizontal mine passageway driven on or parallel to the course of a vein or rock stratum.

“Dwelling unit” means one or more rooms designed for or occupied by one family for living or sleeping purposes and containing kitchen facilities for use solely by one family.

“Earth/earth material” means naturally occurring rock, soil, stone, sediment, or combination thereof.

“Earthflow” means a slow downslope movement in which of viscous, saturated regolith sedimentsags downward in a series of irregular terraces.

“Ecotone” means a transition area between two adjacent vegetation communities.

“Elevated building” means, for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

“Elevation certificate” means the official form (FEMA Form 81-31) used to track development, provide elevation information necessary to ensure compliance with community floodplain management ordinances, and determine the proper insurance premium rate with Section B completed by community officials.

“Encroachment” means any development or regulated activity conducted inside the boundaries of a designated critical area and/or its associated buffer.

“Engineer” as defined by Chapter 18.43 RCW.

“Engineering geologist” means a geologist who, by reason of his or her knowledge of engineering geology, acquired by education and practical experience, is qualified to engage in the practice of engineering geology, has met the qualifications in engineering geology established under Chapter 18.220 RCW, and has been issued a license in engineering geology by the Washington State Geologist Licensing Board.

“Engineering geology” means a specialty of geology affecting the planning, design, operation, and maintenance of engineering works and other human activities where geological factors and conditions impact the public welfare or the safeguarding of life, health, property, and the environment.

“Enhancement” means actions performed to improve the condition of existing degraded wetlands and/or buffers so that the quality of wetland functions increases (e.g., increasing plant diversity, increasing wildlife habitat, installing environmentally compatible erosion controls, removing nonindigenous plant or animal species, removing fill material or solid waste).

“Environmental determination” means that the responsible official or proponent has determined whether or not there are significant adverse effects on quality of the environment and if so, can they be mitigated.

“Environmental Impact Statements (EISs) — Types.” See Chapter 197-11 WAC, SEPA Rules.

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“Environmental Review.” See Chapter 197-11 WAC, SEPA Rules.

“Erosion” means the wearing away of the earth’s surface as a result of the movement of wind, water, or ice.

“Erosion hazard areas” means those areas that because of natural characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns, or human-induced changes to such characteristics, are vulnerable to erosion.

“Excavation” means the mechanical removal of earth material.

“Existing manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

“Expansion to an existing manufactured home park or subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

“Extirpation” means the elimination of a species from a portion of its original geographic range.

“Facility” means all structures, contiguous land, appurtenances, and other improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, disposing, or otherwise handling a hazardous substance. Use of the term “facility” includes underground and aboveground tanks and operations, which handle, use, dispose of, or store hazardous substances.

“Fill/fill material” means a deposit of earth material placed by human or mechanical means.

“Filling” means the act of placing fill/fill material on any surface, including temporary stockpiling of fill material.

“Finished floor” means the top of the next higher floor above the lowest floor. For purposes of the National Flood Insurance Program Elevation Certificate, the finished floor referenced in this regulation shall equal the top of the next higher floor.

“Fish and wildlife habitat areas” means those areas identified as being of critical importance to maintenance of fish, wildlife, and plant species, including areas with which endangered, threatened, and sensitive species have a primary association; habitats and species of local importance; naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat; waters of the state; lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity, or private organization; state natural area preserves and natural resource conservation areas. This does not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company.

“Fisheries biologist” means a professional with a degree in fisheries or certification by the American Fisheries Society, or with five years’ professional experience as a fisheries biologist.

“Flood” or “flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters; and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source.

“Flood hazard areas” means areas of flooding identified by verifiable flooded areas using:

1. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997; or

2. Relevant and verifiable information from the city's capacity analysis technical review ad hoc committee (CATRAC) draft report, 2000; or

3. Relevant and verifiable government and citizen photographs, notes, observations, etc. regarding historic ponding/flooding levels; or

4. Relevant and verifiable information available through Pierce County; or

5. Relevant and verifiable information available through the Federal Emergency Management Agency (FEMA); or

6. Areas of land located in floodplains, which are subject to a one percent or greater chance of flooding in any given year, including, but not limited to, streams, rivers, lakes, ponds, wetlands, depressional potholes and the like.

"Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Insurance Administration (FIA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" means the official report provided by the Federal Insurance Administration (FIA) that includes flood profiles, FIRM(s), and the water surface elevation of the base flood.

"Floodfringe" means the area subject to inundation by the base flood, but outside the limits of the floodway, and which may provide needed temporary storage capacity for floodwaters.

"Floodplain" means the total area subject to inundation by the base flood, including the floodfringe and the floodway areas.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to convey and discharge the base flood without cumulatively increasing the water surface elevation by more than one foot, and those areas designated as deep and/or fast-flowing water.

"Foundation footing setback" means a typical geotechnical recommendation intended to assure that a proposed structure is protected in the event of a slope failure or sloughage. A foundation footing setback is measured horizontally from the face of the foundation footing to the face of the slope. A foundation footing setback for this purpose should not be confused with a building or construction setback from a landslide hazard area buffer. A foundation footing setback is also not a buffer (see Figure 14.10-1 in EMC 14.10.150).

"Geological assessment" means an assessment prepared by a professional engineer licensed by the state of Washington with expertise in geotechnical engineering or prepared by a licensed professional geologist, hydrologist, or soils scientist, as specified later in this section, who has earned the related bachelor's degree from an accredited college or university, or equivalent educational training, and has five years' experience assessing the relevant geologic hazard. A geological assessment must detail the surface and subsurface conditions of a site and delineate the areas of a property that might be subject to specified geologic hazards.

"Geologically hazardous areas" means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns.

"Geologist" means engineering geologist, or hydrogeologist, registered in the state of Washington.

"Geotechnical professional" means a person with experience and training in analyzing, evaluating, and mitigating landslide, erosion, and/or seismic hazards. A geotechnical professional shall be licensed in the state of Washington as a geologist or professional engineer, and must have five or more years experience specializing in landslide, erosion, or seismic hazards, as applicable.

"Geotechnical report" means a report prepared by a professional engineer licensed by the state of Washington with expertise in geotechnical engineering, evaluating the site conditions and mitigating measures necessary to reduce the risks associated with development in geologically hazardous areas.

“Grading” means any excavating, filling, clearing, or creating of impervious surfaces or combination thereof.

“Ground amplification” means an increase in the intensity of earthquake-induced ground shaking which occurs at a site whereby thick deposits of unconsolidated soil or surficial geologic materials are present.

“Groundwater” means all water found beneath the ground surface, including slowly moving subsurface water present in aquifers and recharge areas.

“Group A water system” means a water system:

1. With 15 or more service connections; or
2. A system that services an average of 25 or more people per day for 60 or more days within a calendar year.

“Habitat assessment” means a report prepared by a professional wildlife biologist or fisheries biologist, which identifies the presence of fish and wildlife habitat conservation areas near the proposed development site.

“Habitat evaluation” means a procedure for determining the abundance and quality of habitat features for a species or other taxonomic group (in this case, salmonid fishes) at or on a particular site or property.

“Habitat evaluation report package” means the combined materials that compose a report on a habitat evaluation (see definition in this section), including narrative on methods and findings, as well as maps and data in tabular and graphic form.

“Habitat management plan” means a report prepared by a professional wildlife biologist or fisheries biologist, which discusses and evaluates the measures necessary to maintain fish and wildlife habitat conservation areas on a proposed development site.

“Habitat of local importance” means an area, range, or habitat within which a species has a primary association and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. Examples include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These areas may also include habitats that are of limited availability or high vulnerability to alteration.

“Hard armoring” means the use of large rock and/or human-made materials to protect property from shoreline erosion. Such techniques include cement/concrete bulkheads, steel structures, rock wall revetments, and rock gabion structures. Hard armoring typically does not utilize or integrate any of soft armoring or soil bioengineering techniques.

“Hazardous substance(s)” means any liquid, solid, gas, or sludge, including any materials, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the characteristics or criteria of hazardous waste; and including waste oil and petroleum products.

“Hazardous substance processing or handling” means the use, storage, manufacture, or other land-use activity involving hazardous substances, but does not include individually packaged household consumer products or quantities of hazardous substances of less than five gallons in volume per container. Hazardous substances shall not be disposed on site unless in compliance with Dangerous Waste Regulations, Chapter 173-303 WAC, and any pertinent local ordinances such as sewer discharge standards.

“Hazardous waste” means and includes all dangerous waste and extremely hazardous waste as designated pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC:

1. “Dangerous waste” means any discarded, useless, unwanted, or abandoned substances including but not limited to certain pesticides or any residues or containers of such substances which are disposed of in such quantity or concentrations as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes:
 - a. Have short-lived, toxic properties that may cause death, injury, or illness, or have mutagenic, teratogenic, or carcinogenic properties; or

b. Are corrosive, explosive, flammable, or may generate pressure through decomposition or other means.

2. "Extremely hazardous waste" means any waste which:

a. Will persist in a hazardous form for several years or more at a disposal site and which in its persistent form presents a significant environmental hazard and may be concentrated by living organisms through a food chain or may affect the genetic make-up of humans or wildlife; and

b. Is disposed of at a disposal site in such quantities as would present an extreme hazard to humans or the environment.

"Hazardous waste treatment and storage facility" means a facility that treats and stores hazardous waste and is authorized pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC. It includes all contiguous land and structures used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of hazardous waste. Treatment includes using physical, chemical, or biological processing of hazardous wastes to make such waste non-dangerous or less dangerous and safer for transport, amenable for energy or material resource recovery. Storage includes the holding of waste for a temporary period, but not the accumulation of waste on the site of generation as long as the storage complies with applicable requirements of Chapter 173-303 WAC.

1. "On-site treatment and storage facility" means a facility that treats or stores hazardous wastes generated on the same geographically contiguous property.

2. "Off-site treatment and storage facility" means a facility that treats or stores hazardous wastes generated on property other than those on which the off-site facility is located.

Hearing Examiner or Examiner. See EMC 18.20.110, "H" definitions.

"Holocene epoch" means that part of the geologic record that post-dates the youngest deposits associated with the late Pleistocene Age Fraser Glaciation and is typically considered to be the past 10,000 years.

"Hydrogeologic assessment" means a report detailing the subsurface conditions, the design of a proposed land use action, and the facilities operation which indicates the susceptibility and potential for contamination of groundwater supplies.

"Hydrologically connected" means a connection between two or more surface water bodies including, but not limited to, wetlands, streams or lakes as evidenced by:

1. The presence of surface water in a perennial or intermittent stream, through a culvert or otherwise above ground;
2. The presence of contiguous hydric soil; or
3. The location of a water body within or contiguous to a 100-year floodplain of a wetland, stream or lake.

"Hydrologically isolated wetland" means a wetland which:

1. Is not contiguous to any 100-year floodplain of a lake, river, or stream; and
2. Has no contiguous surface hydrology, hydric soil, or hydrophytic vegetation between the wetland and any other wetland or stream system.

"Impervious surface" means a hard surface, which prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, and/or a hard surface area, which causes water to run off the surface in greater quantities or at an increased rate of flow than the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, gravel parking lots, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces.

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“In-kind mitigation” means to replace wetlands with substitute wetlands whose characteristics and functions and values are intended to replicate those destroyed or degraded by a regulated activity.

“Increased cost of compliance (ICC)” means a flood insurance claim payment up to \$30,000 directly to a property owner for the cost to comply with floodplain management regulations after a direct physical loss caused by a flood. Eligibility for an ICC claim can be through a single instance of “substantial damage” or as a result of a “cumulative substantial damage.” (More information can be found in FEMA ICC Manual 301.)

“Interspersion between wetland classes” means the degree to which different wetland classes are scattered among each other.

“Lahar” means a mudflow or debris flow mobilized by water, which originates on the slopes of a volcano.

“Lakes” means impoundments of open water 20 acres or larger.

Landfill. See EMC 18.20.150, “L” definitions.

“Landslide” means the abrupt downslope movement of soil, rocks, or other surface matter on a site. Landslides may include but are not limited to slumps, debris flows, mudflows, earthflows, rockfalls, and snow avalanches.

“Landslide hazard areas” means areas which are potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors.

“Large animal” means an animal with an average weight of 100 pounds or more.

“License” means any form of written permission given to any person, organization, or agency to engage in any activity, as required by law or agency rule. A license includes all or part of a city permit, certificate, approval, registration, charter, or plat approvals or rezones to facilitate a particular proposal. The term does not include a license required solely for revenue purposes.

“Liquefaction” means a process by which a water-saturated granular (sandy) soil layer loses strength because of ground shaking commonly caused by an earthquake.

“Long-term commercial significance” means the growing capacity, productivity, and soil composition of land, which makes it suitable for long-term commercial production, in consideration with the land’s proximity to population areas, and the possibility of more intense uses of land.

“Lowest floor” means the lowest floor of the lowest enclosed area (including basement and crawl space). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building’s lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this title.

“Maintenance” means those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition without any expansion of or significant change from that originally established condition. For the purposes of this document, activities within landscaped areas within areas subject to native vegetation retention requirements may be considered maintenance only if they maintain or enhance the canopy and understory cover.

“Manufactured home/mobile home” means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term “manufactured home/mobile home” also includes park trailers, travel trailers, and other similar recreational vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term “manufactured home/mobile home” does not include park trailers, travel trailers, recreational vehicles, or other similar vehicles.

“Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

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“Mineral resource lands” means lands primarily devoted to the extraction of minerals or which have known or potential long-term commercial significance for the extraction of minerals.

“Minerals” include gravel, sand, or other resources that are extracted from the ground, and valuable metallic substances.

“Mitigation” means:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments;
6. Monitoring the impact and taking appropriate corrective measures; and
7. Measures used in sequential order to eliminate, reduce, or compensate for adverse impacts to habitat resulting from a development proposal or alteration.

“Mudflow” means a debris flow containing an abundance of fine particles.

“Native vegetation” means a mix of plant species comprising herbs, grasses, grass-like plants, shrubs and trees indigenous to the Puget Sound region that reasonably could be expected to naturally occur on the site.

“Natural resource lands” means agricultural and mineral resource lands, which have long-term commercial significance.

“New construction” means structures for which the “start of construction” commenced on or after the following:

1. For the purposes of determining flood insurance rates, the effective date of an initial FIRM (i.e., August 19, 1987, or August 4, 1988, for Panel 350 only), and includes any subsequent improvements to such structures.
2. For floodplain management purposes, the effective date of this floodplain management ordinance and includes any subsequent improvements to such structures.
3. For all other cases, the effective date of the applicable critical areas ordinance.

“New manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the adopted floodplain management regulations.

“Oak woodlands” means those areas where Oregon white oak comprises more than 20 percent of the trees in a stand, and where the stand size is one acre or greater; provided, that stand size may be smaller where white oak serves as linkages between larger stands. Trees should be greater than 15 inches in diameter at breast height and greater than 16 feet tall.

“Old growth forests” means a stand of trees generally containing mature and overmature trees in the overstory, a multi-layered canopy and trees of several age classes, and standing dead trees and down material.

“Ordinance” means the ordinance, resolution, or other procedure used by the city to adopt regulatory requirements.

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“Ordinary high water mark (OHWM)” means the mark on all lakes, streams and tidal waters that will be found by examining the beds 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 and vegetation, as that condition exists on the effective date of the ordinance codified in this title, or as it may naturally change thereafter. In any area where the ordinary high water mark cannot be found, the ordinary high water mark shall be the line of mean higher high tide in areas adjoining saltwater, and the line of mean high water in areas adjoining freshwater.

“Out-of-kind mitigation” means to replace wetlands with substitute wetlands whose characteristics do not approximate those destroyed or degraded by a regulated activity.

“Parties of record” are those persons with legal standing with respect to an application including the applicant, property owner as identified by the records available from the Pierce County assessor’s office, or any person who testified at the open record public hearing on the application; and/or any person who submitted written comments during administrative review or has submitted written comments concerning the application at the open record public hearing, excluding persons who have only signed petitions or mechanically produced form letters.

“Permanent erosion control” means continuous on-site and off-site control measures that are needed to control conveyance and/or deposition of earth, turbidity, or pollutants after development, construction, or restoration.

Person. See EMC 18.20.190, “P” definitions.

“Plat” means:

1. “Short subdivision” or “short plat” means the division or redivision of land into six or fewer lots, tracts, parcels, sites, or divisions for the purpose of sale, lease, or transfer of ownership.
2. “Subdivision” or “formal subdivision” means the division or redivision of land into seven or more lots, tracts, parcels, sites, or division for the purpose of sale, lease, or transfer of ownership. For floodplain management regulation purposes, this includes land over five acres in area situated within a flood hazard area.

“Ponds” means naturally occurring impoundments of open water less than 20 acres in size and larger than 2,500 square feet, which maintain standing water throughout the year. Also see “depressional pothole.”

“Private organization” means a nonprofit corporation organized pursuant to Chapter 24.03 RCW, which includes the planting of game fish among its purposes for organizing as a nonprofit corporation.

“Professional engineer” means an engineer currently licensed and registered in the state of Washington.

“Project permit” means any land use or environmental permit or license required from the city for a project action, including but not limited to building permits, site development permits, land use preparation permits, subdivisions, binding site plans, planned unit developments, conditional uses, shoreline substantial development permits, development plan review, site specific rezones authorized by the comprehensive plan; but excluding adoption or amendment of the comprehensive plan and development regulations, zoning of newly annexed land, area-wide rezones, and zoning map amendments except as otherwise specifically included in this subsection.

“Public services” means fire protection and suppression, law enforcement, public health, education, recreation, environmental protection, and other governmental services.

“Recessional outwash geologic unit” means sand and gravel materials deposited by melt water streams from receding glaciers.

“Reconstruction” means the rebuilding of an existing structure which has been partially or completely destroyed by any cause, such as but not limited to fire, wind, landslides, and water, without increasing the original floor area or square footage area.

“Recreational vehicle (RV)” means a vehicle built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light duty truck, and-

designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel, or seasonal use.

“Rectification” means an action which repairs an alteration to habitat and its functions.

“Regolith” means any body of loose, noncemented particles overlying and usually covering the bedrock.

“Regulated activities” means, but is not limited to, any of the following activities which are directly undertaken or originate in a regulated critical area or its buffer: building permit; commercial or residential; binding site plan; franchise right-of-way construction permit; site development permit; right-of-way permit; shoreline permits; short subdivision; use permits; subdivision; utility permits; or any subsequently adopted permit or required approval not expressly exempted by this title.

“Rehabilitation” means any improvements and repairs which are made to the interior and exterior of an existing structure, but which do not result in any increase in the floor area of the structure. This is also commonly referred to as a “remodel” of an existing structure.

“Restoration” means an action which returns habitat to a state in which its stability and functions approach its unaltered state as closely as possible.

“Revised Code of Washington (RCW)” means all laws of a general and permanent nature heretofore or hereafter enacted by the legislature, and assign permanent numbers as provided by law to all new titles, chapters, and sections thereof.

“Riparian” means the area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Riparian habitat begins at the ordinary high water mark and includes the entire extent of the floodplain and riparian areas of wetlands that are directly connected to the stream course.

“Seismic hazard areas” means areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

“Sensitive areas” mean agricultural lands and mineral resource lands and all associated buffers.

“Shoreline” for this title means the line where a body of water and the shore meet or the strip of land along the shoreline. There are no waters within the city of Edgewood meeting the criteria of shorelines of statewide significance as defined by RCW 90.58.030.

“Single-family dwelling” means a detached building designed exclusively for occupancy by one family and containing one dwelling unit.

“Site” means a lot, parcel, tract, or combination of lots, parcels, or tracts on which a regulated activity is proposed.

“Slope” means an inclined earth surface, the inclination of which is expressed as the ratio of horizontal distance to vertical distance.

“Sludge” means a semisolid substance consisting of settled solids combined with varying amounts of water and dissolved materials generated from a wastewater treatment plant or system or other sources, including septage sludge, sewage sludge, and industrial sludge.

“Sludge land application site” means a site where stabilized sludge, septage, and other organic wastes are applied to the surface of the land in accordance with established agronomic rates for fertilization or soil conditioning.

“Slump” means the downward and outward movement of a mass of bedrock, colluvium, or regolith other sediments along a distinct surface of failure.

“Small animal” means an animal with an average weight of less than 100 pounds.

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“Snag-rich areas” means forested areas which contain concentrations of standing dead trees, averaging 10 snags or greater per acre, and averaging greater than 15 inches in diameter at breast height.

“Special occupancy structures” means those structures that have the potential to provide capacity for large numbers of people or special groups of people or assemblies such as but not limited to schools, jails and detention facilities, and resident incapacitated patients.

“Species of local importance” means species that are of local concern due to their population status or their sensitivity to habitat manipulation.

“Soft armoring techniques” means the use of woody plants and limited structural-mechanical systems that are integrated in a structurally and environmentally sound manner to repair and protect slopes and shorelines against shallow mass wasting and surface erosion. Measures such as live stake, live fascine, brushlayer, live cribwall, vegetated geogrid, branchpacking, live slope grading, beach berms, or earthen berms are examples of soft armoring techniques. Soft armoring techniques may also be referred to as soil bioengineering methods.

“Start of construction” includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The “actual start” means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the “actual start of construction” means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

“State Environmental Policy Act (SEPA)” means RCW 43.21C.010, to declare a state policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere; stimulate the health and welfare of man; and to enrich the understanding of the ecological systems and natural resources important to the state and nation.

“State Environmental Policy Act (SEPA) Rules” means Chapter 197-11 WAC adopted by Washington State Department of Ecology as now, or hereafter, amended.

“Stockpiling” means the placement of material with the intent to remove it later.

“Structure” means a walled and roofed building, including a gas or liquid storage tank that is principally above-ground.

“Subbasin” means a drainage area which drains to marine water, lakes or the mainstem of a watershed water resource inventory area.

“Subclass” means one of the subclasses identified in the United States Fish and Wildlife Service (USFWS) December 1979 publication, Classification of Wetlands and Deep Water Habitats of the United States.

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

“Substantial improvement” means any repair, reconstruction, addition, rehabilitation, or other improvement of a structure, whereby the cost for the work exceeds 50 percent of the market value of the existing structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed.

The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

2. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places; provided, that the alteration will not preclude the structure's continued designation as a "historic structure."

Except for floodplain management regulation, the "cost" and "market value" may be determined using the current permit valuation. The building official shall determine the current permit valuation based on the cost per square foot values in effect at the time of permit application. Substantial improvement shall be accumulative from the effective date of the ordinance codified in this chapter.

"Substrate" means the soil, sediment, decomposing organic matter, or combination of those located on the bottom surface of a wetland.

"Talus" means a homogenous area of rock rubble ranging in average size 0.15 to 2.0 meters (0.5 to 6.5 feet) composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. Talus areas may be associated with cliffs.

"Temporary erosion control" means on-site and off-site control measures that are needed to control conveyance or deposition of earth, turbidity, or pollutants during development, construction, or restoration.

"Ten-year time travel zone boundary" means the maximum distance around a pumping well from which a contaminant hypothetically present in groundwater could travel to the well within a 10-year time period.

"Toe of slope" means a distinct topographic break in slope at the lowermost limit of the landslide or erosion hazard area.

"Top of slope" means a distinct topographic break in slope at the uppermost limit of the landslide or erosion hazard area.

"TPCHD" means the Tacoma-Pierce County Health Department.

"Underground storage tank" means any one or a combination of tanks (including underground pipes connected thereto) which are used to contain or dispense an accumulation of hazardous substances or hazardous wastes, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground.

"Urban governmental services" means those governmental services historically and typically delivered by cities, and includes storm and sanitary sewer systems, domestic water systems, street cleaning services, and other public utilities associated with urban areas and normally not associated with nonurban areas.

"Urban growth" means growth that makes intensive use of the land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of such land for the production of food, other agricultural products, or fiber, or the extraction of mineral resources. When allowed to spread over wide areas, urban growth typically requires urban governmental services. "Characterized by urban growth" refers to land having urban growth located on it or to land located in relationship to an area with urban growth on it as to be appropriate for urban growth.

"Utility line" means pipe, conduit, cable, or other similar facility by which services are conveyed to the public or individual recipients. Such services shall include, but are not limited to, water supply, electric power, gas, communications, and sanitary sewers.

"Variance" means a grant of relief from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited by this chapter, per EMC 14.10.085.

“View corridor” means an area, which affords views of lakes, mountains, or other scenic amenities normally enjoyed by residential property owners.

“Violation” means the failure of a structure or other development activity to be fully compliant with the provisions of this title. With regard to the floodplain management regulations, projects without the elevation certificate, other certifications, or other evidence of compliance required in Chapter 14.70 EMC are presumed to be in violation until such time as that documentation is provided. See Chapter 1.10 EMC for penalties.

“Volcanic hazard areas” means those areas subject to pyroclastic flows, lava flows, and inundation by debris flows, mudflows, or related flooding resulting from geologic or volcanic events on Mount Rainier.

“Washington Administrative Code (WAC)” means state of Washington Administrative Code.

“Water dependent” means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

“Wellhead protection area” means the area within the 10-year time-of-travel zone boundary of a group A public water system well, as delineated by the water system purveyor or its designee, pursuant to WAC 246-290-135.

“Wetland” means any area which is inundated or saturated by ground or surface water at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For the purpose of this definition:

1. Where the vegetation has been removed or substantially altered, the presence of a wetland is determined by the presence or evidence of hydric soil, by other documentation such as aerial photographs of the previous existence of wetland vegetation or by any other manner authorized in the “Washington State Wetlands Identification and Delineation Manual,” 1997, Department of Ecology;

2. A wetland may occur along the shoreline of tidal water, a lake, a stream or in a depression in the landscape. For any wetland occurring along a shoreline, the wetland’s waterward boundary is where the water’s depth exceeds six and six-tenths feet below low water or, if low water cannot be determined, six and six-tenths feet below the outlet’s invert elevation;

3. Except for artificial features intentionally made for the purpose of mitigation, a wetland does not include an artificial feature made from a nonwetland area which may include, but is not limited to, a surface water conveyance for drainage or irrigation, a grass-lined swale, a canal, a flow control facility, a wastewater treatment facility, a farm pond, a wetpond, landscape amenities or a wetland made after July 1, 1990, which was unintentionally made as a result of the construction of a road, street, or highway; and

4. Wetlands shall include those wetlands intentionally created from nonwetland areas, formed to mitigate conversion of wetlands.

“Wetland, isolated” means a wetland, which is not hydrologically connected, does not have permanent open water and is often of low function.

“Wetland specialist” means a person with experience and training in wetlands issues and with experience in performing a wetland delineation, analyzing wetland functions and values, analyzing wetland impacts, and recommending wetland mitigation and restoration.

Qualifications include:

1. Bachelor of Science or Bachelor of Arts or equivalent degree in biology, botany, environmental studies, fisheries, soil science, wildlife, agriculture, or related field, and two years of related work experience, including a minimum of one year experience delineating wetlands using the Unified Federal Manual and preparing wetland reports and mitigation plans. Additional education may substitute for one year of related work experience; or

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2. Four years of related work experience and training, with a minimum of two years experience delineating wetlands using the Unified Federal Manual and preparing wetland reports and mitigation plans. The person should be familiar with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, Corps of Engineers Wetlands Delineation Manual 1987 edition and corresponding guidance letters, Washington State Wetlands Identification and Delineation Manual, the city site development regulations, and the requirements of this title.

"Wildlife biologist" means a professional with a degree in wildlife, or certification by the Wildlife Society, or with five years' professional experience as a wildlife biologist. (Ord. 17-492 § 2 (Exh. A); Ord. 16-461 § 2; Ord. 15-447 § 1 (Exh. A); Ord. 02-200 § 2).

14.10.070 Administration.

A. Approvals Required. An approval must be obtained from the city when the department determines that the site or project area is or may be located within 300 feet of a critical area, as set forth in each chapter.

B. Application Requirements.

1. Preliminary Review. The provisions for conducting a preliminary review of an application is set forth in EMC 18.40.070, Process types.

2. Application Filing.

a. Applications shall be reviewed for completeness in accordance with department submittal standards checklists and pursuant to EMC 18.40.150, Determination of completeness.

b. Applications and associated reports shall not be submitted without an accompanying permit application for an underlying action (parent application) such as, but not limited to, a building permit, subdivision or boundary alteration action, site development application, TPCHD permit, or use permit, with the exception of applications required by the department as a result of an enforcement action or reports required by TPCHD for septic design approval.

3. Modifications. The department may request an update of any required assessment, report, delineation, etc., due to the potential for change in the existing environment that may have been caused by a natural event (e.g., seismic event, landslides, flooding, etc.) or human induced activity that degraded the existing conditions that occurred after the original document was initially submitted.

C. Public Notice. Public notice provisions for notice of application; public hearing, if applicable; and final decision pursuant to this title are outlined in EMC 18.40.190, Notice of public hearing.

D. Review.

1. Initial Review. The department shall conduct an initial review of any application in accordance with the provisions outlined in EMC 18.40.150, Determination of completeness.

2. Review Responsibilities.

a. The department is responsible for administration, circulation, and review of any applications and approvals required by this title.

b. The hearing examiner shall be the decision authority for reasonable use applications.

c. Other city or county departments and state agencies, as determined by the department, may review an application and forward their respective recommendations to the director or hearing examiner, as appropriate.

3. Review Process.

a. The department shall perform a critical area review for any building or land use application submitted for a regulated activity, including, but not limited to, those set forth in EMC 14.20.020. Reviews for multiple critical areas shall occur concurrently.

b. The department shall, to the extent reasonable, consolidate the processing of related aspects of other ~~Edgewood city~~ regulatory programs which affect activities in regulated critical areas, such as subdivision or site development, with the approval process established herein so as to provide a timely and coordinated review process.

c. As part of the initial review of all development or building-related approvals or permit applications, the department shall review the information submitted by the applicant to:

- i. Confirm the nature and type of the critical area and evaluate any required assessments, reports, or studies;
- ii. Determine whether the development proposal is consistent with this title;
- iii. Determine whether any proposed alterations to the site containing critical areas are necessary; and
- iv. Determine if the mitigation and monitoring plans proposed by the applicant are sufficient to protect the public health, safety, and welfare consistent with the goals, purposes, objectives, and requirements of this title.

~~d. Regulated activities subject to SEPA shall also be reviewed with consideration for impacts on critical areas as identified in this title. Regulated activities that pose a significant adverse impact which are not addressed by the standards and criteria established in this title (gaps), may be subject to additional mitigation measures as determined through the SEPA process. A threshold determination issued pursuant to EMC Title 20, SEPA, may not be made prior to departmental review of any special studies or technical reports required by this title, except where the applicant requests a declaration of significance so that environmental review is required.~~

~~ed.~~ Critical area applications required under this title shall be approved prior to approval of any related action (parent application) such as, but not limited to, a building permit, subdivision action, site development action, forest practice application, or use permit.

~~ef.~~ The requirement to submit a critical area assessment, report, etc., required under this title, may be waived at the department's discretion when the proposed project area for a regulated activity is located in an area that has been the subject of a previously submitted and approved assessment, report, etc., if all of the following conditions have been met:

- i. The provisions of this title have been previously addressed as part of another approval;~~;~~
- ii. There has been no material change in the potential impact to the critical area or required buffer since the prior review;~~;~~
- iii. There is no new information available that is applicable to any critical review of the site or particular critical area;~~;~~
- iv. The permit or approval has not expired or, if there is no expiration date, no more than five years have elapsed since the issuance of that permit or approval; and;
- v. Compliance with any standards or conditions placed upon the prior permit or approval has been achieved or secured.

4. Burden of Proof. The applicant has the burden of proving that a proposed application complies with the standards set forth in this title.

5. Approval.

a. The department may approve, approve with conditions, or deny any development proposal in order to comply with the requirements and carry out the goals, purposes, objectives, and requirements of this title based on the department's or [hearing](#) examiner's, as applicable, evaluation of the ability of any proposed mitigation measures to reduce risks associated with the critical area and compliance with required standards. Approval of a development proposal does not discharge the obligation of the applicant to comply with the provisions of this title.

b. Applicants shall comply with the recommendations and/or mitigation measures contained in final approved assessments or reports and any department or [hearing](#) examiner conditions of approval.

c. Approval of an application required under this title must be given prior to the start of any development activity on a site.

6. Denial. The department or [hearing](#) examiner, as applicable, shall have the authority to deny any application for development or building-related approvals or permits when the criteria established in this title have not been met.

7. Time Period for Final Decision. The provisions for issuing a notice of final decision on any application filed pursuant to this title is set forth in EMC 18.40.040, Coordination of development permit procedures.

E. Time Limitations.

1. Expiration of Approval.

a. Approvals granted under this title shall be valid for the same time period as the underlying permit (e.g., preliminary plat, site development, building permit). If the underlying permit does not contain a specified expiration date then approvals granted under this title shall be valid for a period of three years from the date of issue, unless a longer or shorter period is specified by the department.

b. The approval shall be considered null and void upon expiration, unless a time extension is requested and granted as set forth in subsection (E)(2) of this section.

2. Time Extensions.

a. The applicant or owner(s) may request in writing a one-time, one-year extension of the original approval.

b. Knowledge of the expiration date and initiation of a request for a time extension is the responsibility of the applicant or owner(s).

c. A written request for a time extension shall be filed with the department at least 60 days prior to the expiration of the approval.

d. Upon filing of a written request for a time extension, a copy shall be sent to each party of record together with governmental departments or agencies that were involved in the original approval process. By letter, the department shall request written comments be delivered to the department within 30 days of the date of the letter.

e. Prior to the granting of a time extension, the department may require a new application(s), updated study(ies), and fee(s) if:

i. The original intent of the approval is altered or enlarged by the renewal;

ii. The circumstances relevant to the review and issuance of the original approval have changed substantially; or

iii. The applicant failed to abide by the terms of the original approval.

f. If approved, the one-year time extension shall be calculated from the date of granting said approval.

F. Recording.

1. Approvals.

a. Critical area regulation approvals are to be recorded on the title of the project parcel(s) at the Pierce County auditor's office within six months of issuance. Failure to record an approval in this timeframe may result in the project being placed into inactive status. A new application(s) and fee(s) may be required to remove the project from inactive status. Also refer to EMC 14.10.080(FC), Title and Land Division Notification, for additional recording requirements.

b. Recording of a wetland approval for work completed within utility line easements on lands not owned by the jurisdiction conducting the regulated activity shall be required.

2. Right of Entry Agreement. The city may require the applicant to record a right of entry agreement, which shall be consistent with a format approved by the department. The right of entry agreement shall:

a. Allow ~~director or agent~~ the department and agents of the department to access the site for purposes of inspection during the course of application review, construction, and post-construction monitoring.

b. Allow the department and agents of the department ~~director or agent~~ to enter a property to construct required improvements, mitigation measures, or monitoring that have been financially guaranteed.

c. Run with the land, and be binding on all parties having or acquiring any right, title, interest, or any part thereof of the site, including the grantor, heirs, successors, and assigns. (Ord. 02-200 § 2).

14.10.075 Relationship to Other Regulations

A. This title shall apply as an overlay and in addition to zoning and other regulations adopted by the City.

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B. These critical areas regulations shall apply concurrently with review conducted under SEPA, as adopted under Chapter EMC 20.05.

C. Compliance with the provisions of this title does not constitute compliance with other federal, state, and local regulations and permit requirements that may be required (for example, Hydraulic Permit Act [HPA] permits, Section 106 of the National Historic Preservation Act, U.S. Army Corps of Engineers Section 404 permits, National Pollution Discharge Elimination System permits). The applicant is responsible for complying with these requirements, apart from the process established in this title.

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D. Activities that may impact critical areas and/or their buffers, but do not require any other City permits or approvals, may be reviewed as a critical areas permit subject to all submittal and review criteria and standards of this title.

Commented [AM1]: Aaron- this is new language (adapted from the Black Diamond CAO)

14.10.080 Critical area protective measures.

A. General. All critical area tracts, conservation easements, land trust dedications, and other similarly preserved areas shall remain undeveloped in perpetuity, except as they may be allowed to be altered pursuant to each chapter.

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B. Mitigation Sequence. Adverse impacts caused by new activities and developments shall be mitigated using the following action in order of priority:

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

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2. 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;

3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

4. Reducing or eliminating the impact over time by preservation and maintenance operations;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
6. Monitoring the impact and the compensation project and taking appropriate corrective measures.

G.C. Identification of Critical Areas and Required Buffers on Construction Plans. Critical areas and required buffers shall be clearly identified on all construction plans such as, but not limited to, site development plans, residential building plans, commercial building plans, forest harvest plans, etc.

D.I. Building Setbacks.

1. Unless otherwise provided in this title, buildings and other structures shall be set back a distance of 15 feet from the edge of all critical area buffers or, where no buffers are required, the edge of the critical area.
2. The following uses and activities may be allowed in the building setback area:
 - a. Landscaping;
 - b. Uncovered decks;
 - c. Building overhangs if such overhangs do not extend more than 18 inches into the setback area;
 - d. Impervious ground surfaces, such as driveways, parking lots, roads, walkways, and patios; provided, that such improvements conform to the water quality standards set forth in the city's adopted stormwater management manual and that construction equipment does not enter the buffer during the construction process; and
 - e. Clearing and grading. (Ord. 02-200 § 2).

E.B. Financial Guarantees.

1. The city may require an applicant to submit one or more financial guarantees to the city, as set forth in each chapter of this title (and other titles of Edgewood's Municipal Code as required), to guarantee any performance, mitigation, maintenance, or monitoring required as a condition of permit approval. The approval for the project will not be granted until the financial guarantee is received by the department. Projects where the city or one of its departments is the applicant shall not be required to post a financial guarantee.
2. Financial guarantees required under this title shall be:
 - a. In addition to any other site development guarantees required for project approval;
 - b. Submitted on financial guarantee forms approved by the city;
 - c. In the amount of 125 percent of the estimate of the cost of mitigation or monitoring to allow for inflation and administration should the city have to complete the mitigation or monitoring, unless the provisions set forth in subsection (B)(2)(D) of this section are applicable; and
 - d. Released by the city only when the applicant's appropriate technical professional has provided written confirmation that the performance, mitigation, or monitoring requirements have been met and department staff, or agent, inspected the site(s) for compliance.
3. Failure to complete any performance, mitigation, or monitoring may result in the forfeiture of the guarantee. Applicants who have previously defaulted will no longer be allowed to post a guarantee for improvements necessary for approval of a land use application. Applicants who have previously defaulted will be allowed to post guarantees for subsequent critical area mitigation work needed for approval of a land use application or permit, but the guarantee must be by bond and must be for two times the required amount.

FC. Title and Land Division Notification.

1. General.

- a. Title and/or land division notice shall be required to be recorded with the Pierce County auditor on each site that contains a critical area, prior to approval of any regulated activity on a site.
- b. If more than one critical area subject to the provisions of this title exists on the site, then one notice which addresses all of the critical areas shall be sufficient.
- c. Title and land division notifications and notes shall be approved by the department and shall be consistent with ~~Appendix B in~~ EMC 14.10.140, ~~Appendix A.~~

2. Title Notification.

- a. When the city determines that activities not exempt from this title are proposed, the property owner shall file a notice with the Pierce County auditor. The notice shall provide a public record of the presence of a critical area and associated buffer, if applicable; the application of this title to the property; and that limitations on actions in or affecting such critical area and associated buffer, if applicable, may exist.
- b. The notice shall be notarized and shall be recorded with the Pierce County auditor prior to approval of any regulated use or activity for the site.
- c. Notice on title is not required for utility line easements on lands not owned by the jurisdiction conducting the regulated activity (e.g., gas pipelines).

3. Land Division Notification and Notes. The applicant shall include notes, as referenced in EMC 14.10.140, Appendix ~~AB~~, on the face of any proposed activity as defined in EMC Title 16, Subdivisions (i.e., final plat, binding site plan, large lot, short subdivision, boundary line adjustment, or lot combination), for projects that contain critical areas or critical area buffers. The applicant shall also clearly identify the critical area boundaries and the boundary of any associated buffers on the face of these documents.

GD. Conservation Easements. Prior to any final critical area approval, the part of the critical area and required buffer which is located on the site shall be protected with a conservation easement or other similar permanent deed restriction. The conservation easement shall indicate allowable and prohibited uses within the critical area and required buffer.

EH. Tracts. Prior to final approval of any subdivisions, short subdivisions, large lot divisions, or binding site plans, the part of the critical area and required buffer which is located on the site, shall be placed in a separate tract or tracts (~~see Figure 14.10-2 in EMC 14.10.150~~). In lieu of a separate tract, an applicant may propose to establish an alternative permanent protective mechanism; however, approval of such is based upon the department's or hearing examiner's, as applicable, determination that such alternative mechanism provides the same level of permanent protection as designation of a separate tract or tracts.

IF. Homeowner's Covenants. A description of the critical area and required buffer shall be placed in any required homeowner's covenants. Such covenants shall contain a detailed description of the allowable uses within the critical area and, if applicable, associated buffer and long-term management and maintenance requirements of that critical area.

~~G. Identification of Critical Areas and Required Buffers on Construction Plans. Critical areas and required buffers shall be clearly identified on all construction plans such as, but not limited to, site development plans, residential building plans, commercial building plans, forest harvest plans, etc.~~

JH. Markers, Fencing, and Signage.

1. Markers. Prior to final approval of any critical area application, the outer edge of the critical area boundaries or, if applicable, required buffer boundaries on the site shall be flagged by the qualified professional, as outlined in each chapter. These boundaries shall then be identified with permanent markers (rebar and cap) and

flagged by a licensed surveyor, unless otherwise stated in this title. The permanent markers shall be clearly visible, durable, and permanently affixed to the ground.

2. Fencing.

a. Temporary Construction Fencing. Temporary fencing is required when vegetation is to be retained in an undisturbed condition within the critical area and required buffer. In such cases, the applicant will be required to construct silt fencing, construction fencing, or other city-approved method of temporary fencing at the edge of the critical area or, if applicable, the edge of the required buffer prior to beginning construction on the site.

b. Permanent Fencing. Where deemed necessary by the department to provide protection to the critical area, the applicant will be required to construct permanent wildlife-passable fencing along the buffer boundary.

3. Signage.

a. The department shall require permanent signage to be installed at the edge of the critical area or, if applicable, the edge of the required buffer.

b. The sign shall indicate the type of critical area and if the area is to remain in a natural condition as permanent open space.

c. Exact sign locations, wording, size, and design specifications shall be established by the department. Required signage shall be clearly visible, durable, and permanently affixed to the ground.

d. Prior to final approval of any critical area application, the applicant shall submit an affidavit of posting to the department as proof that the required signs were posted on the site.

I. Building Setbacks.

~~1. Unless otherwise provided in this title, buildings and other structures shall be set back a distance of 15 feet from the edge of all critical area buffers or, where no buffers are required, the edge of the critical area.~~

~~2. The following uses and activities may be allowed in the building setback area:~~

~~a. Landscaping;~~

~~b. Uncovered decks;~~

~~c. Building overhangs if such overhangs do not extend more than 18 inches into the setback area;~~

~~d. Impervious ground surfaces, such as driveways, parking lots, roads, walkways, and patios; provided, that such improvements conform to the water quality standards set forth in the city's adopted stormwater management manual and that construction equipment does not enter the buffer during the construction process; and~~

~~e. Clearing and grading. (Ord. 02-200 § 2).~~

14.20.082 Critical areas reports

A. When required in accordance with this title, the applicant shall submit a critical areas report.

B. The critical areas report shall use scientifically valid methods and studies in the analysis of critical area data and field reconnaissance to evaluate the proposed development and all probable impacts to critical areas in accordance with the provisions of this title. The report shall reference the source(s) of science used.

C. At a minimum the report shall contain the following:

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1. The name and contact information of the applicant and a description of the proposal;
2. The site plan for the proposed development, including a map drawn to scale depicting critical areas, buffers, the proposed development, and any areas to be cleared or altered;
3. The names and qualifications of the persons preparing the report;
4. Documentation of any fieldwork performed on the site;
5. Identification and characterization of all critical areas and buffers on and adjacent to the proposed development;
6. A statement specifying the accuracy of the report, and all assumptions made and relied upon;
7. A discussion of the performance standards applicable to the critical area and proposed development;
8. A mitigation plan in accordance with EMC 14.10.083 if mitigation is required; and
9. Any additional report information required for the critical area as specified in the following chapters.

14.20.083 Mitigation plans

When mitigation is required, the applicant shall submit a mitigation plan. The mitigation plan shall include all of the following:

- A. Mitigation sequencing. A description of reasonable efforts made to apply mitigation sequencing pursuant to EMC 14.10.080(B) to avoid, minimize, and mitigate impacts to critical areas and buffers.
- B. Mitigation details.
 1. A description of the anticipated impacts to the critical area and buffer, including impacts to critical area functions and values;
 2. The mitigating actions proposed, including: type of mitigation proposed (e.g., on-site or off-site); site selection criteria; identification of compensation goals; and identification of critical area functions.
 3. The environmental goals and objectives of the mitigation, together with specific measurable criteria and performance standards for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained;
 4. A review of the best available science supporting the proposed mitigation; and
 5. An analysis of the likelihood of success of the mitigation project.
- C. Construction details. The mitigation plan shall include written specifications, descriptions, and drawings of the mitigation proposed, including:
 1. Construction sequence, timing, and duration;
 2. Grading and excavation details;
 3. Erosion and sediment control features; and
 4. Planting plan specifying plant species, quantities, locations, size, spacing, density, and measures to protect and maintain plants until established. All plant species must be native to the region.
- D. Monitoring details.

1. A program for monitoring construction and assessing the outcome of the mitigation project, including the schedule for site monitoring (for example, monitoring shall occur in year 1, 3, and 5 after site construction), and how the monitoring data will be evaluated to determine if the performance standards are being met. Monitoring reports shall be submitted to document milestones, successes, problems, and contingency actions of the compensation project. The mitigation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years. Mitigation monitoring shall be the responsibility of the applicant.

2. A contingency plan with courses of action and corrective measures to be taken if monitoring or evaluation indicates project performance standards are not being met.

E. Bond estimate. A bond estimate for the entire compensatory mitigation project, per the requirements of EMC 14.10.080(E).

F. Other requirements. The mitigation plan shall address any additional mitigation requirements relevant to the specific critical area as specified in the following chapters.

14.10.085 Variances to critical areas.

A. General. Variances are reviewed pursuant to EMC 18.50.080, Variances. Conditions may be attached to a critical area(s) variance, which will serve to meet the goals, objectives, and policies of this title.

B. ~~Criteria for Priority Habitat Buffer Variances. In order to grant a priority habitat buffer variance, requirements pursuant to EMC 18.50.080, Variances, shall apply. In addition, the applicant must also demonstrate, and the examiner must find, that the requested buffer width modification preserves adequate vegetation to:~~ Variance Criteria. A variance may be granted only if the applicant demonstrates that the requested action conforms to all of the criteria set forth as follows:

1. Special conditions and circumstances exist that are peculiar to the land, the lot, or something inherent in the land, and that are not applicable to other lands in the same district;

2. The special conditions and circumstances do not result from the actions of the applicant;

3. A literal interpretation of the provisions of this title would deprive the applicant of all reasonable economic uses and privileges permitted to other properties in the vicinity and zone of the subject property under the terms of this title, and the variance requested is the minimum necessary to provide the applicant with such rights;

4. Granting the variance requested will not confer on the applicant any special privilege that is denied by this title to other lands, structures, or buildings under similar circumstances;

5. The granting of the variance is consistent with the general purpose and intent of this title, and will not further degrade the functions or values of the associated critical areas or otherwise be materially detrimental to the public welfare or injurious to the property or improvements in the vicinity of the subject property;

6. The decision to grant the variance includes the best available science and gives special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish habitat; and

7. The granting of the variance is consistent with the general purpose and intent of the Edgewood Comprehensive Plan and adopted development regulations.

1. Maintain proper water temperature;

2. Minimize sedimentation; and

3. Provide food and cover for listed species.

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C. Additional Criteria for Flood Hazard Area Variances. In addition to the variance criteria specified above in subsection (B) of this section, a flood hazard area variance applicant must also demonstrate, and the hearing examiner must find, that the proposal satisfies all of the following: In order to grant a flood hazard area variance, requirements pursuant to EMC 18.50.080, Variances, shall apply. In addition, the applicant must also demonstrate, and the examiner must find, that the proposal satisfies all of the following:

1. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.
2. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4. Variances shall only be issued upon:
 - a. A showing of good and sufficient cause;
 - b. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
5. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.
6. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of ~~floodproofing~~flood proofing than watertight or dry-~~floodproofing~~flood proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria (except 4.4-1), and otherwise complies with Sections 5.1-1, 5.1-3, and 5.1-4 of the General Standards.
7. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk.

D. Should a variance be denied, the application will be reviewed as a reasonable use exception pursuant to EMC 14.20.050. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

14.10.090 Reconsideration and appeal procedures.

Procedures for appeal of an administrative decision and procedures for reconsideration or appeal of a hearing examiner decision issued pursuant to this title are set forth in EMC 18.40.090, Process II – Administrative action. (Ord. 02-200 § 2).

14.10.100 Fees.

Fees for applications and/or review of reports, studies, or plans filed pursuant to this title are set forth in the adopted fee schedule and as stipulated below:

A. Fee Establishment. The city, by resolution, shall establish fees for filing of critical area review processing and other services provided by the city as required by this title. These fees shall be based on the anticipated sum of direct costs incurred by the city for any individual development or action and may be established as a sliding scale that will recover all of the city costs. Basis for these fees shall include, but not be limited to, the cost of engineering and

Commented [AM2]: Note from city:
“Processing Procedures are likely to change with other code updates currently in review. The reference to EMC 18.40.090 may need revising accordingly as the code update moves forward. It should be flagged for future editing.”

planning review time, cost of inspection time, costs for administration, and any other special costs attributable to the critical area review process.

B. Applicant Responsibilities. Unless otherwise indicated in this title, the applicant shall be responsible for the initiation, preparation, submission, and expense of all required reports, assessment(s), studies, plans, reconnaissance(s), peer review(s) by qualified consultants, and other work prepared in support of or necessary to review the application.

C. Fee Schedule. The director is charged with the responsibility of collecting appropriate fees charged to applicants for any permits or discretionary approval processes provided for in this title. The amount of the fees charged shall be as established by resolution or ordinance of the city council filed in the office of the city clerk and may be, from time to time, changed without amendment to this title.

D. Payment. Fees established in accordance with this title shall be paid upon submission of a signed application or petition for appeal, or as otherwise provided by any fee ordinance or resolution adopted by the city council. A department of the city shall not be required to pay application fees when applying for a permit regulated under this title. Where such an application will require substantial review time or expenditures, the mayor may, at his/her sole discretion, direct that the department initiating the permit request to reimburse the community development department for some or all of costs expended for the application review.

E. Investigation Fee. To investigate violations of this title, all city fees associated with investigation of violations of this title may be assessed at the adopted billable staff hour rate in addition to any required consultant costs, legal costs, and other expenses necessary to complete the investigation of the violation. The payment of such investigation fees shall not exempt any person from compliance with all other provisions of this title, nor from penalties prescribed by law.

~~F. Fees for Environmental Assessments and EISs. Environmental assessment/checklist fees for the construction, alteration, or repair of single- or two-family dwellings may be waived when the application provides sufficient documentation showing, to the satisfaction of the city, who shall make written findings, that all of the following conditions exist:~~

- ~~1. The single- or two-family dwelling is intended for low-income families. Low-income families are those families who meet the low-income guidelines as set forth by the city of Edgewood community development department; Department of Housing and Urban Development (HUD) annual guidelines, Section 8;~~
- ~~2. The construction, alteration, or repair of the single- or two-family dwelling involves some volunteer labor; and~~
- ~~3. The construction, alteration, or repair is being undertaken by an organization classified as a 501(c)(3)-nonprofit organization by the Internal Revenue Service; or~~
- ~~4. The construction, alteration, or repair is being undertaken by Pierce County department of community services housing rehabilitation or authorized agent. (Ord. 16-482 § 2 (Exh. C); Ord. 02-200 § 2).~~

14.10.110 Compliance.

A. The regulations for compliance with the provisions of this title are set forth in EMC 18.30.040, Scope and compliance.

B. When a critical area or its required buffer has been altered in violation of this title, the department shall require the property owner to bring the site into compliance. The property owner shall be required to submit the appropriate critical area application and commence a departmental review, as applicable for each chapter of this title. In addition to any required site investigation, delineations, assessments, reports, etc., the property owner shall be required to submit a restoration plan that identifies the proposed mitigation to bring the subject property into compliance with the requirements of this title. (Ord. 02-200 § 2).

14.10.120 Warning and disclaimer of liability.

The degree of protection required through application of this title is deemed to be reasonable for regulatory purposes and is based on ~~scientific and engineering considerations~~ best available science; however, natural events that may exceed the geographic boundaries regulated under this title can and will occur (e.g., flood heights that are higher ~~than~~ than anticipated). This title does not mean to imply that land outside designated hazard areas or uses permitted within such areas will be free from damages. Application of this title shall not create liability on the part of the city, any officer or employee thereof, or the Federal Insurance Administration for any damages that may result from the administration of this title or any administrative decision lawfully made hereunder. (Ord. 02-200 § 2).

Commented [AM3]: City attorney to review this section

14.10.130 Severability.

If any provision of this title or its application to any person or circumstance is held to be invalid or unconstitutional, then said holding shall in no way affect the validity or application of the remainder of this regulation to other persons or circumstances. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

14.10.135 Violation – Civil infraction.

A. In addition to any other sanction or penalty, or any remedial, judicial or administrative procedure available under city code or state law, violation of any provision of this title or failure to comply with a decision of the responsible official, hearing examiner, or city council issued pursuant to this title constitutes a civil infraction.

B. Each day or portion thereof during which a violation occurs or exists shall be deemed a separate civil infraction. A person found to have committed a civil infraction shall be assessed a monetary penalty. The maximum penalty and the default amount for a civil infraction shall be \$250.00, not including statutory assessments. In addition:

1. The court may consider dismissing with costs only upon a showing that the violation was corrected within 30 days.
2. Whenever a monetary penalty is imposed by a court under this title, it is immediately payable. If the person is unable to pay at that time, the court may grant an extension. If the penalty is not paid on or before the time established for payment, the court may proceed to collect the penalty in the same manner as other civil judgments and may notify the prosecuting attorney of the failure to pay.
3. Payment of a monetary penalty or performance of the required community service shall not relieve a person of the duty to correct the violation.
4. The court may also order a person found to have committed a civil infraction to make restitution. (Ord. 02-200 § 2).

14.10.140 Appendices.

~~A. Mapping Sources.~~

~~BA. Title and Plat Notification Forms.~~

APPENDIX A

MAPPING SOURCES

~~The following sources of information and/or best available science may be used to indicate the presence of critical areas within Edgewood and provide data used in the development of the city of Edgewood critical areas atlas maps:~~

~~A. The following sources identify wetlands that are depicted in the Edgewood wetland inventory map and/or used as indicators of wetland presence:~~

- ~~1. Soil Survey of Pierce County Area, Washington, 1979, Soil Conservation Service, United States Department of Agriculture (USDA);~~
- ~~2. National Wetland Inventory Maps, U.S. Department of Interior, Fish and Wildlife Service, 1973;~~

Commented [JWM4]: What is the replacement for mapping source identification? Just moving to individual sections?

Commented [AM5]: Specific mapping data sources should not be codified, as critical areas inventory data is continually revised by government agencies and other organizations (see gap analysis matrix).

3. Potential flood hazard areas as identified under subsection (G) of this section;

4. Aerial photographs, Department of Natural Resources, 1985 (Assessor's Office aeriels) or city-acquired aerial photographs;

5. Applicant-supplied and verified data;

6. Ongoing field investigation to categorize and delineate wetlands; and

7. Buildable Lands Wetland Inventory, 2001.

B. The following sources identify landslide and erosion hazard areas that are depicted in the critical areas landslide hazard area map and erosion hazard areas map and/or used as indicators of landslide and erosion hazard area presence:

1. Soil Survey of Pierce County Area, Washington, 1979, Soil Conservation Service, United States Department of Agriculture (USDA);

2. Areas designated as slumps, earthflows, mudflows, lahars, or landslides on maps published by the United States Geological Survey or Washington Department of Natural Resources Division of Geology and Earth Resources;

3. The city of Edgewood topographic data;

4. United States Geologic Survey Quadrangle maps;

5. Applicant-supplied and verified data of active landslide areas and potentially unstable areas; and

6. Buildable Lands Slope Data, 2001.

C. The following sources identify seismic hazard areas which are depicted in the critical areas seismic hazard areas map and/or used as indicators of seismic hazard areas presence:

1. Washington State Department of Natural Resources Division of Geology and Earth Resources 1-100,000 Scale Digital Geology of Washington State; and

2. Areas designated as faults or subject to liquefaction or dynamic settlement on maps or data published by the United States Geological Survey or Washington Department of Natural Resources Division of Geology and Earth Resources.

D. The following sources identify volcanic hazard areas that are depicted in the Critical Areas Atlas—Volcanic Hazard Areas Map:

1. "Map Showing Debris Flows and Debris Avalanches at Mount Rainier, Washington—Historical and Potential Future Inundation Areas," Hydrogeologic Investigations Atlas HA-729, U.S. Department of Interior, Geologic Survey, 1995, as amended by Kevin Scott, USGS, on November 10, 1997, to be consistent with the reports listed in subsections (D)(1) and (2) of this section;

2. Volcano Hazards from Mount Rainier, Washington by Hoblitt, Walder, Driedger, Scott, Pringle, and Valance, U.S. Geological Survey Open File Report 95-273, 1995;

3. Sedimentology, Behavior, and Hazards of Debris Flows at Mount Rainier, Washington, U.S. Geological Survey Professional Paper 1547, 1995; and

4. Table of Estimated Lahar Travel Times for Lahars 107 to 108 Cubic Meters in Volume (Approaching a "Case 1" Lahar in Magnitude) in the Puyallup River Valley, Mount Rainier, Pierson, T.C., 1998, An empirical method for estimating travel times for wet volcanic mass flows; Bulletin of Volcanology, v. 60, p. 98-109.

E. The following sources identify fish and wildlife habitats or presence and/or are used as indicators of critical fish or wildlife presence:

1. Water Type Reference Maps, Washington Department of Natural Resources, were used as sources to identify fish and wildlife habitat areas that are depicted in the Critical Areas Fish and Wildlife Habitat Areas—Stream Typing Map;
2. Priority Habitats and Species Program and Priority Habitat Species Maps, Washington Department of Fish and Wildlife (WDFW);
3. Water Resource Index Areas (WRIA), Washington Department of Fish and Wildlife; and
4. Salmon Distribution Maps, WDFW and Washington State Conservation Commission Data, January 2000.

F. The following sources identify the aquifer recharge, pothole and wellhead protection areas that are depicted in the Critical Areas Aquifer Recharge Area—DRASTIC Zones Map and Aquifer Recharge Area:

1. The boundaries of the two highest DRASTIC zones which are rated 180 and above on the DRASTIC index range, as identified in Map of Groundwater Pollution Potential, Edgewood, Washington, National Water Well Association, U.S. Environmental Protection Agency;
2. Wellhead protection areas as identified by the Mountain View/Edgewood Water Company.

G. The following sources identify flood hazard areas:

1. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled “The Flood Insurance Study for Pierce County, Washington and Incorporated Areas” dated March 7, 2017, with accompanying FIRMs and any map amendments or corrections are hereby adopted by reference and declared to be a part of this title. The Flood Insurance Study and FIRMs are on file at Edgewood City Hall, 2224 104th Avenue East, Edgewood, Washington, 98371. The city may add or delete land from areas of special flood hazard or revise base flood elevations, utilizing best available information for flood hazard identification in accordance with federal regulations.
2. The city’s Surface Water Management Plan, 1997, or as amended thereafter.
3. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997.
4. The city’s two-foot elevation contour mapping performed by Nies Mapping Group, Inc., 1999, or as subsequently updated.
5. Relevant and verifiable information from the city’s Capacity Analysis Technical Review AdHoc Committee draft report, 2000.
6. Relevant and verifiable government and citizen photographs, notes, observations, etc., regarding historic ponding/flooding levels.
7. Relevant and verifiable information available through Pierce County.
8. Relevant and verifiable information available through FEMA.
9. Where the flood insurance study, FIRM, and floodway maps do not provide adequate, best, or most recent information, the city may utilize flood information that is more restrictive or detailed than the FEMA data which can be used for identifying flood hazard areas. This information may include, but is not limited to, new and more accurate mapping or data on: channel migration, high water elevations from flood events, base flood elevations, groundwater flooding areas, potholes, maps showing increased flood inundation based on future build-out or changed hydrologic conditions, specific maps from watershed basin plans or related studies, studies by federal or state agencies, or other information deemed appropriate by the city.

APPENDIX AB

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TITLE AND PLAT NOTIFICATION FORMS

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A. Notice for Title Notification.

1. (Example: Appropriate Critical Area from EMC 14.10.030)

Tax Parcel Number:

Address:

Legal Description:

Present Owner:

NOTICE: This property contains (e.g., wetlands or wetland buffers) as defined by EMC 14.10.030. The site was the subject of a development proposal for _____ application number filed on _____ (date). Restrictions on use or alteration of the site may exist due to natural conditions of the property and resulting regulations. Review of such application has provided information on the location of the (e.g., wetland or wetland buffers) and any restriction on use.

Date Signature of owner

Notary acknowledgment and notary seal

B. Additional Title Notification Statements.

1. Title notification for liquefaction and dynamic settlement hazard areas shall include a statement of the performance criteria (i.e., protection of life safety only, provision for minimal structural damage so that post-earthquake functionality is substantially unchanged, no structural damage for the design earthquake).
2. Title notification for fault rupture hazard areas shall include a statement that a fault rupture hazard area or associated buffer exists on the site. The title notification shall include a site plan of the subject property with the fault rupture hazard area and associated buffer identified.
3. Properties that contain flood hazard areas pursuant to Chapter 14.70 EMC shall include the following statement:

Flood Elevation Certificates are kept on file by the ddDepartment.

C. Notice for Plat Notification/Plat Notes.

1. General. The following notice shall be placed on the face of the final plat, short plat, large lot, or binding site plan documents when said subdivision contains critical areas or critical area buffers:

Notice: This site lies within a (e.g., landslide hazard area) as defined in EMC Title 14. Restrictions on use or alteration of the site may exist due to natural conditions of the site and resulting regulation.

2. Native/~~Natural~~ Vegetation Preservation Areas. The following notice shall be placed on the face of the final plat, short plat, large lot, or binding site plan documents when said subdivision contains critical areas or critical area buffers and when said critical areas or critical area buffers have been identified as native/natural vegetation preservation areas.

Notice: The Critical Areas (~~e.g., Oregon White Oak Preservation Areas~~) appearing on this (final site plan/preliminary plat/final plat/short plat/large lot/engineering drawing) contain areas of ~~natural~~ native vegetation intended to buffer the Critical Area from the adverse effects of development. These Critical Areas (~~e.g., Oregon White Oak Preservation Areas~~) shall remain and be maintained in a natural, undeveloped, open space state. There shall be no clearing, grading, filling, or construction within the Critical Areas (~~e.g., Oregon White Oak Preservation Areas~~), except as shown on plans or documents approved by the City of Edgewood and contained in the official files for this development. Each Critical Area (~~e.g., Oregon White Oak Preservation Area~~) shall remain undisturbed except for periodic watering and hand weeding of plants designated as noxious by the State of Washington.

3. Plat Notes for Flood Hazard Areas. The following notes shall be placed on the face of any of final plat, short plat, large lot, or binding site plan documents which lie within a flood hazard area.

- a. Grading, clearing, and/or filling within the limits of the 100-year floodplain is prohibited except for watercourse related construction, repair, and/or maintenance work that is done by the city for management operations.
- b. If a higher frequency event occurs or if existing conditions upon which the flood hazard area boundaries were based were to change or occur differently than depicted, then the level of protection afforded by the existing levee, if applicable, and flood hazard area standards may not be adequate to prevent the subject site from flooding.
- c. All purchasers and developers (and/or their agents) of property within the subject development area and/or parcel shall take notice of the above conditions and hereby agree to defend, indemnify, and hold harmless Edgewood from any and all claims, losses, costs, liabilities, or damages of any nature imposed upon or asserted against Edgewood arising out of or caused by the city's issuance of approval or by issuance of any other permits arising out of this approval.
- d. All occupants and/or owners of property in the subject area assume the risk of flooding which may occur and waive any claims against Edgewood arising out of damage or injury to person or property resulting therefrom. (Ord. 17-492 § 2 (Exh. A); Ord. 16-461 § 3; Ord. 02-200 § 2).

14.10.150 — Figures:

~~A. Figure 14.10-1, Foundation Footing Setback.~~

~~B. Figure 14.10-2, Critical Area Protective Measures — Tracts.~~

~~(Ord. 02-200 § 2).~~

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Chapter 14.15

DEFINITIONS

This title shall rely on the definitions contained in Chapter 18.20 EMC, Definitions. The city also adopts by reference the definitions stated in WAC 197-11-700 through 197-11-799 as now or hereafter amended. Additional definitions that apply to this title are:

“Abutting” means bordering upon, to touch upon, in physical contact with. Sites are considered abutting even though the area of contact may be only a point.

“Activity” means any use conducted on a site.

“Addition” means an alteration to an existing structure that increases the floor area. There are two types of additions: additions affixed to the side of an existing structure and an upper story addition.

“Agricultural activities” means the production of crops and/or raising or keeping livestock, including operation and maintenance of farm and stock ponds, drainage ditches, irrigation systems, and normal operation, maintenance, and repair of existing serviceable agricultural structures, facilities, or improved areas, and the practice of aquaculture. Activities which bring an area into agricultural use are not part of an ongoing activity. An operation ceases to be ongoing when the area in which it was conducted is proposed for conversion to a non-agricultural use or has lain idle for a period of longer than five (5) years, unless the edle land is registered in a federal or state soils conversation program. Forest practices regulated under Chapter 76.09 RCW and WAC Title 222 are not included in this definition.

“Agricultural land” means land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by RCW 84.33.100 through 84.33.140, finfish in upland hatcheries, or livestock, and that has long-term commercial significance for agricultural production.

“Animal containment area” means a site where two or more animal units of large animals per acre or 0.75 of an animal unit of small animals per acre are kept, and where a high volume of waste material is deposited in quantities capable of impacting groundwater resources.

“Animal unit” means the equivalent of 1,000 pounds of animal.

“Appeal” means a request for a review of the interpretation of any provision of this chapter, per EMC 14.10.090.

“Applicant” means any person or entity, including an agency, applying for a license from an agency.

“Application” means a request for a license.

“Aquifer” means a saturated geologic formation, which will yield a sufficient quantity of water to serve as a private or public water supply.

“Area of shallow flooding” means areas designated as AO or AH zones on the FIRM(s). AO zones are characterized as sheet flows, having base flood depths that range from one to three feet above the natural ground, where a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident. AH zones indicate similar depth ponding, shown with standard base flood elevations on the FIRM(s).

“Area of special flood hazard” means land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Designation on FIRM(s) always includes the letter A or V.

“Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year, also referred to as the “100-year flood,” and is designated on FIRM(s) by the letter A or V.

“Basement” means any area of the building having its floor sub-grade (below ground level) on all sides, for the purposes of this title.

“Best available science” means scientific information applicable to the critical area prepared by local, state, or federal natural resource agencies, a qualified scientific professional, or team of qualified scientific professionals that is consistent with criteria established in WAC 365-195-900 through WAC 365-195-925.

“Best management practices” means conservation practices or systems of practices and management measures that:

- A. Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics and sediment;
- B. Minimize adverse impacts to surface water and ground water flow and circulation patterns and to the chemical, physical, and biological characteristics of wetlands;
- C. Protect trees and vegetation designated to be retained during and following site construction and use native plant species appropriate to the site for re-vegetation of disturbed areas; and
- D. Provide standards for proper use of chemical herbicides within critical areas.

“Breakaway wall” means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

“Buffer” means an area contiguous with a critical area that is required for the integrity, maintenance, function, and structural stability of the critical area.

“Building footprint” means the horizontal area measured within the outside of the exterior walls of the ground floor of all principal and accessory buildings on a lot.

“City” means the city of Edgewood.

“Classification” means defining value and hazard categories to which critical areas and land resource lands will be assigned.

“Clearing” means the removal of timber, brush, grass, ground cover, or other vegetative matter from a site, which exposes the earth’s surface on the site.

“Colluvium” means loose materials deposited by gravity on the face of or at the foot of a slope (e.g., talus, soil creep, etc.).

“Compensatory mitigation” means replacing project-induced losses or impacts to a critical area.

“Conservation easement” means a recorded deed restriction or covenant that runs in perpetuity on a parcel of land restricting the use of the property by preventing future real estate development such as residential, industrial, or commercial use. Conservation easements may allow for continued current uses (e.g., residential, recreational, agriculture, forestry, or ranching); however, conservation easements most often restrict both the current use as well as future uses of the land to some important conservation quality such as habitat preservation, open space, or scenic views. A land trust or governmental entity that manages properties for long-term goals typically holds conservation easements.

“Contaminant” means any chemical, physical, biological, or radiological substance that does not occur naturally or occurs at concentrations and duration as to be injurious to human health or welfare or shown to be ecologically damaging.

“Council” means the Edgewood city council.

“County” means Pierce County.

“Crawl space” means the shallow space beneath the bottom floor of a house with no basement; used for access and inspection of framing, electrical, plumbing, insulation, vapor barriers, or duct work. For purposes of the National Flood Insurance Program Elevation Certificate, a crawl space that has subgrade around all sides shall be considered a basement.

“Critical aquifer recharge areas” means areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge.

“Critical areas” means the following areas and ecosystems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas.

“Critical facilities” means those facilities occupied by populations or which handle dangerous substances including but not limited to hospitals, medical facilities, nursing homes; structures housing, supporting, or containing toxic or explosive substances; covered public assembly structures; school buildings through secondary, including daycare centers; buildings for colleges or adult education; police, fire, and emergency response installations; jails and detention facilities; and all structures with occupancy of greater than 5,000 people. These facilities are such that even a slight chance of flooding might be too great. Essential public facilities (as defined under EMC 18.20.080 and 18.100.050) are considered critical facilities, for floodplain management purposes.

“Debris flow” means the rapid downslope movement of a viscous mass of water-saturated sediments.

“Degraded” means to have suffered a decrease in naturally occurring functions and values due to activities undertaken or managed by persons on or off a site.

“Delineation” means a wetland study conducted in accordance with the approved federal wetland delineation manual and applicable regional supplements.

“Department” means the City of Edgewood Department of Community Development.

“Depressional pothole” means a relatively sunken or low-lying area of the earth’s surface, especially one having no natural outlet for surface drainage.

“Development” means any human-induced change to improved or unimproved real property, including but not limited to: the construction of buildings or other structures, placement of a manufactured home/mobile home, mining, dredging, clearing, filling, grading, paving, excavation, drilling operations, storage of equipment or materials located within an area of special flood hazard, or activities otherwise governed by EMC Title 16, Subdivisions.

“Development activity” means any construction, development, earth movement, clearing, or other site disturbance of the land, except as listed under exemptions.

“Director” means the director of the city of Edgewood Department of Community Development or his/her designee.

“DRASTIC” is an acronym for a computer model developed by the National Water Well Association and Environmental Protection Agency used to measure aquifer susceptibility.

“Dwelling unit” means one or more rooms designed for or occupied by one family for living or sleeping purposes and containing kitchen facilities for use solely by one family.

“Earth/earth material” means naturally occurring rock, soil, stone, sediment, or combination thereof.

“Earthflow” means a slow downslope movement of viscous, saturated sediments.

“Elevated building” means, for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

“Elevation certificate” means the official form (FEMA Form 81-31) used to track development, provide elevation information necessary to ensure compliance with community floodplain management ordinances, and determine the proper insurance premium rate with Section B completed by community officials.

“Encroachment” means any development or regulated activity conducted inside the boundaries of a designated critical area and/or its associated buffer.

“Engineer” as defined by Chapter 18.43 RCW.

“Engineering geologist” means a geologist who, by reason of his or her knowledge of engineering geology, acquired by education and practical experience, is qualified to engage in the practice of engineering geology, has met the qualifications in engineering geology established under Chapter 18.220 RCW, and has been issued a license in engineering geology by the Washington State Geologist Licensing Board.

“Engineering geology” means a specialty of geology affecting the planning, design, operation, and maintenance of engineering works and other human activities where geological factors and conditions impact the public welfare or the safeguarding of life, health, property, and the environment.

“Enhancement” means actions performed within an existing degraded critical area and/or buffer to intentionally increase or augment one or more ecological functions or values of the existing area. Enhancement actions include, but are not limited to, increasing plant diversity and cover; increasing wildlife habitat and structural complexity (snags, woody debris); installing environmentally compatible erosion controls; removing non-native plant or animal species; or removing human-made structures or fill that are degrading ecological functions or values.

“Erosion” means the wearing away of the earth’s surface as a result of the movement of wind, water, or ice.

“Erosion hazard areas” means those areas that because of natural characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns, or human-induced changes to such characteristics, are vulnerable to erosion.

“Excavation” means the mechanical removal of earth material.

“Existing manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

“Expansion to an existing manufactured home park or subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

“Facility” means all structures, contiguous land, appurtenances, and other improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, disposing, or otherwise handling a hazardous substance. Use of the term “facility” includes underground and aboveground tanks and operations, which handle, use, dispose of, or store hazardous substances.

“Fill/fill material” means a deposit of earth material placed by human or mechanical means.

“Filling” means the act of placing fill/fill material on any surface, including temporary stockpiling of fill material.

“Finished floor” means the top of the next higher floor above the lowest floor. For purposes of the National Flood Insurance Program Elevation Certificate, the finished floor referenced in this regulation shall equal the top of the next higher floor.

“Fish and wildlife habitat conservation areas” means 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). “Fish and wildlife habitat conservation areas” does not include such artificial features or constructs

as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company.

“Fisheries biologist” means a professional with a degree in fisheries or certification by the American Fisheries Society, or with five years’ professional experience as a fisheries biologist.

“Flood” or “flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters; and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source.

“Flood hazard areas” means areas of flooding identified by verifiable flooded areas using:

1. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997;
2. Relevant and verifiable information from the city’s capacity analysis technical review adhoc committee (CATRAC) draft report, 2000;
3. Relevant and verifiable government and citizen photographs, notes, observations, etc. regarding historic ponding/flooding levels
4. Relevant and verifiable information available through Pierce County;
5. Relevant and verifiable information available through the Federal Emergency Management Agency (FEMA); or
6. Areas of land located in floodplains, which are subject to a one percent or greater chance of flooding in any given year, including, but not limited to, streams, rivers, lakes, ponds, wetlands, depressional potholes and the like.

“Flood Insurance Rate Map (FIRM)” means the official map on which the Federal Insurance Administration (FIA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

“Flood Insurance Study (FIS)” means the official report provided by the Federal Insurance Administration (FIA) that includes flood profiles, FIRM(s), and the water surface elevation of the base flood.

“Flood fringe” means the area subject to inundation by the base flood, but outside the limits of the floodway, and which may provide needed temporary storage capacity for floodwaters.

“Floodplain” means the total area subject to inundation by the base flood, including the flood fringe and the floodway areas.

“Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to convey and discharge the base flood without cumulatively increasing the water surface elevation by more than one foot, and those areas designated as deep and/or fast-flowing water.

“Fluvial processes” means the physical interaction of flowing water and the natural channels of rivers and streams.

“Foundation footing setback” means a typical geotechnical recommendation intended to assure that a proposed structure is protected in the event of a slope failure or sloughage. A foundation footing setback is measured horizontally from the face of the foundation footing to the face of the slope. A foundation footing setback for this purpose should not be confused with a building or construction setback from a landslide hazard area buffer. A foundation footing setback is also not a buffer.

“Frequently flooded area” means lands in the floodplain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater. These areas include, but are

not limited to, streams, rivers, lakes, wetlands, and areas where high groundwater forms ponds on the ground surface.

“Geologically hazardous areas” means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns.

“Geologist” means engineering geologist, or hydrogeologist, registered in the state of Washington.

“Geotechnical professional” means a person with experience and training in analyzing, evaluating, and mitigating landslide, erosion, and/or seismic hazards. A geotechnical professional shall be licensed in the state of Washington as a geologist or professional engineer, and must have five or more years experience specializing in landslide, erosion, or seismic hazards, as applicable.

“Geotechnical report” means a report prepared by a professional engineer licensed by the state of Washington with expertise in geotechnical engineering, evaluating the site conditions and mitigating measures necessary to reduce the risks associated with development in geologically hazardous areas.

“Grading” means any excavating, filling, clearing, or creating of impervious surfaces or combination thereof.

“Groundwater” means all water found beneath the ground surface, including slowly moving subsurface water present in aquifers and recharge areas.

“Habitat management plan” means a report prepared by a professional wildlife biologist or fisheries biologist, which discusses and evaluates the measures necessary to maintain fish and wildlife habitat conservation areas on a proposed development site.

“Habitat of local importance” means an area, range, or habitat within which a species has a primary association and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. Examples include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These areas may also include habitats that are of limited availability or high vulnerability to alteration.

“Hard armoring” means the use of large rock and/or human-made materials to protect property from shoreline erosion. Such techniques include cement/concrete bulkheads, steel structures, rock wall revetments, and rock gabion structures. Hard armoring typically does not utilize or integrate any of soft armoring or soil bioengineering techniques.

“Hazardous substance(s)” means any liquid, solid, gas, or sludge, including any materials, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the characteristics or criteria of hazardous waste; and including waste oil and petroleum products.

“Hazardous substance processing or handling” means the use, storage, manufacture, or other land use activity involving hazardous substances, but does not include individually packaged household consumer products or quantities of hazardous substances of less than five gallons in volume per container. Hazardous substances shall not be disposed on-site unless in compliance with Dangerous Waste Regulations, Chapter 173-303 WAC, and any pertinent local ordinances such as sewer discharge standards.

“Hazardous waste” means and includes all dangerous waste and extremely hazardous waste as designated pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC.

1. “Dangerous waste” means any discarded, useless, unwanted, or abandoned substances including but not limited to certain pesticides or any residues or containers of such substances which are disposed of in such quantity or concentrations as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes:

a. Have short-lived, toxic properties that may cause death, injury, or illness, or have mutagenic, teratogenic, or carcinogenic properties; or

b. Are corrosive, explosive, flammable, or may generate pressure through decomposition or other means.

2. “Extremely hazardous waste” means any waste which:

a. Will persist in a hazardous form for several years or more at a disposal site and which in its persistent form presents a significant environmental hazard and may be concentrated by living organisms through a food chain or may affect the genetic make-up of humans or wildlife; and

b. Is disposed of at a disposal site in such quantities as would present an extreme hazard to humans or the environment.

“Hazardous waste treatment and storage facility” means a facility that treats and stores hazardous waste and is authorized pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC. It includes all contiguous land and structures used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of hazardous waste. Treatment includes using physical, chemical, or biological processing of hazardous wastes to make such waste non-dangerous or less dangerous and safer for transport, amenable for energy or material resource recovery. Storage includes the holding of waste for a temporary period, but not the accumulation of waste on the site of generation as long as the storage complies with applicable requirements of Chapter 173-303 WAC.

“Holocene Epoch” means that part of the geologic record that post-dates the youngest deposits associated with the late Pleistocene Age Fraser Glaciation and is typically considered to be the past 10,000 years.

“Hydrogeologic assessment” means a report detailing the subsurface conditions, the design of a proposed land use action, and the facilities operation which indicates the susceptibility and potential for contamination of groundwater supplies.

“Impervious surface” means a hard surface, which prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, and/or a hard surface area, which causes water to run off the surface in greater quantities or at an increased rate of flow than the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, gravel parking lots, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces.

“Increased cost of compliance (ICC)” means a flood insurance claim payment up to \$30,000 directly to a property owner for the cost to comply with floodplain management regulations after a direct physical loss caused by a flood. Eligibility for an ICC claim can be through a single instance of “substantial damage” or as a result of a “cumulative substantial damage.” (More information can be found in FEMA ICC Manual 301.)

“Lahar” means a mudflow or debris flow mobilized by water, which originates on the slopes of a volcano.

“Lakes” means impoundments of open water 20 acres or larger.

“Landfill” means a place to dispose of refuse and other waste material by burying it and covering it over with soil.

“Landslide” means the abrupt downslope movement of soil, rocks, or other surface matter on a site. Landslides may include but are not limited to slumps, debris flows, mudflows, earthflows, rockfalls, and snow avalanches.

“Landslide hazard areas” means areas which are potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors.

“Large animal” means an animal with an average weight of 100 pounds or more.

“License” means any form of written permission given to any person, organization, or agency to engage in any activity, as required by law or agency rule. A license includes all or part of a city permit, certificate, approval, registration, charter, or plat approvals or rezones to facilitate a particular proposal. The term does not include a license required solely for revenue purposes.

“LiDAR” means Light Detection and Ranging imaging.

“Liquefaction” means a process by which a water-saturated granular (sandy) soil layer loses strength because of ground shaking caused by an earthquake.

“Long-term commercial significance” means the growing capacity, productivity, and soil composition of land, which makes it suitable for long-term commercial production, in consideration with the land’s proximity to population areas, and the possibility of more intense uses of land.

“Lowest floor” means the lowest floor of the lowest enclosed area (including basement and crawl space). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building’s lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this title.

“Maintenance” means those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition without any expansion of or significant change from that originally established condition. For the purposes of this document, activities within landscaped areas within areas subject to native vegetation retention requirements may be considered maintenance only if they maintain or enhance the canopy and understory cover.

“Manufactured home/mobile home” means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term “manufactured home/mobile home” also includes park trailers, travel trailers, and other similar recreational vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term “manufactured home/mobile home” does not include park trailers, travel trailers, recreational vehicles, or other similar vehicles.

“Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

“Mineral resource lands” means lands primarily devoted to the extraction of minerals or which have known or potential long-term commercial significance for the extraction of minerals.

“Minerals” include gravel, sand, or other resources that are extracted from the ground, and valuable metallic substances.

“Mitigation” means:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
6. Monitoring the impact and taking appropriate corrective measures;

“Mudflow” means a debris flow containing an abundance of fine particles.

“Native vegetation” or “native plants” means a mix of plant species comprising herbs, grasses, grass-like plants, shrubs and trees indigenous to the Puget Sound region that reasonably could be expected to naturally occur on the site.

“Natural resource lands” means agricultural and mineral resource lands, which have long-term commercial significance.

“New construction” means structures for which the “start of construction” commenced on or after the following:

1. For the purposes of determining flood insurance rates, the effective date of an initial FIRM (i.e., August 19, 1987, or August 4, 1988, specifically for Panel 350 only), and includes any subsequent improvements to such structures.
2. For floodplain management purposes, the effective date of this floodplain management ordinance and includes any subsequent improvements to such structures.
3. For all other cases, the effective date of the applicable critical areas ordinance.

“New manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the adopted floodplain management regulations.

“Ordinance” means the ordinance, resolution, or other procedure used by the city to adopt regulatory requirements.

“Ordinary high water mark (OHWM)” means the mark on all lakes, streams and tidal waters that will be found by examining the beds 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 and vegetation, as that condition exists on the effective date of the ordinance codified in this title, or as it may naturally change thereafter. In any area where the ordinary high water mark cannot be found, the ordinary high water mark shall be the line of mean higher high tide in areas adjoining saltwater, and the line of mean high water in areas adjoining freshwater.

“Plat” means:

1. “Short subdivision” or “short plat” means the division or redivision of land into six or fewer lots, tracts, parcels, sites, or divisions for the purpose of sale, lease, or transfer of ownership.
2. “Subdivision” or “formal subdivision” means the division or redivision of land into seven or more lots, tracts, parcels, sites, or division for the purpose of sale, lease, or transfer of ownership. For floodplain management regulation purposes, this includes land over five acres in area situated within a flood hazard area.

“Ponds” means naturally occurring impoundments of open water less than 20 acres in size and larger than 2,500 square feet, which maintain standing water throughout the year. Also see “depressional pothole.”

“Professional engineer” means an engineer currently licensed and registered in the state of Washington.

“Reconstruction” means the rebuilding of an existing structure which has been partially or completely destroyed by any cause, such as but not limited to fire, wind, landslides, and water, without increasing the original floor area or square footage area.

“Recreational vehicle (RV)” means a vehicle built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light duty truck, and designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel, or seasonal use.

“Regulated activities” means, but is not limited to, any of the following activities which are directly undertaken or originate in a regulated critical area or its buffer: building permit, commercial or residential; binding site plan; franchise right-of-way construction permit; site development permit; right-of-way permit; shoreline permits; short subdivision; use permits; subdivision; utility permits; or any subsequently adopted permit or required approval not expressly exempted by this title.

“Rehabilitation” means any improvements and repairs which are made to the interior and exterior of an existing structure, but which do not result in any increase in the floor area of the structure. This is also commonly referred to as a “remodel” of an existing structure.

“Restoration” means an action which returns habitat to a state in which its stability and functions approach its unaltered state as closely as possible. This may be accomplished through measures including, but not limited to, re-vegetation, removal of intrusive stream bank structures, and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the critical area to aboriginal or pre-European settlement conditions.

“Revised Code of Washington (RCW)” means all laws of a general and permanent nature heretofore or hereafter enacted by the legislature, and assign permanent numbers as provided by law to all new titles, chapters, and sections thereof.

“Riparian” means the area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Riparian habitat begins at the ordinary high water mark and includes the entire extent of the floodplain and riparian areas of wetlands that are directly connected to the stream course.

“Seismic hazard areas” means areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

“Sensitive areas” mean agricultural lands and mineral resource lands and all associated buffers.

“Shoreline” for this title means the line where a body of water and the shore meet or the strip of land along the shoreline. There are no waters within the city of Edgewood meeting the criteria of shorelines of statewide significance as defined by RCW 90.58.030.

“Single-family dwelling” means a detached building designed exclusively for occupancy by one family and containing one dwelling unit.

“Site” means a lot, parcel, tract, or combination of lots, parcels, or tracts on which a regulated activity is proposed.

“Slope” means an inclined earth surface, the inclination of which is expressed as the ratio of horizontal distance to vertical distance.

“Sludge” means a semisolid substance consisting of settled solids combined with varying amounts of water and dissolved materials generated from a wastewater treatment plant or system or other sources, including septage sludge, sewage sludge, and industrial sludge.

“Sludge land application site” means a site where stabilized sludge, septage, and other organic wastes are applied to the surface of the land in accordance with established agronomic rates for fertilization or soil conditioning.

“Slump” means the downward and outward movement of a mass of bedrock, colluvium, or other sediments along a distinct surface of failure.

“Small animal” means an animal with an average weight of less than 100 pounds.

“Special occupancy structures” means those structures that have the potential to provide capacity for large numbers of people or special groups of people or assemblies such as but not limited to schools, jails and detention facilities, and resident incapacitated patients.

“Species of local importance” means species that are of local concern due to their population status or their sensitivity to habitat manipulation.

“Soft armoring techniques” means the use of woody plants and limited structural-mechanical systems that are integrated in a structurally and environmentally sound manner to repair and protect slopes and shorelines against shallow mass wasting and surface erosion. Measures such as live stake, live fascine, brushlayer, live cribwall,

vegetated geogrid, branchpacking, live slope grading, beach berms, or earthen berms are examples of soft armoring techniques. Soft armoring techniques may also be referred to as soil bioengineering methods.

“Start of construction” includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The “actual start” means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the “actual start of construction” means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

“Stockpiling” means the placement of material with the intent to remove it later.

“Stream” means a feature where surface waters produce a defined channel or bed. A defined channel or bed is an area that 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 definition is not intended to include artificially created irrigation ditches, canals, storm or surface water devices, or other entirely artificial watercourses, unless they are used by salmonids or created for the purposes of stream mitigation.

“Structure” means a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

“Substantial improvement” means any repair, reconstruction, addition, rehabilitation, or other improvement of a structure, whereby the cost for the work exceeds 50 percent of the market value of the existing structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed.

The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
2. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places; provided, that the alteration will not preclude the structure’s continued designation as a “historic structure.”

Except for floodplain management regulation, the “cost” and “market value” may be determined using the current permit valuation. The building official shall determine the current permit valuation based on the cost per square foot values in effect at the time of permit application. Substantial improvement shall be accumulative from the effective date of the ordinance codified in this chapter.

“Talus” means a homogenous area of rock rubble ranging in average size 0.15 to 2.0 meters (0.5 to 6.5 feet), including riprap slides and mine tailings. Talus areas may be associated with cliffs.

“Toe of slope” means a distinct topographic break in slope at the lowermost limit of the landslide or erosion hazard area.

“TPCHD” means the Tacoma-Pierce County Health Department.

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“Underground storage tank” means any one or a combination of tanks (including underground pipes connected thereto) which are used to contain or dispense an accumulation of hazardous substances or hazardous wastes, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground.

“Urban governmental services” means those governmental services historically and typically delivered by cities, and includes storm and sanitary sewer systems, domestic water systems, street cleaning services, and other public utilities associated with urban areas and normally not associated with nonurban areas.

“Urban growth” means growth that makes intensive use of the land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of such land for the production of food, other agricultural products, or fiber, or the extraction of mineral resources. When allowed to spread over wide areas, urban growth typically requires urban governmental services. “Characterized by urban growth” refers to land having urban growth located on it or to land located in relationship to an area with urban growth on it as to be appropriate for urban growth.

“Utility line” means pipe, conduit, cable, or other similar facility by which services are conveyed to the public or individual recipients. Such services shall include, but are not limited to, water supply, electric power, gas, communications, and sanitary sewers.

“Variance” means a grant of relief from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited by this chapter, per EMC 14.10.085.

“View corridor” means an area, which affords views of lakes, mountains, or other scenic amenities normally enjoyed by residential property owners.

“Violation” means the failure of a structure or other development activity to be fully compliant with the provisions of this title. With regard to the floodplain management regulations, projects without the elevation certificate, other certifications, or other evidence of compliance required in Chapter 14.70 EMC are presumed to be in violation until such time as that documentation is provided. See Chapter 1.10 EMC for penalties.

“Volcanic hazard areas” means those areas subject to pyroclastic flows, lava flows, and inundation by debris flows, mudflows, or related flooding resulting from geologic or volcanic events on Mount Rainier.

“Washington Administrative Code (WAC)” means state of Washington Administrative Code.

“Water dependent” means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

“Wellhead protection area” means the area within the 10-year time-of-travel zone boundary of a group A public water system well, as delineated by the water system purveyor or its designee, pursuant to WAC 246-290-135.

“Wetland” means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from 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 category” means the numeric designation (I through IV) assigned to a wetland to indicate the wetland’s overall function and value. Wetland categories rank the city’s wetlands from highest (Category I) to lowest (Category IV) using the –current version of the Washington State Wetland Rating System for Western Washington (Hruby, 2014) Washington State Department of Ecology wetland-rating system for western Washington (Hruby, 2014).

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“Wetland class or Wetland habitat” means the U.S. Fish and Wildlife Service wetland classification scheme that uses a hierarchy of systems, subsystems, classes, and subclasses to describe wetland habitat 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). These include, for example: forested, scrub-shrub, emergent, and aquatic bed.–

“Wetland mosaic” means a patchwork of wetlands that is considered one unit where each patch of wetland is less than one acre and the areas delineated as vegetated wetland are more than fifty percent of the total area of the wetlands and uplands together.

“Wetland specialist” means a wetland scientist with at least two years of full-time work experience as a wetlands professional, including delineating wetlands using the federal manual and supplements, preparing wetland reports, conducting function assessment, and development and implementing mitigation plans.

“Wildlife biologist” means a professional with a degree in wildlife, or certification by the Wildlife Society, or with five years’ professional experience as a wildlife biologist. (Ord. 17-492 § 2 (Exh. A); Ord. 16-461 § 2; Ord. 15-447 § 1 (Exh. A); Ord. 02-200 § 2).

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Chapter 14.20

USE AND ACTIVITY REGULATIONS

Sections:

- 14.20.010 Permitted uses.
- 14.20.020 Regulated uses and activities.
- 14.20.030 Exemptions.
- 14.20.040 Nonconforming uses and structures.
- 14.20.050 Reasonable use exceptions.
- 14.20.060 Current use assessment program.

14.20.010 Permitted uses.

Uses permitted on properties designated as critical areas shall be the same as those permitted in the zone classification shown in the city's zoning atlas unless specifically prohibited by this title. (Ord. 02-200 § 2).

14.20.020 Regulated uses and activities.

A. Unless the requirements of this title are met, the department shall not grant any approval or permission to alter the condition of any land, water, or vegetation, or to construct or alter any structure or improvement regulated through the following: building permit, commercial or residential; binding site plan; franchise right-of-way construction permit; site development permit; right-of-way permit; short subdivision; large lots; use permits; subdivision; utility permits; or any subsequently adopted permit or required approval not expressly exempted by this chapter.

B. The following activities are regulated ~~within a critical fish and wildlife habitat area, wetland, aquifer recharge area, landslide or erosion hazard area, flood hazard area, within critical areas~~ and/or their buffers, unless exempted by EMC 14.20.030:

1. Removing, excavating, disturbing, or dredging soil, sand, gravel, minerals, organic matter, or materials of any kind;
2. Dumping, discharging, or filling;
3. Draining, flooding, or disturbing the water level or water table. In addition, an activity which involves intentional draining, flooding, or disturbing the water level or water table in a wetland or stream in which the activity itself occurs outside the regulated area shall be considered a regulated activity;
4. Driving, piling or placing obstructions, including placement of utilities;
5. Constructing, reconstructing, installing, demolishing, or altering the size of any structure or infrastructure, including manufactured and/or mobile homes;
6. Altering the character of a regulated area by destroying or altering vegetation through clearing, harvesting, cutting, intentional burning, shading, or planting;

~~7. Activities which result in significant changes in water temperature or physical or chemical characteristics of wetland or stream water sources, including changes in quantity of water and pollutant level;~~

~~8. Application of pesticides, fertilizers, and/or other chemicals unless demonstrated not to be harmful to the regulated area;~~

~~9. The division or redivision of land;~~

~~10. The creation of hard surfaces.~~

11. The city adopts the Forest Practice Act (Chapter 76.09 RCW) by reference. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

14.20.030 Exemptions.

A. All exemptedExempted activities shall use reasonable methods to avoid potential impacts to critical areas and their buffers to the greatest degree feasible. To be exempt from this title does not give permission to degrade a critical area or its buffer or ignore risk from natural hazards. Any incidental damage to, or alteration of, a critical area or its buffer that is not a necessary outcome of the exempted activity shall be restored, rehabilitated, or replaced at the responsible party's expense.

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B. The following activities are exempt from the provisions of this title:

The following activities are exempt from the provisions of this title:

A. Existing agricultural activities established prior to February 2, 1992; that after that date, do not cause permanent conversion of a critical area through actions such as filling, ditching, draining, clearing, grading, etc.; provided, that:

1. Existing agricultural activities and structures shall comply with the provisions of Chapter 14.70 EMC, Flood-Hazard Areas; and

2. Determination of an agricultural exemption status is limited to the specific area(s) upon which lawfully established agricultural activities are being conducted. A determination that an activity is exempt within one portion of a property does not necessarily extend to other portions of the property.

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

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2. Normal maintenance or repair of existing structures or developments, including damage by accident, fire, or elements. "Normal maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal repair" means to restore a development to a state comparable to its original condition including, but not limited to, its size, shape, configuration, location, and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to critical areas or their buffers. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including, but not limited to, its size, shape, configuration, location, and external appearance and the replacement does not expand further into the critical area or cause substantial adverse effects to critical areas or their buffers. Refer to EMC 14.20.040 (D) for requirements associated with repair of substantial damage of non-conforming structures.

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B. Maintenance or reconstruction of existing, lawfully established public facilities; provided, that reconstruction does not involve expansion of the facility:

1. Roads, paths, bicycle ways, trails, bridges, and associated storm drainage facilities or other public rights-of-way;

2. Flood control improvements such as, but not limited to, levees, revetments, floodwalls, regional storm-drainage facilities, drainage structures, or channel capacity projects to protect public infrastructure and/or existing development, when administered by Edgewood public works and utilities; provided, that the work shall:

a. Not increase the height of the facility or linear length of the affected stream edge;

b. Not expand the footprint of the facility waterward or into any landward aquatic habitat; and

c. Use approved fish-friendly bioengineering techniques to the extent feasible.

C. Maintenance or reconstruction of existing private roads, driveways, on-site septic systems, and wells; provided, that reconstruction does not involve expansion of facilities, widening, or relocation.

D. For the following utility activities, when undertaken pursuant to best management practices to avoid impacts to critical areas:

1. Normal and routine maintenance or repair of existing utilities that does not include any expansion.

2. Installation, replacement, operation, repair, alteration, extension, or construction of all utility lines, equipment, or appurtenances in improved city road rights-of-way.

3E. Reconstruction, remodeling, or maintenance of existing single-family residential structures and accessory structures that are located outside a flood hazard area and active landslide hazard area; provided, that a one-time only expansion of the building footprint does not increase by more than 25 percent and that the new construction or related activity does not further intrude into the critical area or related buffer. The exemption shall not apply to reconstruction which is proposed as a result of structural damage associated with a critical area, such as slope failure in a landslide hazard area or flooding in a flood hazard area.

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4F. Reconstruction, remodeling, or maintenance of structures, other than single-family structures and accessory structures that are located outside a flood hazard area or active landslide hazard area; provided, that such reconstruction, remodeling, or maintenance does not increase the floor area nor extend beyond the existing ground coverage. The exemption shall not apply to reconstruction which is proposed as a result of site or structural damage associated with a critical area, such as slope failure in a landslide hazard area or flooding in a flood hazard area.

5G. Site investigative work necessary for land use application submittals such as surveys, soil logs, percolation tests, and other related activities. Critical area impacts shall be minimized and disturbed areas shall be immediately restored.

6H. Emergency actions necessary to prevent imminent threat or danger to public health or safety, or to public or private property, or serious environmental degradation.

a1. The department shall review all proposed emergency actions to determine the existence of the emergency and reasonableness of the proposed actions taken; however, post-emergency actions, such as submittal of permits, completion of city review, modification or removal of the emergency repair work, or mitigation shall be required by the department.

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b2. Shoreline erosion protection measures shall only be allowed as an emergency action when the owner can demonstrate that there is an imminent threat to an existing residential, commercial, industrial, or agricultural structure. The owner shall retain either city staff or an engineering geologist to conduct a site investigation and provide adequate documentation that the situation is actually an emergency. An emergency action is not warranted when the structure is located outside the active landslide or shoreline erosion hazard area.

c. After the emergency, the person or agency undertaking the action shall fully fund and conduct necessary restoration and/or mitigation for any impacts to the critical area and buffers resulting from the emergency action in accordance with an approved critical area report and mitigation plan. The person or agency undertaking the action shall apply for review, and the alteration, critical area report, and mitigation shall be reviewed by the department in accordance with the review procedures contained herein. Restoration and/or mitigation activities must be initiated within 90 days of the date of the emergency activity, and completed within one (1) year.

7. Installation, construction, replacement, repair, operation or alteration of natural gas, cable and telecommunication facilities, electric facilities and lines, water, sewer or storm lines, pipes, mains,

equipment or appurtenances in publicly owned right-of-way (which may be within or adjacent to a critical area or its buffer), subject to full review and approval of the department, including any mitigation and restoration requirements established by the department.

I. Activities in artificial wetlands, except those artificial wetlands intentionally created from nonwetland sites, including but not limited to irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities; or, those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. However, wetlands may include those artificial wetlands intentionally created from nonwetland areas, created to mitigate conversion of wetlands, if permitted by the department.

J. Activities affecting:

1. Category III wetlands less than 2,500 square feet in size which fail to meet the definition of an associated wetland, and which are not part of a mosaic wetland system as set forth in EMC 14.30.020(E)(2).
2. Category IV wetlands less than 10,000 square feet in size and which fail to meet the definition of an associated wetland, and which are not part of a mosaic wetland system as set forth in EMC 14.30.020(E)(2).
3. Category III and IV wetlands exempted under this section may still be regulated under the provisions of the city's adopted stormwater management manual.

K. Placement of access roads, utility lines, and utility poles across a Category IV wetland and/or a buffer for a Category IV wetland if there is no reasonable alternative.

L. Activities on improved portions of roads, rights-of-way, or easements; provided, there is no expansion of ground coverage.

M. Activities in wetlands in areas managed according to a special area management plan or other plan adopted by the department and specifically designed to protect wetland resources.

8N. Removal by hand of manmade litter and control of noxious weeds that are included on the state noxious weed list (Chapter 16-750 WAC) or invasive plant species as identified by the city. Control may be conducted by clipping, pulling, or digging, or by an alternative non-mechanical method upon approval of a plan by the department.

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9Q. Activities undertaken to comply with a United States Environmental Protection Agency superfund order, or a Washington Department of Ecology order, pursuant to the Model Toxics Control Act, including the following activities:

- a1.** Remediation or removal of hazardous or toxic substances;
- b2.** Source control; and
- c3.** Natural resource damage restoration.

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P. Maintenance activities of landscaping and gardens in a required buffer, including but not limited to, mowing lawns, weeding, harvesting, and replanting of garden crops, pruning and planting of vegetation to maintain the condition and appearance of the site existing on February 1, 1992.

Q. Activities designed for previously approved maintenance and enhancement of critical areas and/or their associated buffers.

R. Activities undertaken on the site of an existing holding pond where the water flow and/or water table is controlled by a previously approved pump system.

~~S. A residential building permit for a lot which was created through a land division action subject to previous reports and assessments as required under this title; provided, that the previous reports and assessments adequately identified the impacts associated with the current development proposal.~~

~~T. Maintenance of individual cemetery plots in established and approved cemeteries.~~

~~10U. Activities within a portion of a wetland buffer or fish and wildlife habitat conservation area buffer located landward of an existing, substantially developed area, such as a paved area, dike, levee, or permanent structure which eliminates or greatly reduces the impact of the proposed activities on the wetland or fish and wildlife habitat conservation area. The department shall review the proposal to determine the likelihood of associated impacts.~~

~~11V. Passive recreation such as hunting, hiking, fishing, and wildlife viewing that does not involve the construction of trails.~~

~~12W. Enhancement actions that do not involve clearing, grading, or construction activities (e.g., revegetation with native plants and installation of nest boxes). Enhancement activity proposals shall be reviewed by the department.~~

~~13. Forest practices conducted in accordance with the requirements of the Forest Practice Act (Chapter 76.09 RCW) and its rules, with the exception of the conversion of forest land to a use other than commercial forestry (Class IV conversions).~~

~~14. Existing and ongoing agricultural activities, provided that they implement applicable Best Management Practices (BMPs) contained in the latest editions of the USDA Natural Resources Conservation Service Field Official Technical Guide; or develop a farm conservation plan in coordinate with the local conservation district. BMPs and/or farm plans should address potential impacts to critical areas from livestock, nutrient and farm chemicals, soil erosion and sediment control and agricultural drainage infrastructure. BMPs and/or farm plans should ensure that ongoing agricultural activities minimize their effects on water quality, riparian ecology, salmonid populations, and wildlife habitat.~~

~~X. Maintenance or repair of existing shoreline erosion protection measures or structures; provided, that the repair shall not serve to expand any existing structures or increase the impacts of such structure on critical fish or wildlife habitat.~~

~~Y. In addition to the general exemptions listed in this section, the following uses or activities are exempt from the provisions of Chapter 14.50 EMC, Aquifer Recharge and Wellhead Protection Areas:~~

- ~~1. Sewer lines and appurtenances;~~
- ~~2. Biosolids and sludge land application sites; provided, that these activities comply with the requirements established in Chapters 173-200, 173-216, and 173-304 WAC; and~~
- ~~3. Single family and two family dwellings and associated accessory structures. (Ord. 02-200 § 2).~~

14.20.040 Nonconforming uses and structures.

An established use or existing structure located in a wetland, ~~critical~~ fish and wildlife habitat conservation area, landslide or erosion hazard area, flood hazard area, and their associated buffers that was lawfully permitted prior to ~~February 1, 1992, the effective date of this title~~, but which is not currently in compliance with this title, may continue subject to the following:

A. Nonconforming Use Expansion. Nonconforming uses shall not be expanded or changed in any way that increases the nonconformity without a permit issued pursuant to the provisions of this title.

B. Nonconforming Structure Expansion. Existing structures shall not be expanded or altered in any manner that will increase the nonconformity without a permit issued pursuant to the provisions of this title, except as provided in EMC 14.20.030 ~~(F) and (G)(B)~~.

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C. Discontinued Uses. Activities or uses which are discontinued for 12 consecutive months shall be allowed to resume only if they are in compliance with this title.

D. Substantial Damage. Nonconforming structures, except for structures located in a flood hazard area or active landslide hazard area which are damaged or destroyed by fire, explosion, flood, or other casualty, may be restored or replaced if reconstruction is commenced within one year of such damage and is substantially completed within 18 months of the date such damage occurred. The reconstruction or restoration shall not serve to expand, enlarge, or increase the nonconformity except as allowed through the provisions in EMC 14.20.030~~(F) and (G)-(B)~~. Structures in a floodway or active landslide hazard area may be allowed to be restored only up to the limits of substantial improvement, as set forth in each chapter. (Ord. 02-200 § 2).

14.20.050 Reasonable use exceptions.

A. General Requirements.

1. If the application of this title would deny all reasonable use of a site, development may be allowed which is consistent with the general purposes of this title and the public interest. Nothing in this title is intended to preclude all reasonable use of property.

2. The provisions outlined in this section shall only be used when application of this title would deny all reasonable use of a site.

~~3. Reasonable use provisions shall apply to new construction, expansions, additions, replacements, and redevelopment projects.~~

~~4.3.~~ Applications for a reasonable use shall automatically constitute an application for a variance to reduce front, side, or rear yard setback requirements. The hearing examiner shall examine the feasibility of reducing setbacks as a method of locating a structure outside a critical area or its associated buffer prior to granting a reasonable use exception for allowing construction to occur within a critical area or its associated buffer. Reductions in setback requirements shall be given preference over granting of a reasonable use exception.

~~5. The proposed impact to the critical area shall be the minimum necessary to allow for reasonable economic use of the property.~~

~~6. Mitigation may be required to assure that the proposal will result in no net loss of critical area functions and values, consistent with the best available science.~~

~~7.5.~~ The creation of new lots within critical areas and their associated buffers is prohibited.

~~8.6.~~ The proposal must comply with all provisions in Chapter 14.70 EMC, Flood Hazard Areas, and Chapter 14.80 EMC, Landslide Hazard Areas.

B. Application Requirements. An application for a reasonable use exception shall include the following information:

1. A description of the areas of the site that contains a critical area, buffers, or within setbacks required under this title;
2. A description of the amount of the site that is within setbacks required by other standards of the zoning code;
3. A description of the proposed development, including a site plan;
4. An analysis of the impact that the amount of development described in subsection (B)(3) of this section would have on the critical area(s);
5. An analysis of whether any other reasonable use with less impact on the critical area(s) and associated buffer(s) is possible;
6. A design of the proposal so that the amount of development proposed as reasonable use will have the least impact practicable on the critical area(s);

7. An analysis of the modifications needed to the standards of this title to accommodate the proposed development;

8. A description of any modifications needed to the required front, side, and rear setbacks; building height; and buffer widths to provide for a reasonable use while providing greater protection to the critical area(s);

9. Such other information as the department determines is reasonably necessary to evaluate the issue of reasonable use as it relates to the proposed development, such as but not limited to a wetland analysis report, mitigation plan, habitat evaluation study, and/or a buffer enhancement plan.

C. Review.

1. Public Hearing Required. The department shall set a date for a public hearing before the hearing examiner after all requests for additional information or plan correction, as set forth in EMC 18.40.150, have been satisfied. The public hearing shall follow the procedures set forth in EMC 18.40.190, Notice of public hearing.

2. Decision Criteria. The hearing examiner may approve a reasonable use exception if the examiner determines the following criteria are met:

a. The proposed development is located on an existing lot of record that was created prior to the effective date of the ordinance codified in this title and there is no other reasonable use or feasible alternative to the proposed development with less impact on the critical area(s) and/or associated buffers including phasing or project implementation, change in timing of activities, buffer averaging or reduction, setback variance, relocation of driveway, or placement of structure.

b. The development cannot be located outside the critical area and/or its associated buffer due to topographic constraints of the parcel or size and/or location of the parcel in relation to the limits of the critical area and/or its associated buffer and a building setback variance or road variance has been reviewed, analyzed, and rejected as a feasible alternative.

c. The proposed development does not pose a threat to the public health, safety, or welfare on or off the site, nor shall it damage nearby public or private property.

d. Any alteration of the critical area(s) shall be the minimum necessary to allow for reasonable use of the property.

e. The inability of the applicant to derive reasonable use of the property is not the result of actions by the applicant in subdividing the property or adjusting a boundary line thereby creating the undevelopable condition after February 1, 1992.

f. The proposal mitigates the impacts on the critical area(s) to ~~the maximum extent possible~~ ensure no net loss of critical area functions, while still allowing reasonable use of the site.

g. The proposed activities will not jeopardize the continued existence of species listed by the state or federal government as endangered, threatened, sensitive, or documented priority species or priority habitats.

h. The proposed activities will not cause significant degradation of groundwater or surface water quality.

~~3. Additional Decision Criteria for Wetlands and Associated Buffers. In addition to the decision criteria listed in subsection (C)(2) of this section, a reasonable use exception for wetlands and associated buffers shall also demonstrate that the proposed activity will result in minimum feasible alteration or impairment to the wetland's functional characteristics and existing contours, vegetation, fish and wildlife resources, and hydrological conditions.~~

~~4. Additional Decision Criteria for Critical Fish and Wildlife Habitat Areas and Associated Buffers. In addition to the decision criteria listed in subsection (C)(2) of this section, the hearing examiner may approve a~~

~~reasonable use exception for critical fish and wildlife habitat areas and associated buffers if the examiner determines that the proposal complies with the mitigation measures as set forth in EMC 14.40.050.~~

35. Hearing Examiner's Authority. The hearing examiner has the authority to approve an application for a reasonable use exception, approve with additional requirements above those specified in this title, require modification of the proposal to comply with specified requirements or local conditions, or deny the application if it fails to comply with the requirements of this title.

46. Required Written Findings and Determinations. A reasonable use exception may be approved by the hearing examiner only if all of the following findings can be made regarding the proposal and are supported by the record:

- a. The granting of the proposal will not be detrimental to the public health, safety, and general welfare.
- b. The granting of the proposal will not be injurious to the property, regulated critical area(s), or improvements adjacent to and in the vicinity of the proposal.
- c. The proposal minimizes adverse environmental impacts to the maximum practicable extent and provides mitigation to offset any impacts.
- d. The granting of the proposal is consistent and compatible with the goals, objectives, and policies of the comprehensive plan; community plan, if applicable; and the provisions of this title. (Ord. 02-200 § 2).

14.20.060 Current use assessment program.

A. An owner of agricultural land, timberland, or open space desiring current use classification under Chapter 84.34 RCW may file for such current use classification with the Pierce County assessor-treasurer's office.

B. The department shall notify the assessor-treasurer's office when restrictions on development occur on a particular site.

C. The assessor-treasurer's office shall consider the critical areas and buffering requirements of this title in determining the fair market value of land. Any owner of an undeveloped buffer which has been placed in a separate tract or tracts, protective easement, public or private land trust dedication, or other similarly preserved area shall have that portion of land assessed consistent with those restrictions. (Ord. 02-200 § 2).

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Chapter 14.30

WETLANDS

Sections:

- 14.30.010 Purpose.
- 14.30.020 Wetland ~~areas~~ identification, delineation, and rating.
- ~~14.30.025 Buffer standards—Wetlands~~
- 14.30.030 Wetland review procedures.
- ~~14.30.040 Wetland standards~~ Allowed activities.
- ~~14.30.050 Mitigation requirements~~.
- 14.30.060 ~~Buffer~~ Mitigation requirements.
- 14.30.070 Appendices.
- ~~14.30.080 Figures~~.

14.30.010 Purpose.

The purpose of this chapter is to avoid or, in appropriate circumstances, to minimize, rectify, reduce, or compensate for impacts arising from land development and other activities affecting wetlands, and to maintain and enhance the biological and physical functions and values of wetlands with respect to water quality maintenance, stormwater and floodwater storage and conveyance, fish and wildlife habitat, primary productivity, recreation, education, and historic and cultural preservation. When wetland impacts occur, mitigation will be required to achieve no net loss of wetlands in terms of acreage, function, and value. (Ord. 02-200 § 2).

14.30.020 Wetland ~~areas~~ identification, and rating delineation, and rating.

A. ~~General~~ Designation. All areas within the city meeting the meeting the definition of “wetland” in Chapter 14.15 EMC are hereby designated critical areas.

B. Identification and Delineation. Wetlands shall be identified and delineated by a qualified wetland scientist in accordance with the approved federal wetland delineation manual and applicable regional supplements. Wetland delineations are valid for 5 years, after which date the City shall require verification that the wetland boundaries and prior conditions have not changed.

1. Wetlands are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

2. The city will require the use of the following documents to determine the presence or absence of potential wetlands:

a. Federal Manual for Identifying and Delineating Jurisdictional Wetlands, Corps of Engineers Wetlands Delineation Manual, 1987 Edition, and corresponding guidance letters; and

b. Washington State Wetlands Identification and Delineation Manual, March 1997 Edition (DOE Publication 96-94).

B. Wetland Indicators. Indicators of wetlands normally include, but are not limited to: saturated soils or standing water; water-tolerant plant species such as salmonberry, Oregon ash, Western red cedar, rushes and sedges; and dark brown or black soil colors. Refer to the documents listed in subsection (A)(2) of this section for detailed wetland indicator criteria.

C. Potential Wetland Areas Mapping. Potential wetland areas, as depicted on the city’s Critical Areas Atlas—Wetland Inventory Maps, are those areas where wetland indicators have been mapped or identified. Potential wetlands include:

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1. Areas within 165 feet of hydric soils identified on the soil survey of Pierce County area, wetlands identified on the National Wetland Inventory Maps or Edgewood wetland inventory maps, areas of known flooding identified on the FEMA FIRM and flood insurance study maps, or any other indicators of hydrology such as Department of Natural Resource stream data.

2. Areas that possess one or a number of wetland indicators as set forth in subsection (B) of this section and any adjacent areas within 165 feet.

3. Areas within the buffer of any wetland previously identified through the wetland review process. The approximate location and extent of wetlands are shown on maps maintained by the city. These maps are useful as a guide for project applicants and/or property owners but do not provide a conclusive or definitive indication of wetland presence or extent. Other wetlands may exist that do not appear on the maps, and some wetlands that appear on the maps may not meet all of the wetland designation criteria. The city shall update the maps periodically as new wetland areas are identified and as new wetland information becomes available.

D. Wetland Categories. Wetlands shall be categorized by a qualified wetland scientist in accordance with the current version of the Washington State Wetland Rating System for Western Washington (Hruby, 2014) and the appropriate rating forms approved by the Washington State Department of Ecology. The wetland shall also be classified according to the U.S. Fish and Wildlife Service "Classification of Wetlands and Deep Water Habitats in the U.S." Wetlands shall be classified into categories which are reflective of each wetland's function and value and unique characteristics. Wetland categories shall be based on the generalized criteria provided in EMC 14.30.070, Appendix A, and the specific criteria provided in the Edgewood wetlands rating form provided in EMC 14.30.070, Appendix F. Wetlands shall be generally designated as follows:

1. Category I Wetlands. Category I wetlands are those regulated wetlands of exceptional resource value based on their functional value and diversity, wetland communities of infrequent occurrence, association with documented habitat for sensitive, threatened or endangered species, and other attributes which may not be adequately replicated through creation or restoration.
2. Category II Wetlands. Category II wetlands are those regulated wetlands of significant resource value based on their functional value and diversity, wetland communities of infrequent occurrence, and other attributes which may not be adequately replicated through creation or restoration.
3. Category III Wetlands. Category III wetlands are those regulated wetlands that have important resource value, principally due to vegetative diversity.
4. Category IV Wetlands. Category IV wetlands are those regulated wetlands of ordinary resource value based on monotypic vegetation of similar age and class, lack of special habitat features, and isolation from other aquatic systems.

E. Wetland Delineation Criteria.

1. Delineating Wetlands Divided by a Manmade Feature. When a wetland is divided by a manmade feature (e.g., a road embankment), the wetland shall be rated as if it is not divided if there is a perennial or intermittent surface water connection between the two wetlands and either of the following criteria are met:
 - a. It can be demonstrated that the separate wetlands were one discrete wetland prior to construction of the manmade feature. This may be accomplished through an analysis of secondary information such as aerial photographs and soils maps; or
 - b. The two separated wetlands can be shown to function as one wetland. This shall be determined based on normal conditions (i.e., in the absence of unauthorized activity, the wetlands possess similar vegetative or wildlife assemblages or hydrologic regime).
 - c. Separated wetland areas may be rated jointly in the absence of a perfectly level culvert with two-way water flow.

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2. Connecting Mosaic Pattern Wetlands. In cases where there are no surface water connections, but the wetlands are separated from each other by less than 100 feet (on average), the DOE mosaic methodology shall be used to determine the wetland boundary. The area of the wetlands must be greater than 50 percent of the total combined area of wetland and upland for the patchwork to be considered on a wetland. In addition, the patchwork is to be encompassed in such a manner as to minimize the amount of upland area interspersed amongst the wetland areas (see EMC 14.30.080(A), Figure 14.30-1). (Ord. 16-461 § 4; Ord. 02-200 § 2).

14.30.025 Buffer standards – Wetlands.

A. Determining buffer widths. Buffer widths shall be measured horizontally from the perpendicular line established at the wetland edge as shown in Table 14.20.050(1).

Table 14.30.025(1)
Buffer Standards - Wetlands

<u>Wetland Category</u>	<u>Buffer Width (Wetlands scores 3-4 habitat points)</u>	<u>Buffer Width (Wetland scores 5 habitat points)</u>	<u>Buffer Width (Wetland scores 6-7 habitat points)</u>	<u>Buffer Width (Wetland scores 8-9 habitat points)</u>
<u>Category I: Based on total score</u>	<u>75 ft.</u>	<u>105 ft.</u>	<u>165 ft.</u>	<u>225 ft.</u>
<u>Category I: Bogs and Wetlands of High Conservation Value</u>	<u>190 ft.</u>	<u>190 ft.</u>	<u>190 ft.</u>	<u>225 ft.</u>
<u>Category I: Forested</u>	<u>75 ft.</u>	<u>105 ft.</u>	<u>165 ft.</u>	<u>225 ft.</u>
<u>Category II (all)</u>	<u>75 ft.</u>	<u>105 ft.</u>	<u>165 ft.</u>	<u>225 ft.</u>
<u>Category III (all)</u>	<u>60 ft.</u>	<u>105 ft.</u>	<u>165 ft.</u>	<u>225 ft.</u>
<u>Category IV (all)</u>	<u>40 ft.</u>	<u>40 ft.</u>	<u>40 ft.</u>	<u>40 ft.</u>

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B. Required Measures to Minimize Impacts to Wetlands. Measures to minimize the impacts of the land use adjacent to wetlands shall be applied, as shown in Table 14.20.050(2).

Table 14.30.025(2)
Wetland Impact Minimization Measures

<u>Disturbance</u>	<u>Required Measures to Minimize Impacts</u>
<u>Lights</u>	• <u>Direct lights away from wetland</u>
<u>Noise</u>	• <u>Locate activity that generates noise away from wetland</u> • <u>For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10-foot heavily vegetated buffer strip immediately adjacent to the outer wetland buffer</u>
<u>Toxic runoff</u>	• <u>Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered</u> • <u>Establish covenants limiting use of pesticides within 150 feet of wetlands</u> • <u>Apply integrated pest management</u>

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<u>Stormwater runoff</u>	• <u>Retrofit stormwater detention and treatment for roads and existing adjacent development</u> • <u>Prevent channelized flow from lawns that directly enters the buffer</u> • <u>Use Low Impact Development techniques</u>
<u>Change in water regime</u>	• <u>Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns</u>
<u>Pets and human disturbance</u>	• <u>Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion</u> • <u>Place wetland and its buffer in a separate tract or protect with a conservation easement</u>
<u>Dust</u>	• <u>Use best management practices to control dust</u>

C. Modification of Buffer Widths. The standard buffer widths of subsection (A) of this section may be modified by averaging, reducing, or increasing.

1. Buffer Averaging. Buffer width averaging may be allowed only where the applicant demonstrates all of the following:

- a. Buffer encroachment is unavoidable.
- b. The wetland contains variations in sensitivity due to existing physical characteristics.
- c. Width averaging will provide equal or greater protection of current wetland functions and values.
- f. The total buffer area after averaging is no less than the buffer area prior to averaging.
- g. The minimum width of the buffer at any given point shall be at least seventy-five percent (75%) of the standard width, or twenty-five (25) feet, whichever is greater.
- h. The averaging is accomplished within the project boundaries.

2. Buffer Width Reductions. Buffer width reduction up to a maximum of twenty-five (25) percent may be allowed when the applicant demonstrates the following circumstances:

- a. Buffer encroachment is unavoidable.
- b. The existing buffer is predominately un-vegetated, composed of nuisance species, or is in an otherwise highly disturbed condition.
- c. The project includes a buffer enhancement plan as part of the mitigation required by EMC 14.30.060. The buffer enhancement plan shall use plant species which are native, noninvasive to the project area.
- d. Buffer reduction with enhancement will provide equal or greater protection of current wetland functions and values.

3. Buffer Increases. The department may require increased buffer width(s) when any of the following are identified:

- a. A larger buffer is necessary to maintain viable populations of existing species;

b. The wetland is used by, or associated with, species listed by the federal government or the state as endangered, threatened, sensitive, or as documented priority species or habitats, or essential or outstanding potential sites such as heron rookeries or raptor nesting areas;

c. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse wetland impacts;

d. The adjacent land has minimal vegetative cover, or slopes greater than 20 percent. (Ord. 02-200 § 2).

14.30.030 Wetland review procedures.

A. Wetland Report Requirements. When the department's maps, sources, or field investigations indicate that the proposed project area is located within 300 feet of a known or suspected wetland, an applicant shall submit a wetland critical areas report prepared by a qualified wetland scientist. The requirement to provide a wetland critical areas report may be waived if the department determines that there are no potential direct and/or indirect impacts on wetlands or their buffers that would result from the proposed development. Wetland critical areas reports shall comply with the requirements established in EMC 14.30.070, Appendix A.

B. Single-Family Dwelling Wetland Review. Construction of a single-family dwelling and regulated activities accessory to a single-family dwelling (such as driveways, gardens, fences, walls, lawns, and on-site septic systems) may utilize an alternative wetland review procedure, subject to the following:

1. Prior to issuance of a building permit, site development permit, or on-site sewage system permit, the applicant shall submit a single-family wetland certification form completed by a wetland specialist that certifies either:
 - a. No regulated wetlands are present within 300 feet of the project area; or
 - b. Wetlands are present within 300 feet of the project area, but the buffer does not extend onto the project site.
2. The single-family certification form may be used only to authorize single-family dwellings and accessory structures. It may not be used for new agricultural activities, expansion of existing agricultural activities, forest practices activities, commercial projects, land divisions, and buffer width modifications.

A. General Requirements.

1. The city's Critical Areas Atlas—Wetland Inventory Maps provides an indication of where potential wetlands are located within the city. The actual presence or location of a potential wetland or a potential wetland that has not been mapped, but may be present on or adjacent to a site shall be determined using the procedures and criteria established in this chapter.

2. The department will complete a review of the city's Critical Areas Atlas—Wetland Inventory Maps and other source documents for any proposed regulated activity to determine whether the project area for a proposed single-family dwelling unit or site for all other proposed regulated activities is located within a potential wetland. Identification of a potential wetland may also occur as a result of field investigations conducted by department staff.

3. When the department's maps, sources, or field investigation indicate that a potential wetland is located within the project area for a proposed one-family dwelling unit or within the site for all other proposed regulated activities, the department shall require a site evaluation (field investigation) to determine whether or not a regulated wetland is present and if so, its relative location in relation to the proposed project area or site. The findings of the site evaluation shall be documented as outlined in subsections (B), (C), (D), or (E) of this section.

4. If department staff completes the site evaluation and determines that no regulated wetlands are present, then wetland review will be considered complete.

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5. All site evaluations shall include a proposed categorization of the wetland in accordance with the guidelines set forth in EMC 14.30.020(B) and a calculation of the standard wetland buffer as set forth in EMC 14.30.060.

6. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC 14.10.080 shall apply.

B. General Wetland Review. A general wetland review shall include the submittal of a wetland verification report, wetland delineation report, or a wetland analysis report, together with a wetland application and appropriate fees (see EMC 14.30.080(B), Figure 14.30-2).

1. Wetland Verification Report.

a. A wetland verification report shall be submitted when the site evaluation determines that:

- i. No regulated wetland is present within 165 feet of the site;
- ii. A regulated wetland is present, but its standard buffer does not extend within the site; or
- iii. Wetlands are identified but are evaluated and found to be exempt as set forth in EMC 14.20.030(K).

b. The wetland verification report shall include data sheets, site maps, and other field data and information necessary to confirm wetland presence or absence and category. If exempt wetlands (refer to EMC 14.20.030(K)) are identified, a site plan must be provided that identifies their location.

c. The wetland verification report shall identify and discuss wetland boundaries within the site as well as those that extend off-site. Off-site wetlands and associated standard buffers do not have to be marked in the field.

d. Department staff shall review the wetland verification report and either:

- i. Accept the report and approve the wetland application; or
- ii. Reject the report and require the submittal of a wetland analysis report.

2. Wetland Analysis Report.

a. If a regulated wetland or its standard buffer extends onto the site, the department shall require a wetland analysis report. Information required in a wetland analysis report is identified in EMC 14.30.070, Appendix B.

b. If the department determines that a Category I wetland is on-site which is associated with documented habitat for endangered, threatened, or sensitive species or for potentially extirpated plant species recognized by state or federal agencies, the department shall also require the submittal of a habitat assessment report as set forth in Chapter 14.40 EMC.

c. If the department determines that mitigation is necessary to offset the identified impacts, the applicant shall comply with the mitigation requirements set forth in EMC 14.30.050.

d. Approval of the wetland application shall be granted upon a determination that the wetland analysis report and mitigation plan, if applicable, are thorough and accurate, and meet all requirements of this title, and that the monitoring program and contingency plan are tied to an acceptable financial guarantee as set forth in EMC 14.10.080 to assure that the requirements will be followed.

C. 3. Time Limitations. Wetland delineations and reports that have been accepted by the city shall be valid for a period of five (5) years, unless the department determines that new information warrants revision of the delineation or report.

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a. General. Delineation reports and mitigation plans that have not been accepted by the city for a project are valid for a period of four years unless a longer period is approved by the department.

b. Extensions. A one-year extension may be approved by the department upon written request for such extension of that delineation report or mitigation plan.

C. Single-Family Dwelling Wetland Review. Two alternative review procedures exist for construction of a single-family dwelling and regulated activities accessory to a single-family dwelling (see EMC 14.30.080(C), Figure 14.30-3). Both review procedures require the completion of a site evaluation as follows:

1. Wetland Certification Process for Single-Family Dwellings (No Encroachment into a Regulated Wetland or Its Standard Buffer):

a. Prior to issuance of a building permit, site development permit, or on-site sewage system permit, the applicant shall submit a single-family wetland certification form completed by a wetland specialist that certifies either:

i. No regulated wetlands are present within 165 feet of the project area; or

ii. Wetlands are present within 165 feet of the project area, but all regulated activities associated with the dwelling (i.e., landscaped areas, septic facilities, outbuildings, etc.) will occur outside of the standard buffer of the identified wetland.

b. If regulated wetland buffers extend onto the site, the wetland specialist shall place permanent, clearly visible, wetland buffer signs at the edge of the buffer. A wetland buffer sign affidavit, signed by the wetland specialist, shall be submitted to the department as verification that the wetland buffer signs have been placed on the site.

c. A survey as outlined in EMC 14.10.080(H) will not be required.

d. The single-family certification form may be used only to authorize single-family dwellings and associated homesite features such as driveways, gardens, fences, wells, lawns, and on-site septic systems. It may not be used for new agricultural activities, expansion of existing agricultural activities, forest practice activities, commercial projects, land divisions, buffer width modifications (as set forth in EMC 14.30.060), or violations.

e. The single-family certification process will be monitored by the department for accuracy, and enforcement actions will be initiated should encroachment into a regulated wetland or buffer occur.

f. The applicant/property owner assumes responsibility for any and all errors of the single-family certification form and all associated mitigation imposed by the department.

g. Single-family certification forms shall be filed with the Pierce County auditor's office in accordance with EMC 14.10.070(F) and 14.10.110(B).

2. Single-Family Wetland Application Process (Encroachment into the Standard Buffer of a Regulated Wetland):

a. A wetland application and wetland delineation report shall be submitted to the department when the single-family dwelling and associated

homesite features are located within the standard buffer of a regulated wetland.

b. The applicant may retain either a wetland specialist or department staff to delineate the limits of a regulated wetland and determine the impacts associated with the project, subject to the following:

i. A wetland delineation report, as defined in subsection (C)(3) of this section, shall be submitted to the department for review; or

ii. Upon the applicant's request and payment of fees, the department shall delineate the regulated wetland(s).

c. If the department determines that mitigation is necessary to offset the identified impacts, the applicant shall comply with the mitigation requirements set forth in EMC 14.30.050.

d. The applicant shall place permanent, clearly visible, wetland boundary buffer signs at the edge of the buffer.

e. A survey as defined in EMC 14.10.080(H) will not be required.

3. Wetland Delineation Report. The wetland delineation report shall include data sheets; scaled site maps showing the project boundary, wetland boundary, categorization of the wetland and standard buffer boundary, boundary flag location and sample plot location and designation; a vicinity map with driving instructions; and any other field data and information necessary for the department to confirm wetland presence, location, and category.

D. Agricultural Activity Wetland Review. A wetland application and wetland delineation report shall be submitted to the department when the site evaluation indicates that a regulated wetland or its standard buffer extends into a site proposed for an agricultural activity.

1. The applicant may either retain a wetland specialist or department staff to delineate the limits of a regulated wetland and determine the impacts associated with the project area, subject to the following:

a. A wetland delineation report, as defined in subsection (C)(3) of this section, shall be submitted to the department for review; or

b. Upon the applicant's request and payment of fees, the department shall delineate the regulated wetland(s).

2. If the department determines that mitigation is necessary to offset the identified impacts, the applicant shall comply with the mitigation requirements set forth in EMC 14.30.050.

3. The applicant shall place permanent, clearly visible, wetland boundary buffer signs at the edge of the buffer.

4. A survey as defined in EMC 14.10.080(H) will not be required.

5. Agricultural activities may be initiated subject to compliance with the requirements set forth in subsections (D)(1) through (4) of this section and the submittal of a best management plan developed by the Pierce County Conservation District or Natural Resource Conservation Service (NRCS).

E. Forest Practice Wetland Review.

1. All forest practice activities that are not exempt from the provision of this title shall be reviewed pursuant to the criteria set forth in subsection (B) of this section, General Wetland Review, except for conversion option harvest plan (COHP).

2. An abbreviated wetland review process may be used for COHPs as follows:

a. If a regulated wetland or its standard buffer extends onto the site, the department shall require the submittal of a wetland application and delineation report. At a minimum the report shall include:

i. A detailed description of all wetlands on, or within, 165 feet of the site, including the wetland(s) approximate size, vegetation, categorization, and hydrology source(s).

ii. Sample data sheets for each wetland.

iii. An accurate map delineating the boundaries of the wetland(s) and standard buffer(s) in relation to the boundaries of the site.

b. The wetland delineation report shall be prepared, signed, and dated by a wetland specialist.

c. The accuracy of the wetland delineation, flagging, and categorization shall be field verified by the department.

d. A survey as defined in EMC 14.10.080(H) will not be required.

3. Where an application for a development permit, other than a site development permit, has not been submitted in association with a proposed forest practice activity a deviation, from the standard wetland buffer, as set forth in EMC 14.30.060(A), shall not be allowed. (Ord. 02-200 § 2).

14.30.040 Wetland standards Allowed activities.

A. The following wetlands are exempt from the requirement to avoid impacts in EMC 14.10.080(B) and may be altered if the impacts are fully mitigated based on the remaining mitigation sequencing actions in EMC 14.10.080(B). In order to verify the following conditions, a wetland critical areas report meeting the requirements of EMC 14.30.070, Appendix A must be submitted.

1. All isolated Category IV wetlands less than 4,000 square feet that:
 - a. Are not associated with riparian areas or their buffers;
 - b. Are not part of a wetland mosaic;
 - c. Are not associated with shorelines of the state or their associated buffers;
 - d. Do not score 5 or more points for habitat functions based on current version of the Washington State Wetland Rating System for Western Washington (Ecology, 2014).
 - e. Do not contain a Priority Habitat or a Priority Area for a Priority Species identified by the Washington Department of Fish and Wildlife, federally listed species or their critical habitat, or habitats or species of local importance as identified in EMC 14.40.030(A).
2. Wetlands less than 1,000 square feet that meet the criteria specified in subsection (A)(1) of this section.
3. Utility projects within wetland buffers which have minor or short-duration impacts, as determined by the department in accordance with the criteria below, and which do not significantly impact the function or values of wetlands; provided, that such projects are constructed with best management practices and additional restoration measures are provided. Minor activities shall not result in the transport of sediment or increased stormwater. Such allowed minor utility projects shall meet the following criteria:
 - a. There is no practical alternative to the proposed activity with less impact on wetlands;
 - b. The activity involves the placement of a utility pole, street signs, anchor, or vault or other small component of a utility facility; and
 - c. The activity involves disturbance of an area less than 75 square feet.

AB. Regulated activities in wetlands and/or buffers may be allowed when the applicant demonstrates to the department that all adverse impacts to wetlands or associated buffers will be mitigated according to EMC 14.30.050. The activities listed below are allowed in wetlands and their buffers, and do not require submission of a critical area report, except where such activities would result in a loss of the functions and values of a wetland or wetland buffer. These activities include:

1. Activities in wetlands in areas managed according to a special area management plan or other plan adopted by the department and specifically designed to protect wetland resources.

B. The following activities may be allowed in a buffer without a complete mitigation plan if the applicant demonstrates to the department that all adverse impacts to wetlands will be mitigated according to the provisions in EMC 14.30.050. In cases that require environmental review, a threshold environmental determination may not be made until the department is satisfied that adequate mitigation will occur. The allowed activities are as follows:

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1. One well and necessary appurtenances, including a pump and appropriately sized pump house, but not including a water storage tank (unless the water storage tank can be contained within the pump house), subject to the following conditions:

- a. The pump house is a one-story building with a ground area of less than 120 square feet; and
- b. The well is more than 75 feet deep; and
- c. For Category I and II wetlands, the minimum distance from the well and appurtenances to the wetland edge is no less than 50 percent of the buffer widths established in the table in EMC 14.30.060(A); and
- d. Access to the well and pump house shall be by a pervious trail for pedestrian traffic only or, if necessary, by an unimproved access for a maintenance vehicle.

2. Pervious trails and associated viewing platforms.

3. The placement of utility lines which do not require excavation or utility pole installation in any part of a buffer for a Category II, III, or IV wetland. They may be placed in a buffer for a Category I wetland; provided, that the minimum distance from the wetland edge is no less than 50 percent of the Category I buffer width established in the table in EMC 14.30.060(A).

4. New farm and agricultural activities may be permitted within a buffer subject to the following:

- a. Agricultural activities and structures shall comply with the provisions of Chapter 14.70 EMC, Flood Hazard Areas.
- b. The agricultural activity is in compliance with the USDA, NRCS Conservation Reserve Program farm management standards.
- c. A copy of an approved NRCS or Pierce County Conservation District farm management plan that documents compliance with the USDA, NRCS Conservation Reserve Program farm management standards has been submitted to the department for review and approval.

2C. Trimming of vegetation for purposes of providing view corridors will be allowed; provided, that trimming shall be limited to view corridors of a maximum 20-foot width and that benefit to fish and wildlife habitat are not reduced. Trimming shall be limited to hand pruning of branches and vegetation. Trimming shall not include felling, topping, or removal of trees. (Ord. 02-200 § 2).

3. Drilling for utilities/utility corridors under a wetland, with entrance/exit portal located completely outside of the wetland buffer, provided that the drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column. Specified studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water down through the soil column will be disturbed.

14.30.0650 Mitigation requirements.

A. Mitigation. All regulated development activities in wetlands or buffers shall be mitigated according to this title subject to the following criteria:

- 1. Avoiding the impact altogether by not taking a certain action or parts of actions;
- 2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to reduce impacts;
- 3. The following types of mitigation (no order of preference):
 - a. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

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

c. Compensating for the impact by replacing or providing substitute resources or environments;

4. Monitoring the impact and compensation and taking appropriate corrective measures; and

5. Mitigation for individual actions may include a combination of the above measures.

A. Mitigation. Compensatory mitigation is required for all unavoidable alterations to wetlands or their buffers, except for buffer averaging when done in accordance with EMC 14.30.025(C)(1). Compensatory mitigation actions shall replace functions affected by the alteration and shall provide equal or greater functions compared to the impacted wetland. All projects must first demonstrate compliance with EMC Section 14.10.080(B) (Mitigation Sequencing) prior to development of compensatory mitigation plans.

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B. Preference of Mitigation Actions. Compensatory wetland mitigation shall occur in the following order of preference:

1. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into:

a. Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Re-establishment results in a gain in wetland acres (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.

b. 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 wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland

2. Creation: The manipulation of the physical, chemical, or biological characteristics of a site to develop a wetland on an upland or deepwater site where a wetland did not previously exist. Creation 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.

3. Enhancement: The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. 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. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these activities

C. Approaches to Compensatory Mitigation. Mitigation for alterations to wetland and their buffers shall rely on the approaches listed below.

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1. Wetland Mitigation Banks. Credits from a certified wetland mitigation bank may be used to compensate for impacts within the service area specified in the mitigation bank instrument. Use of credits from a wetland mitigation bank certified under Chapter 173-700 WAC is allowed if:

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a. The department determines that it would provide appropriate compensation for the proposed impacts; and

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b. The impact site is located in the service area of the bank.

c. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.

d. Replacement ratios for projects using bank credits is consistent with replacement ratios specified in the certified mitigation bank instrument.

2. In-Lieu Fee Mitigation. Credits from an approved in-lieu-fee program may be used when all the following apply:

a. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.

b. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.

c. Project using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the credit assessment method specified in the approved instrument for the in-lieu-fee program.

d. The impacts are located within the service area specified in the approved in-lieu-fee instrument.

3. Permittee-responsible mitigation. In this situation, the permittee performs the mitigation after the permit is issued and is ultimately responsible for implementation and success of the mitigation. Permittee-responsible mitigation may occur at the site of the permitted impacts or at an off-site location within the same watershed. If available, the use of wetland mitigation banks and in-lieu-fee programs are preferable to permittee-responsible mitigation.

D. Wetland mitigation ratios. The ratios listed in Table 14.30.060 apply to permittee-responsible mitigation. The first number specifies the acreage of replacement wetlands required, and the second number specifies the acreage of wetlands altered or relocated.

Table 14.30.060
Wetland Mitigation Ratios

<u>Category and Type of Wetland</u>	<u>Creation or Re-establishment</u>	<u>Rehabilitation</u>	<u>Enhancement</u>
<u>Category I: High conservation value/bog</u>	<u>Not considered possible</u>	<u>Not considered possible</u>	<u>Not considered possible</u>
<u>Category I: Mature and old growth forest</u>	<u>6:1</u>	<u>12:1</u>	<u>24:1</u>
<u>Category I: Based on functions</u>	<u>4:1</u>	<u>8:1</u>	<u>16:1</u>
<u>Category II</u>	<u>3:1</u>	<u>6:1</u>	<u>12:1</u>
<u>Category III</u>	<u>2:1</u>	<u>4:1</u>	<u>8:1</u>
<u>Category IV</u>	<u>1.5:1</u>	<u>3:1</u>	<u>6:1</u>

The director may increase the ratios under the following circumstances:

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1. Uncertainty as to the probable success of the proposed restoration or creation;
2. Significant period of time between destruction and replication of wetland values;
3. Projected losses in functional value;
4. The compensatory mitigation is off site.

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E. Wetland buffer mitigation. To mitigate unavoidable impacts to functions and values of wetland buffers, a minimum buffer ratio of 1:1 (alteration area: mitigation area) is required. This ratio assumes that creation/restoration of a wetland buffer with appropriate native vegetation is sufficient to compensate for the wetland buffer functions and values affected by alteration of an existing wetland buffer. If enhancement of an existing wetland buffer is proposed as mitigation, a higher mitigation ratio may be required. For any proposed wetland buffer activities, the applicant must demonstrate that the functions and values of the altered wetland buffer will be fully replaced by the proposed mitigation. The department may increase the buffer mitigation ratios under the following circumstances:

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1. The replacement ratio needed to recover the lost functions and values of buffer area is greater than 1:1 based upon the existing type of vegetative cover of either the impact site or the proposed mitigation site.
2. Uncertainty exists as to the probable success of the proposed restoration or creation;
3. A significant period of time will elapse between impact and replication of wetland functions;
4. The impact was an unauthorized impact.

F. Wetland and buffer mitigation plans. Compensatory wetland mitigation plans shall be consistent with Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Ecology, 2006); and Selecting Wetland Mitigation Sites Using a Watershed Approach (Ecology, 2009), or as revised. Mitigation plans shall comply with the requirements established in EMC 14.30.070, Appendix B.

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B. Mitigation for Regulated Activities in Wetland Buffers. Noncompensatory mitigation shall be required for all regulated activities in buffers. Specific mitigation plan requirements are provided in EMC 14.30.070, Appendix C. Where environmental review is required, a threshold determination may not be made until the department has reviewed and approved the noncompensatory mitigation plan.

C. Mitigation for Regulated Activities in Wetlands. Compensatory mitigation shall be required for regulated activities that result in the loss of wetland acreage. Noncompensatory mitigation shall be required for regulated activities that do not result in the loss of wetland acreage. Specific mitigation plan requirements are provided in EMC 14.30.070, Appendices D and E.

1. The compensatory mitigation plan shall be completed in two phases, a conceptual phase and a detailed phase:

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a. Conceptual Phase. The applicant shall submit a conceptual mitigation plan for compensatory mitigation to the department. Where environmental review is required, the department shall not make a threshold determination prior to department review and approval of the conceptual mitigation plan. See EMC 14.30.070, Appendix D, for specific requirements of the conceptual mitigation plan.

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b. Detailed Phase. Following the department's approval of the conceptual mitigation plan, the applicant shall submit a detailed mitigation plan for compensatory mitigation to the department. See EMC 14.30.070, Appendix E, for specific requirements of the detailed mitigation plan.

2. The detailed mitigation plan shall be prepared, signed, and dated by the wetland specialist to indicate that the plan is in accordance with specifications determined by the wetland specialist. A signed original mitigation plan shall be submitted to the department.

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3. Approval of the detailed mitigation plan shall be signified by a notarized memorandum of agreement signed by the applicant and director, and recorded with the Pierce County auditor. The agreement shall refer to all requirements for the mitigation project.

4. The mitigation project shall be completed according to a schedule agreed upon between the department and the applicant.

5. Wetland mitigation shall occur according to the approved wetland mitigation plan and shall be consistent with provisions of this chapter and title.

6. The wetland specialist shall be on-site during construction and plant installation phases of all mitigation projects.

7. On completion of construction for the wetland mitigation project, the wetland specialist shall submit an as-built report to the department for review and approval.

D. Mitigation Banking. (Reserved). (Ord. 02-200 § 2).

14.30.060 — Buffer requirements.

A. Determining Buffer Widths. Buffer widths shall be measured horizontally from the perpendicular line established at the wetland edge based on the following table:—

Wetland Category	Standard Buffer Width
I	150 feet
II	100 feet
III	50 feet
IV	25 feet

B. Modification of Buffer Widths. The standard buffer widths of subsection (A) of this section may be modified by averaging, reducing, or increasing.

1. Buffer Averaging. Buffer width averaging may be allowed only where the applicant demonstrates all of the following:

a. Buffer encroachment is unavoidable.

b. A habitat assessment has been submitted which demonstrates that no documented habitat for endangered, threatened, or sensitive plant, fish, or animal species, or for potentially extirpated plant species recognized by state or federal agencies exists; or

c. For wetlands and/or required buffers associated with documented habitat for endangered, threatened, or sensitive plant, fish, or wildlife species, or for potentially extirpated plant species recognized by state or federal agencies, a habitat assessment report has been submitted that demonstrates that the buffer reduction will not result in an adverse impact to the species of study.

d. The wetland contains variations in sensitivity due to existing physical characteristics.

e. Width averaging will not adversely impact the wetland or critical fish or wildlife habitat.

f. The total buffer area after averaging is no less than the buffer area prior to averaging (see EMC 14.30.080(D), Figure 14.30-4).

g. The minimum buffer width will not be less than 50 percent of the widths established in subsection (A) of this section.

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h. The averaging is accomplished within the project boundaries.

2. Buffer Width Reductions. Buffer width reduction to a maximum of 25 percent may be allowed when the applicant demonstrates the following circumstances:

a. Buffer encroachment is unavoidable; and

b. A habitat assessment has been submitted which demonstrates that no documented habitat for endangered, threatened, or sensitive plant, fish, or animal species, or for potentially extirpated plant species recognized by state or federal agencies exists; or

c. A habitat assessment report has been submitted that demonstrates that the buffer reduction will not result in an adverse impact to the species of study for wetlands and/or required buffers associated with documented habitat for endangered, threatened, or sensitive plant, fish or wildlife species or for potentially extirpated plant species recognized by state or federal agencies; and

d. The applicant demonstrates one or more of the following conditions:

i. The proposed buffer area is extensively vegetated, has less than 20 percent slopes, and the reduction will not result in adverse impacts to the wetland; or

ii. The project includes a buffer enhancement plan as part of the mitigation required by EMC 14.30.050. The buffer enhancement plan shall use plant species which are native, noninvasive to the project area and shall substantiate that an enhanced buffer will improve the functional attributes of the buffer to provide additional protection for wetland functional values; or

iii. The acreage included in the buffer would substantially exceed the size of the wetland and the reduction will not result in adverse impacts to the wetland.

3. Buffer Increases. The department may require increased buffer width(s) when any of the following are identified:

a. A larger buffer is necessary to maintain viable populations of existing species;

b. The wetland is used by, or associated with, species listed by the federal government or the state as endangered, threatened, sensitive, or as documented priority species or habitats, or essential or outstanding potential sites such as heron rookeries or raptor nesting areas;

c. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse wetland impacts;

d. The adjacent land has minimal vegetative cover, or slopes greater than 20 percent. (Ord. 02-200 § 2).

14.30.070 Appendices.

A. Wetland Report.

B. Wetland Mitigation Plan

APPENDIX A

WETLAND REPORT

A. A wetland critical areas report shall, at a minimum, include the following:

1. The general critical areas report requirements in EMC 14.10.082;
2. Map showing the location of all wetlands and required buffers within three hundred (300) feet of the proposed development;

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3. An analysis of the onsite wetland(s) include the following site- and proposal-related information:

- a. Documentation of any fieldwork performed on the site, including, but not limited to, field delineation data sheets for delineations and wetland rating forms;
- b. Wetland acreage;
- c. Wetland category;
- d. A discussion of the water sources supplying the wetland and documentation of hydrologic regime (locations of inlet and outlet features, water depths throughout the wetland, evidence of recharge or discharge);
- e. A discussion of the functions of existing wetlands, including vegetative, faunal, and hydrologic conditions; and
- f. A description of the methodologies used to conduct the wetland delineations;

4. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing wetlands;

5. A detailed discussion of the direct and/or indirect potential impacts on the wetland by the project; and

6. The wetland mitigation plan requirements of EMC 14.30.070, Appendix B, if the activity will result in unavoidable impacts to wetlands or their buffers.

APPENDIX B

WETLAND MITIGATION PLAN

A. A wetland mitigation plan shall, at a minimum, include the following:

- 1. The general mitigation plan requirements in EMC 14.10.083 and the following information:
- 2. Existing and proposed wetland acreage;
- 3. Vegetative and faunal conditions;
- 4. Surface and subsurface hydrologic conditions including an analysis of existing and future hydrologic regime and proposed hydrologic regime for enhanced, created, or restored mitigation areas;
- 5. Relationship within watershed and to existing waterbodies;
- 6. Soils and substrate conditions, topographic elevations;
- 7. Existing and proposed adjacent site conditions;
- 8. Required wetland buffers (including any buffer reduction or averaging and mitigation proposed to enhance buffers);
- 9. Property ownership;
- 10. A discussion of ongoing management practices that will protect wetlands after the project site has been developed, including proposed monitoring and maintenance programs;
- 10. A bond estimate for the installation (including site preparation, plant materials and installation, fertilizers, mulch) and the proposed monitoring and maintenance work for the required number of years, pursuant to EMC 14.10.080(E).

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A. Wetland Categories.

B. Information to Be Included in a Wetland Analysis Report.

C. Mitigation Plan for Regulated Activities in Buffers.

D. Compensatory Mitigation Plan for Regulated Activities in Wetlands, Conceptual Phase.

E. Compensatory Mitigation Plan for Regulated Activities in Wetlands, Detailed Phase.

F. Edgewood Wetlands Rating Form.

APPENDIX A

WETLAND CATEGORIES

Wetland categories shall be designated according to the following generalized criteria:

A. Category I. Wetlands that contain any of the following:

1. Documented habitat for endangered or threatened plant, fish, or animal species or for potentially extirpated plant species recognized by state or federal agencies;
2. Wetlands associated with documented habitat for endangered, threatened, sensitive plant, fish, or animal species or for potentially extirpated plant species recognized by state or federal agencies;
3. High quality native wetland communities, including documented natural heritage wetland sites and sites which qualify as a natural heritage wetland;
4. High quality, regionally rare wetland communities with irreplaceable ecological functions, including sphagnum bogs and fens, estuarine wetlands, mature forested wetlands, or snag-rich areas;
5. Wetlands of exceptional local significance, as designated by separate Edgewood ordinance.

B. Category II. Regulated wetlands that do not contain features outlined in Category I with any of the following:

1. Documented habitats for sensitive plants or fish species recognized by federal or state agencies;
2. Documented priority habitats and species recognized by state agencies;
3. Regionally rare wetland communities which are not high quality, but which have irreplaceable ecological functions, including sphagnum bogs and fens, estuarine wetlands, or mature forested wetlands;
4. Wetland types with significant functions which may not be adequately replicated through creation or restoration. These wetlands may be demonstrated by any of the following characteristics:
 - a. Peat or muck systems;
 - b. Forested wetlands that have three canopy layers; or
 - c. Significant spring fed systems;
5. Wetlands with significant habitat value based on diversity and size including wetlands:
 - a. Ten acres or greater in size with two or more wetland classes together with an open water class at any time during a normal year;

b. Ten acres or greater in size, with three or more wetland classes and five or more subclasses of vegetation in a dispersed pattern;

c. Five acres or greater in size, with 40 to 60 percent open water at any time during a normal year, and two or more subclasses of vegetation in a dispersed pattern;

6. Regulated wetlands that are associated with either year-round or intermittent salmonid fishbearing waters;

7. Wetlands with significant use by fish and wildlife.

C. Category III. Regulated wetlands that do not contain features outlined in Category I, II, or IV wetlands that are not part of a mosaic wetland.

D. Category IV. Regulated wetlands that do not meet the criteria of a Category I, II, or III wetland that are:

1. Hydrologically isolated;

2. Less than or equal to one acre in size;

3. Have only one wetland class and one dominant plant species (i.e., displaying monotypic vegetation); and

4. Not part of a mosaic wetland.

E. The category of a wetland shall not be changed to recognize illegal modifications to the wetland.

APPENDIX B

INFORMATION TO BE INCLUDED IN A WETLAND ANALYSIS REPORT

A wetland analysis report shall include the following:

A. Vicinity map and detailed driving instructions to the site;

B. A site map setting forth all of the following:

1. Surveyed wetland boundaries based upon a delineation by a wetlands specialist;

2. Wetlands and buffers off site, within 165 feet of the site boundaries, are also to be discussed and shown in as much detail as possible;

3. Site boundary property lines and roads;

4. A north arrow and scale;

5. Internal property lines, rights-of-way, easements, etc.;

6. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc.;

7. Contours at the smallest readily available intervals, preferably at two-foot intervals;

8. Hydrologic mapping showing patterns of surface water movement and known subsurface water movement into, through, and out of the site area; and

9. Location of all test holes and vegetation sample sites, and wetland boundary flags numbered to correspond with flagging in the field and field data sheets;

C. A report which includes the following:

1. Location information (legal description, parcel number, and address);

2. Delineation analysis results. The wetland boundaries on the site established by the delineation shall be staked and flagged in the field. If the wetland extends outside the site, the delineation report shall discuss all wetland areas within 150 feet of the site, but need only delineate those wetland boundaries within the site;

3. General site conditions including topography, acreage, and surface areas of all wetlands identified in the city's wetland atlas and water bodies within one-quarter mile of the subject wetland(s);

4. Hydrological analysis, including topography of existing surface and known significant sub-surface flows into and out of the subject wetland(s); and

5. Discussion of the values of existing wetlands, including vegetative, faunal, and hydrologic conditions and the presence of threatened, endangered, candidate, sensitive or monitor species;

D. A summary of the proposed activity and potential direct or indirect impacts to the wetland(s) including stormwater-related impacts to wetland hydrology;

E. Recommended wetland category, including rationale for the recommendation;

F. Recommended buffer boundaries, including rationale for boundary locations;

G. Proposed on-site residential density transfer from wetlands and/or buffers to upland areas;

H. Site plan of proposed activity, including location of all parcels, tracts, easements, roads, structures, and other modifications to the existing site. The location of all wetlands and buffers shall be identified on the site plan;

I. The wetland analysis report shall be signed and dated by the wetlands specialist.

APPENDIX C

MITIGATION PLAN FOR REGULATED ACTIVITIES IN BUFFERS

A. A mitigation plan for regulated activities in buffers shall be prepared, signed, and dated by a wetlands specialist and shall contain the following:

1. General goals of the mitigation plan including a discussion of the function and values of impact and enhancement areas;

2. Approximated site topography before and after alteration;

3. Location of proposed mitigation area (include a north arrow and scale);

4. General hydrologic patterns on the site before and after construction;

5. General plant selection and justification, planting instructions, and approximate planting sequencing and schedule;

6. A maintenance plan;

7. A monitoring and contingency plan. Monitoring is to occur for a minimum of five years;

8. Estimated costs for the installation, maintenance, and monitoring phases of the project. Separate estimates shall be prepared for the installation phase and monitoring and maintenance phase of the project; and

9. Address and phone number of person(s) or organization(s) responsible for the monitoring requirements.

B. Upon department review and approval of this plan, it shall become the detailed plan.

C. Where environmental review is required, a threshold determination may not be made prior to submittal of a plan which meets department approval.

APPENDIX D

COMPENSATORY MITIGATION PLAN FOR REGULATED ACTIVITIES IN WETLANDS—CONCEPTUAL PHASE

A. The conceptual phase of a mitigation plan for regulated activities in wetlands shall be prepared, signed, and dated by a wetland specialist and shall include the following:

1. General goals of the compensatory mitigation plan, including an overall goal of no net loss of wetland function, value, and acreage;
2. Mitigation projects that involve Category I wetlands associated with documented habitat for endangered or threatened plant, fish, or animal species or for potentially extirpated plant species recognized by state or federal agencies must also demonstrate a net benefit to the conservation of the affected species;
3. Site topography before and after construction;
4. Location of proposed wetland mitigation area;
5. General hydrologic patterns on the site before and after construction;
6. Field data confirming the presence of adequate hydrology to support the existing and created wetland area(s). At a minimum, the following information shall be included:
 - a. Seasonal (growing season) water level;
 - b. Sources of water (if the water source is adjacent to a stream or river then no instream structures will be allowed that restrict fish migration or access);
 - c. Pre- and post-development inflow and outflow volumes and velocity and frequency of flooding;
 - d. Groundwater and surface water table. (Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals 1994, COE, EPA, DOE, USFWS, and WDFW);
7. Nature of mitigation, including wetland types (in-kind and out-of-kind), general plant selection and justification, approximate project sequencing and schedule, and approximate size of the new wetland buffer. A discussion of the function and values of both the impact and creation areas is also to be provided;
8. A conceptual maintenance plan; and
9. Conceptual monitoring and contingency plan.

B. Once the department approves the conceptual mitigation plan, a detailed mitigation plan shall be submitted. Due to the complex nature of creating and restoring wetlands, very detailed plans are needed (see EMC 14.30.070, Appendix E, for further information on detailed mitigation plans).

APPENDIX E

COMPENSATORY MITIGATION PLAN FOR REGULATED ACTIVITIES IN WETLANDS—DETAILED PHASE

Article I. Outline of Detailed Mitigation Plan

A. The detailed mitigation plan shall contain the following:

1. Site-specific, quantifiable criteria for evaluating whether or not the goals for the proposed compensation are being met. Such criteria shall include the establishment of viable plant communities, hydric soil formation, and establishment of wetland hydrology, and may include water quality standards, species abundance and diversity targets, habitat diversity indices, or other ecological, geological, or hydrological criteria (see Article III of this appendix for specific performance standards);

2. Pre-development analysis of the proposed compensation area including:

- a. Existing vegetation community analysis;
- b. Hydrological analysis that demonstrates the project will not adversely impact existing wetland and buffer areas and ensures adequate hydrology for any created wetland areas (see Article V for specific requirements);
- c. On-site soils analysis data and, where appropriate, Natural Resources Conservation Service mapping;
- d. Detailed description of flora and fauna existing on the site; and
- e. Description of existing site conditions in relation to historic conditions for those sites which have been recently altered or degraded.

3. Proposed post-development conditions within existing wetland and buffer areas and mitigation areas, including:

- a. Relationship of the project to the watershed and existing water bodies;
- b. Topography, using one-foot contour intervals;
- c. Hydrologic analysis (see Article V of this appendix for specific requirements);
- d. Grading, filling, and excavation, including a description of imported soils;
- e. Irrigation requirements;
- f. Erosion control measures during construction; and
- g. Aerial coverage of planted areas to open water areas (if any open water is to be present).

4. Detailed site diagrams, to-scale construction drawings with cross-section data, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome. The plan shall provide for elevations which are appropriate for the desired habitat type(s). The construction drawings must include a note that requires the contractor to refer to the approved mitigation plan.

5. Planting plan prepared by a wetland specialist that shall include the following:

- a. Soils and substrate characteristics;
- b. Specification of substrate stockpiling techniques;
- c. Planting instructions, including species, stock type and size, density or spacing of plants, and water and nutrient requirements; and
- d. Specification of where plant materials will be procured. Documentation shall be provided which guarantees plant materials are to be procured from licensed regional nurseries or from wetlands on-site which are part of the mitigation plan.

6. Schedule showing dates for beginning and completing the mitigation project, including a sequence of construction activities.

7. Monitoring and maintenance plan which includes the following:

- a. Specification of procedures for monitoring and site maintenance; and
- b. Schedule for submitting monitoring reports.

8. Detailed contingency plan, consistent with Article IV of this appendix.

9. Detailed budget for implementing the mitigation plan, including construction, monitoring, maintenance, and contingency phases.

10. Financial guarantee for the work to be performed as planned and approved. Separate guarantee estimates shall be prepared for the installation phase and monitoring and maintenance phase of the project.

11. Address and phone number of the person or organization responsible for monitoring requirements.

Article II. Location Criteria

In cases in which it is determined that compensatory mitigation is appropriate, the following shall apply:

A. Compensatory mitigation shall be provided on-site, except where the applicant demonstrates that on-site mitigation is not scientifically feasible or practical due to physical features of the site.

B. When compensatory mitigation cannot be provided on-site, it shall be provided in the immediate vicinity of and within the same watershed as the regulated activity.

Article III. Mitigation Performance Standards

A. When regulated activities occur in wetlands, the applicant shall restore, create, or enhance equivalent areas of wetlands. Equivalent areas shall be determined according to acreage, functional value, type, location, time factors, and projected success. No overall net losses shall occur in wetland acreage, functions and/or values, and any restored, created, or enhanced wetland shall be as persistent as the wetland it replaces.

B. When an applicant proposes to alter or eliminate wetland, the applicant shall replace acreage at the following ratios:

Category I:		3:1 (acreage replacement: acreage lost)
Category II and III:		-
-	Forested Class:	2:1
-	Scrub/Shrub Class:	1.5:1
-	Emergent Class:	1.5:1
-	Open Water:	1:1
Category IV:		1:1

C. Ratios provided are for proposed projects with on-site, in-kind replacement which occurs prior to regulated activities on the site. The department may increase the ratios under the following circumstances:

1. Uncertainty as to the probable success of the proposed restoration or creation; or
2. Significant period of time between destruction and replication of wetland functions; or
3. Projected losses in wetland functions and value; or

4. Off-site and/or out-of-kind compensation:

D. The department may allow enhancement of existing or created wetland area(s) as a means of reducing the standard acreage replacement ratio if the applicant demonstrates that no net loss of wetland function or value will result; provided, that:

1. Enhancement mitigation ratios shall be no less than twice the standard creation ratio of the impacted wetland;
2. The applicant may be required to complete an analysis of the impact and mitigation areas in support of the acreage replacement ratio reduction. An example of an acceptable analysis methodology is the Washington State Department of Ecology Wetland Function Assessment Methodology (Ecology Publication # 99-116); however, other methodologies may be proposed;
3. The county will not allow the acreage replacement ratio to be reduced to less than 1:1 except as described in subsection (E) of Article III of this appendix.

E. In the case of Category II, III, and IV wetlands, the replacement ratio may be decreased to a ratio of less than 1:1 if, following a public hearing, the hearing examiner determines the following:

1. A replacement ratio of greater than 1:1 is either not feasible on-site or would be likely to result in substantial degradation of other natural features; and
2. The mitigation plan shows that a net increase in wetland functional values will result from the mitigation; and
3. The mitigation is completed, and then monitored by the department for one year prior to the issuance of permits. If after one year of monitoring, the department is not satisfied that the anticipated final outcome of the mitigation plan will be met, modifications to the mitigation plan and further monitoring may be required. When the department is satisfied that the mitigation will be successful, permits pending will be issued.

F. In-kind compensation shall be provided except where the applicant demonstrates that:

1. Greater functional and habitat values can be achieved through out-of-kind mitigation; and
2. The wetland system is already significantly degraded; or
3. Problems such as the presence of exotic vegetation and changes in watershed hydrology make implementation of in-kind compensation infeasible; or
4. Out-of-kind replacement will best meet identified regional goals (e.g., replacement of historically diminished wetland types).

G. Design requirements for the mitigation plan shall, at a minimum, include the following:

1. Use only indigenous native plants (not introduced or exotic species);
2. Use plants appropriate to the depth of water at which they will be planted;
3. Use plants that originate and are available from local sources;
4. Use plant species high in food and cover value for fish and wildlife;
5. Plant mostly perennial species;
6. Avoid committing significant areas of site to species that have questionable potential for successful establishment;
7. Water depth is not to exceed 6.5 feet (two meters);

8. The grade or slope that water flows through the wetland is not to exceed six percent;
9. Slopes within the wetland and buffer should not be steeper than 3:1 (horizontal to vertical);
10. Planting densities and placement of plants shall be shown on the design plans;
11. The wetland should not contain more than 60 percent open water as measured at the seasonal high water mark;
12. Stockpiling shall be confined to upland areas and contract specifications should limit stockpile duration to less than four weeks. Erosion control measures shall be in effect at the stockpiling location;
13. Planting instructions shall describe proper placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, cuttings, and transplanted stock;
14. Apply controlled release fertilizer at the time of planting and afterward only as plant conditions warrant (determined during the monitoring process), and only to the extent that the release would be conducted in an environmentally sound manner;
15. Install an irrigation system, as necessary, until plants are established.

H. Mitigation projects are unique and performance standards will differ based upon the goals and objectives of the project. However, performance standards pertaining to water regime, vegetative structure and establishment, and hydric soil formation are to be established for all mitigation projects, as defined below:

1. The mitigation wetland must meet the technical criteria for wetland hydrology, seasonal inundation, and/or saturation to the surface for a consecutive number of days greater than or equal to 12.5 percent of the growing season. Areas that are seasonally inundated and/or saturated to the surface for a consecutive number of days between five percent and 12.5 percent of the growing season may also be wetlands. Hydrology may be monitored through the use of one or a combination of the following: groundwater wells, piezometers, crest gauges, hand-dug soil pits, staff gauges, and continuous recording flow meters.
2. At a minimum, vegetative success equals the establishment of a multi-species, mixed-canopy community comprised of emergent, scrub shrub, and tree species. Yearly standards pertaining to survival and aerial coverage shall also be established for each vegetative stratum.
3. Hydric soil characteristics shall be monitored through the use of one or a combination of the following: Munsell soil color, pH, particle size, redox potential, organic content, microbial activity, time and duration of saturation or ponding, and alkalinity.

Article IV. Monitoring Program and Contingency Plan

A. A contingency plan shall be established for compensation in the event the mitigation project is inadequate or fails. The contingency plan is to provide specific corrective measures for such common mitigation plan failings as plant mortality, vandalism, damage due to wildlife grazing, grading errors, and hydro-regime problems. A financial guarantee on a form acceptable to the city is required for the duration of the monitoring period and the guarantee plus any accrued interest will be released by the city when the required mitigation and monitoring are completed. To determine the amount of the financial guarantee, an estimate shall be submitted to the city detailing the work to be accomplished and the cost thereof. The estimate shall be based on current costs. The city will review the estimate and, if acceptable, will establish the financial guarantee at 125 percent of the estimate to allow for inflation and administration expenses should the city have to complete the project.

B. Requirements of the monitoring program are as follows:

1. Scientific procedures are to be used for establishing the success or failure of the project.
2. Monitoring reports prepared by a wetland specialist are to be submitted for department review. Monitoring reports shall include discussions of wildlife utilization of the site, vegetation establishment, water quality, water

flow, stormwater storage and conveyance, and existing or potential degradation, according to the following schedule:

- a. At completion of construction of mitigation project (as-built report);
- b. Thirty days after completion;
- c. Early in the first growing season after construction;
- d. End of the first growing season after construction;
- e. Twice the second year; and
- f. Annually after the second year.

3. Monitor for a period of time appropriate to the nature of the project (single-family versus commercial) and the complexity of the mitigation project. The majority of monitoring programs will last a minimum of five years.

4. The city will require a right of entry form be recorded that allows city staff access to the mitigation area through completion of the monitoring program.

5. Correct for failures in the mitigation project.

6. Replace dead or undesirable vegetation with appropriate plantings.

7. Repair damages caused by erosion, settling, or other geomorphological processes.

8. If necessary, redesign mitigation project and implement the new design.

9. Correction procedures shall be approved by a wetland specialist and the department director or designee.

Article V. Hydrology Monitoring Guidelines

A. Applicants are required to ensure that the proposed development does not result in adverse impacts to regulated wetland and/or buffers. To achieve this, an applicant must provide detailed hydrologic calculations, completed by a licensed civil engineer or hydrologist which shows the project will either:

1. Match the predevelopment contributing basin flow quantities and durations; or
2. That any identified changes will not adversely impact the wetland or wetland buffer.

B. The existing hydroperiod of the on-site wetland(s) shall be established through direct monitoring or computer estimation. Monitoring may be accomplished by the use of a continuous recording level gauge or a combination of a crest stage and staff gauge. Computer estimation may be either a time-series model (for Category I and II wetlands) or a single-event model (for Category III and IV wetlands).

C. Additional guidance in the design of a project's stormwater plan can be found in the Puget Sound Wetlands and Stormwater Management Research Program and in the "Wetland Hydrology Management Guidelines" included as Appendix A of the document entitled "Sensitive Areas Mitigation Guidelines" prepared by King County department of development and environmental services.

APPENDIX F

EDGEWOOD WETLANDS RATING FORM*

OFFICE DATA SECTION

Background Information: Name of Rater: _____ Affiliation: _____ Date: _____ Application No./Case No.: _____ Project Name: _____ Project Location: _____ Parcel No.(s): _____ Property Owner Name: _____ Property Owner Address: _____ Location: _____ 1/4 Section of _____ 1/4 Section, of Section _____, Township _____, Range _____, W.M., Edgewood, WA SOURCE OF INFORMATION: (Check all sources that apply.) Site Visit: _____ USGS Topo Map: _____ NWI Map: _____ Aerial Photo: _____ Soil Survey: _____ Edgewood Inventory: _____ Edgewood Drainage Map: _____ Other: _____ When the Office and/or Field Data Forms are completed enter category here: _____		
ANSWER ALL QUESTIONS BELOW. If the source agency identifies the wetland as satisfying any of the questions below, circle the category in "CATEGORY" column:	DATA SOURCE	CATEGORY (the highest qualifies)
Does the wetland contain federal- or state-listed threatened or endangered plant species; or, is the wetland a historic location of a plant species potentially extirpated from Washington?	DNR (Natural Heritage) U.S. Fish & Wildlife Service	Yes: Category I No: Next Question
Is the wetland associated with documented habitat for endangered or threatened plant, fish, or animal species or for potentially extirpated plant species recognized by state or federal agencies?	Wash. Dept. of Wildlife Wash. Dept. of Fisheries U.S. Fish & Wildlife Service	Yes: Category I No: Next Question
Is the wetland already on record with the Washington Natural Heritage Program as a high quality native wetland?	DNR (Natural Heritage)	Yes: Category I No: Next Question
Is the wetland documented as a Category I Wetland of Local Significance? (None currently designated.)	Local Government	Yes: Category I No: Next Question
Does the wetland contain sensitive plant species recognized by federal or state agencies?	DNR (Natural Heritage) U.S. Fish & Wildlife Service	Yes: Category II No: Next Question
Does the wetland contain documented habitats of sensitive fish species recognized by federal or state agencies?	Wash. Dept. of Wildlife Wash. Dept. of Fisheries U.S. Fish & Wildlife Service	Yes: Category II No: Next Question
Does the wetland contain priority species or habitats documented by Washington Department of Wildlife's Priority Habitats and Species Program?	Wash. Dept. of Wildlife	Yes: Category II No: Next Question
Is the wetland documented as a Category II Wetland of Local Significance? (None currently designated.)	Local Government	Yes: Category II No: Go to Wetlands Rating Field Data Form

Is the wetland documented as a Category III Wetland of Local Significance? (None currently designated.)	Local Government	Yes: Category III No: Go to Wetlands Rating Field Data Form
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*Adapted from Washington State Wetlands Rating System for Western Washington, Second Edition, August 1993 (publ. #93-74), developed by the Washington State Department of Ecology.

EDGEWOOD WETLANDS RATING FORM

FIELD DATA SECTION

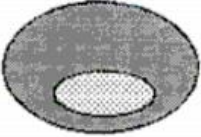
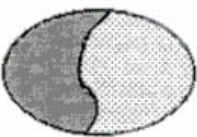
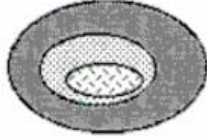
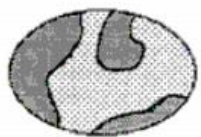
Background Information:	
Name of Rater: _____ Affiliation: _____ Date of Field Visit: _____	
Application No./Case No.: _____ Project Name: _____	
Project Location: _____ Parcel No.: _____	
Property Owner Name: _____	
Property Owner Address: _____	
Location: ____ ¼ Section of ____ ¼ Section, of Section _____, Township _____, Range _____, W.M., Edgewood, WA	
SOURCE OF INFORMATION: (Check all sources that apply):	
Site Visit: _____ USGS Topo Map: _____ NWI Map: _____ Aerial Photo: _____ Soil Survey: _____	
Edgewood Inventory: _____ Edgewood Drainage Map: _____ Other: _____	
-	
WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE: _____	
-	
Q.1: High Quality Natural Heritage Wetland	Circle Answers
Answer this question if you have adequate information or experience to do so. If not, find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b, and 1c are all NO, contact the Natural Heritage Program of DNR to determine if it qualifies as a Natural Heritage wetland.	-
1a. Human-Caused Disturbances	-
Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes could include clearing, grading, filling, logging of the wetland or its immediate buffer, culverting, ditching, dredging, diking, or drainage of the wetland. Briefly describe the changes, their date of occurrence, and your information source(s):	Yes: Go to Q.3. No: Go to 1b.

1b. Are there populations of nonnative plants which are currently present and appear to be invading native populations? Briefly describe any nonnative plant populations and information source(s):	Yes: Go to Q.3. No: Go to 1c.

1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use, or dead fish, etc. Briefly describe:	Yes: Go to Q.3. No: Possible Category I.

-	
Q.2: Regionally-Rare Native Wetland Communities Edgewood has not yet developed any methodology for identifying regionally-rare native wetland communities.	-
Q.3: Irreplaceable Ecological Functions Does the wetland: — have at least ½ acre of contiguous peat wetland; — or, have a forested component > one acre in size; — or, have characteristics of an estuarine system; — or, have eel grass, floating or nonfloating kelp beds; — or, have spring fed hydrology? 3a. Peat Wetlands 3a1. Does at least ½ acre of the contiguous peat wetland have < 25% areal cover of any combination of species from Table 1 in the List of Invasive/Exotic Species, and have < 80% areal cover of <i>Spiraea douglasii</i> ? 3b. Forested Wetlands 3b1. Is the forested wetland a monotypic stand of red alder or black cottonwood with an average dbh of less than 8 inches? 3b2. Is the average age of dominant trees in the forested wetland > 80 years? 3b3. Is the average age of dominant trees in the forested wetland 50 to 80 years, AND is the structural diversity high, as characterized by a multi-layer community of trees > 50 feet tall, trees 20 to 49 feet tall, shrubs, and herbaceous ground cover? 3b4. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, and herbs) invasive/exotic plant species from the Table 1 list? 3b5. Does the forested wetland contain three canopy layers (trees over 20 feet tall, shrubs or saplings, and herbaceous ground covers)? 3c. Estuarine Wetlands 3c1. Is the wetland listed as National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park, or Educational, Environmental or Scientific Reserves designated under WAC 332-30-151? 3c2. Is the wetland > 5 acres? — or, is the wetland 1 to 5 acres; — or, is the wetland < 1 acre? 3c3. Does the wetland meet at least 3 of the following 4 criteria: — minimum existing evidence of recent (since 1992) human-related disturbance such as diking, ditching, filling, cultivation, grazing, or the presence of nonnative plant species (see guidance for definition); — surface water connection with tidal saltwater or tidal freshwater; — at least 75% of the wetland has a 100-foot buffer of ungrazed pasture, open water, shrub, or forest;	No to all: go to Q.4. - Yes: go to 3a; Yes: go to 3b; Yes: go to 3c; Yes: go to 3d; Yes: go to 3e; - Yes: Category I No: go to Q.4. - Yes: Category III No: go to 3b2; Yes: Category I No: go to 3b3; Yes: go to 3b4; No: go to 3b5; Yes: Category II No: Category I Yes: Category II No: go to Q.5; - Yes: Category I No: go to 3c2; Yes: Category I Yes: go to 3c3; Yes: go to 3c4; Yes: Category I No: Category II - -

*——have at least 3 of the following features: low marsh, high marsh, tidal channels, lagoon(s), woody debris, or contiguous freshwater wetland? 3c4. Does the wetland meet all of the 4 criteria under 3c3 above?		— Yes: Category II No: Category III
3d. Eelgrass and Kelp Beds 3d1. Are eelgrass beds present? 3d2. Are there floating or nonfloating kelp bed(s) present with greater than 50% macro algal cover in the month of August or September? 3e. Significant Spring Fed Wetland Systems 3e1. Is the spring fed wetland system at least ½ acre in size?		— Yes: Category I No: go to 3d2. Yes: Category I No: Category II — Yes: Category II No: go to Q.4.
Q.4. Category II and IV Wetlands 4a. Is the wetland associated with year-round or intermittent salmonid fish-bearing waters? Briefly describe source of information: _____ _____ _____ _____ — 4b. Is the wetland less than or equal to 1 acre in size, hydrologically isolated, and comprised of one wetland class that is dominated by one plant species (monotypic vegetation)? *—— Monotypic vegetation is defined as greater than 80% areal cover by one plant species. *—— Hydrologically isolated wetland means a wetland which is not contiguous to any 100-year flood plain of any water-type and, has no contiguous surface hydrology, hydric soil, or hydrophytic vegetation between the wetland and any other wetland or stream system.		— Yes: Category II No: go to 4b. Yes: Category IV No: go to Q.5.
Q.5. Wetlands with significant habitat value based on the following specific diversity and size criteria. 5a. Is the wetland 10 acres or greater in size and have 2 or more wetland classes, together with open water, at any time during the normal year? 5b. Is the wetland 10 acres or greater in size, have 3 or more wetland classes, and 5 or more subclasses of vegetation in a dispersion pattern? 5c. Is the wetland 5 acres or greater in size, 40 to 60% open water at any time during a normal year, and 2 or more subclasses of vegetation in a dispersed pattern?		— Yes: Category II No: go to 5b. Yes: Category II No: go to 5c. Yes: Category II No: go to Q.6.
Q.6. Wetlands with significant habitat value based on the following specific diversity and size criteria and significant use by fish and wildlife. Answer all questions and enter data requested: —		Circle Scores That Qualify
6a. Total Wetland Area Estimate area, select from choices in the near right column, and score in the far right column: Enter acreage of wetland (including estimate of off-site acreage) here: _____ acres source: _____ —	Acreage > 20.00 10 — 19.99 5 — 9.99 1 — 4.99 0.1 — 0.99 < 0.1	— Yes = 6 Yes = 5 Yes = 4 Yes = 3 Yes = 2 Yes = 1
6b. Wetland Community Types (include observations of off-site wetland area) Circle the wetland community types below that qualify: Open Water: If the area of open water is > ½ acre, or > 10% of the total wetland area. Source: _____ Aquatic Beds: If the area of aquatic beds are > 10% of the open water area, or > ½ acre. Emergent: If the area of emergent community type is > ½ acre, or > 10% of the total wetland area. Scrub-Shrub: If the area of scrub shrub community type is > ½ acre, or 10% of the total wetland area. Forested: If the area of forested community type is > ½ acre, or 10% of the total wetland area.		— —
_____ # of Community Types		—

Add the number of wetland community types above that qualify, and then score according to the columns at right. e.g., If there are 4 community types (aquatic beds, open water, emergent, and scrub shrub), you would circle 7 points in the far right column.	1- 2- 3- 4- 5-	Yes = 1 Yes = 3 Yes = 5 Yes = 7 Yes = 10
6c. Plant Species Diversity (include observations of off-site wetland area) For all wetland community types (at right) that qualify in 6b, above, count the number of different plant species you can find. You do not have to name them. Score in column at far right: e.g., If a wetland has aquatic bed community type with 3 species, an emergent community type with 4 species, and a scrub shrub community type with 2 species, you would circle 2, 2, and 1 in the far column. - -	# of Community Type Species Aquatic Bed — 1 — 2 Aquatic Bed — 3 Aquatic Bed — >3 Emergent — 1 — 2 Emergent — 3 — 4 Emergent — >4 Scrub-Shrub — 1 — 2 Scrub-Shrub — 3 — 4 Scrub-Shrub — >4 Forested — 1 — 2 Forested — 3 — 4 Forested — >4	- Yes = 1 Yes = 2 Yes = 3 Yes = 1 Yes = 2 Yes = 3 Yes = 1 Yes = 2 Yes = 3 Yes = 1 Yes = 2 Yes = 3
6d. Structural Diversity (include observations of off-site wetland area) If the wetland has a forested community type, add 1 point for each of the following: Trees > 50 feet tall Trees 20 feet to 49 feet tall Shrubs/saplings Herbaceous ground cover		- - Yes = 1 Yes = 1 Yes = 1 Yes = 1
6e. Decide from the diagrams below whether interspersions between wetland community types is high, moderate, low, or none?  none  low  low  moderate  moderate  high		- - High = 3 Moderate = 2 Low = 1 None = 0
6f. Habitat Features (include observations of off-site wetland areas) Answer questions below, circle features that apply, and score to right: Is there evidence of current use by beavers?		- - Yes = 3

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Is a heron rookery located within 300 feet?	Yes = 2
Are raptor nest(s) located within 300 feet?	Yes = 1
Are there at least 3 standing dead trees (snags) per acre?	Yes = 1
Are any of these standing dead trees (snags) > 10 inches in diameter?	Yes = 1
Are there any other perches (wires, poles, or posts)?	Yes = 1
Are there at least 3 downed logs at least 10' in length with a diameter > 6" per acre (include observations of off-site wetland areas)?	Yes = 1
6g. Connection to streams	-
Is the wetland connected at any time of the year via surface water to a seasonal stream? The connection could be during flood events, via a natural or manmade channel, culvert, or an area of open water.	Yes = 1
6h. Adjacent Land Uses and Buffers	-
Step 1	Step 2
Estimate (to the nearest 5%) the percent of each land use or buffer type (below) that adjoins the wetland boundary.	Multiply result(s) of step 1: By 1, if buffer width is 25 — 50 feet; By 2, if buffer width is 50 — 100 feet; By 3, if buffer width is > 100 feet.
Then multiply the percent(s) by the factor(s) below and enter result in column to right:	Enter results below and add subscores:
-	-
roads, buildings, or parking lots: ____% ____ x 0 =	____ x ____ = ____
lawn, grazed pasture, vineyards, or annual crops: ____% ____ x 1 =	____ x ____ = ____
ungrazed grassland or orchards: ____% ____ x 2 =	____ x ____ = ____
open water or native grasslands: ____% ____ x 3 =	____ x ____ = ____
forest or shrub: ____% ____ x 4 =	____ x ____ = ____
-	Add buffer total: ____
6i. Connection to other habitat areas:	-
Is there a riparian corridor to other wetlands within 0.25 of a mile; or, a corridor > 100 feet wide with good forest or shrub cover to any other habitat area(1)?	Yes = 5
Is there a narrow corridor < 100 feet wide with good cover; or, a wide corridor > 100 feet wide with low cover to any other habitat area?	Yes = 3
Is there a narrow corridor < 100 feet wide with low cover; or, a significant habitat area within 0.25 mile but no corridor?	Yes = 1
Is the wetland and buffer completely isolated by development and/or cultivated agricultural land?	Yes = 0
Add the scores circled (for Q.6a. — Q.6i. above) to get a total:	Total = ____
Is the total greater than or equal to 22 points:	Yes: Category II No: Category III
(1) For purposes of this rating form the term "Habitat area" means any forested, shrub, and herbaceous areas that could be used by wildlife species that use wetlands to provide a part of their life cycle needs.	-

(Ord. 02-200 § 2).

TABLE 1

List of invasive/exotic plant species for Question 3a1 (peat wetlands); question 3b3 (forested wetlands); and question 4b (Category IV wetlands). This list is provided for use with the field data form.

Scientific Name	Common Name
<i>Agropyron-repens</i>	Quackgrass
<i>Alopecurus-pratensis</i> , <i>A.-aequalis</i>	Meadow-foxtail
<i>Aretium-minus</i>	Bardock
<i>Bromus-tectorum</i> , <i>B.-rigidus</i> , <i>B.-brizaeformis</i> , <i>B.-secalinus</i> , <i>B.-japonicus</i> , <i>B.-mollis</i> , <i>B.-commutatus</i> , <i>B.-inermis</i> , <i>B.-erectus</i>	Bromes
<i>Cenchrus-longispinu</i>	Sandbur
<i>Centaurea-solstitialis</i> , <i>C.-repens</i> , <i>C.-cyanus</i> , <i>C.-maculosa</i> , <i>C.-diffusa</i>	Knapweeds
<i>Cirsium-vulgare</i> , <i>C.-arvense</i>	Thistle
<i>Cynosurus-cristatus</i> , <i>C.-echinatus</i>	Dogtail
<i>Cytisus-scoparius</i>	Scotch-broom
<i>Dactylis-glomerata</i>	Orchard-grass
<i>Dipsacus-sylvestris</i>	Teasel
<i>Digitaria-sanguinalis</i>	Crab-grass
<i>Echinochloa-crusgalli</i>	Barnyard-grass
<i>Elaeagnus-augustifolia</i>	Russian-olive
<i>Euphorbia-peplus</i> , <i>E.-esula</i>	Spurge
<i>Festuca-arundinacea</i> , <i>F.-pratensis</i>	Fescue
<i>Holcus-lanatus</i> , <i>H.-mollis</i>	Velvet-grass
<i>Hirdeum-jubatum</i>	Foxtail-barley
<i>Hypericum-perforatum</i>	St. John's-wort
<i>Juncus-effusus</i>	Soft-rush
<i>Lolium-perenne</i> , <i>L.-multiflorum</i> , <i>L.-temulentum</i>	Ryegrass
<i>Lotus-corniculatus</i>	Birdsfoot-trefoil
<i>Lythrum-salicaria</i>	Purple-loosestrife

<i>Matricaria-matricarioides</i>	Pineapple-weed
<i>Medicago-sativa</i>	Alfalfa
<i>Melilotus-alba</i> , <i>M. officinalis</i>	Sweet-clover
<i>Phalaris-arundinacea</i>	Reed-canary-grass
<i>Phleum-pratense</i>	Timothy
<i>Phragmites-communis</i>	Reed
<i>Poa-compressa</i> , <i>P. palustris</i> , <i>P. pratensis</i>	Bluegrass
<i>Polygonum-aviculare</i> , <i>P. convolvulus</i> , <i>P. cuspidatum</i> , <i>P. lapathifolium</i> , <i>P.-persicaria</i>	Knotweeds
<i>Ranunculus-repens</i>	Buttercup
<i>Rubus-discolor</i> , <i>R. laciniatus</i> , <i>R. vestitus</i> , <i>R. macrophyllus</i>	Nonnative blackberry
<i>Salsola-kali</i>	Russian thistle
<i>Sataria-viridis</i>	Green-bristlegrass
<i>Sisymbrium-altissimum</i> , <i>S. loeselii</i> , <i>S. officinale</i>	Tumblemustards
<i>Tanacetum-vulgare</i>	Tansy
<i>Trifolium-dubium</i> , <i>T. patense</i> , <i>T. repens</i> , <i>T. arvense</i> , <i>T. subterraneum</i> , <i>T. hybridum</i>	Clovers
Cultivated-species:	Wheat, Corn, Barley, Rye, etc.

14.30.080—Figures.

A. Figure 14.30-1, Connecting Mosaic Pattern Wetlands.

B. Figure 14.30-2, General Wetland Review.

C. Figure 14.30-3, One-Family Wetland Review.

D. Figure 14.30-4, Wetland-Buffer-Averaging.

(Ord. 02-200 § 2).

Chapter 14.40

CRITICAL FISH AND WILDLIFE HABITAT AREAS FISH AND WILDLIFE HABITAT CONSERVATION AREAS

Sections:

- 14.40.010 Purpose.
14.40.020 Critical fish and wildlife species and habitat areas. Fish and wildlife habitat conservation area identification and classification.
14.40.025 Buffer standards—Fish and wildlife habitat conservation areas.
14.40.030 Critical fish and wildlife habitat area. Fish and wildlife habitat conservation area review procedures.
14.40.040 Critical fish and wildlife habitat area standards. Allowed activities.
14.40.050 Alteration of Watercourses.
14.40.050 Mitigation requirements.
14.40.060 Buffer Mitigation requirements.
14.40.070 Appendix
ces.
14.40.080 Figures.

14.40.010 Purpose.

Many land use activities can impact the habitats of fish and wildlife. Special care must be taken in the management of lands that support critical fish and wildlife species to ensure that development occurs in a manner that is sensitive to their habitat needs. The purpose of this chapter is to identify critical fish and wildlife species and habitats fish and wildlife habitat conservation areas and establish habitat protection procedures and mitigation measures that are designed to minimize any negative impacts result in no net loss of habitat functions and values associated with new development or regulated activities. (Ord. 02-200 § 2).

14.40.020 Critical fish and wildlife species and habitat areas. Fish and wildlife habitat conservation area identification and classification.

A. General. Critical fish and wildlife habitat areas are those areas that support critical fish and wildlife species, typically identified either by known point locations of specific species (such as a nest or den) or by habitat areas or both. Designation. Fish and wildlife habitat conservation areas include:

B. Federally and State Listed Species and their Associated Habitats. Areas which have a primary association with federally or state listed endangered, threatened, or sensitive species of fish or wildlife (specified in 50 CFR 17.11, 50 CFR 17.12, WAC 232-12-011 and 232-12-014) and which if altered may reduce the likelihood that the species will survive and reproduce over the long term. The list of endangered, threatened, or sensitive species is maintained and located at:

<http://www.wdfw.wa.gov/wlm/diversity/soe/soe.htm>.

1. Waters of the state. Waters of the state include lakes, rivers, ponds, streams, and all other surface waters and watercourses within jurisdiction of the state of Washington, as classified in WAC 222-16-030.
2. Areas with which federally designated endangered, threatened, and sensitive species have a primary association. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted for current federal listing status.
3. Areas with which state designated endangered, threatened, and sensitive species have a primary association. The Washington State Department of Fish and Wildlife should be consulted for current state listing status.

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4. State priority habitats and areas associated with state priority species. The state Department of Fish and Wildlife should be consulted for current listing of priority habitats and species.

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5. Habitats and species of local importance. The following fish and wildlife species and their associated habitat areas shall be regulated under this chapter:

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a. Fish. Coho salmon (*Oncorhynchus kisutch*), pink salmon (*Oncorhynchus gorbuscha*), chum salmon (*Oncorhynchus keta*), cutthroat trout (*Oncorhynchus clarkia*), and steelhead (*Oncorhynchus mykiss*).

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b. Birds. Great blue heron (*Ardea herodias*) and green heron (*Butorides virescens*).

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c. Areas with which state-listed monitor or candidate fish or wildlife species or federally listed candidate fish or wildlife species have a primary association, and which if altered may reduce the likelihood that the species will survive and reproduce over the long term.

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d. Heron rookeries.

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B. Habitat boundary survey. If the department determines that a regulated habitat conservation area may be present within the project vicinity, the department may require the habitat area to be delineated and/or mapped by a qualified fisheries biologist or wildlife biologist who is knowledgeable of fish and wildlife habitat within western Washington, or by the Washington Department of Fish and Wildlife. The boundary of aquatic habitats shall be the ordinary high water mark of the waterbody. The management recommendations for Washington's priority habitats and species or federal equivalent should be used as a tool for identifying and delineating wildlife habitat boundaries. The city may waive this requirement if there is adequate information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

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C. Mapping. The approximate location and extent of waters of the state and fish presence within the city are shown on maps maintained by the city. The city shall update the maps periodically as new information becomes available. The approximate location and extent of other fish and wildlife habitat conservation areas are shown on maps maintained by the Washington State Department of Fish and Wildlife and other state and federal agencies. These maps are to be used as a guide and do not provide definitive information about fish and wildlife habitat conservation area size or presence. Fish and wildlife habitat conservation areas may exist that do not appear on the maps.

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D. Waters of the state classification. The city hereby adopts the water typing system specified in WAC 222-16-030, as described below:

1. Type S. All waters, within their ordinary high water mark, meeting the criteria as "shorelines of the state" and "shorelines of statewide significance" under RCW Chapter 90.58. As of the effective date of this title, there are no Type S streams within city jurisdiction.

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2. Type F: segments of natural waters other than Type S Waters, which are within the bankfull widths of defined channels and periodically inundated area of their associated wetlands, or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat.

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3. Type Np: all segments of natural waters within the bankfull width of defined channels that are perennial non-fish habitat stream. Perennial stream waters do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.

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4. Type Ns: All segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np waters. These are seasonal, non-fish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters.

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C. Species of Local Importance. In addition to federally and state-listed species, the following fish and wildlife species and their associated habitat areas shall be regulated under this chapter:

1. Fish. Coho salmon, pink salmon, chum salmon, sockeye salmon, cutthroat trout, steelhead.

2. Birds. Herons.

D. Habitats of Local Importance.

1. Areas with which state-listed monitor or candidate fish or wildlife species or federally-listed candidate fish or wildlife species have a primary association (habitat areas and point locations), as specified in Washington Department of Wildlife Policies 4802 and 4803, and which if altered may reduce the likelihood that the species will survive and reproduce over the long term. The list of endangered, threatened, or sensitive species is maintained and located at:

<http://www.wdfw.wa.gov/wlm/diversity/soc/soc.htm>.

2. Documented habitat areas or potential habitat areas and point locations for fish and wildlife species. These areas include specific habitat types, which are infrequent in occurrence in Edgewood and may provide specific habitats with which endangered, threatened, sensitive, candidate, or monitor fish and wildlife species have a primary association, such as breeding habitat, winter range, and movement corridors. These areas include the following:

a. Oregon white oak trees and woodlands. Oregon white oak woodlands, stands, and individual trees meeting the following criteria shall be considered priority habitat and shall be subject to protection under the provisions of this chapter:

i. Priority Oregon White Oak Woodlands. Stands of Oregon white oak or oak/conifer associations where the stand is at least one acre in size and the canopy coverage of the oak component of the stand is greater than or equal to 25 percent (see Figure 14.40-1).

ii. Significant Oaks and Stands. Single oaks, or stands of oaks smaller than one acre in size, when any of the following criteria are met:

(A) Individual trees having a diameter at breast height of 20 inches or more; or

(B) Oregon white oak stands in which the oak trees have an average diameter at breast height of 15 inches or more regardless of stand size.

b. Old growth/mature forests.

c. Caves.

d. Cliffs.

e. Snag-rich areas and logs.

f. Waters of the state and/or natural waters and adjacent shoreline areas (200 feet landward measured from the ordinary high water mark) including:

i. All water bodies classified by the Washington Department of Natural Resources (DNR) water typing classification system as detailed in WAC 222-16-030 and 222-16-031.

ii. All waters that support critical fish or wildlife species (i.e., areas that have connectivity to fish bearing waters and may potentially provide habitat given no natural barriers to fish passage).

iii. Ponds and their submerged aquatic beds.

g. Wetlands (refer to Chapter 14.30 EMC).

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h. Heron rookeries.

E. Potential Critical Fish and Wildlife Habitat Areas. Potential critical fish and wildlife habitat areas, as depicted on the Critical Areas Atlas—Critical Fish and Wildlife Habitat Area Maps, are those areas where the suspected presence of critical fish or wildlife species is sufficient to require critical fish or wildlife habitat area review (see Figure 14.40-2). Potential critical fish and wildlife habitat areas are determined using the following criteria:

1. A habitat area identified on one of the maps listed in EMC 14.10.140, Appendix A (includes but is not limited to breeding habitat, winter ranges, movement corridors, oak woodlands, streams, ponds, etc., as outlined in subsections (A) through (D) of this section) plus the adjacent 200 feet surrounding the habitat area.
2. A point location identified on one of the maps listed in EMC 14.10.140, Appendix A, (including but not limited to nests, dens, rookeries, etc.) plus the adjacent 800 feet surrounding the point location. (Ord. 02-200 § 2).

14.40.025 Buffer standards—Fish and wildlife habitat conservation areas.

A. Determining buffer widths. Buffers shall be required as set forth for each habitat type. The required buffers shall be delineated, both on a site plan or plat, and on the property prior to approval of any regulated activity.

1. Aquatic habitat conservation areas.

- a. Buffers for aquatic habitat conservation areas shall be based upon the water type classification of the water body as specified in WAC 22-16-030. Refer to Table 14.40.025 for the water types and the associated buffer requirements.
- b. The required buffer width shall be measured in all directions from the ordinary high water mark.
- c. The required buffer shall be extended to include any adjacent regulated wetland(s), landslide hazard areas, and/or erosion hazard areas and required buffers.

2. Non-aquatic habitat conservation areas. Appropriate buffers for critical habitat areas and species not listed in Table 14.40.025 shall be determined by the Washington Department of Fish and Wildlife or by a qualified wildlife biologist and documented in an approved habitat management plan.

Table 14.40.025
Buffer Standards

Water Type	Buffer Width ¹
Type S	150 ft. ²
Type F	100 ft.
Type Np	60 ft.
Type Ns	35 ft.

¹ In the event that buffers for any habitat conservation area or other critical area are contiguous or overlapping, the landward-most edge of all such buffers shall apply.

² As of the effective date of this title, there are no Type S streams within city jurisdiction.

C. Modification to Buffer Width Requirements. The standard buffer widths of subsection (A) of this section may be modified as follows:

1. Buffer Width Reductions. A buffer width reduction may be proposed through submittal of a habitat management plan. Buffer reductions of up to a maximum of 25 percent may be allowed when the applicant demonstrates the following circumstances:

- a. Buffer encroachment is unavoidable.
- b. The existing buffer is predominately un-vegetated, composed of nuisance species, or is in an otherwise highly disturbed condition.
- c. Buffer reduction with enhancement will provide equal or greater protection of current habitat functions and values, and will not adversely affect salmon habitat.
- d. The buffer reduction will not increase the risk of slope failure or downslope stormwater drainage impacts.
- e. The minimum width of the buffer at any given point shall be at least seventy-five (75) percent of the standard width, or twenty-five (25) feet, whichever is greater.
- f. The project includes a buffer enhancement plan as part of the mitigation required by EMC 14.40.060. The buffer enhancement plan shall use native plant species.

2. Buffer Width Increases. The department may require increased buffer width(s) when any of the following are identified:

- a. A larger buffer is necessary to maintain viable populations of existing species or protect the existing functions of the habitat area;
- b. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse habitat impacts;
- c. The adjacent land has minimal vegetative cover or slopes greater than 20 percent; or
- d. The habitat area is in an area of high tree blow down potential. In these cases the habitat area may be expanded an additional 50 feet on the windward side.

14.40.030 Critical fish and wildlife habitatFish and wildlife habitat conservation area review procedures.

A. Habitat management plan. When the department’s maps, sources, or field investigations indicate that the proposed project area is located within 300 feet of a known or suspected fish or wildlife habitat conservation area, an applicant shall submit a habitat management plan prepared by a qualified fisheries biologist or wildlife biologist. The requirement to provide a habitat conservation plan for habitat conservation areas may be waived if the department determines that there are no potential direct and/or indirect impacts on designated species or habitats that would result from the proposed development. Habitat management plans shall comply with the requirements established in EMC 14.40.070, Appendix A.

A. General Requirements:

- 1. The City’s Critical Areas Atlas—Critical Fish and Wildlife Habitat Area Maps provide an indication of where potential critical fish and wildlife habitat areas are located within the city. The presence or location of a potential critical fish or wildlife species, habitat area, or point location that has not been mapped, but that may be present on or adjacent to a site, shall be determined using the procedures and criteria established in this chapter.
- 2. The department will complete a review of the Critical Areas Atlas—Critical Fish and Wildlife Habitat Area Maps and other source documents for any proposed regulated activity to determine whether the site for the regulated activity is located within a potential critical fish or wildlife habitat. Identification of a potential critical fish or

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wildlife habitat area may also occur as a result of field investigation conducted by Department or Washington Department of Fish and Wildlife (WDFW) staff.

3. When the department's maps, sources, or field investigation indicates that the site for a proposed regulated activity is located within a potential critical fish or wildlife habitat area, the department shall require the submittal of a critical fish and wildlife application and habitat assessment to determine the presence or absence of critical fish or wildlife species or habitat. The habitat assessment shall be documented as set forth in subsection (B) of this section (see EMC 14.40.080(C), Figure 14.40-3).

4. The requirement to conduct a habitat assessment may be waived by the department when the department determines that no other critical fish and wildlife species and habitats, as set forth in EMC 14.40.020, are present. The applicant shall be required to comply with the standards set forth in EMC 14.40.040(D).

5. Projects undergoing review for critical fish and wildlife habitat areas shall be routed to tribal agencies with jurisdiction for review. Tribes will have an opportunity to provide specific habitat information on proposed development sites. If necessary, the department will seek additional assistance from the Washington Department of Fish and Wildlife and similar appropriate state and federal agencies.

6. Approval of a critical fish and wildlife application shall be granted upon a determination that the habitat assessment and mitigation plan, if applicable, are thorough and accurate and meet all requirements of this title.

7. If application of the standards contained in this chapter would deny all reasonable use of a site, the applicant may pursue a reasonable use exception as set forth in EMC 14.20.050.

8. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC 14.10.080 shall apply.

B. Habitat Assessment. A habitat assessment is a site investigation process to evaluate the presence or absence of a potential critical fish or wildlife species or habitat affecting a subject property.

1. The applicant may select either a fish or wildlife biologist, as applicable, or department staff to conduct a habitat assessment to determine whether or not a critical fish or wildlife habitat area, point location, and any associated buffer are located on the site for a proposed development as outlined below:

a. Applicants for single family dwellings or agricultural activities may retain department staff to complete the habitat assessment as follows:

i. Requests for department staff to conduct a habitat assessment shall be accompanied with a critical fish and wildlife habitat area application and associated fee(s).

ii. If department staff conducts the habitat assessment and determines that no critical fish or wildlife habitat areas, point locations, or associated buffers are present on the site, then the critical fish and wildlife habitat area review will be considered complete.

iii. If department staff conducts the habitat assessment and determines that critical fish or wildlife habitat areas, point locations, or associated buffers are present on the site, then the applicant shall be required to submit a habitat assessment study or a habitat assessment report as outlined in subsection (B)(1)(b) of this section. This requirement may be waived if the applicant agrees to comply with the standards set forth in EMC 14.40.040 and the critical area protective measures set forth in EMC 14.10.080.

b. If a fish or wildlife biologist conducts the habitat assessment, then the following documentation shall be submitted to the department:

i. The habitat assessment shall be submitted in the form of a habitat assessment letter when the fish or wildlife biologist completes the field investigation and determines that a critical fish or wildlife habitat area, point location, or associated buffer is not located on the site. The habitat assessment letter shall meet the requirements contained in EMC 14.40.070, Appendix A (see EMC 14.40.080(C), Figure 14.40-3).

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ii. The habitat assessment shall be submitted in the form of a habitat assessment study when the fish or wildlife biologist completes the field investigation and determines a critical fish or wildlife habitat area, point location, or associated buffer is located on the site and when the proposed regulated activity complies with the standards set forth in EMC 14.40.040 and the buffer requirements as set forth in EMC 14.40.060. The habitat assessment study shall meet the requirements contained in EMC 14.40.070, Appendix B (see EMC 14.40.080(C), Figure 14.40-3).

iii. The habitat assessment shall be submitted in the form of a habitat assessment report when the fish or wildlife biologist completes the field investigation and determines a critical fish or wildlife habitat area, point location, or associated buffer is located on the site and when the proposed development activity does not or cannot comply with the standards set forth in EMC 14.40.040 and the buffer requirements as set forth in EMC 14.40.060. The habitat assessment report shall meet the requirements contained in EMC 14.40.070, Appendix C (see EMC 14.40.080(C), Figure 14.40-3).

iv. Habitat assessments shall be submitted to the department for review and approval together with a critical fish and wildlife habitat area application and associated fee(s).

v. Habitat assessments shall be prepared, signed, and dated by a fisheries or wildlife biologist (as defined in EMC 14.10.060), as applicable to the particular species or habitat type.

vi. Habitat assessment reports shall address the mitigation requirements set forth in EMC 14.40.050.

2. All habitat assessments submitted under the requirements of this chapter shall, at a minimum, include the following:

a. The parcel number of the subject property.

b. The site address of the subject property, if one has been assigned by the city.

c. The date and time when the site evaluation for the habitat assessment was conducted and the date when the habitat assessment was prepared.

d. The credentials of the fish or wildlife biologist who prepared the habitat assessment.

e. The mailing address and phone number of the property owner and the fish or wildlife biologist that prepared the habitat assessment.

f. A detailed description of the vegetation on and adjacent to the site.

g. Identification and a detailed description of any critical fish or wildlife species or habitats, as set forth in EMC 14.40.020, on or adjacent to the site and the distance of such habitats or species in relation to the site. Describe efforts to determine the status of any critical species in the project area, including information on survey methods, timing, and results of surveys for species or suitable habitat identification.

h. Include any information received from biologists with special expertise on the species or habitat type, such as WDFW, Tribal, USFS, or other local, regional, federal, and university fish, wildlife and habitat biologists and plant ecologists. Include any such conversations in the habitat assessment and cite as personal communication.

i. A map showing the location of the site, including written directions.

j. The department may also require that the applicant request a separate evaluation of the site by WDFW staff to confirm the findings of the habitat assessment.

3. Hold harmless clauses, disclaimers, and limitations are not allowed within a habitat assessment letter.

4. The department shall review the habitat assessment and either:

a. Accept the habitat assessment and approve the critical fish and wildlife application; or

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b. Reject the habitat assessment and notify the applicant in writing of the reasons why the habitat assessment was rejected. (Ord. 02-200 § 2).

14.40.040 — Critical fish and wildlife habitat area standards Allowed activities.

A. General.

1. Activities permitted under this section shall comply with the provisions of all other chapters contained in this title.
2. All proposed regulated activities shall comply with the buffer requirements contained in EMC 14.40.060.
3. If the department determines that mitigation is necessary to offset the identified impacts from a proposed development, the applicant shall comply with the mitigation requirements set forth in EMC 14.40.050.
4. Unless otherwise allowed in this chapter, all regulated activities shall be located outside critical fish and wildlife habitat areas and associated buffers.
5. A proposed regulated activity may be allowed within a critical fish or wildlife habitat area or required buffer when located on an existing lot of record that was created prior to the effective date of the ordinance codified in this chapter subject to the following conditions:
 - a. Applicants shall demonstrate there are no other feasible alternatives that would allow the proposed development to occur completely outside the critical fish or wildlife habitat area or the required associated buffer.
 - b. The development cannot be located outside the critical fish or wildlife habitat area or required buffer due to topographic constraints of the parcel or size and/or location of the parcel in relation to the limits of the critical fish or wildlife habitat area or required buffer.
 - c. If applicable, a building setback variance has been reviewed, analyzed, and rejected as a feasible alternative to encroachment into the critical fish or wildlife habitat area or associated buffer.
 - d. The proposed project complies with the standards set forth in this section and has demonstrated through the submittal of a habitat assessment report that adequate mitigation as outlined in EMC 14.40.050 has been provided.

A. The following activities may be permitted in habitat conservation areas and/or their buffers when all reasonable measures have been taken to avoid and mitigate adverse effects on species and habitats and a net loss of habitat functions will not occur. In order to verify the following conditions, a habitat management plan meeting the requirements of EMC 14.40.070, Appendix A must be submitted.

B. Riparian Areas, Ponds, and Associated Buffers. The following specific regulated activities may occur within a riparian area, pond, or associated buffer subject to the following standards:

1. Clearing and Grading. When clearing and grading is permitted as part of an authorized regulated activity or as otherwise allowed in these standards, the following shall apply:
 - a. Grading is allowed only during the dry season, which is typically regarded as beginning on May 1st and ending on October 1st of each year; the department may extend or shorten the dry season on a case-by-case basis, determined on actual weather conditions.
 - b. Filling or modification of a wetland or wetland buffer is permitted only if it is conducted as part of an approved wetland permit issued by the department.
 - c. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, any soil disturbed shall be redistributed to other areas of the project site.

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d. The moisture holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the site that impervious surfaces do not cover.

e. Erosion and sediment control that meets or exceeds the standards set forth in Edgewood's adopted stormwater management manual (Chapter 13.05 EMC) shall be provided.
1. Stream Erosion Control Measures. New or replacement stream erosion control measures shall be subject to the following standards:

a. The proposal complies with the provisions set forth in Chapter 14.110 EMC.

b. The required habitat management plan demonstrates the following:

i. Natural stream processes will be maintained. The project will not result in increased beach erosion or alterations to, or loss of, stream substrate within one-quarter mile of the site.

ii. The stream erosion control measure will not adversely impact fish or wildlife habitat conservation areas or associated wetlands.

2. Docks and launching ramps. Construction, reconstruction, repair, and maintenance of docks and public or private launching ramps are subject to all of the following:

a. The dock or ramp is located and oriented and constructed in a manner that minimizes adverse effects on water quality, movement of aquatic and terrestrial life, ecological processes, spawning habitat, and wetlands.

b. Docks and ramps shall meet or exceed all relevant state and federal permit requirements.

3. Roads, Trails, Bridges, and Rights-of-Way. Construction of trails, roadways, bridges, and culverts may be allowed subject to the following standards:

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

b. The crossing minimizes interruption of downstream movement of wood, ice, and gravel and the movement of all fish and wildlife.

c. Stream crossings, where necessary, shall only occur as near to the perpendicular with the stream as possible and be limited to the minimum width necessary.

d. Road bridges and culverts are designed according to the latest versions of the Washington Department of Fish and Wildlife Water Crossing Design Guidelines (Washington Department of Fish and Wildlife) the Anadromous Salmonid Passage Facility Design guidelines (National Marine Fisheries Service).

e. Trails and associated viewing platforms shall be made of pervious materials.

4. Utility Facilities. New utility lines and facilities are permitted to cross habitat conservation areas if they comply with the following standards

a. Avoid fish and wildlife habitat conservation areas to the maximum extent possible.

b. Cross at an angle greater than 60 degrees to the centerline of the channel in streams or perpendicular to the channel centerline whenever boring under the channel is not feasible.

c. Crossings are contained within the footprint of an existing road or utility crossing where possible.

d. Avoid paralleling the stream or following a down-valley course near the channel.

e. Do not increase or decrease the natural rate of shore migration or channel migration.

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f. Bore beneath the scour depth and hyporheic zone of the water body and channel migration zone (CMZ) where feasible.

5. Public Flood Protection Measures. New public flood protection measures and expansion of existing facilities may be approved, subject to the department's review and approval of a habitat management plan.

6. Instream Structures. New instream structures (e.g., such as, but not limited to, high flow bypass, sediment ponds, instream ponds, retention and detention facilities, dams, weirs, etc.) shall be allowed only as part of an approved mitigation or restoration project or watershed basin plan approved by the department and upon acquisition of any required state or federal permits. The structure shall be designed to avoid modifying flows and water quality in ways that may adversely affect critical fish species. Proposals for placement of water quality, water quantity, or other instruments or structures within a stream to gather data, or as a mitigation measure, shall be exempt from the provisions of this title upon review and approval by the department.

7. Stormwater Conveyance Facilities. Conveyance structures whose sole purpose is to convey stormwater already treated for quality, or water bypassed around water quality treatment facilities pursuant to an approved stormwater plan, may be constructed subject to the following standards:

a. No other feasible alternatives with less impact exist;

b. Mitigation for impacts is provided;

c. Stormwater conveyance facilities shall incorporate fish habitat features;

d. Vegetation shall be maintained and, if necessary, added adjacent to all open channels and ponds in order to retard erosion, filter out sediments, and shade the water.

8. On-Site Sewage Systems and Wells.

a. New on-site sewage systems and individual wells are permitted if accessory to an approved structure.

b. Repairs to failing on-site sewage systems associated with an existing structure shall be accomplished by utilizing one of the following methods that result in the least impact:

i. Connection to an available public sewer system;

ii. Replacement with a new on-site sewage system located in a portion of the site that has already been disturbed by development and is located landward as far as possible, provided the proposed sewage system is in compliance with the provisions in Chapter 14.70 EMC; or

iii. Repair to the existing on-site septic system.

B. The activities listed below are allowed in habitat conservation areas and their buffers, and do not require submission of a habitat management plan, except where such activities would result in a loss of the functions and values of habitat conservation areas or buffers.

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12. Vegetation Removal, Disturbance, and Introduction. Limited vegetation removal shall be allowed subject to EMC 18.90.180 (tree preservation) and the following standards:

a. Hazard trees may be cut; provided, that:

i. The applicant submits a report from a certified arborist, licensed architect, or professional forester that documents the hazard and provides a replanting schedule for the replacement trees and receives written approval from the city authorizing the tree removal;

Commented [AN7]: This reference will need to be flagged and modified as the tree preservation code is making its way through the planning commission and will be adopted shortly after the CAO.

ii. Tree cutting shall be limited to limbing and crown thinning, unless otherwise justified by the landowner's expert. Where limbing or crown thinning is not sufficient to address the hazard, trees should be topped to remove the hazard rather than cut at or near the base of the tree. All vegetation cuttings (tree stems, branches, tops, etc.) shall be left within the ~~critical area~~ habitat area or buffer unless removal is warranted due to the potential for disease transmittal to other healthy vegetation;

iii. The landowner shall replace any trees that are felled or topped with new trees at a ratio of two replacement trees for each tree felled or topped. Tree species that are native and indigenous to the site shall be used;

iv. Hazard trees determined to pose an imminent threat or danger to public health or safety, or to public or private property, or serious environmental degradation may be removed or topped by the landowner prior to receiving written approval from the department; provided, that within 14 days following such action, the landowner shall submit the necessary report and replanting schedule demonstrating compliance with subsections (B)(~~12~~)(a)(i) through (iii) of this section.

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b. Trimming of vegetation for purposes of providing view corridors will be allowed; provided, that trimming shall be limited to view corridors of 20 feet in width or less, that no more than 30 percent of the live crown is removed, and that benefits to fish and wildlife habitat are not reduced. Trimming shall be limited to hand pruning of branches and vegetation. Trimming shall not include felling, topping, or removal of trees.

~~c. Limited vegetation and tree removal subject to the conditions contained in an approval for a regulated activity.~~

~~d. Introduced vegetation shall be limited to species that are native and historically indigenous to the site.~~

23. Fencing. Fencing shall be placed in such a manner as to maintain wildlife movement corridors and not create any fish passage blockages. The department shall approve the location, type, and height of any proposed fencing.

~~4. Shoreline Erosion Control Measures. New or replacement shoreline erosion control measures shall be subject to the following standards:~~

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~~a. The proposal complies with the provisions set forth in Chapter 14.110 EMC.~~

~~b. The applicant has submitted a habitat assessment report, as set forth in EMC 14.40.030.~~

~~c. The habitat assessment report demonstrates the following:~~

~~i. Natural shoreline processes will be maintained. The project will not result in increased beach erosion or alterations to, or loss of, shoreline substrate within one-quarter mile of the site.~~

~~ii. The shoreline erosion control measure will not adversely impact critical fish or wildlife habitat areas or associated wetlands.~~

~~iii. Adequate mitigation measures, as set forth in EMC 14.40.050, are provided that ensure no net loss of intertidal or riparian habitat or function occurs as a result of the proposed shoreline erosion control measure.~~

~~iv. No alteration of intertidal migration corridors occurs as a result of the proposed shoreline erosion control measure.~~

~~5. Streambank Stabilization. Streambank stabilization to protect new structures from future channel migration is not permitted except when such stabilization is achieved through bioengineering or soft armoring techniques. Streambank stabilization shall comply with the provisions set forth in Chapter 14.70 EMC.~~

6. Launching Ramps—Public or Private. Launching ramps may be allowed when the applicant has submitted a habitat assessment report as set forth in EMC 14.40.030 that has demonstrated the following:

- a. The project will not result in increased beach erosion or alterations to, or loss of, shoreline substrate within one-quarter mile of the site.
- b. The ramp will not adversely impact critical fish or wildlife habitat areas or associated wetlands.
- c. Adequate mitigation measures, as set forth in EMC 14.40.050, are provided that ensure no net loss of intertidal or riparian habitat or function occurs as a result of the ramp.
- d. No alteration of intertidal migration corridors as a result of the ramp.

7. Docks. Repair and maintenance of an existing dock or pier shall be permitted subject to the following:

- a. There is no increase in the use of materials creating shade for predator species;
- b. There is no expansion in overwater coverage;
- c. There is no new spanning of waters between three and 13 feet deep;
- d. There is no increase in the size and number of pilings; and
- e. There is no use of toxic materials (such as creosote) that come in contact with the water.

8. Roads, Trails, Bridges, and Rights-of-Way. Construction of trails, roadways, and minor road bridging (less than or equal to 30 feet wide) may be allowed subject to the following standards:

- a. There is no other feasible alternative route with less impact on the environment.
- b. The crossing allows for uninterrupted downstream movement of wood and gravel.
- c. Mitigation, pursuant to EMC 14.40.050, for impacts is provided.
- d. Road bridges are designed according to the WDFW Habitat and Lands Environmental Division's Fish Passage Design at Road Culverts, March, 1999, and the NMFS Guidelines for Salmonid Passage at Stream Crossings, 2000.
- e. Trails and associated viewing platforms shall be made of pervious materials.

9. Utility Facilities.

a. Installation of a utility is permitted if constructed in an existing, improved roadway, driveable surface or shoulder, subject to compliance with Pierce County road maintenance best management practices (BMPs).

b. New utility lines and facilities are permitted to cross watercourses if they comply with the following standards:

- i. Avoid critical fish and wildlife habitat areas to the maximum extent possible.
- ii. Cross at an angle greater than 60 degrees to the centerline of the channel in streams or perpendicular to the channel centerline whenever boring under the channel is not feasible.
- iii. Crossings are contained within the footprint of an existing road or utility crossing where possible.
- iv. Avoid paralleling the stream or following a down-valley course near the channel.
- v. Do not increase or decrease the natural rate of shore migration or channel migration.
- vi. Bore beneath the scour depth and hyporheic zone of the water body and channel migration zone (CMZ) where feasible.

10. Public Flood Protection Measures. New public flood protection measures and expansion of existing ones may be approved, subject to the department's review and approval of a habitat assessment report or the approval of a federal biological assessment.

11. Instream Structures. A new instream structure (e.g., such as, but not limited to, high flow bypass, sediment ponds, instream ponds, retention and detention facilities, tide gates, dams, weirs, etc.) shall be allowed only as part of an approved mitigation or restoration project or watershed basin plan approved by the city and upon acquisition of any required state or federal permits. The structure shall be designed to avoid modifying flows and water quality in ways that may adversely affect critical fish species. Proposals for placement of water quality, water quantity, or other instruments or structures within a stream to gather data, or as a mitigation measure, shall be exempt from the provisions of this title upon review and approval by the department.

12. Stormwater Conveyance Facilities. Conveyance structures whose sole purpose is to convey stormwater already treated for quality, or water bypassed around water quality treatment facilities pursuant to an approved stormwater plan, may be constructed subject to the following standards:

- a. No other feasible alternatives with less impact exist;
- b. Mitigation for impacts is provided;
- c. Stormwater conveyance facilities shall incorporate fish habitat features;
- d. Vegetation shall be maintained and, if necessary, added adjacent to all open channels and ponds in order to retard erosion, filter out sediments, and shade the water.

13. On-Site Sewage Systems and Wells.

- a. New on-site sewage systems and individual wells are permitted if accessory to an approved structure.
- b. Repairs to failing on-site sewage systems associated with an existing structure shall be accomplished by utilizing one of the following methods that result in the least impact:
 - i. Connection to an available public sewer system;
 - ii. Replacement with a new on-site sewage system located in a portion of the site that has already been disturbed by development and is located landward as far as possible, provided the proposed sewage system is in compliance with the provisions in Chapter 14.70 EMC; or
 - iii. Repair to the existing on-site septic system.

14. New Agricultural Activities. New agricultural activities are permitted subject to the following:

- a. Agricultural activities and structures shall comply with the provisions of Chapter 14.70 EMC, Flood Hazard Areas.
- b. The agricultural activity is in compliance with the USDA, NRCS Conservation Reserve Program farm management standards.
- c. A copy of an approved NRCS or Pierce County conservation district farm management plan that documents compliance with the USDA, NRCS Conservation Reserve Program farm management standards has been submitted to the department for review and approval.

15. Structures and Landscaped Areas. New construction, redevelopment, or additions or expansions of existing structures or reconstruction of damaged structures may be permitted subject to the following:

- a. Maximum disturbance (including the principal structure, accessory structures, and related appurtenances such as landscaped areas, wells, on-site septic systems, etc.) within the habitat area and/or associated buffer shall be:

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- i. Two thousand five hundred square feet if the area of the lot within the buffer is 5,000 square feet or less;
 - ii. Five thousand square feet if the area of the lot within the buffer is 10,000 square feet or greater;
 - iii. Fifty percent of the area of the lot if the area within the buffer is between 5,001 and 9,999 square feet; and
 - iv. Expansions and redevelopment projects shall be limited to the lesser of 1,000 additional square feet of disturbance area or the same area and disturbance criteria that would have been permitted if the site were undeveloped.
- b. Development is prohibited within 50 feet of any waterbody, watercourse, as measured landward from the ordinary high water mark.
- c. Development is prohibited within any side channel, oxbow, spring, or other type of off-channel habitat including connectable relic channels or oxbows.
- d. The area not disturbed by development shall be managed for native or approved vegetation and planted with native or approved vegetation where necessary following adopted guidelines to reestablish natural forested conditions (example: WDFW's Restoring the Watershed, A Citizen's Guide to Riparian Restoration in Western Washington).
- e. The proposal complies with the standards set forth in Chapter 14.70 EMC, Flood Hazard Areas.
- f. The expansion of existing multifamily structures and the conversion of lots from single family to multifamily use is prohibited.

16. Alteration of Watercourses. Alteration of watercourses shall comply with the standards set forth in subsection (D) of this section.

C. Oregon White Oak Trees and Woodlands.

1. Habitat Protection. Oak woodlands, stands, and individual trees meeting the criteria set forth in EMC 14.40.020(D) shall be protected as follows:

a. Priority Oregon White Oak Woodlands:

- i. Priority Oregon white oak woodlands shall be protected through inclusion within a conservation tract meeting the requirements set forth in EMC 14.40.060. The tract shall extend a minimum of five feet beyond the outermost dripline of the trees within the woodland.
- ii. A minimum of 80 percent of the Oregon white oak trees on site having a diameter at breast height of six inches or larger shall be preserved within the conservation tract.
- iii. The conservation tract shall be maintained in an undisturbed state except for periodic watering, grass mowing of not more than four times per year, and hand removal of noxious or invasive plants, including conifer seedlings and saplings.
- iv. No clearing, grading, filling, or construction of any kind shall occur within the conservation tract.
- v. Use of pesticides, herbicides, rodenticides, fungicides, or fertilizers in the conservation tract shall be prohibited.
- vi. All oak snags within the conservation tract shall be retained.
- vii. Downed or felled oak trees within the conservation tract shall be retained; provided, that such trees may be selectively cut to further enhance habitat value.

b. Significant Oaks and Stands.

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i. Significant Oaks. Seventy percent of all Oregon white oaks having a diameter at breast height of 20 inches or greater shall be preserved.

ii. Significant Oak Stands. A minimum of 50 percent of the Oregon white oak trees within the stand shall be preserved.

iii. Downed or felled oak trees and snags within significant oak stands shall be retained when located within a tract of land separate from individually owned lots.

iv. Trees may be located within individually owned lots or a separate tract(s) at the discretion of the developer.

2. Protection of Trees during Construction. Trees conserved pursuant to this chapter shall be protected before and during site development and construction through adherence to the following requirements:

a. A tree protection area shall be designed to protect each tree or tree stand during site development and construction. Tree protection areas may vary widely in shape, but must extend a minimum of five feet beyond the existing tree canopy area along the outer edge of the dripline of the tree(s), unless otherwise approved by the department.

b. Tree protection areas shall be added and clearly labeled on all applicable site development and construction drawings submitted to the department.

c. Temporary construction fencing at least three feet tall shall be erected around the perimeter of the tree protection areas prior to the initiation of any clearing or grading. The fencing shall be posted with signage clearly identifying the tree protection area. The fencing shall remain in place through site development and construction.

d. No clearing, grading, filling, or other development activities shall occur within the tree protection area, except where approved in advance by the department and shown on the approved plans for the proposal.

e. No vehicles, construction materials, fuel, or other materials shall be placed in tree protection areas. Movement of any vehicles within tree protection areas shall be prohibited.

f. No nails, rope, cable, signs, or fencing shall be attached to any tree proposed for retention.

g. The department may approve the use of alternate tree protection techniques if an equal or greater level of protection will be provided.

D. Standards for Other Critical Habitat Areas. Standards for critical habitat areas not listed in EMC 14.40.030(A) and (B) shall be determined on a case-by-case basis, based upon the needs of specific species or habitat area of study. The department will coordinate with the WDFW in these instances to determine appropriate standards and develop a habitat management plan. (Ord. 16-482 § 2 (Exh. C); Ord. 02-200 § 2).

14.40.050 Alteration of Watercourses

Alteration of Watercourses. Any alteration of a watercourse shall comply with the following standards:

1. The city will notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse proposed by the applicant and submit evidence of such notification to the Federal Insurance Administration.

2. The city shall require that maintenance be provided within the altered or relocated portion of said watercourse, so that the flood-carrying capacity is not diminished. Therefore, if the maintenance program calls for future cutting of planted native vegetation used in performing the alteration, the system shall be oversized at the time of construction to compensate for said vegetation growth or any other natural factor that may need future maintenance.

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3. Alterations and relocations, including stabilization projects, shall not degrade fish habitat and shall be subject to the following provisions:

- a. Structures that cross all watercourses and water bodies shall meet fish habitat requirements of the Washington Department of Fish and Wildlife.
- b. Any culverts that are used on fish-bearing watercourses shall be arch/bottomless culverts or equivalent that provide comparable fish protection, and must meet fish habitat requirements of the latest edition of Washington Department of Fish and Wildlife's Design Manual for Culverts.
- c. Bridges or other crossings shall allow for uninterrupted downstream movement of wood and gravel, be as close to perpendicular to the watercourse as possible, and be designed to minimize fill and to pass the base flood flows.
- d. Watercourse alterations shall maintain natural meander patterns, channel complexity, and floodplain connectivity. Where feasible, such characteristics shall be restored as part of the watercourse alteration.
- e. The applicant shall identify the channel migration zone for the watercourse at the project site and for a reasonable reach upstream and downstream of the site, and shall not undertake actions as part of the alteration that would in any way inhibit movement of the channel.
- f. Existing culverts that do not meet fish habitat requirements shall be removed or replaced as part of the approved watercourse alteration project.
- g. Watercourse alteration projects shall not result in a fish blockage of side channels. Known fish barriers into side channels shall be removed as part of the approved watercourse alteration project.
- h. For any watercourse alteration of a Type S or F water (pursuant to EMC 14.40.020(D)) whose channel is subject to migration, bioengineered (soft) armoring of streambanks is required to allow for woody debris recruitment, gravels for spawning, and creation of side channels. The bioengineering technique used must be designed in accordance with the latest edition of Washington Department of Fish and Wildlife's Integrated Streambank Protection Guidelines.

4. The project engineer shall design the watercourse alteration so the activity does not increase the water surface elevation (zero-rise); decrease the capacity, storage, and conveyance of the watercourse; or cause an adverse impact to adjacent, cross-channel, or upstream or downstream properties. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

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14.40.050060 Mitigation requirements.

A. Mitigation. Compensatory mitigation is required for all unavoidable alterations to fish and wildlife habitat conservation areas or their buffers. Mitigation of alteration to habitat areas shall achieve equivalent or greater biological functions. Mitigation shall address each functional attribute affected by the alteration to achieve functional equivalency or improvement on a per function basis. Mitigation elements to be addressed may include, but are not limited to: restoration of previously degraded areas and key habitat features, restoration of riparian vegetation communities to provide shade and large woody debris, addition of large woody debris, and installation of upland habitat features. All projects must first demonstrate compliance with EMCSection 14.10.080(B) (Mitigation Sequencing) prior to development of compensatory mitigation plans.

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B. Type of mitigation required. In determining the extent and type of mitigation required, the department may consider all of the following:

1. The ecological processes that affect and influence habitat structure and function within the watershed or sub-basin;
2. The individual and cumulative effects of the action upon the functions of the critical area and associated watershed;

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3. Observed or predicted trends regarding the gains or losses of specific habitats or species in the watershed, in light of natural and human processes;

4. The likely success of the proposed mitigation measures;

5. Effects of the mitigation actions on neighboring properties; and

6. Opportunities to implement restoration actions formally identified by an adopted shoreline restoration plan, watershed planning document prepared and adopted pursuant to Chapter 90.82 RCW, a salmonid recovery plan or project that has been identified on the Salmon Recovery Board Habitat Project List or by the Washington State Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement.

C. Location. Compensatory mitigation shall be provided on-site or off-site in the location that will provide the greatest ecological benefit to the species and/or habitats affected and have the greatest likelihood of success. Mitigation shall occur as close to the impact site as possible, within the same sub-basin, and in a similar habitat type as the permitted alteration unless the applicant demonstrates to the satisfaction of the department through a watershed- or landscape-based analysis that mitigation within an alternative sub-basin of the same watershed would have greater ecological benefit.

D. Mitigation plans. When required by this chapter, the applicant shall submit a fish and wildlife habitat conservation area mitigation plan meeting the requirements of EMC 14.430.060. A. All regulated development-activities in critical fish and/or wildlife habitat areas and associated buffers shall be mitigated in the following order:

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

2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to reduce impacts.

3. The following types of mitigation (no order of preference):

a. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

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

c. Compensating for the impact by replacing or providing substitute resources or environments.

4. Monitoring the impact and compensation and taking appropriate corrective measures. Monitoring reports are to be submitted to the department for a period of time, and upon a schedule, appropriate for the species or habitat of concern.

5. Mitigation for individual actions may include a combination of the above measures.

B. Specific mitigation elements are to be discussed within a habitat assessment report, as defined in EMC 14.40.070, Appendix C. The habitat assessment report is to provide specific recommendations to reduce, eliminate, or mitigate for the adverse effects of the proposed activity. Potential measures include timing restrictions for all or some of the activities; clearing limitations; avoidance of specific areas; special construction techniques; hydraulic project approval (HPA) conditions; planting with native vegetation; habitat enhancement (i.e., fish passage barrier removal); best management practices; etc. If applicable, append a copy of the HPA, specifications for BMPs, or other documentation to support the implementation of the conservation measure.

C. The department may require an enhancement plan that provides mitigation for the impacts associated with any encroachment into the habitat area or associated buffer or a request for buffer averaging/reduction as set forth in EMC 14.40.060(C). The enhancement plan shall use native plant species that are indigenous to the project area and shall substantiate that an enhanced habitat area and/or buffer will improve the functional attributes of the affected area to provide additional protection for critical fish or wildlife habitat, wetlands, landslide hazard areas, or adjacent

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properties that may be affected by the proposal. At a minimum, the enhancement plan shall include detailed information on the following:

1. Type of species proposed.
2. Exact location of proposed enhancement area.
3. Timing and schedule of planting.
4. Schedule for monitoring and maintenance and any financial guarantees for these as required in EMC 14.10.080.
5. Name, address, and telephone number of the person(s) responsible for the enhancement project.
6. Any additional information required by the department.

D. Mitigation of alterations to habitat areas shall achieve equivalent or greater biological functions and shall include mitigation for adverse impacts upstream and downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.

E. In cases in which it is determined that aquatic habitat mitigation is appropriate, the following shall apply:

1. Mitigation shall be provided on-site, except where the applicant demonstrates that on-site mitigation is not scientifically feasible or practical due to physical features of the site or where it can be demonstrated that greater functional and habitat values can be achieved through off-site mitigation; and
2. When mitigation cannot be provided on-site, it shall be provided in the immediate vicinity of and within the same watershed as the regulated activity. (Ord. 02-200 § 2).

14.40.060 — Buffer requirements.

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

B. Buffer Widths:

1. Riparian Areas and Ponds:

- a. Riparian areas (streams and creeks) and ponds shall be managed through the use of buffers. Buffers shall be based upon the water type classification of the water body as established by the Department of Natural Resources stream typing classification system. Refer to Table 14.40.060 for the water types and the associated buffer requirements.
- b. The required riparian buffer width is measured from the edge of the ordinary high water mark.
- c. The required pond buffer width is measured from the edge of the ordinary high water mark (OHWM).
- d. The required buffer shall be extended to include any adjacent regulated wetland(s), landslide hazard areas and/or erosion hazard areas and required buffers (see EMC 14.40.080(D) and (E), Figures 14.40-4 and 14.40-5).

2. Buffers for Other Critical Habitat Areas. Appropriate buffers for critical habitat areas not listed in Table 14.40.060 shall be determined on a case-by-case basis, based upon the needs of specific species or habitat area of study. The department will coordinate with the WDFW in these instances to determine an appropriate buffer width.

—

**Table 14.40.060
Buffer Requirements**

Water Type ¹	Water Body Criteria	Buffer Width ²
Type S	All waters within their ordinary high water marks, inventoried as "shorelines of statewide significance or shorelines of the state" under Chapter 90.58 RCW and related rules (currently Type 1 waters under state DNR rules).	150 feet landward from the OHWM
Type F1	All segments of natural waters (other than Type S waters) within the bankfull widths of defined channels or within lakes, ponds, or impoundments which provide habitat for or support any portion of the lifecycle of a critical fish species. These areas shall include: ▲ Waters that are diverted for domestic use by more than 10 residential or camping units or by a public accommodation facility licensed to serve more than 10 persons, where such diversion is determined by DNR to be a valid appropriation of water and the only practical water source for such users; such waters shall be considered to be Type F waters upstream from the point of such diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less; ▲ Waters that are within a federal, state, local, or private campground having more than 10 camping units; provided, that the water shall not be considered to enter a campground until it reaches the boundary of the park lands available for public use and comes within 100 feet of a camping unit, trail or other park improvement; or ▲ Waters that are diverted for use by federal, state, tribal, or private fish hatcheries. Such waters shall be considered to be Type F waters upstream from the point of diversion for 1,500 feet and tributaries if highly significant for protection of downstream water quality.	150 feet landward from the OHWM
Type F2	Type F1 stream adjacent to a landslide hazard area as set forth in Chapter 14.80 EMC.	150 feet landward from the OHWM or the minimum buffer distance required in Chapter 14.80 EMC, whichever is greatest
Type N1	All segments of natural waters within the bankfull widths of defined channels that are not Type S or F1 or F2 waters but are located within one quarter mile of the confluence with a Type S or F1 or F2 or are perennial streams or are physically connected by an above-ground channel system to downstream waters such that water or sediment initially delivered to such waters will eventually be delivered to a Type S or F1 or F2 water.	115 feet landward from the OHWM
Type N2	Seasonal non-fish-bearing natural waters within bankfull width of defined channels that are not Type S or F1 or F2 waters and are located more than one quarter mile upstream from the confluence with a Type S or F1 or F2 water.	65 feet landward from the OHWM
Type N3	Lakes or ponds that do not support any critical fish or wildlife species.	35 feet landward from the OHWM

¹—Water types are based upon the criteria established in WAC 222-16-030 and 222-16-031. Water types are mapped in the City's Critical Areas Atlas: Fish and Wildlife Habitat Areas—Stream Typing Maps and Fish and Wildlife Habitat Areas—Critical Fish Presence Maps.

²—There may be wetlands associated with ponds or streams that are regulated and which may have a required buffer greater than those listed in Table 14.40.060, e.g., an urban lake with no buffer requirement may have associated wetlands with 50 to 150 foot buffers.

C. Modification to Buffer Width Requirements. The standard buffer widths of subsection (B) of this section may be modified by averaging, reducing, or increasing as follows:

1. Buffer Averaging. Buffer width averaging may be proposed through submittal of a habitat assessment report. Buffer width averaging shall be allowed only when the applicant demonstrates all of the following:

- Buffer encroachment is unavoidable.
- The habitat area contains variations in sensitivity (both geological and biological) due to existing site characteristics.

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c. Buffer averaging will not adversely impact the structure and function of the habitat area.

d. The buffer averaging is not inconsistent with other buffer requirements set forth under this title (e.g., wetlands, landslide hazard areas, etc.).

e. The buffer averaging will not increase the risk of slope failure or downslope stormwater drainage impacts.

f. The total buffer area after averaging is no less than the buffer area prior to the averaging.

g. The minimum buffer width after averaging will not be less than 50 percent of the widths established in subsection (B) of this section.

h. The averaging is accomplished within the project boundaries.

2. Buffer Width Reductions. A buffer width reduction may be proposed through submittal of a habitat assessment report. Buffer reductions of up to a maximum of 25 percent may be allowed when the applicant demonstrates the following circumstances:

a. Buffer encroachment is unavoidable;

b. The buffer reduction will not result in an adverse impact to the species of study, any associated wetlands, or landslide hazard areas;

c. The buffer reduction will not increase the risk of slope failure or downslope stormwater drainage impacts;

d. The encroachment does not occur within landslide hazard area buffer or into the buffer of any associated wetlands;

e. The proposed buffer area is extensively vegetated, has less than 20 percent slopes, and the reduction will not result in adverse impact to the structure and function of the habitat area;

f. The acreage included in the buffer would substantially exceed the size of the habitat area;

g. The minimum buffer width will not be less than 75 percent of the total required width.

3. Buffer Width Increases. The department may require an increased buffer width when a larger buffer is necessary, based on site conditions, to protect habitat area functions and values. This determination shall be reasonably related to protection of the functions and values of the regulated habitat area. Such determination shall demonstrate any of the following:

a. A larger buffer is necessary to maintain viable populations of existing species or protect the existing functions of the habitat area;

b. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse habitat impacts;

c. The adjacent land has minimal vegetative cover or slopes greater than 20 percent; or

d. The habitat area is in an area of high tree blow-down potential. In these cases the habitat area may be expanded an additional 50 feet on the windward side.

4. Where an application for a development permit, other than a site development permit, has not been submitted in association with a proposed forest practice activity, a deviation from the standard buffer, as set forth in subsections (C)(1) and (2) of this section, shall not be allowed. (Ord. 02-200 § 2).

14.40.070. Appendix.

APPENDIX A

HABITAT MANAGEMENT PLAN

A. A habitat management plan shall, at a minimum, include the following:

1. The general critical areas report requirements in EMC 14.10.082.
2. Identification of any endangered, threatened, sensitive, or candidate species that have a primary association with habitat on the project area;
3. Map showing the location of the ordinary high water mark and/or locations of wildlife habitat conservation area(s) and their buffers in accordance with EMC 14.40.025;
4. The vegetative, faunal, topographic, and hydrologic characteristics of the habitat conservation area;
5. A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitat located on or adjacent to the project area;
6. A detailed discussion of the direct and/or indirect potential impacts on the habitat conservation area by the project. Such discussion shall include a discussion of the ongoing management practices that will protect habitat after the project site has been developed;
7. The mitigation plan requirements of EMC 14.10.083 if the activity will result in unavoidable impacts to habitat conservation areas. Mitigation measures may include:
 - a. Prohibition or limitation of use and development activities within the habitat conservation area;
 - b. Retention of vegetation and/or re-vegetation of areas/habitats critically important to species;
 - c. Special construction techniques;
 - d. Implementation of erosion and sediment control measures;
 - e. Habitat restoration or enhancement (i.e., fish passage barrier removal);
 - f. Seasonal restrictions on construction activities on the subject property;
 - g. Clustering of development activities on the subject property; and/or
 - h. Any other requirements and/or recommendations from federal, state, or local special management recommendations, including the Washington State Department of Fish and Wildlife's habitat management guidelines.

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14.40.070 — Appendices.

A. Habitat Assessment Letters.

B. Habitat Assessment Studies.

C. Habitat Assessment Reports.

APPENDIX A

HABITAT ASSESSMENT LETTERS

A. The habitat assessment letter shall, at a minimum, include the following:

1. The information required in EMC 14.40.030(B)(2).
2. Documentation that the potential habitat is not present. Discuss the habitat features or types that are available as compared to the habitat features that define the potential habitat. Describe why potential restoration measures would not be feasible.

3. Documentation that potential species are not present. Note: a determination that a species is lacking based upon limited field investigation, occurring at an inappropriate time of the year for the species of study will not be acceptable. In such cases, the city will require separate confirmation of absence provided by the Washington Department of Fish and Wildlife.

B. Hold harmless clauses, disclaimers, and limitations are not allowed within a habitat assessment letter.

APPENDIX B

HABITAT ASSESSMENT STUDIES

A. The habitat assessment study shall, at a minimum, include the following:

1. The information required in EMC 14.40.030(B)(2).
2. Identify the presence of the habitat area or species on the site.
3. Identify and discuss how the project complies with the standards set forth in EMC 14.40.040.
4. Provide a detailed description of the proposed project. At a minimum, the following items should be included:
 - a. A legal description (section, township, range) and vicinity map that clearly show the site and project area in relation to nearby waterbodies, sensitive habitats, etc.
 - b. A site plan of the habitat area and associated buffer in relation to the proposed project area.
 - c. Photographs, especially color copies, are useful to orient the reviewer to the project area. A combination of aerial or orthophotos and snapshots are ideal.
5. Describe the environmental baseline (current or pre-project) condition of the habitat and the project area. The baseline description should address all pertinent habitat parameters for the species.
6. Describe in detail the type and scope of development activity proposed:
 - a. Describe the overall purpose of the project and a brief summary of project objectives.
 - b. List all proposed project related construction activities and types of equipment. Provide a chronology of activities, timing of construction, hours of operation, phasing.
 - c. Provide to scale plans that show where work is proposed relative to habitat areas and buffers.
 - d. Quantify areas of vegetation removal, include clearing and grubbing, vegetation type.
 - e. Describe proposed grading and filling or other earthwork, include specific BMPs for erosion, sedimentation, stormwater, and spill control. If appropriate, append the temporary erosion sediment control (TESC) plan, spill control plan, BMP specifications, etc.
 - f. Provide stormwater treatment information including:
 - i. Amount of new impervious surface;
 - ii. Percent of surface and type of treatment for new and existing impervious surface;
 - iii. Specify BMPs to treat for quality and quantity; and
 - iv. Identify the receiving area/waterbody for each BMP, including overflow channels.

B. Hold harmless clauses, disclaimers, and limitations are not allowed within a habitat assessment study.

APPENDIX C

HABITAT ASSESSMENT REPORTS

A. The applicant is advised to refer to the following guidance documents during the course of the habitat assessment report (HAR) preparation:

1. Washington Department of Fish and Wildlife Priority Habitat and Species Management Recommendations, May 1991 (or as hereafter amended), and supplemental documents including but not limited to:
 - a. Priority Habitats and Species List;
 - b. Management Recommendations for Washington's Priority Habitats: Oregon White Oak Woodlands;
 - c. Management Recommendations for Washington's Priority Habitats: Volume I Invertebrates; and
 - d. Management Recommendations for Washington's Priority Habitats: Volume III Amphibians and Reptiles.
2. Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale (NMFS 1996).
3. A Guide to Biological Assessments (NMFS revised March 23, 1999).
4. Biological Assessment Preparation and Review (USFWS March 1999).
5. NMFS Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators.
6. Stream Survey Report Criteria, King County Department of Development and Environmental Services.

B. The following information must be included in every habitat assessment report:

1. Project Description. Describe in detail the type and scope of action proposed.
 - a. Describe the overall purpose of the project and a brief summary of project objectives.
 - b. List all proposed project related construction activities and types of equipment.
 - c. Provide to scale plans that show where work is proposed relative to sensitive areas and/or habitat.
 - d. Quantify areas of vegetation removal, include clearing and grubbing, vegetation type, replanting plans.
 - e. Provide a chronology of activities, timing of construction, phasing.
 - f. Describe proposed grading and filling or other earthwork, include specific BMPs for erosion, sedimentation, stormwater, and spill control. If appropriate, append the spill control plan, BMP specifications, etc.
 - g. Provide stormwater treatment information including:
 - i. Amount of new impervious surface;
 - ii. Percent of surface and type of treatment for new and existing impervious surface;
 - iii. Specify BMPs to treat for quality and quantity;
 - iv. Identify the receiving area/waterbody for each BMP, including overflow channels.

h. Describe proposed in-water work (below OHWM or extreme high tide) and work over waterbodies, and potential for impacts to riparian or aquatic vegetation. Include conditions and work windows as described in the WDFW HPA. State clearly if the project does not include any in-water or over-water work.

2. Description of the Project Area. The following items should be addressed as appropriate:

a. Provide a legal description (section, township, range) and vicinity map that clearly shows the project in relation to nearby waterbodies, sensitive habitats, etc.

b. Date of field review(s) of project, credentials of personnel involved, and results of visit(s).

c. Describe the environmental baseline (current or pre-project) condition of the habitat and the project area. The baseline description should address all pertinent habitat parameters for the species.

d. Describe the project setting in terms of physiographic region, general topography, dominant habitat and vegetation type(s), aquatic resources, land use patterns, and existing disturbance levels from human activities, roadways, etc.

e. Include information about past and present activities in the area that relate to the species or its habitat and/or the proposed action. This could include information on adjacent development projects, past consultations with state or federal agencies, previously established conservation measures, or species management plans.

3. Critical Fish and Wildlife Species and Habitat Occurrence. The HAR must be based on current site-specific information about the species and its life history. Cite any relevant scientific literature or research findings. At a minimum, the following items should be addressed:

a. Cite species listings provided by NMFS, WDFW, and/or USFWS. Append a copy of the listing to the report. Species listings should be updated every six months.

i. Identify any state listed, federal or state proposed species (and candidate or species of concern if appropriate), and designated or proposed critical habitat that are known or have the potential to occur on-site or in the vicinity of the project area.

ii. Identify fish by ecologically significant unit (ESU).

b. Describe the species, its habitat requirements and ecology in general, and relate that to the local populations. A lengthy life history is not required, but enough information should be provided to adequately explain the potential impacts.

c. Describe the potential suitable habitat for the species found on-site or in the project vicinity and how local populations use it. Discuss the local status of the species as appropriate. Determine the likely level and type of use of the area by each species.

4. Analysis of Effects on Listed and Proposed Species and Designated and Proposed Critical Habitat. The HAR should provide a thorough analysis of, and a separate section addressing the potential direct, indirect, interrelated and interdependent, and cumulative effects of the action on the species and its habitat within the project area. The following items should be addressed:

a. Define the project area (area of potential impacts, both indirect and direct). The area of impact is usually larger than the project area or project vicinity (i.e., the river upstream and downstream from a bridge project, waterbodies receiving stormwater).

b. Describe how the environmental baseline (current or pre-project condition of the habitat in the project area) will be degraded, maintained or improved (restored). If appropriate, append the completed NMFS Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators.

e. **Direct Effects.** Describe and analyze the effects of the action that would directly affect the species. Include actions that would potentially remove or destroy habitat, displace or otherwise influence the species, either positively (beneficial effects) or negatively (adverse effects).

d. Describe potential for impacts from disturbance (i.e., noise above ambient levels, sudden loud noises, increased human activity), from construction and continuing operation. Construction impacts would be considered a direct effect whereas operation noise impacts could be considered indirect effects as they occur later in time.

e. **Indirect Effects.** Describe any potential indirect impacts (those that occur later in time) such as impacts to future food resources or foraging areas, and impacts from increased long-term human access.

f. **Interrelated/Interdependent Effects.** Describe and analyze any potential effects from interdependent actions (actions that have no independent utility apart from the primary action) and interrelated actions (actions associated with the primary action and dependent upon that action for their justification) on the species or habitat that would not occur if not for the proposed action. Examples of these two effects include site clearing activities associated with new home construction (an interdependent effect), and increases in light, noise, and glare that occur as a result of land division (an interrelated effect).

g. **Cumulative Effects.** Identify to the extent possible those cumulative effects within the project area that are reasonably certain to occur.

h. If species-specific recovery plans or management plans have been established by the U.S. Fish and Wildlife Service, WDFW, or National Marine Fisheries Service, address the project in terms of compliance and recommendations.

i. For proposed species, analyze the potential for the project to jeopardize the continued existence of the species.

j. The HAR must contain a distinct statement of the overall effect of the project on each species. It must also provide supporting evidence to justify the effect determination (for listed species) or jeopardy call (for proposed species). The determination must be consistent throughout and worded correctly. See NMFS or USFWS guidance for specific wording for each status.

5. **Recommended Conservation Measures.** The HAR should describe components of the project that may benefit or promote the recovery of listed species and are included as an integral part of the proposed project. These conservation (or mitigation) measures serve to minimize or compensate for project effects on the species under review. The following items should be addressed:

a. Provide specific recommendations, as appropriate, to reduce or eliminate the adverse effects of the proposed activity. Potential measures include: timing restrictions for all or some of the activities; clearing limitations; avoidance of specific areas; special construction techniques; HPA conditions; replanting with native vegetation; potential of habitat enhancement (i.e., fish passage barrier removal); best management practices, etc.

b. If applicable, append a copy of the HPA, specifications for BMPs, or other documentation to support the implementation of the conservation measure.

c. Include a description of proposed monitoring of the species, its habitat, and mitigation effectiveness.

6. **Conclusions and Effect Determinations:**

a. Summarize the proposed project and objectives, and restate the listed species that may occur near the project and the expected level of use.

b. State what conclusions regarding potential impacts to the species discussed can be supported from the information presented in the report. The following items should be addressed:

i. A determination of effect must be made for each identified critical fish and wildlife species or habitat area. For each, only one of the following determinations of effect is acceptable:

(A) No Effect. The appropriate finding to make when the direct or indirect impacts of a project will have no effect of any kind, negative or beneficial, upon a species or habitat area;

(B) May Affect, Not Likely to Adversely Affect. The appropriate finding to make when the direct or indirect effects of a project are insignificant, discountable, or beneficial; or

(C) Likely to Adversely Affect. The appropriate finding to make when the direct or indirect effects of a project may adversely impact a species or habitat area and the effects are not insignificant.

ii. Determinations of “no effect” or “may affect, not likely to adversely affect” may not be based upon the argument that species will be displaced to other suitable habitat or that (based upon a limited number of surveys) species are not known to occur. The failure to provide site specific surveys at the appropriate time of the year for the species of study will result in the department assuming a worst-case scenario in regards to project-related impacts.

c. For any proposed species or proposed critical habitat discussed, the conclusions should indicate whether the proposed project is likely to jeopardize the continued existence of the species (as in the entire species, not individual(s)), or adversely modify the proposed critical habitat.

7. References and Appendices. Refer to all appropriate project documents, particularly if the assessment depends upon information located elsewhere (e.g., in an EIS). Applicants may consider providing the department with copies of pertinent documents along with the HAR. At a minimum, the following items should be addressed:

a. Provide citations for other information referred to in the HAR, such as current literature and personal contacts used in the assessment. Include name, affiliation, and date.

b. Include as appropriate any photographs, survey methods, protocols, and results. Do not provide specific information regarding the exact location of state- or federally-listed species within the HAR document. Federal and state restrictions exist regarding the release of such information.

C. Hold harmless clauses, disclaimers, and limitations are not allowed within a habitat assessment report. (Ord. 02-200 § 2).

14.40.080—Figures:

A. Figure 14.40-1, Local Importance Priority Oregon White Oak Woodlands.

B. Figure 14.40-2, Examples of Potential Critical Fish and Wildlife Habitat Areas.

C. Figure 14.40-3, Critical Fish and Wildlife Habitat Area Review Procedures.

D. Figure 14.40-4, Riparian Buffer Extension Adjacent to Wetland.

E. Figure 14.40-5, Riparian Buffer Extension Landslide Hazard Buffer Area.

(Ord. 02-200 § 2).

Chapter 14.50

AQUIFER RECHARGE AND WELLHEAD PROTECTION AREAS CRITICAL AQUIFER RECHARGE AREAS

Sections:

- 14.50.010 Purpose.
14.50.020 ~~Aquifer recharge and wellhead protection~~Critical aquifer recharge area identification areas.
14.50.030 ~~Aquifer recharge and wellhead protection~~Critical aquifer recharge area review procedures.
14.50.040 ~~Aquifer recharge and wellhead protection~~Critical aquifer recharge area standards.

14.50.010 Purpose.

The purpose of this chapter is to protect critical aquifer recharge ~~and wellhead protection areas~~ areas from degradation or depletion resulting from new or changed land use activities. Due to the exceptional susceptibility and/or vulnerability of groundwater underlying aquifer recharge areas to contamination and the importance of such groundwater as sources of public water supply, it is the intent of this chapter to safeguard groundwater resources and wellhead protection areas by mitigating or precluding future discharges of contaminants from new land use activities. (Ord. 02-200 § 2).

14.50.020 ~~Aquifer recharge and wellhead protection areas~~Critical aquifer recharge area identification.

A. General. ~~Aquifer recharge and wellhead protection areas~~Critical aquifer recharge areas are areas that have a critical recharging effect on groundwater used for potable water supplies and/or that demonstrate a high level of susceptibility or vulnerability to groundwater contamination from land use activities. These areas include the following:

1B. Aquifer Recharge Areas. The boundaries of the two highest DRASTIC zones that are rated 180 and above on the DRASTIC index range, as identified in Map of Groundwater Pollution Potential, Edgewood, Washington, National Water Well Association, U.S. Environmental Protection Agency; ~~and~~

2. Wellhead Protection Areas. Wellhead protection areas that lie within the 10-year time of travel zone boundary of a group A public water system well, as delineated by the water system purveyor or its designee, pursuant to WAC 246-290-135; ~~and, (Ord. 02-200 § 2).~~

3. Sole Source Aquifers. Sole source aquifers are areas that have been designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Water Drinking Act. As of the effective date of this title, there are no designated sole source aquifers within city limits.

14.50.030 ~~Aquifer recharge and wellhead protection~~Critical aquifer recharge area review procedures.

A. General Requirements:

1. The city's ~~Critical Areas Atlas—Aquifer Recharge and Wellhead Protection Area Map~~critical aquifer recharge area map provides an indication of where ~~aquifer recharge and wellhead protection~~critical aquifer recharge areas are located within the city and the map is updated as necessary.
2. ~~The department will complete a review of the aquifer recharge area map for any development proposal to determine whether the proposed project area for a regulated activity falls within an aquifer recharge or wellhead protection area.~~
3. ~~When the department's maps or sources indicate that the proposed project area for a regulated activity is located within an aquifer recharge or wellhead protection area, the department shall require an aquifer recharge and wellhead protection area review as set forth in this chapter.~~
4. Any proposed development located within ~~an aquifer recharge or wellhead protection~~protection critical aquifer recharge area shall comply with the standards set forth in EMC 14.50.040.

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35. Any hazardous uses, as defined in EMC 14.50.040, shall require the submittal of a hydrogeologic assessment, as set forth in subsection (B) of this section.

46. The department may waive some of the critical area protective measure provisions contained in EMC 14.10.080.

B. Hydrogeologic Assessment.

1. The hydrogeologic assessment shall be prepared, signed, and dated by a state licensed geologist/hydrogeologist.
2. The hydrogeologic assessment shall be submitted in the form of a report detailing the subsurface conditions, the design of a proposed land use action, and the facilities operation which indicates the susceptibility and potential for contamination of groundwater supplies. The hydrogeologic assessment shall, at a minimum, include the [general critical area report requirements of EMC 14.10.082 in addition to the](#) following:
 - a. Information sources;
 - b. Geologic setting – includes well logs or borings used to identify information;
 - c. Background water quality;
 - d. Groundwater elevations;
 - e. Location/depth to perched water tables;
 - f. Recharge potential of facility site (permeability/transmissivity);
 - g. Groundwater flow direction and gradient;
 - h. Current available data on wells located within one-quarter mile of the site;
 - i. Current available data on any spring within one-quarter mile of the site;
 - j. Surface water location and recharge potential;
 - k. Water source supply to facility (e.g., high capacity well);
 - l. Any sampling schedules necessary;
 - m. Discussion of the effects of the proposed project on the groundwater resource;
 - n. Discussion of potential mitigation measures, should it be determined that the proposed project will have an adverse impact on groundwater resources; and
 - o. Any other information as required by the TPCHD, including information required under Washington Department of Ecology Publication 97-30.

C. Storage Tank Permits. In addition to the requirements set forth in this title, the following agencies also have the authority to regulate the installation, repair, replacement, or removal of underground storage tanks:

1. The Pierce County Fire Prevention Bureau regulates and authorizes permits for underground storage tanks, pursuant to the International Fire Code (Article 79) and this chapter.
2. The Washington Department of Ecology regulates and authorizes permits for underground storage tanks (Chapter 173-360 WAC).

3. The TPCHD regulates and authorizes permits for the removal of underground storage tanks (Pierce County Code, Chapter 8.34). (Ord. 02-200 § 2).

14.50.040 ~~Aquifer recharge and wellhead protection~~Critical aquifer recharge area standards.

A. General. All regulated activities that are not exempt or prohibited under the provisions of this chapter shall ensure sufficient groundwater recharge. In order to achieve sufficient groundwater recharge, the applicant shall comply with city's adopted stormwater manual (Chapter 13.05 EMC) and demonstrate that the total post-development infiltration rate for the project area will be equal to or better than the predevelopment rate.

B. Prohibited Uses. Landfills (other than inert and demolition landfills), Class I, III, and IV underground injection wells, metals mining, wood treatment facilities, pesticide manufacturing, petroleum refining facilities (including distilled petroleum facilities), ~~and the storage of large volumes of petroleum products, and other uses or activities determined by the department to have a significant adverse impact on ground water~~ are prohibited within ~~aquifer-recharge and wellhead protection-critical aquifer recharge~~ areas.

C. Exemptions. In addition to the general exemptions listed in EMC 14.20.030, the following uses or activities are exempt from the requirements of this chapter:

1. Sewer lines and appurtenances;

2. Biosolids and sludge land application sites; provided, that these activities comply with the requirements established in Chapters 173-200, 173-216, and 173-304 WAC; and

3. Single-family and two-family dwellings and associated accessory structures.

D. Agricultural Activities. New agricultural activities that do not involve hazardous substance handling or application are allowed within an aquifer recharge or wellhead protection area subject to the following:

1. The applicant is required to submit a farm management plan prepared by the USDA, NRCS, Pierce County Conservation District, or Washington State University, Cooperative Extension Office, that certifies that water quality and quantity within the aquifer recharge area is maintained. The farm management plan shall at a minimum address the following:

a. The limits of the proposed agricultural activities.

b. The proposed scope of agricultural activities, including the use of any pesticides, fertilizers, or other chemicals.

c. The existing nitrate levels on the site and any proposed increases in nitrate levels.

2. Integrated pest management (IPM) practices for pest control and best management practices (BMPs) for the use of fertilizers, as described by the Washington State University, Pierce County Cooperative Extension Office, shall be utilized.

3. Nitrate levels at down-gradient property line shall not exceed 2.5 mg/L or, if the background nitrate concentration exceeds 2.5 mg/L, that the concentration will not be increased more than 0.1 mg/L.

4. Additional protective measures may be required if deemed necessary by the department or TPCHD to protect public health or safety.

D. Nonhazardous Uses. Subdivision of land as defined in EMC Title 16, residential structures housing three or more units and all commercial and industrial sites or activities that do not include or involve hazardous substance processing or handling in ~~an aquifer recharge and/or wellhead protection~~ protection critical aquifer recharge area are allowed subject to the following standards:

1. Stormwater quality treatment and flow control shall be provided in conformance with the city's adopted stormwater management manual.

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2. Floor drains shall not be allowed to drain to the stormwater system and must be designed and installed to meet the Uniform Plumbing Code (UPC) Section 303.
3. If any roof venting carries contaminants, then the portion of the roof draining from this area must go through pretreatment pursuant to UPC Section 304(b).
4. All nonresidential vehicle washing must be self-contained or be discharged to a sanitary sewer system, if approved by the sewer utility, and is subject to UPC Sections 708 and 711.
5. Integrated pest management (IPM) practices for pest control and best management practices (BMPs) for the use of fertilizers as described by the Washington State University, Pierce County Cooperative Extension Office, shall be utilized.
6. For new or changes in regulated activities served by on-site sewage systems, the applicant must demonstrate to the TPCHD that nitrate levels at the down-gradient property line will not exceed 2.5 mg/L or that if the background nitrate concentration exceeds 2.5 mg/L the concentration will not be increased more than 0.1 mg/L.
7. Additional protective measures may be required if deemed necessary by the department or TPCHD to protect public health or safety.

E. Hazardous Uses – General. Hazardous substance processing or handling, hazardous waste treatment and storage facilities, animal containment areas, and solid waste facilities that require a solid waste handling permit from the TPCHD, requiring approval from the city, shall be allowed only in ~~an aquifer recharge and/or wellhead protection~~ critical aquifer recharge area subject to review and approval of a hydrogeologic assessment by the department and review by the TPCHD. The department has the authority to apply whatever standards deemed necessary to mitigate any negative impacts that may be associated with the proposed development and will consider comments by TPCHD.

F. Hazardous Uses – Storage Tanks. In addition to the requirement to submit a hydrogeologic assessment, the following standards apply to storage tanks in ~~an aquifer recharge and/or wellhead protection~~ critical aquifer recharge area:

1. Underground Tanks. All new underground storage facilities used or to be used for the underground storage of hazardous substances or hazardous wastes shall be designed and constructed so as to:
 - a. Prevent releases due to corrosion or structural failure for the operational life of the tank;
 - b. Be protected against corrosion, constructed of noncorrosive material, steel clad with a noncorrosive material, or designed to include a secondary containment system to prevent the release or threatened release of any stored substance;
 - c. Use material in the construction or lining of the tank which is compatible with the substance to be stored; and
 - d. The installation of underground storage tanks shall also be subject to other state and local permit requirements.
2. Aboveground Tanks.
 - a. No new aboveground storage facility or part thereof shall be fabricated, constructed, installed, used, or maintained in any manner which may allow the release of a hazardous substance to the ground, groundwater, or surface waters of ~~Edgewood the city~~ within ~~an aquifer recharge area~~ a critical aquifer recharge area.
 - b. A new aboveground tank that will contain a hazardous substance will require both a double-walled tank and a secondary containment system separate from the tank that will hold 110 percent of the tank's

capacity. The secondary containment system or dike system must be designed and constructed to contain material stored in the tank(s). (Ord. 16-482 § 2 (Exh. C); Ord. 02-200 § 2).

Chapter 14.60

VOLCANIC HAZARD AREAS

Sections:

- 14.60.010 Purpose.
- 14.60.020 Volcanic hazard areas.
- 14.60.030 Volcanic hazard area review procedures.
- 14.60.040 Volcanic hazard area standards.

14.60.010 Purpose.

At over 14,411 feet high, Mount Rainier dominates the skyline of the southern Puget Sound region. This glacier-clad mountain is a dormant volcano capable of generating large floods and lahars which have historically reached the floors of the lowlands south of the city of Seattle and out to Commencement Bay in the Port of Tacoma, spewing ash from pyroclastic eruptions. The purpose of this chapter is to promote the public health, safety, and general welfare of the citizens of Edgewood by providing standards that minimize the loss of life that may occur as a result of volcanic events emanating from Mount Rainier. (Ord. 02-200 § 2).

14.60.020 Volcanic hazard areas.

A. General. Volcanic hazard areas are areas subject to pyroclastic flows, lava flows, and inundation by debris flows, mudflows, or related flooding resulting from geologic and volcanic events on Mount Rainier.

B. Volcanic Hazard Area Categories. Volcanic hazard areas are areas that have been historically inundated by Case I, Case II, or Case III lahars or other types of debris flow; affected by pyroclastic flows, pyroclastic surges, lava flows, or ballistic projectiles in future eruptions; or are located in other drainages expected to be inundated by a future Case I, Case II, or Case III debris flow. Volcanic hazard areas are classified into the following categories:

1. Inundation Zone for Case I Lahars. Areas that could be affected by cohesive lahars that originate as enormous avalanches of weak chemically altered rock from the volcano. Case I lahars can occur with or without eruptive activity. The average reoccurrence rate for Case I lahars on Mount Rainier is about 500 to 1,000 years.
2. Inundation Zone for Case II Lahars. Areas that could be affected by relatively large non-cohesive lahars, which most commonly are caused by the melting of snow and glacier ice by hot rock fragments during an eruption, but which can also have a non-eruptive origin. The average time interval between Case II lahars from Mount Rainier is near the lower end of the 100- to 500-year range, making these flows analogous to the so-called "100-year flood" commonly considered in engineering practice.
3. Inundation Zone for Case III Lahars. Areas that could be affected by moderately large debris avalanches or small non-cohesive lahars, glacial outburst floods, or other types of debris flow, all of non-eruptive origin. The average time interval between Case III lahars at Mount Rainier is about one to 100 years.
4. Pyroclastic Flow Hazard Zone. Areas that could be affected by pyroclastic flows, pyroclastic surges, lava flows, and ballistic projectiles in future eruptions. During any single eruption, some drainages may be unaffected by any of these phenomena, while other drainages are affected by some or all phenomena. The average time interval between eruptions of Mount Rainier is about 100 to 1,000 years.

C. Time Travel Zones. The ability to evacuate people from within a volcanic hazard area correlates to the distance from the source of an event (i.e., those areas closest to the event will have less time to evacuate than those areas farther away from the source of an event). The amount of time that is anticipated for a debris flow, lahar, flood, or avalanche to travel geographically has been classified into the following time travel zones:

1. Time Zone A. Time Zone A is an estimated one-hour travel distance from the source of the event.
2. Time Zone B. Time Zone B is an estimated one and one-half hour travel distance from the source of the event.

3. Time Zone C. Time Zone C is an estimated two-hour travel distance from the source of the event.
4. Time Zone D. Time Zone D is an estimated two hours or greater travel distance from the source of the event. (Ord. 02-200 § 2).

14.60.030 Volcanic hazard area review procedures.

- A. The City’s Critical Areas Atlas – Volcanic Hazard Area Map provides an indication of where volcanic hazard areas are located within the city.
- B. The department will complete a review of the volcanic hazard area maps for any development proposal to determine whether the proposed project area for a regulated activity falls within a volcanic hazard area.
- C. When the department’s maps or sources indicate that the proposed project area for a regulated activity is located within a volcanic hazard area, the department shall apply the standards for regulated activities in volcanic hazard areas, as set forth in EMC 14.60.040.

~~D. Title and land division notification shall be required, as set forth in EMC 14.10.080(C). (Ord. 02-200 § 2).~~

14.60.040 Volcanic hazard area standards.

The following standards apply within the inundation zones for Case I, II, and III lahars and within the pyroclastic flow hazard zone (refer to Table 14.60.040):

- A. Bonus densities, as set forth in EMC 18.90.080, Housing incentives program, shall be prohibited.
- B. All ~~essential facilities and hazardous~~critical facilities, as defined in Chapter 14.15 ~~EMC 14.10.060~~, shall be prohibited, except sewer collection facilities and any other utilities that are located underground or not likely to cause harm to people or the environment if inundated by a lahar.
- C. Special occupancy structures, as defined in Chapter 14.15 ~~EMC 14.10.060~~, are subject to the following:
 1. Time Travel Zone A. Special occupancy structures located within the Time Travel Zone A area shall be limited to a maximum ~~400-person~~100-person occupancy.
 2. Time Travel Zone B. Special occupancy structures located within the Time Travel Zone B area shall be limited to a maximum ~~500-person~~500-person occupancy.
 3. Time Travel Zone C. Special occupancy structures located within the Time Travel Zone C area shall be limited to a maximum ~~1,000-person~~1,000-person occupancy.
 4. Time Travel Zone D. Special occupancy structures located within the Time Travel Zone D area shall be limited to a maximum ~~5,000-person~~5,000-person occupancy.

Table 14.60.040 Volcanic Hazard Area Standards

Facility/Occupancy List	Case I Lahar Inundation Zone	Case II Lahar Inundation Zone	Case III Lahar Inundation Zone	Pyroclastic Flow Hazard Zone
Bonus Densities ⁽¹⁾	Not Allowed	Not Allowed	Not Allowed	Not Allowed
Essential-Critical Facilities ⁽²⁾	Not Allowed	Not Allowed	Not Allowed	Not Allowed
Special Occupancies ^(2a)	In Time Travel Zone A – Limited to 100 person occupant load. In Time Travel Zone B – Limited to 500 person occupant load. In Time Travel Zone C – Limited to 1,000 person occupant load.			

Facility/Occupancy List	Case I Lahar Inundation Zone	Case II Lahar Inundation Zone	Case III Lahar Inundation Zone	Pyroclastic Flow Hazard Zone
	In Time Travel Zone D – Limited to 5,000 person occupant load.			
Other Occupancies	No Limitation	No Limitation	No Limitation	No Limitation

(1) Bonus density as set forth in EMC 18.90.080, Housing incentives program.

(2) Essential facility as defined in EMC ~~14.60.040(B)~~ [Chapter 14.15 EMC](#).

~~(3) Hazardous facility as defined in EMC 14.60.040(B).~~

~~(3.4)~~ Special occupancy structures as defined in [Chapter 14.15 EMC](#) ~~EMC 14.60.040(C)~~.

(Ord. 02-200 § 2).

Chapter 14.70

FLOOD HAZARD AREAS

Sections:

- 14.70.010 Purpose.
- [14.70.015 Flood Insurance Study Adoption](#)
- 14.70.020 Flood hazard areas.
- 14.70.030 Flood hazard area review procedures.
- 14.70.040 Flood hazard area standards.
- 14.70.050 Appendices.
- ~~14.70.060 Figures.~~

14.70.010 Purpose.

The purpose of this chapter is to promote the public health, safety, and general welfare of the citizens of Edgewood. The standards contained in this chapter are intended to minimize public and private losses due to flood conditions in flood hazard areas and provide special criteria necessary for regulated activities located within flood hazard areas of the city. The following statements describe the purpose of this chapter:

- A. Protect human life and health;
- B. Minimize expenditure of public money and costly flood control projects;
- C. Minimize the need for rescue and relief efforts associated with flooding;
- D. Minimize prolonged business interruptions;
- E. Minimize damage to public infrastructure, facilities and utilities;
- F. Minimize damage to critical fish and wildlife habitat areas;
- G. Minimize net loss of ecological functions of floodplains;
- H. Ensure that potential buyers are notified that property is in a flood hazard area;
- I. Ensure that those who occupy flood hazard areas assume responsibility for their actions; and
- J. Qualify Edgewood for participation in the National Flood Insurance Program, thereby giving the citizens of Edgewood the opportunity to purchase flood insurance with particular emphasis to those in flood hazard areas. (Ord. 02-200 § 2).

[14.70.015 Flood Insurance Study Adoption](#)

[The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Pierce County, Washington and Incorporated Areas" dated March 7, 2017, with accompanying FIRMs and any map amendments or corrections are hereby adopted by reference and declared to be a part of this title. The Flood Insurance Study and FIRMs are on file at Edgewood City Hall, 2224 104th Avenue East, Edgewood, Washington, 98371. The city may add or delete land from areas of special flood hazard or revise base flood elevations, utilizing best-available information for flood hazard identification in accordance with federal regulations.](#)

14.70.020 Flood hazard areas.

Edgewood regulates the following flood hazard areas:

A. Potential Flood Hazard Areas.

1. Potential flood hazard areas, as depicted on the Critical Areas Atlas – Flood Hazard Area Map, include:

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a. Detailed Study Areas.

i. FEMA Flood Insurance Rate Map and Floodway Map AE and AH zones.

ii. Areas within 300 feet horizontal distance from the base flood elevation established for the mapped AE and AH zones ~~(see EMC 14.70.060(A), Figure 14.70-1).~~

iii. Areas within five feet of vertical height from the base flood elevation established for the mapped AE and AH zones.

b. Unstudied Areas. FEMA Flood Insurance Rate Map A zones and shaded X zones, and areas within 300 feet horizontal distance from said mapped areas ~~(see EMC 14.70.060(B), Figure 14.70-2).~~

c. Natural Waters/Watercourse. Areas within five feet of vertical height above the ordinary high water mark of an identified natural watercourse ~~(see EMC 14.70.060(C), Figure 14.70-3).~~

d. Groundwater Flooding Areas. Areas within 300 feet horizontal distance from a mapped groundwater flooding area. ~~(see EMC 14.70.060(D), Figure 14.70-4).~~

e. Potholes. Areas not identified as a mapped flood hazard area as described above, but within 10 feet of vertical relief from the bottom of an identified pothole or within two feet of vertical relief of a potential surface water spillway or other type of outlet ~~(see EMC 14.70.060(E) and (F), Figures 14.70-5 and 14.70-6).~~ Potholes may be identified by city topographic mapping, field survey, or site inspections.

f. Channel Migration Zones (CMZs). Channel migration zones shall apply only to those watercourses specifically identified by the city or listed in subsection (B)(4) of this section. In those areas where detailed CMZ studies have been completed and accepted by the department, additional horizontal and vertical review threshold criteria (i.e., 300 feet horizontal and five feet vertical) shall not apply. ~~(see EMC 14.70.060(G), Figure 14.70-7).~~

2. The Critical Areas Atlas – Flood Hazard Areas Map may not show all potential flood hazard areas that may be necessary for a specific site analysis. The department may make interpretations, where needed, as to the approximate location of the boundaries of potential flood hazard areas. When there is a conflict between the elevations and the mapped potential flood hazard area boundaries, the elevations shall govern.

3. Where there is insufficient information shown on the potential flood hazard area maps, the department may require the applicant to verify that the site is out of the flood hazard area using the flood hazard area review procedures set forth in EMC 14.70.030.

B. Floodway. A floodway is an extremely hazardous area due to the depth and/or velocity of floodwaters, which carry debris, potential projectiles, and have erosion potential. ~~(see EMC 14.70.060(H), Figure 14.70-8).~~ The following areas are regulated by the city as floodways:

1. Regulatory Floodway. Regulatory floodway designated by flood hazard area maps.

2. Deep and/or Fast Flowing Water Areas. Areas of deep and/or fast flowing water shall be regulated as a floodway. Based on the criteria set forth in EMC 14.70.030(E), the department shall make the determination after review and approval of applicant's analysis of whether the project site falls within the floodway area based on deep and/or fast flowing waters. ~~(see EMC 14.70.060(I), Figure 14.70-9).~~

3. Potholes and Shaded X Zones. That portion of a pothole and B zone area that is three feet or greater in depth shall be regulated as a floodway. ~~(see EMC 14.70.060(J), Figure 14.70-10).~~

4. Channel Migration Zones (CMZs).

a. Channel migration zones shall be regulated as a floodway.

b. Channel migration zones are equivalent to the base flood elevation limits (i.e., 100-year floodplain limits).

C. Flood Fringe. All areas subject to inundation by the base flood, but outside the limits of the floodway as set forth in subsection (B) of this section. Those portions of the A, AE, AH, and shaded X zones not defined as floodway, and that portion of a pothole and FEMA shaded X zone area that is between zero feet (base flood elevation) and three feet in depth shall be regulated as a flood fringe.

D. Other Areas of Special Flood Hazard.

1. Groundwater Flooding Areas. Groundwater flooding areas are those areas identified by Edgewood and shown on flood hazard maps and are subject to flood inundation from subsurface waters that result from a fluctuation of the groundwater table. Groundwater flooding areas shall be regulated as a floodway or flood fringe pothole.

2. Natural Waters/Watercourse. Natural waters/watercourse as identified on city topographic, planimetric or orthophoto maps, WDNR stream classification maps, USGS quadrangle maps, or other source maps that are not identified as a flood hazard area on the FEMA maps. That portion of the natural watercourse located between the ordinary high water mark and a topographic elevation five feet above the ordinary high water mark shall be regulated as a floodway or flood fringe. If the applicant chooses to accept the five-foot topographic elevation line above the ordinary high water mark as the base flood elevation (i.e., floodplain elevation limits), a flood study shall not be required for a natural water/watercourse.

3. Frequently Flooded Areas. See EMC 14.70.030(A)(9) as the areas defined by this section. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

14.70.030 Flood hazard area review procedures.

A. General Requirements.

1. The city's Critical Areas Atlas – Flood Hazard Area Map provides an indication of where potential flood hazard areas are located within the city. The actual presence or location of a flood hazard area shall be determined using the procedures and criteria contained in this chapter.

2. The department will complete a review of the flood hazard area maps, and other source documents, for any development proposal to determine whether the proposed project area for a regulated activity falls within a potential flood hazard area. When there is a conflict between the elevations and the mapped 100- or 500-year floodplain or floodway boundaries, the elevations shall govern. In the instance where base flood elevation data has not been provided within a mapped A zone, the department shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source to complete their review.

3. When the department's maps or sources indicate that the proposed project area for a regulated activity is or may be located within a potential flood hazard area (except for coastal flood hazard areas), the department shall require a flood boundary verification survey as outlined in subsection (C) of this section, and may require a flood study as outlined in subsection (D) of this section, a deep and/or fast flowing water analysis as outlined in subsection (E) of this section, and/or a zero-rise analysis as outlined in subsection (F) of this section.

4. Any proposed development located within a flood hazard area shall comply with the flood hazard area standards set forth in EMC 14.70.040.

5. Prior to approval of any proposed flood hazard area development, all necessary permits from those governmental agencies from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334, must be provided to the city by the applicant.

6. A FEMA letter of map amendment (LOMA) or letter of map revision (LOMR) shall not be submitted to FEMA until review and approval has been granted by the department. The city shall not recognize any LOMA

or LOMR as an amendment to the department's flood hazard maps unless the department has granted prior approval.

7. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC 14.10.080 shall apply.

8. The Federal Emergency Management Agency (FEMA) administers the nation's floodplain management program. FEMA has identified some of the flood prone areas in the city; however, it is generally recognized that FEMA's Flood Insurance Rate Maps (FIRMs) may not accurately reflect the degree or frequency of flooding within all areas of the city. Therefore, information available through FEMA may not meet best available science criteria and cannot be used exclusively to address frequently flooded areas.

9. The city has determined that the following documents and sources are the most current and accurate information concerning frequently flooded areas within the city, and therefore represent best available science:

- a. The city's Surface Water Management Plan, 1997, or as amended thereafter.
- b. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997.
- c. The city's two-foot elevation contour mapping performed by Nies Mapping Group, Inc., 1999, or as subsequently updated.
- d. Relevant and verifiable information from the city's Capacity Analysis Technical Review AdHoc Committee draft report, 2000.
- e. Relevant and verifiable government and citizen photographs, notes, observations, etc., regarding historic ponding/flooding levels, including but not limited to the City of Edgewood Potholes Water Level Monitoring 2006-2007 report prepared by Robinson Engineers, LLC.
- f. Relevant and verifiable information available through Pierce County.
- g. Relevant and verifiable information available through FEMA.

10. Flooding conditions within the city generally fall into three distinct hydrologic settings: (a) upland areas within enclosed depressions, (b) streams that flow off the upland areas, and (c) valley lowlands. Accordingly, the city manages frequently flooded areas within these three zones, as described below:

- a. Upland Areas Within Enclosed Depressions. From the above list use the historic ponding elevation, determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.
- b. Streams Which Flow Off the Upland Areas. From the above list use the historic flood elevation, determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.
- c. Valley Lowlands. From the above list use the historic flood elevation determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.

11. The city will provide local flood information to FEMA, and request FEMA's assistance in accurately mapping and evaluating frequently flooded areas.

12. Warning and Disclaimer of Liability. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside frequently flooded areas or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of city, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

B. Channel Migration Zone Study.

1. In areas where Edgewood has not conducted a detailed channel migration zone study, an applicant may submit an independent channel migration zone study to demonstrate that the channel migration zone limits for those watercourses listed in EMC 14.70.020(B)(4) are located inside the 100-year floodplain limits.
2. The channel migration zone study shall be prepared, signed, and dated by a professional engineer or professional geologist with at least five years of experience in fluvial geomorphology, river dynamics, or geotechnical engineering.
3. The channel migration zone study shall, at a minimum, contain the information set forth in EMC 14.70.050, Appendix B.
4. The department shall review the channel migration zone study and either accept the new channel migration zone limits or reject the study and require the use of the 100-year floodplain limits. Once the department has reviewed and approved the channel migration zone study, the applicant shall be required to provide a flood boundary verification survey, as outlined in subsection (C) of this section, utilizing the newly established channel migration zone limits as the floodway limits.

C. Flood Boundary Verification Survey.

1. A flood boundary verification survey that delineates the horizontal and vertical limits of the base flood elevation shall be submitted to the department when the department's maps or sources indicate that the proposed project area for a regulated activity is located within a potential flood hazard area.
 - a. Where a base flood elevation has not been determined, a flood study shall be required pursuant to subsection (D) of this section.
 - b. A base flood elevation that has been established through a detailed flood study accepted by the department may be used in lieu of conducting a flood study.
 - c. The base flood elevation for a natural watercourse as set forth in EMC 14.70.020(D)(2) shall be established at the five-foot topographic elevation line above the ordinary high water mark.
2. The requirement to submit a flood boundary verification survey may be waived at the department's discretion, when the department can determine, using contour elevations, base flood data, orthophotos, and parcel data, that the extent of the regulated activity is clearly above the base flood elevation.
3. The flood boundary verification survey shall be prepared, signed, and dated by a registered land surveyor.
4. The department shall review the flood boundary verification survey to determine if the proposed development is located within a flood hazard area.
5. If the proposed development lies within the flood hazard area, the limits of the floodway, as well as the base flood elevation, shall be shown on the flood boundary verification survey.

D. Flood Study.

1. A flood study shall be conducted when the department's maps or sources indicate that the proposed project area for a regulated activity is, or may be located within, a potential flood hazard area where base flood elevation data is not available through the flood insurance study or other authoritative sources, or when an established base flood elevation is contested. A full engineering analysis to determine the base flood elevation shall be required by the department. Base flood elevations shall be determined using the detailed methods established in EMC 14.70.050, Appendix A. The department may approve alternative methods.
2. The flood study shall be prepared, signed, and dated by a professional engineer.

3. Once the department has reviewed and approved the flood study, the applicant shall be required to provide a flood boundary verification survey, utilizing the newly established base flood elevation, as outlined in subsection (C) of this section.

4. Flood studies shall not be required for coastal flood hazard areas.

E. Deep and/or Fast Flowing Water Analysis.

1. When the department determines that a proposed project area for a regulated activity is located within a flood hazard area, a deep and/or fast flowing water analysis based on ~~EMC 14.70.060(I), Figure 14.70-9 and EMC 14.70.050~~, Appendix A, shall be required to determine the floodway limits.

2. The floodway limits and flood fringe limits identified in the deep and/or fast flowing water analysis shall be depicted on the flood boundary verification survey, as outlined in subsection (C) of this section.

3. The deep and/or fast flowing water analysis shall be prepared, signed, and dated by a professional engineer.

4. Deep and/or fast flowing water analysis shall not be required for coastal flood hazard areas.

F. Zero-Rise Analysis.

1. When the department determines that a proposed project area for a regulated activity is located within a flood hazard area, a zero-rise analysis shall be required to determine that no increase in base flood elevation, displacement of flood volume, or flow conveyance reduction will occur as a result of the development.

2. The zero-rise analysis shall be conducted utilizing HEC-RAS (Hydrologic Engineering Center – River Analysis System) modeling methodology (for stream/channel floodways), the Western Washington Hydrology Model (i.e., WWHM, for pothole/closed depression floodways), or by other alternative methodologies approved by the city (see EMC 14.70.050, Appendix A). HEC-RAS can be found at the following website: <http://www.hec.usace.army.mil/software/hec-ras/>. WWHM can be found here: <http://www.ecy.wa.gov/programs/wq/stormwater/wwhmtraining/index.html>. The analysis shall show that no rise (0.01 foot or less) has occurred as a result of the proposed development. The proposed development may need to be reduced or specially engineered (such as utilizing piers or pilings) to achieve zero-rise.

3. The zero-rise analysis shall be prepared, signed, and dated by a professional engineer.

4. The zero-rise analysis shall be documented on the zero-rise analysis form, as set forth in EMC 14.70.050, Appendix A, and shall be attached to the flood hazard area permit.

5. Zero-rise analysis shall not be required for coastal flood hazard areas.

6. When structures are elevated by pier or pilings and no fill is placed in the flood hazard area, the requirement to submit a zero rise analysis may be waived at the department's discretion. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

14.70.040 Flood hazard area standards.

A. General.

1. New construction done by or for the city, such as bridges, roads, flood control works, revetments, retaining walls, drainage structures, sewer or water lines, parks, or other structures necessary to promote the public's health, safety, and welfare shall be allowed in a flood hazard area when:

- a. The project is prepared, dated, and stamped by a registered professional engineer in the state of Washington and is designed so the project does not result in any increase in flood levels during the occurrence of the base flood discharge (zero-rise) and shall not obstruct the floodway or cause an adverse impact to critical fish or wildlife habitat or adjacent, cross-channel, or upstream or downstream properties; and

b. The improvements utilize appropriate flood hazard protection standards.

2. Elevation Certificate. A Federal Emergency Management Agency (FEMA) elevation certificate shall be required for new construction, additions affixed to the side of a structure, and substantial improvements located within flood hazard areas. The most current version of the FEMA elevation certificate must be completed and certified by a professional land surveyor, currently licensed in the state of Washington, kept on file by the city for public inspection, recording the actual (as-built) elevation (in relation to mean sea level) of:

a. The lowest floor (including basement) of all new or substantially improved structures, whether or not the structure contains a basement;

b. For ~~floodproofed~~flood proofed nonresidential structures, where the structure was ~~floodproofed~~flood proofed (including ~~floodproofing~~flood proofing certifications).

B. Floodways. Any development, encroachments, filling, clearing or grading, new construction, and substantial improvements shall be prohibited within the floodway (including structures that do not require a building permit), except as allowed in the following standards:

1. Agricultural activities that do not require the installation of structures and that do not have any associated fill.

2. Park and recreational uses and facilities that do not require the installation of structures and that do not have any associated fill.

3. Individual recreational vehicles, not located in an RV park, that are licensed and ready for highway use, on wheels or jacking system, and are not permanently attached to the site (attached only by quick disconnect type utilities and security devices, with no permanently attached additions).

4. Habitat enhancement/stream restoration activities are permitted subject to the provisions outlined in subsection (D) of this section.

5. Rehabilitation, reconstruction, or an upper story addition to an existing structure that does not exceed the limits for a substantial improvement.

6. Private bridges may be allowed to cross the floodway; provided, that the structure meets the requirements contained in EMC 14.70.030 and the following:

a. The lowest structural member of a private bridge proposed to cross a channel migration zone shall be a minimum of six feet above the base flood elevation.

b. The lowest structural member of a private bridge proposed to cross the floodway portion of any other watercourse shall be a minimum of one foot above the base flood elevation.

C. Flood Fringe Areas. All activities allowed in subsection (B) of this section shall be permitted in a flood fringe area. Any other proposed development, encroachments, filling, clearing or grading, new construction, and substantial improvements are prohibited in a flood fringe area except as permitted under the following standards:

1. Structures that do not require a building permit and that do not have any associated fill are allowed, subject to flood hazard area review and permitting.

2. All other regulated activities shall only be allowed when the proposed development is located on an existing lot of record that was created prior to the effective date of the ordinance codified in this chapter. Applicants shall demonstrate there are no other feasible alternatives that would allow the proposed development to occur completely outside the flood hazard area. At a minimum, the following shall be demonstrated:

a. The development cannot be located outside the flood hazard area due to topographic constraints of the parcel or size and/or location of the parcel in relation to the limits of the flood hazard area and a building

setback variance has been reviewed, analyzed, and rejected as a feasible alternative to encroachment into the flood hazard area; and

b. The proposed development shall not cause an adverse impact to adjacent, cross-channel, or upstream or downstream properties.

3. Roads, Bridges, Trails, and Parking Lots.

a. Roads, bridges, driveways, trails, emergency vehicle access, and access routes and easements, where allowed, shall be constructed and armored based on the standards in subsection (C)(4) of this section and elevated a minimum of one foot above the base flood elevation.

b. Parking lots shall be elevated to a minimum of one-half foot below the base flood elevation.

4. Grading and Filling. When development is permitted under this subsection, it shall be designed to a zero-rise standard as set forth in EMC 14.70.030(F) and 14.70.050, Appendix A. Any filling, grading, or clearing associated with the permitted development shall not increase flood hazards, water velocities, or flood elevations. In addition to meeting the requirements for zero-rise, all permitted development must also meet the following requirements:

a. Compensatory Storage. New excavated storage volume shall be equivalent to the flood storage capacity eliminated by filling or grading within the flood fringe. Equivalent shall mean that the storage removed shall be replaced by equal live storage volume between corresponding one-foot contour intervals that are hydraulically connected to the floodplain through their entire depth. ~~(refer to EMC 14.70.060(K), Figure 14.70-11).~~

b. Flow Conveyance. New excavated conveyance areas shall be equivalent to existing conveyance within the flood fringe. Equivalent shall mean a mechanism for transporting water from one point to another using an open channel system.

c. Erosion Protection. Development shall be protected from flow velocities greater than two feet per second through the use of bio-engineering methods or, when bioengineering methods have been deemed insufficient to protect development, then hard armoring may be utilized. All erosion protection shall extend one to three feet, depending on development requirements, above the base flood elevation and shall be covered with topsoil and planted with native vegetation ~~(see EMC 14.70.060(L), Figure 14.70-12).~~

5. Critical Facilities.

a. New construction, additions affixed to the side of an existing structure, and substantial improvement of hazardous facilities, and special occupancy structures are prohibited.

b. New construction of an essential facility, reconstruction of an existing essential facility, or additions to an existing essential facility that exceed the threshold for substantial improvement shall be permitted when no feasible alternative site is available outside the flood hazard area. Such regulated activities are subject to the following:

i. Essential facilities with a crawlspace elevated by fill shall have the lowest floor and any utilities and ductwork elevated a minimum of three feet above base flood elevation, ~~(see Figure 14.70-12),~~ or to the height of the 500-year flood, whichever is higher.

ii. Essential facilities elevated by piers or pilings shall have the finished floor and any utilities and ductwork elevated a minimum of three feet above the base flood elevation (or to the height of the 500-year flood, whichever is higher) and must be designed by a professional structural engineer. ~~(see Figure 14.70-13).~~

iii. Access to and from the critical facility shall be protected to the height utilized under subsections (C)(5)(b)(i) and/or (ii) of this section. Access routes shall be elevated to or above the same elevation to the maximum extent possible.

iv. Essential facilities shall be armored based on the standards in subsection (C)(4) of this section.

v. Flood proofing and sealing measures must be taken to ensure that toxic or explosive substances will not be displaced or released into floodwaters.

6. Structures. Single-family, two-family, multifamily, mobile/manufactured homes, commercial, industrial, etc., except for critical facilities as set forth in subsection (C)(5) of this section, shall be allowed subject to the following standards:

a. New construction, additions affixed to the side of an existing structure, and substantial improvement of any structure with a crawlspace shall have the lowest floor elevated a minimum of two feet above base flood elevation. ~~(see EMC 14.70.060(L), Figure 14.70-12).~~

b. New construction, additions affixed to the side of an existing structure, and substantial improvement of any structure elevated by piers or pilings shall have the bottom of the lowest horizontal structural member elevated a minimum of two feet above the base flood elevation and must be designed by a professional structural engineer. Electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities and associated ductwork shall be elevated a minimum of two feet above base flood elevation; however, the department may approve a lesser minimum distance above base flood elevation; provided, that the systems are designed to prevent floodwater from entering or accumulating within the components ~~(see EMC 14.70.060(M), Figure 14.70-13).~~ Areas below the lowest horizontal structural member shall not be enclosed and shall remain free of obstructions.

c. Mobile/manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices to minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This is in addition to applicable state and local anchoring requirements for resisting wind forces.

7. Agricultural Accessory Structures. The lowest floor in an agricultural accessory structure shall be located at the base flood elevation or higher; provided, that the structure be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a professional engineer in the state of Washington or must meet or exceed the following minimum criteria:

a. A minimum of two openings having a total net 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; and

c. Openings may be equipped with screens, louvers, or other covering or devices; provided, that they permit the automatic entry and exit of floodwaters.

8. Construction Standards.

a. Construction of a basement is prohibited.

b. Crawl spaces shall be backfilled with clean earth material and shall meet International Building Code requirements. Finished grade within the crawlspace shall be at least two feet above the base flood elevation.

c. Flood proofing in lieu of elevating the structure is prohibited.

d. All single-family, two-family, multifamily, mobile/manufactured homes, commercial, and industrial structures shall be placed on standard concrete stemwall/footing foundations or piles, piers, or column foundations and engineered pursuant to International Building Code requirements.

9. Sewage Disposal and Potable Water Installation.

- a. New and replacement public water sources (i.e., wells and water supply lines) and public sanitary sewage conveyance systems are allowed. These systems shall be designed to withstand scour resulting from flow velocity, minimize or eliminate infiltration of floodwaters into the systems, and minimize or eliminate discharge from the systems into floodwaters
- b. All replacement wells and replacement on-site sewage system (OSS) shall be designed to minimize or eliminate impairment to them or contamination from/to them during flooding (i.e., infiltration of floodwaters into or discharge out of the systems). They shall not be located in pothole or no-outlet floodplains.
- c. All new individual wells and new on-site sewage system (OSS) shall be prohibited. Conveyance systems from a structure to a well or OSS located outside of the flood hazard area shall be allowed provided these systems are designed to meet the standards in subsection (C)(4) of this section.

D. Alteration of Watercourses. Any alteration of a watercourse shall comply with the following standards:

- 1. The city will notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse proposed by the applicant and submit evidence of such notification to the Federal Insurance Administration.
- 2. The city shall require that maintenance be provided within the altered or relocated portion of said watercourse, so that the flood-carrying capacity is not diminished. Therefore, if the maintenance program calls for future cutting of planted native vegetation used in performing the alteration, the system shall be oversized at the time of construction to compensate for said vegetation growth or any other natural factor that may need future maintenance.
- 3. Alterations and relocations, including stabilization projects, shall not degrade fish habitat and shall be subject to the following provisions:
 - a. Structures that cross all watercourses and water bodies shall meet fish habitat requirements of WDFWthe Washington Department of Fish and Wildlife.
 - b. Any culverts that are used on fish-bearing watercourses shall be arch/bottomless culverts or equivalent that provide comparable fish protection, and must meet fish habitat requirements of the latest edition of Washington Department of Fish and WildlifeWDFW's Design Manual for Culverts.
 - c. Bridges or other crossings shall allow for uninterrupted downstream movement of wood and gravel, be as close to perpendicular to the watercourse as possible, and be designed to minimize fill and to pass the base flood flows.
 - d. Watercourse alterations shall maintain natural meander patterns, channel complexity, and floodplain connectivity. Where feasible, such characteristics shall be restored as part of the watercourse alteration.
 - e. The applicant shall identify the channel migration zone for the watercourse at the project site and for a reasonable reach upstream and downstream of the site, and shall not undertake actions as part of the alteration that would in any way inhibit movement of the channel.
 - f. Existing culverts that do not meet fish habitat requirements shall be removed or replaced as part of the approved watercourse alteration project.
 - g. Watercourse alteration projects shall not result in a fish blockage of side channels. Known fish barriers into side channels shall be removed as part of the approved watercourse alteration project.
 - h. For any watercourse alteration of a Type S or F water (pursuant to EMC 14.40.0260(DB)) whose channel is subject to migration, bioengineered (soft) armoring of streambanks is required to allow for woody debris recruitment, gravels for spawning, and creation of side channels. The bioengineering technique used must be designed in accordance with the latest edition of Washington Department of Fish and Wildlife WDFW's Integrated Streambank Protection Guidelines.

4. The project engineer shall design the watercourse alteration so the activity does not increase the water surface elevation (zero-rise); decrease the capacity, storage, and conveyance of the watercourse; or cause an adverse impact to adjacent, cross-channel, or upstream or downstream properties. (Ord. 17-492 § 2 (Exh. A); Ord. 02-200 § 2).

14.70.050 Appendices.

A. Floodplain/Floodway Analysis.

B. Channel Migration Zone Study.

APPENDIX A

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FLOODPLAIN/FLOODWAY ANALYSIS

This Appendix describes the flood hazard analyses and studies as required by Chapter 14.70 EMC, Flood Hazard Areas. Flood hazard studies establish the base flood elevation and delineate floodplain and/or floodway(s) when a proposed project contains or is adjacent to a river, stream, lake, or closed depression.

Flood hazard studies must conform to FEMA regulations described in Part 65 of 44 Code of Federal Regulations (CFR). In addition, the following information must be provided and procedures performed for flood hazard studies used under Chapter 14.70 EMC to examine development proposals or improvements within a floodplain.

Article I. Floodway Determination

The city recognizes two distinct floodways. The FEMA floodway describes the limit to which encroachment into the natural conveyance channel can cause one foot or less rise in water surface elevation. The deep and/or fast flowing (DFF) water floodways are hazardous areas and conditions of the floodplain for both people and habitable structures. Life safety and protection to improved properties are compromised if encroached upon. Encroachment cannot occur within these areas.

A. FEMA Floodways.

1. FEMA floodways are determined through the procedures outlined in the FEMA publication Guidelines and Specifications for Study Contractors using the one-foot maximum allowable rise criteria.
2. Transitions shall take into account obstructions to flow such as road approach grades, bridges, piers, culverts, or other restrictions. General guidelines for transitions may be found in HEC-RAS, Water Surface Profiles – [Users Manual](#)~~Users Manual~~, Appendix IV, Application of HEC-RAS Bridge Routines, published by the Hydrologic Engineering Center, Davis, California.

B. Deep and/or Fast Flowing (DFF) Floodways.

1. DFF floodways are generally assumed to include the entire 100-year floodplain until the department approves a detailed floodway analysis that defines areas of DFF within the entire floodplain area based on the criteria.
2. The hydraulic model must adequately be calibrated to known or recorded stage elevations of past flood events with computed recurrence frequency intervals for the 100-year flood recurrence interval. This is to ensure model accuracy.

Article II. Flood Study Content and Required Information

Three copies of the completed floodplain/floodway analysis study report and the modeling digital files shall be submitted. The report submittal must be stamped by a licensed professional civil engineer and include the following information in addition to that required for the drainage plan of a proposed project:

A. Floodplain/Floodway Map.

1. A scaled survey base map stamped by a licensed professional land surveyor registered in the state of Washington. The map must accurately locate the proposed development with respect to

the floodplain and floodway, the channel of the subject stream, river, and/or pothole location, and the existing improvements within the subject study area. It must also supply all pertinent information such as the nature of the proposed project, legal description of the property on which the project would be located, fill quantity, limits and elevation, the building floor elevations, and use of compensatory storage.

2. The map must show elevation contours at a minimum of two-foot vertical intervals and shall comply with survey and map guidelines published in the FEMA publication Guidelines and Specifications for Study Contractors. The map must show the following:

- a. Elevations and ground contours, spot elevations, and vertical datum NAVD 88 (North American Vertical Datum of 1988) (or most recent vertical datum accepted by the department).
- b. Elevations and dimensions of existing structures, fill, and compensatory storage areas.
- c. Size, location, elevation and spatial arrangement of all proposed structures on the site.
- d. Location and elevations of roadways, drainage facilities, water supply lines, and sanitary sewer facilities.
- e. Areas of DFF must clearly be shown and plotted on the map sheet depicting the bounded area of the floodway on both sides of the study channel through the subject site. DFF floodway studies must reflect all transitions as referenced above as well.
- f. The base maps must also be accompanied by all field survey notes/computations, drawings, etc., for each cross-section with water surface elevation at the time the cross-section field survey was done.

B. Study Report.

1. Soil maps, groundcover maps, and photographs.

2. A narrative report containing the purpose of the study and description of the study area, data collection, methodology for both the hydrology and hydraulics, detailed discussion on the input parameters used, modeling results, and conclusions.

3. A floodplain/floodway analysis must include calculations and all computer analysis input and output information, supporting graphical illustrations, as well as the following additional information:

- a. Scaled cross-sections showing the current/existing conditions of the river/stream channel, the floodplain adjoining each side of the channel, the computed floodway, the cross-sectional area to be occupied by any proposed development and all historic high water information.
- b. Profiles showing the bottom of the channel, the top of both left and right banks and computed base flood water surface elevations for the 10-, 25-, 50- and 100-year events.
- c. Plans and specifications of any flood protection for structures, construction areas, filling, dredging, channel improvements, storage of materials, water supply, and sanitary facilities within the floodplain.
- d. Complete printout of input and output data of the model that was used for the analysis. Liberal use of comments and written discussion will assist considerably in understanding the model logic and minimize misinterpretations and/or questions.
- e. A map, showing the graphical/plotted location and limits of the computed floodway and/or floodplain.
- f. Three copies of ready-to-run digital files of both the hydrologic and hydraulic model and its input and output files used in the study. Data shall be submitted on a disk in standard ASCII format, ready to use on

an IBM-compatible personal computer and in the applicable software application (i.e., HEC-RAS, HSPF – Hydrological Simulation Program – ~~Fortran~~FORTRAN, SBUH, etc.).

g. A section on the flood flow including computer modeling and/or calculations (see below for additional requirements on flood flow determinations).

h. Aerial photographs of the site including pre-February 1996 and post-February 1996 photos of the site.

i. All field survey notes/computations, maps, and drawings for each cross-section with water surface elevation at the time of the cross-section field survey.

C. Computer Modeling Information. Floodway/floodplain studies submitted to the city for review must include output summary tables and include the following (but not limited to) items:

1. Cross-section(s) identification number.
2. Range of flows being examined.
3. Computed water surface elevation at each cross-section.
4. Energy grade line at each cross-section.
5. Graphical plots of the channel cross-sections with computed water surface elevations for all model runs including calibrated model runs.
6. All model input and output printouts.
7. Graphical plots of the model output data that show the points and segments along each cross-section where deep and/or fast flowing water occurs. This shall include cross-section plots of depth and velocity in one-unit increments. The plots shall also be accompanied with a table listing the station distance (right and left bank), flow rate, area, hydraulic depth, velocity, and whether each point is a floodway.
8. A plan sheet clearly showing the graphical representation of the bounded area of the floodway based on DFF criteria through the entire study site and reach. Note that identified islands or pockets within the middle of the bounded floodway area are generally considered as part of the floodway, unless otherwise approved by the department.
9. Discussion on the starting water surface elevation for the hydraulic model.

Article III. Determining Flood Flows

The three techniques used to determine the flows used in a flood study depend on whether gauge data is available, whether a basin plan has been adopted, or a detailed flood study has been done and approved for use by the Department. The first technique is for basins with adopted basin plan areas. The second technique is used if a gauging station exists on the stream. The third technique is used on ungauged catchments or those with an insufficient length of record. In all cases, the engineer shall be responsible for assuring that the hydrologic methods used are technically reasonable, conservative, conform to the FEMA publication, Guidelines and Specifications for Study Contractors, and are acceptable by FEMA and the department.

A. Flood Flows from Adopted Basin Plan Information. Flood flows may be determined using information from the city's basin plan. The hydrologic model used in the basin plan shall be updated to include the latest changes in zoning or any additional information regarding the basin which has been acquired since the adoption of the basin plan.

B. Flood Flows from Stream Gauge Data. Determining flood flows from stream gauge data uses the Log-Pearson Type III distribution method as described in the Guidelines for Determining Flood Flow Frequency, Bulletin 17B of the Hydrology Committee, United States Water Resources Council (revised October 1981).

1. This technique may be used only if data from a gauging station in the basin is available for a period of at least 10 years.

2. If the difference in the drainage area on the stream at the study site and the drainage area to a gauging station on the stream at a different location in the same basin is less than or equal to 50 percent, the flow at the study site shall be determined by transferring the calculated flow at the gauge to the study site using a drainage area ratio raised to the 0.86 power, as in the following equation:

where

Q_{ss} = estimated flow for the given return frequency on the stream at the study site.
 Q_G = flow for the given return frequency on the stream at the gauge site.
 A_{ss} = drainage area tributary to the stream at the study site.
 A_G = drainage area tributary to the stream at the gauge site.

3. If the difference in the drainage area at the study site and the drainage area at a gauging station in the basin is more than 50 percent and a basin plan has not been prepared, a continuous model shall be used as described below to determine the flood flows at the study site.

4. In all cases where dams or reservoirs, floodplain development, or land use upstream may have altered the storage capacity or runoff characteristics of the basin so as to affect the validity of this technique, a continuous model shall be used to determine flood flows at the study site.

C. Flood Flows from a Calibrated Continuous Model. Flood flows may be determined by utilizing a continuous flow simulation model such as HSPF or other equivalent continuous flow simulation model, as approved by the city. Where flood elevation or stream gauging data are available, the model shall be calibrated to the known data. Otherwise, regional parameters may be used.

Article IV. Determining Flood Elevations, Profiles and Floodways (Hydraulic Model)

A. Reconnaissance. The applicant's project engineer is responsible for the collection of all existing data with regard to flooding in the study area. This shall include a literature search of all published reports in the study area and adjacent communities and an information search to obtain all unpublished information on flooding in the immediate and adjacent areas from federal, state, and local units of government. This search shall include specific information on past flooding in the area, drainage structures such as bridges and culverts that affect flooding in the area, available topographic maps, available community maps, photographs of past flood events, and general flooding problems within the community. Documented discussions with nearby property owners should also be done to obtain a witness account of the flooding extent. A field reconnaissance shall be made by the applicant's project engineer to determine hydraulic conditions of the study area, including type and number of structures, locations of cross-sections, and other parameters including the roughness values necessary for the hydraulic analysis.

B. Base Data. Channel cross-sections used in the hydraulic analysis shall be current/existing at the time the study is performed and shall be obtained by field survey. Topographic information obtained from aerial photographs/mapping may be used in combination with surveyed channel cross-sections in the hydraulic analysis. The elevation datum of all information used in the hydraulic analysis shall be verified. All information shall be referenced directly to NAVD 1988 (and include local correlation to NGVD) unless otherwise approved by the city.

C. Methodology. Flood studies and analysis (including deep and/or fast flowing floodways and zero-rise analysis) shall be calculated using the U.S. Army Corps of Engineers HEC-RAS computer model (or subsequent revision) unless otherwise approved by the city.

D. Adequacy of the Hydraulic Model. Edgewood considers the following (but not limited to) factors when determining the adequacy of the hydraulic model for use in the floodway/floodplain model:

1. Cross-section of a downstream starting location and spacing.
2. Differences in energy grade line (significant differences in the energy grade line from cross-section to cross-section are an indication that cross-sections should be more closely spaced or that other inaccuracies exist in the hydraulic model).
3. Methods and results for analyzing the hydraulics of structures such as bridges and culverts.
4. Lack of flow continuity.
5. Use of a gradually varied flow model. In certain cases, rapidly varied flow techniques may need to be used in combination with a gradually varied flow model such as weir flow over a levee, flow through a spillway of a dam, or special application of bridge flow (pressure flow if bridge superstructure is shown to be submerged for the study event).
6. [ManningsManning's](#) "n" value.
7. Calibration of hydraulic model to known and/or observed flow stage elevations including past flood events.
8. Special applications. In some cases, steady state one-dimensional hydraulic models may not be sufficient for preparing the floodplain/floodway analysis. This may occur where sediment transport, two-dimensional flow, or other unique hydraulic circumstances affect the accuracy of the model. In these cases, the project engineer must propose and obtain department approval of alternative models for establishing the water surface elevations.
9. All reported error and/or warning messages by the model must be properly and adequately addressed and/or resolved and included in the report for review verification.

Article V. Zero-Rise Analysis (ZRA)

A. Zero-rise analysis (ZRA) is required where encroachment within the flood fringe area is allowed and approved by the department. The ZRA must show that the proposed development encroachment in the flood fringe area will not show a measurable rise in the base flood elevation (i.e., less than 0.01 foot), resulting from a comparison of existing conditions and proposed conditions. This is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.

B. In addition to those items listed in subsection (A) of this article, the following shall be included in a ZRA:

1. Floodway boundaries (based on zero-rise) are to follow the stream lines and reasonably balance the rights of property owners on either side of the floodway. Use of the automatic equal conveyance encroachment option in the model will be considered equitable.
2. The ZRA must include a sufficient number of cross-sections in order to accurately model the subject fill and compensatory storage areas of the site. In all cases, cross-sections shall be located downstream, through the subject site and upstream of the site at a very minimum. They shall also be located where changes in channel and the fill material characteristics occur, such as slope, shape, and roughness. The sections shall also be located perpendicular to the flow path in the channel and the outside overbank areas. The department shall review and approve the proposed number and location of cross-sections. All cross-sections and surveys shall be prepared and certified by a professional land surveyor or registered professional engineer in the state of Washington.
3. The difference between two profiles of water surface elevation at the cross-section (e.g., difference between existing and encroached water surface). The model must report 0.01 feet or less an allowable change in the water surface elevation. This must be shown in the profile graphical plot as well.

4. The difference between profiles of the energy grade line at the cross-section. The model must report 0.01 feet or less. This is the allowable change in the energy grade line. This must be shown in the profile graphical plot as well.

C. Conveyance Capacity.

1. The ZRA must also show that the proposed development encroachment in the flood fringe area will not show a measurable decrease (less than 0.01 CFS) in the conveyance capacity of the channel, resulting from a comparison of existing conditions and proposed conditions, for each of the cross-sections. This is also directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.

2. The analysis must provide calculations of the reduction in conveyance caused by the proposed development encroachment, assuming no change in the water surface elevation, and using the roughness coefficient value(s) appropriate for the proposed development.

3. The analysis must then provide calculations for the increase in conveyance of the proposed compensatory measure, using the roughness coefficient value(s) appropriate for the proposed development.

4. Include a comparison analysis and discussion from subsections (C)(2) and (3) of this article. The comparison must adequately show that the conveyance capacity has not measurably decreased between the existing condition and proposed development condition.

Floodplain/Floodway Zero-Rise Certification

This is to certify that I am a duly qualified professional engineer licensed to practice in the state of Washington.

This is to further certify that the attached floodplain/floodway zero-rise analysis conclusively shows that the proposed development of:

(Name of Development) Parcel Number

will not increase the 100-year base flood elevation(s) and widths nor reduce the conveyance capacity of the floodplain/floodway and its associated channel to the

(Name of River, Stream, Pothole or other Watercourse)

Supporting Data

Base Flood Elevation (Pre-Development) = _____ FT (NAVD 88)

Base Flood Elevation (Post-Development) = _____ FT (NAVD 88)

Conveyance Capacity (Pre-Development) = _____ CFS

Conveyance Capacity (Post-Development) = _____ CFS

with compensatory storage)

Signature Date

Title Firm Name

Address

City

State Zip Code

APPENDIX B

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CHANNEL MIGRATION ZONE STUDY REQUIREMENTS

The channel migration zone (CMZ) is the area within the lateral extent of likely stream channel movement due to stream bank destabilization and erosion, rapid stream incision, and shifts in location of stream channels. The CMZ will define areas in which, to the best information available, development should be regulated due to the dangers expected from erosion.

Article I. Determining Channel Migration Zone Limits

A. The CMZ shall be based on available historic records of channel migration, or 100 years of calculated channel migration whichever is greater, and will generally include those areas that encompass:

1. The limit of geologic controls, such as hill slope, bedrock outcrop, or abandoned floodplain terrace;
2. Side channels, abandoned channels, and oxbows; and
3. Outside edges of progressive bank erosion at meander bends.

B. Channel migration over the 100-year time frame can be estimated and predicted from geomorphic analysis of annual bank erosion rates, historic meander belt width, and measured meander bend amplitudes, potential avulsion sites, and previous river channel locations as depicted on historic aerial photographs and maps. The 100-year time span represents the time required to grow mature trees that can provide functional large woody debris to streams.

C. The CMZ boundaries will be determined using the following specific criteria:

1. The representative average annual rate of channel migration in the affected river reach is calculated by dividing the lateral distance eroded with the corresponding elapsed time shown in sequential aerial photographs or historic maps (distance/time equals channel movement). Measurements from reaches that have had some form of bank armoring shall not be included. Historical records will need to be checked closely for this information.
2. Identify the width of the channel migration zone by multiplying the representative average annual erosion rate by 100 years.

D. Areas separated from the active channel by legally existing artificial channel constraints (levees, roads, driveways, etc.) that limit bank erosion and channel avulsion to the 100-year recurrence interval flood elevation plus three feet of freeboard shall serve as a boundary for the outer limit of the CMZ.

Article II. Channel Migration Zone Study Content and Required Information

Three copies of the completed channel migration zone study shall be submitted. The study submittal must be stamped by a licensed professional engineer or professional geologist with five years experience in fluvial geomorphology, river dynamics, or geotechnical engineering. The CMZ study shall include the following information in addition to that required for the drainage plan of a proposed project. The CMZ study will consist of a written technical report including:

- A. Detailed methods, techniques, and assumptions used in determining the location of the CMZ.
- B. A vicinity map and site with scale, north arrow, and parcel number(s) or specific site being studied.
- C. A clear statement of the requested revision to the county's determination of the 100-year floodplain limits as the CMZ.
- D. A clearly stated conclusion of the study results that support the requested revision. The conclusion needs to document the basis for the revision, show how the data presented refutes the 100-year floodplain limits as the CMZ, and calculates the new results using the new information.
- E. A map clearly delineating the subject property and the CMZ of the adjacent watercourse. In addition to providing a hard copy of the CMZ map, the CMZ map shall also be provided in ARC-View shapefile format. Contact the city GIS department for mapping and aerial imaging standards. (Ord. 02-200 § 2).

14.70.060 — Figures.

~~A. Figure 14.70-1, Potential Flood Hazard Areas — Detailed Study Areas.~~

~~B. Figure 14.70-2, Potential Flood Hazard Areas — Unstudied Areas.~~

~~C. Figure 14.70-3, Potential Flood Hazard Areas — Natural Watercourse.~~

~~D. Figure 14.70-4, Potential Flood Hazard Areas — Groundwater Flooding Areas.~~

~~E. Figure 14.70-5, Potential Flood Hazard Areas — Potholes.~~

~~F. Figure 14.70-6, Potential Flood Hazard Areas — Potholes.~~

~~G. Figure 14.70-7, Potential Flood Hazard Areas — Channel Migration Zone.~~

~~H. Figure 14.70-8, Floodway — Flood Hazard Area.~~

~~I. Figure 14.70-9, Deep and/or Fast Flowing Water Graph.~~

~~J. Figure 14.70-10, Pothole and B-Zone Flood Hazard Area.~~

~~K. Figure 14.70-11, Compensatory Storage.~~

~~L. Figure 14.70-12, Structure with Crawlspace Elevation by Fill.~~

~~M. Figure 14.70-13, Building on Piles, Piers or Columns.~~

~~(Ord. 02-200 § 2).~~

Chapter 14.80

LANDSLIDE HAZARD AREAS

Sections:

- 14.80.010 Purpose.
- 14.80.020 Landslide hazard areas.
- 14.80.030 Landslide hazard area review procedures.
- 14.80.040 Landslide and erosion hazard area standards.
- 14.80.050 Buffer requirements.
- 14.80.060 Appendices.
- ~~14.80.070 Figures.~~

14.80.010 Purpose.

The following statements describe the purpose of this chapter is to:

- A. Protect human life and health.
- B. Regulate uses of land in order to avoid damage to structures and property being developed and damage to neighboring land and structures.
- C. Identify and map active landslide hazard areas.
- D. Minimize the ill effects on wetlands and critical fish and wildlife habitat that can result from landslides.
- E. Establish permit requirement and review procedures for development proposals in areas with potential landslides. (Ord. 02-200 § 2).

14.80.020 Landslide hazard areas.

A. Landslide Hazard Areas Indicators. Landslide hazard areas are areas potentially subject to mass movement due to a combination of geologic, seismic, topographic, hydrologic, or manmade factors. Landslide hazard areas can be identified by the presence of any of the following indicators:

1. Areas of historic failures, including areas of unstable, old and recent landslides or landslide debris within a head scarp.

~~2. Areas with active bluff retreat that exhibit continuing sloughing or calving of bluff sediments, resulting in a vertical or steep bluff face with little or no vegetation.~~

~~3. Areas with all of the following characteristics:~~

- a. Slopes steeper than ~~2015~~ percent with a vertical relief of 20 feet or more ~~(see EMC 14.80.070(A), Figure 14.80-1); and~~
- b. Hillsides that intersect geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
- c. Springs or groundwater seepage.

~~4. Slopes that are parallel or sub-parallel to planes of weakness, such as bedding planes, joint systems, and fault planes in subsurface materials.~~

~~5. Areas exhibiting geomorphological features indicative of past slope failure within the last 10,000 years, such as hummocky ground, back-rotated benches on slopes, tension cracks, etc.~~

~~6. Areas with tension cracks or ground fractures along and/or near the edge of the top of a bluff or ravine.~~

7. Areas with structures that exhibit structural damage such as settling and cracking of building foundations or separation of steps or porch from a main structure that is located near the edge of a bluff or ravine.

8. The occurrence of toppling, leaning, bowed, or jackstrawed trees that are caused by disruption of ground surface by active movement.

9. Areas with slopes containing soft or liquifiable soils.

10. Areas where gullying and surface erosion have caused dissection of the bluff edge or slope face as a result of drainage or discharge from pipes, culverts, ditches, and natural drainage courses.

11. Areas where seeps or springs or indicators (e.g., vegetation type) of a shallow groundwater table are observed on or adjacent to the face of the slope.

124. Any area with a slope of 40 percent or steeper and with a vertical relief of 15-15 or more feet, except those manmade slopes created under the design and inspection of a geotechnical professional or slopes composed of competent bedrock. Manmade slopes of 40 percent or steeper with a vertical relief of 15 feet or more may be exempted from the requirements of this section of the code provided that it can be demonstrated by a qualified geotechnical professional that such an exemption does not result in an increased risk of landsliding or damage to the subject site, nearby properties, or existing structures and, any associated hazards to proposed structures are suitably mitigated. For the purposes of determining whether a slope is considered to be a landslide hazard area, the horizontal and vertical distance between the top and toe of slope are utilized ~~(see EMC 14.80.060, Appendix D, and EMC 14.80.070(A), Figure 14.80-1).~~

135. Areas that are at risk of mass movement due to seismic events.

B. Potential Landslide Hazard Areas. Potential landslide hazard areas ~~(see EMC 14.80.070(BB), Figure 14.80-2), as depicted on the Critical Areas Atlas—Landslide Hazard Areas Map~~ Geologically Hazardous Areas map, are those areas where the suspected risk of slope instability and landslide is sufficient to require a geological assessment to assess the potential for active landslide activity. Potential landslide hazard areas are determined by using the following criteria:

1. Areas identified on the city topographic maps as having slopes greater than 20 percent with a vertical relief of greater than 20 feet and any adjacent areas within a distance of 65 feet ~~(see EMC 14.80.070(C), Figure 14.80-3).~~

21. Areas that possess one or more of the landslide hazard area indicators (stratigraphy, topography, emergent groundwater conditions~~seepage~~, etc.) as set forth in subsection (A) of this section and any adjacent area within a distance of 65 feet ~~(EMC 14.80.070(B), Figure 14.80-2).~~ These areas include, but are not necessarily limited to, those areas designated on the City's Geologically Hazardous Areas map as moderate or steep slope areas.

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

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

a. Areas of historical landslide movement on a site which have occurred in the past century including areas identified on the Coastal Zone Atlas of Washington, Volume VII, Pierce County as *Urs* (unstable recent slide).

b. Unstable areas that exhibit geological and geomorphologic evidence of past slope instability or landsliding or possess geological indicators (stratigraphy, ground water conditions, etc.), as set forth in subsection (A) of this section, that have been determined through a geological assessment process to be

presently failing or may be subject to future landslide activity. The impact of the proposed development activities must be considered in defining the extent of the active areas.

c. Interim areas are located between areas identified through the geological assessment process as an active landslide hazard area. Interim areas will be considered part of the active landslide hazard area if the required top of slope or toe of slope landslide hazard area buffer encompasses the area (see EMC 14.80.070(D), Figure 14.80-4).

2. **Stable Areas.** Areas that have been identified as potential landslide hazard areas, but through the geological assessment process meet one of the following conditions. Such stable areas shall continue to be considered critical areas for all purposes under this code including but not limited to density calculations and the application of SEPA.

a. No indicators as set forth in subsection (A) of this section actually exist that indicate the potential for future landslide activity to occur;

b. A slope stability analysis has proven that there is no landslide potential; or

c. Adequate engineering or structural measures have been provided through the submittal of a geological assessment—geotechnical report that mitigates the potential for a future landslide to occur as a result of current or cumulative development activity. (Ord. 04-240 § 1; Ord. 02-200 § 2).

14.80.030 Landslide hazard area review procedures.

A. General Requirements.

1. The city's ~~critical areas atlas~~Geologically Hazardous Areas map provides an indication of where active and potential landslide hazard areas are located within the city. The actual presence or location of ~~an active~~ landslide hazard areas ~~and/or additional potential landslide hazard areas~~ that have not been mapped, but may be present on or adjacent to a site, shall be determined using the geological assessment procedures established in this chapter.

2. The department will complete a review of the ~~Critical Areas Atlas—Landslide Hazard Area Map~~Geologically Hazardous Areas map and other source documents for any proposed regulated activity to determine whether the site is, or may be, located within ~~an active~~ landslide hazard area or potential landslide hazard area. Identification of ~~an active~~ landslide hazard area or potential landslide hazard area may also occur as a result of field investigations conducted by department staff.

3. When the department's maps or sources indicate that the site for a proposed regulated activity is or may be located within ~~an active~~ landslide hazard area or potential landslide hazard area, the department shall require the submittal of a geological assessment as outlined in subsection (B) of this section ~~(see EMC 14.80.070(E), Figure 14.80-35).~~

4. Unless otherwise stated in this chapter, the critical protective measure provisions contained in EMC 14.10.080 shall apply.

B. Geological Assessment. A geological assessment is a site investigation process to evaluate the on-site geology affecting a subject property. The findings of the geological assessment shall be presented in a Landslide Hazard Geotechnical Verification or Geotechnical Report, in accordance with EMC 14.80.070(C), Figure 14.80-3

1. Geological assessments shall be submitted to the department for review and approval together with a landslide hazard area application and associated fee.

2. A geological assessment shall include a field investigation and may include the use of historical air photo analysis, LiDAR mapping, review of regional geologic mapping, review of public records and documentation, and interviews with adjacent property owners, etc.

3. The geological assessment shall include the following information and analysis:

a. A determination of which areas on the site or within the vicinity of the site meet the criteria for ~~an active~~ landslide hazard area ~~and stable area~~ as set forth in EMC 14.80.020(~~C~~A)(1) and (2).

b. Consider the run-out hazard of landslide debris to the proposed development that starts upslope (whether part of the subject property or on a neighboring property) and/or the impacts of landslide run-out on down slope properties.

c. The geological assessment shall include a detailed review of the field investigations, published data and references, data and conclusions from past geological assessments, or geotechnical investigations of the site, site-specific measurements, tests, investigations, or studies, as well as the methods of data analysis and calculations that support the results, conclusions, and recommendations.

4. Geological assessments shall be prepared, signed, and dated by a geotechnical professional (as defined in Chapter 14.15 EMC 14.10.060 and established in this chapter) and the format shall be pre-approved by the department.

5. ~~An engineering geologist~~geotechnical professional shall complete a field investigation and geological assessment to determine whether or not ~~an active~~ landslide hazard area ~~exists~~is likely to exist within 300 feet of the site ~~(see EMC 14.80.070(EG), Figure 14.80-53).~~ Where access to off-site properties is not available by the geotechnical professional, evaluation of off-site landslide hazards must include review of regional geologic mapping and LiDAR based topographic mapping.

~~a. The geological assessment shall be submitted in the form of a geotechnical letter when the engineering geologist finds that no active landslide hazard area exists within 300 feet of the site. The geotechnical letter shall meet the requirements contained in EMC 14.80.060, Appendix A.~~

~~ab. The geological assessment shall be submitted in the form of geotechnical verification when the engineering geologist~~geotechnical professional finds that ~~no an active~~ landslide hazard area exists ~~, but is located more than within~~ 300 feet ~~away from of the proposed~~ project area. The geotechnical verification shall meet the requirements contained in EMC 14.80.060, Appendix ~~BA~~.

~~bc. The geological assessment shall be submitted in the form of a geotechnical report when the engineering geologist~~geotechnical professional finds that ~~an active~~ landslide hazard area exists within 300 feet of the proposed project area or when a geotechnical professional determines that mitigation measures are necessary in order to construct or develop within a potential landslide hazard area. The geotechnical report shall meet the requirements contained in EMC 14.80.060, Appendix ~~CB~~.

6. Geological assessments that do not contain the minimum required information or comply with the landslide hazard area standards set forth in EMC 14.80.030 will be returned to the geotechnical professional for revision.

7. The department shall review the geological assessment and either:

a. Accept the geological assessment; or

b. Reject the geological assessment and require revisions or additional information.

8. When the geological assessment has been accepted, the department shall issue a decision on the landslide hazard area application.

9. A geological assessment for a specific site may be valid for a period of up to five years when the proposed land use activity and surrounding site conditions are unchanged. However, if any environmental conditions associated with the site change during that five-year period, the applicant may be required to submit an amendment to the geological assessment. (Ord. 02-200 § 2).

14.80.040 Landslide and erosion hazard area standards.

A. ~~Active~~ Landslide Hazard Areas. Any development, encroachment, filling, clearing or grading, building structures, impervious surfaces, and vegetation removal shall be prohibited within ~~active~~ landslide hazard areas and associated buffers except as specified in the following standards:

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

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

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

a. Mitigation measures are provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from landslide-induced ground deformation or impact/coverage by landslide debris. Mitigation measures shall be designed for static and seismic loading conditions in accordance with the most recent version of the American Association of State Highway and Transportation Officials (AASHTO) Manual.

b. The road is not a sole access for a development.

c. The removal or disturbance of vegetation, clearing or grading shall be prohibited during the wet season (November 1st to May 1st).

B. Landslide Hazard Management Areas. All regulated activities may be allowed in areas located within 300 feet of ~~an active~~ landslide hazard area subject to the following standards:

1. The department reviews and approves a geological assessment – geotechnical report and determines that the potential landslide hazard area is stable.

2. The proposed development is located outside of ~~an active~~ landslide hazard area and any required buffer, as set forth in EMC 14.80.050.

3. The proposed recommendations and mitigation measures contained within the geotechnical report are adequate to reduce or mitigate risks to health and safety.

4. The proposed development shall not decrease the factor of safety for landslide occurrence below the limits of 1.5 for static conditions and ~~1.2~~ 1.1 for dynamic conditions. Analysis of dynamic (seismic) conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.

5. The removal and disturbance of vegetation, clearing or grading shall be limited to the area of the approved development and shall not be allowed during the wet season (November 1st through May 1st) unless adequate provisions for wet season erosion have been addressed in the geotechnical report and approved by the department.

6. Surface drainage from developed areas, including downspouts and runoff from paved or unpaved surfaces up slope, shall not be directed through ~~an active~~ landslide hazard area or its associated buffer unless it is conveyed in conformance with the provisions in EMC 14.80.030(A)(1).

7. Stormwater retention facilities, including infiltration systems utilizing perforated pipe, are prohibited unless the slope stability impacts of such systems have been analyzed and mitigated by a geotechnical professional and the impacts have been determined to be negligible.

8. The proposed development shall not create a need for larger landslide hazard area buffers and setbacks on neighboring properties unless approved through a notarized written agreement with the affected property owner(s).

9. The proposed development shall be sited far enough from regressing slope faces to project 120 years of useful life for the proposed structure(s) or infrastructure.

10. Any proposed lots must be completely located outside any identified ~~active~~ landslide hazard areas or their associated buffers.

11. ~~Stable~~ II Landslide hazard areas that are directly adjacent to any riparian areas, or wetlands, may be subject to additional buffer requirements and standards as set forth in Chapter 14.40 EMC, ~~Critical~~ Fish and Wildlife Habitat Conservation Areas, or wetlands as set forth in Chapter 14.30 EMC, Wetlands. (Ord. 02-200 § 2).

14.80.050 Buffer requirements.

A. Determining Buffer Widths.

1. The buffer width shall be measured on a horizontal plane from a perpendicular line established at the edge of the ~~active~~ landslide hazard area limits (both from the top and toe of the slope) ~~(see EMC 14.80.070(F), Figure 14.80-6).~~

2. A buffer of undisturbed vegetation shall be required for ~~an active~~ landslide hazard area. The required buffer width is the greater amount of the ~~following~~ distances described in EMC 14.80.050(a) and (b):

a. Fifty feet from all edges of the active landslide hazard area limits;

b. A distance of one-third the height of the slope at the top of the active landslide hazard area and a distance of one-half the height of the slope at the bottom of an active landslide hazard area; or

c. ~~The minimum distance recommended by the geotechnical professional, measured from the edges of the active landslide hazard area. The buffer widths may be reduced below the widths specified in EMC 14.80.050(a) and (b), or eliminated upon approval by the department of a geotechnical report that demonstrates that such a reduction would not result in an increased risk of landslide activity either on or off of the subject property.~~

B. Modification of Buffer Widths. The department may require a larger buffer width than the buffer distance, as determined in subsection (A) of this section, if any of the following are identified:

1. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse impacts.

2. The area has a severe risk of slope failure or downslope stormwater drainage impacts. (Ord. 02-200 § 2).

14.80.060 Appendices.

~~A. Geological Assessment – Landslide Hazard Geotechnical Letter.~~

~~B. A. Geological Assessment – Landslide Hazard Geotechnical Verification.~~

~~C. B. Geological Assessment – Landslide Hazard Geotechnical Report.~~

APPENDIX A

GEOLOGICAL ASSESSMENT – LANDSLIDE HAZARD GEOTECHNICAL LETTER

~~A. A geotechnical letter shall include the following:~~

~~1. The letter shall be labeled identifying the submittal as a “Landslide Hazard Geotechnical Letter.”~~

~~2. The date when the geological assessment was performed. The date when the letter was prepared.~~

~~3. The parcel number(s) of the site.~~

~~4. Site address, if the city has assigned one.~~

5. A brief description of the project (including the proposed land use) and a description of the area to be developed. The appropriate professional preparing the geotechnical letter shall provide conclusions and recommendations as to slope stability for the proposed development.

6. A paragraph that states the following specific language:

I meet the qualifications contained in EMC 14.10.060 to prepare a landslide hazard geological assessment. I understand the requirements of the current landslide hazard area Chapter 14.80-EMC and the definitions of the applicable terms contained within EMC 14.10.060. I have performed a landslide hazard geological assessment, conducted a field investigation, and researched historic records on or in the vicinity of the above referenced site and determined that no active landslide hazard area exists within 300 feet of the site.

7. The name, mailing address, and telephone number of the engineering geologist who performed the geological assessment and prepared the letter.

8. The name, mailing address, and telephone number of the property owner.

B. The engineering geologist who prepared the letter shall stamp the letter with his or her license stamp/seal.

C. Geotechnical letters shall be in conformance with a format that is pre-approved by the department.

APPENDIX BA

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GEOLOGICAL ASSESSMENT – LANDSLIDE HAZARD GEOTECHNICAL VERIFICATION

A. A geotechnical verification shall include the following:

1. The first page of the document shall be labeled identifying the submittal as a "Landslide Hazard-Geotechnical Verification."

1. The general critical areas report requirements in EMC 14.10.082.

21. The date when the geological assessment was performed. The date when the verification document was prepared.

32. The parcel number(s) of the site.

34. Site address, if the city has assigned one.

45. A detailed description of the project (including the proposed land use) and a description of the area to be developed.

256. A description of the surface and subsurface geology, hydrology, soils, and vegetation at the site and a list of the landslide hazard area indicators, as set forth in EMC 14.80.020(A), that were found on or in the vicinity of the site.

367. A summary of the results, conclusions, and recommendations resulting from the geological assessment of the landslide hazards on or in the vicinity of the site. This summary shall address all of the information required in EMC 14.80.030(B). The summary should include a description of observations during the site visit and a discussion of information obtained from review of the listed documents in EMC 14.80.030(B)(2).

478. An accurate site plan drawn at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department) is required. The department may require that the site plan information listed below be based on a field survey by a licensed surveyor. The site plan shall include:

a. The limits/location of the active landslide hazard area(s) set forth in EMC 14.80.020(C)(1).

- b. The limits/location of the required landslide hazard buffer based upon the requirements set forth in EMC 14.80.050(A).
- c. The location of any existing and proposed structures, utilities, on-site septic systems, wells, and stormwater management facilities.
- d. The full geographical limits of the proposed project area (area to be developed).
- e. Dimension the closest distance between the identified active landslide hazard area boundary and the project area.
- f. Existing topography on the site presented in two-foot contours.
- g. Property lines for the site.
- h. North arrow and plan scale.

~~9. A paragraph that states the following specific language:~~

~~I meet the qualifications contained in EMC 14.80.030 to prepare a landslide hazard geological assessment. I understand the requirements of the current landslide hazard area Chapter 14.80-EMC and the definitions of the applicable terms contained within EMC 14.10.060. I have performed a landslide hazard geological assessment, conducted a field investigation, and researched historic records on or in the vicinity of the above referenced site and determined that no active landslide hazard area exists within 300 feet of the proposed project area.~~

~~§10. The name, mailing address, and telephone number of engineering geologist/the geotechnical professional who performed the geological assessment and prepared the verification document.~~

~~§11. The name, mailing address, and telephone number of the property owner.~~

B. The engineering geologist/geotechnical professional who prepared the verification document shall stamp the verification with his or her license stamp/seal.

C. Geotechnical verifications shall be in conformance with a format that is pre-approved by the department.

APPENDIX GB

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GEOLOGICAL ASSESSMENT – LANDSLIDE HAZARD GEOTECHNICAL REPORT

A. At a minimum, a geotechnical report shall include the following:

~~1. The first page of the document shall clearly identify the submittal as a "Landslide Hazard Geotechnical Report."~~

~~1. The general critical areas report requirements in EMC 14.10.082.~~

~~21. The date when the geological assessment was performed. The date when the geotechnical report was prepared.~~

~~32. The parcel number(s) of the site.~~

~~43. Site address if the city has assigned one.~~

~~54. A detailed description of the project (including the proposed land use) and a description of the area to be developed.~~

625. A description of the surface and subsurface geology, hydrology, soils, and vegetation of the site and a list of the landslide hazard area indicators, as set forth in EMC 14.80.020(A), that were found on or in the vicinity of the site.

736. A summary of the results, conclusions, and recommendations resulting from the geological assessment of the landslide hazards on or in the vicinity of the site. This summary shall address all of the information required in EMC 14.80.030(B).

847. An accurate site plan drawn at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department) is required. The department may require that the site plan information listed below be based on a field survey by a licensed surveyor. The site plan shall include:

a. The limits/location of the active landslide hazard area(s) ~~within the site boundaries as set forth in EMC 14.80.020(C)(1).~~ Delineation of the active landslide hazard area limits shall ~~differentiate between~~ identify any areas of historic landslide activity ~~and adjacent unstable areas.~~

b. The limits/location of the required landslide hazard buffer based upon the requirements set forth in EMC 14.80.050(A).

~~c. The limits/location of any potential landslide hazard areas that have been designated as stable areas in accordance with EMC 14.80.020(C)(2)(c).~~

d. The location of any existing and proposed structures, utilities, on-site septic systems, wells, and stormwater management facilities.

e. The full geographical limits of the proposed project area (area to be developed).

f. Location and unique identifier of geotechnical borings, CPT soundings, or other surveys or explorations used to characterize subsurface conditions.

g. Extent of cross-section(s) used to evaluate the three-dimensional subsurface geologic and groundwater conditions at the site.

h. Extent of cross-section(s) used in the evaluation of slope instability.

i. Existing topography on the site presented in two-foot contours.

j. Property lines for the site.

k. North arrow and plan scale.

958. Subsurface characterization data must be provided. The data shall be based on both existing and new information that may include soil borings, test pits, geophysical surveys, or other appropriate subsurface exploration methods, development of site-specific soil and/or rock stratigraphy, and measurement of groundwater levels including variability resulting from seasonal changes, alterations to the site, etc.

~~a. Conventional geotechnical boring data shall be reported as a graphic log utilizing the following standards:~~

~~i. The vertical scale of the graphic log shall be such that five feet of drilled depth is scaled to range of one inch to two inches (1:60 or 1:30 scale), and shall include vertical columns that record depth in one-foot increments, SPT value and incremental blow counts, a graphic pattern representation of the soil type encountered during drilling, and sample descriptions and other comments regarding drilling.~~

~~ii. The graphic log shall have a header on the first page that includes a unique identifier for the boring, the times and dates of the start and completion of drilling, the manufacturer and model of the drilling rig, the company name of the drilling contractor, the name(s) of the site geologist(s) or engineer(s) overseeing the drilling activities, the details of the method used to advance the borehole (e.g., four-inch~~

i.d. hollow-stem auger), the type of drilling fluid used to stabilize the borehole, verification that the SPT followed all applicable ASTM standards including a description of the sampler, hammer weight, drop height, the type of hammer used to perform the SPT, number of turns of rope if a cathead is used to raise the hammer, condition of rope (i.e., new, used, frayed, oily, etc.), and the depth of static groundwater measured immediately prior to abandonment of the boring and the time and date of this measurement.

iii. All subsequent pages of the graphic log shall have the unique identifier for the boring, the times and dates of the start and completion of drilling, and the number of the page and the total number of pages comprising the log.

iv. Each SPT value will be reported in the appropriate column showing the blow counts recorded at each six-inch interval, and the sum of the blow counts between penetration distances of six inches to 18 inches, unless refusal conditions (50 or more blows with less than six inches of sampler penetration) are met anywhere in this interval. At refusal, the blow count shall be recorded as the number of blows with the corresponding sampler penetration, in inches.

v. SPT tests shall be performed every five feet during drilling, at a minimum. Additional undisturbed samples, collected following ASTM standards for undisturbed soil sampling, cannot be substituted for SPT testing.

vi. The soil sample descriptions will include the total length of the recovered sample, the soil color, odor, the density or consistency (loose to very dense, very soft to very stiff), degree of water saturation (dry, moist, wet, saturated), and dilatancy. For granular (sand and gravel) soils, the description shall include a physical description of the soil sample, including size distribution (poorly or well graded), angularity, composition, amount and plasticity of the fines fraction. For fine soils (silt and clay), the description shall include a qualitative estimate of the proportion of the silt and clay size particles (e.g., silty clay, clay with some silt, etc.), plasticity, and amount and type of organic material. The sample description shall include a description of any bedding, laminations, slickensides, or other textural or deposition features, including contact between dissimilar soil types. The sample description shall also include a field classification of the soil sample using the Unified Soil Classification System where the classification is expressed in lower case letters (e.g., sp, ml, etc.). The sample classification shall be expressed in upper case letters (e.g., SP, ML, etc.) where subsequent laboratory testing has been performed. This column of the graphic log will also include any other information relevant to the subsurface investigation, such as loss of drilling fluid, heaving, churning of the drill in gravelly soils, etc.

b. CPT sounding data shall be reported as a graphic log utilizing the following standards:

i. The vertical scale of the graphic log shall be such that five feet of penetrated depth is scaled to range of one inch to two inches (1:60 or 1:30 scale), and shall include vertical columns that record depth in one-foot increments.

ii. The graphic log shall have a header on the first page that includes a unique identifier for the boring, the times and dates of the start and completion of the CPT sounding, the manufacturer and model of the CPT system, the company name of the CPT service contractor, the name(s) of the site geologist(s) or engineer(s) overseeing the CPT sounding, and any comments regarding the conduct of the testing, reaction of the CPT system during sounding, etc.

iii. All subsequent pages of the graphic log shall have the unique identifier for the boring, the times and dates of the start and completion of drilling, and the number of the page and the total number of pages comprising the log.

iv. The graphic log shall display, at a minimum, a continuous depth plot of the uncorrected tip resistance, the friction (sleeve) resistance, the friction ratio, and the measured pore pressure with an overlay of the calculated hydrostatic pore pressure. These curves shall be plotted so as to show the full

~~variation of the measured quantities within the depth range of the sounding, and each curve shall have a visible scale with the minimum and maximum ranges labeled.~~

~~v. All of the CPT data recorded for each sounding shall also be provided in either electronic or hardcopy format. Electronic data will be presented in an ASCII text file format.~~

ea. Geotechnical borings or CPT soundings will be advanced to a depth sufficient to characterize geologic conditions within and below the existing or potential landslide mass.

db. Other methods used for subsurface characterization shall be assigned a unique identifier, and the basic data presented in appropriate graphical and/or tabular format.

ec. The three-dimensional subsurface conditions at the site shall be presented using one or more cross-sections showing location and depth penetration of geotechnical borings, CPT soundings, or other subsurface characterization methods, interpretation of the geometry of major soil units, and projected location of the static groundwater surface determined from the subsurface exploration. The cross-sections shall be presented at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department). Each cross-section shall have a legend with a description of the various major soil units.

10. Soil strength and index properties (i.e., unit weight, cohesion, etc.) shall be provided for each soil unit interpreted from the subsurface characterization of the site, and shall be presented in tabular format. Justification for the presented values of these soil parameters shall be based on one or more of the following approaches:

a. Back analysis based on pre-landslide stability conditions.

b. Laboratory measurement of strength or other index properties made on soil samples.

c. Correlation of soil strength index properties to other geotechnical indices (e.g., SPT blow counts, etc.), where the correlation relations are documented (e.g., published literatures, in-house empirical data set, etc.).

d. Soil strength and indices based on generic values must provide a clear justification for their use.

1169. A detailed description of any prior grading activity, soil instability, or slope failure.

12740. Where deemed appropriate by the geotechnical professional Assessments and conclusions regarding slope stability for both the existing and developed conditions shall be presented and documented. These assessments and conclusions shall include the information provided below in EMC 14.80.060, Appendix B(A)(10)(a), (b), and (c).-. The project geotechnical professional must provide justification for not including a slope stability analysis if one is excluded. -The City's geotechnical professional reserves the right to request a slope stability analysis based on site conditions.- If a dispute arises between the project geotechnical professional and the City's geotechnical professional regarding the need for a slope stability analysis, then the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute.

a. Determination of the potential types of landslide failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site.

b. Quantitative stability evaluation of slope conditions of the various failure mechanisms using state-of-the-practice modeling techniques. Limiting equilibrium methods of analysis shall state the stability conditions as a factor of safety. The most unstable failure geometry(ies) shall be presented in the form of a cross-section(s), with the least stable failure geometry for each failure mechanism clearly indicated. The stability evaluation shall also consider dynamic (earthquake) loading, and shall use a minimum horizontal acceleration as established by the current version of the International Building Code.

c. An analysis of slope regression rate shall be presented in those cases where stability is impacted or influenced by erosional processes (e.g., wave cutting, stream meandering, etc.) acting on the toe of the slope.

~~13814.~~ Mitigation recommendations using engineered measures to protect the proposed structure(s) and any adjacent structures, infrastructure, adjacent wetlands, or critical fish and wildlife habitat from damage or destruction as a result of proposed construction activities shall be designed by a professional engineer. Design plans and detailed geotechnical recommendations may be provided in a document separate from the geotechnical report. When appropriate, such recommendations/plans may include, but are not necessarily limited toThe geotechnical report shall contain:

a. Design plans and associated design calculations for engineered structures or drainage systems (e.g., structural foundation requirements, retaining wall design, etc.).

b. Recommendations and requirements pertaining to the handling of surface and subsurface runoff in the developed condition.

c. Identification of necessary geotechnical inspections to assure conformance with the report mitigation and recommendations.

d. Proposed angles of cut and fill slopes, site grading requirements, final site topography (shown as two-foot contours), and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development detailed within the body of the report and shown on a site map at the same scale as that required in subsection (A)(8) of this appendix.

 e. Soil compaction criteria and compaction inspection requirements.

 f. An analysis that indicates how the proposal meets the standards outlined in EMC 14.80.040.

 g. Structural foundation requirements and estimated foundation settlement shall be provided if structures are proposed.

 h. Lateral earth pressures.

 i. Suitability of on-site soil for use as fill.

 j. Mitigation measures for building construction on each lot for short plats, large lots, or formal plats such that additional geotechnical professional involvement is minimized during building construction.

B. The geotechnical report shall be prepared by an engineering geologist and shall be co-written by both an engineering geologist and professional engineer where both geological interpretations and engineering analyses and designs are necessary or prudent in the mitigation of the landslide hazard.

C. The geotechnical professional(s) who prepared the geotechnical report shall stamp the report with his or her license stamp/seal.

D. The department may request a geotechnical professional to provide additional information in the geotechnical report based upon existing conditions, changed conditions, or unique circumstances occurring on a case-by-case basis.

E. Geotechnical reports shall be in conformance with a format that is pre-approved by the department. (Ord. 05-247 § 1; Ord. 02-200 § 2).

14.80.070—Figures.

A. Figure 14.80-1, Landslide Hazard Indicators.

B. Figure 14.80-2, Potential Landslide Hazard Areas.

C. Figure 14.80-3, Potential Landslide Hazard Areas—Slopes Greater than 20 Percent.

D. Figure 14.80-4, Interim Areas Between Landslide Hazard Areas.

E. Figure 14.80-5, Landslide Hazard Area Review.

F. Figure 14.80-6, Required Buffers for Active Landslide Hazard Areas.

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(Ord. 02-200 § 2).

Chapter 14.90

SEISMIC (EARTHQUAKE) HAZARD AREAS

Sections:

- 14.90.010 Purpose.
- 14.90.020 Seismic hazard areas.
- 14.90.030 Seismic hazard area review procedures.
- 14.90.040 Seismic hazard area standards.
- 14.90.050 Buffer requirements.
- 14.90.060 Appendices.

~~14.90.070 — Figures.~~

14.90.010 Purpose.

Earthquakes have historically occurred throughout the Puget Sound region. Large earthquakes have caused loss of life and over a billion dollars in property damage. The purpose of this chapter is to protect the public health, safety, and general welfare of the citizens of Edgewood from the damaging effects of earthquakes. This chapter provides standards to ensure life safety and minimize public and private losses that may occur within a seismic hazard area. (Ord. 02-200 § 2).

14.90.020 Seismic hazard areas.

A. General. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake-induced landsliding, seismic ground shaking, dynamic settlement, fault rupture, or soil liquefaction, ~~or flooding caused by tsunamis and seiches.~~

B. Potential Seismic Hazard Areas. Potential seismic hazard areas, ~~as depicted on the Critical Areas Atlas — Seismic Hazard Areas map,~~ are those areas where the suspected risk of earthquake induced landsliding, dynamic settlement, fault rupture, ground deformation caused by soil liquefaction, or flooding is sufficient to require a further seismic hazard area review as set forth in EMC 14.90.030. These potential seismic hazard areas are determined using the following criteria:

1. Earthquake Induced Landslide Hazard Areas. Areas identified as potential landslide hazard areas in EMC 14.80.020.
2. Liquefaction and/or Dynamic Settlement Hazard Areas. Areas identified as high and moderate liquefaction and dynamic settlement hazard areas on the ~~Washington Department of Natural Resources, Division of Geology and Earth Resources liquefaction and dynamic settlement hazard area table~~ Geologically Hazardous Areas map.
3. Fault Rupture Hazard Areas. ~~(Reserved).~~
4. ~~Tsunami and Seiche Hazard Areas. Areas that are adjacent to Puget Sound marine waters, lakes, and ponds that are designated as “A” or “V” zones as defined by FEMA and depicted on the FEMA maps or other maps adopted by the city.~~

C. Seismic Hazard Area Categories.

1. Earthquake Induced Landslide Hazard Areas. Earthquake induced landslide hazard areas include slopes that can become unstable as a result of strong ground shaking, even though these areas may be stable under non-seismic conditions.
2. Liquefaction and/or Dynamic Settlement Hazard Areas.
 - a. Liquefaction hazard areas are areas underlain by unconsolidated (corrected Standard Penetration Test blow counts, $[(N_1)_{60}]$ less than 30) sandy or silt soils (Unified Soil Classification System S or M soil-

types) and a shallow groundwater table (static groundwater depth less than 30 feet) capable of liquefying in response to earthquake shaking.

b. Dynamic settlement hazard areas are areas underlain by a significant thickness (more than 10 feet) of loose or soft soil not susceptible to liquefaction (e.g., peats or organic silts and clays, unsaturated loose sands or silts), but that could result in vertical settlement of the ground surface in response to earthquake shaking.

3. Fault Rupture Hazard Areas. Fault rupture hazard areas include:

a. Active fault rupture hazard areas are areas where displacement (movement up, down, or laterally) of the ground surface has occurred during past earthquake(s) in the Holocene Epoch; and

b. Areas adjacent to the active fault rupture hazard area that may be potentially subject to ground surface displacement in a future earthquake. ~~(see EMC 14.90.070(A), Figure 14.90-1). (Ord. 02-200 § 2).~~

14.90.030 Seismic hazard area review procedures.

A. General Requirements.

1. The city's ~~Critical Areas Atlas—Seismic Hazard Area Map~~Geologically Hazardous Areas map provides an indication of where potential seismic hazard areas are located within the city.

2. The department will complete a review of the Critical Areas Atlas – Seismic Hazard Area Map for any regulated activity to determine whether the site for a proposed regulated activity is located within a seismic hazard area.

3. When the department's maps indicate that the site for a proposed regulated activity is located within a potential liquefaction or dynamic settlement hazard area, the department shall require the submittal of a geological assessment as outlined in subsection (B) of this section. ~~(see EMC 14.90.070(B), Figure 14.90-2).~~

4. When the department's maps indicate that the site for a proposed regulated activity is located within a potential fault rupture hazard area, the department shall require the submittal of a geological assessment as outlined in subsection (B) of this section. The requirement to submit a geological assessment may be waived at the department's discretion when it is determined that the proposed project area for the regulated activity is located outside the potential fault rupture hazard area.

5. When the department's maps indicate that the site for a proposed regulated activity is or may be located within a potential earthquake-induced landslide hazard area, the department shall conduct a review pursuant to the requirements set forth in EMC 14.80.030.

6. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC 14.10.080 shall apply.

B. Geological Assessments. A geological assessment is a site investigation process to evaluate the on-site geology affecting a subject property and define the extent and severity of potential seismic hazards.

1. A geological assessment shall be required when the department's maps, sources, or field investigation indicate a site contains a potential liquefaction, dynamic settlement, or fault rupture hazard area. Geological assessments shall be submitted to the department for review and approval together with a seismic hazard area application.

2. A geotechnical professional(s) shall complete a field investigation and geological assessment to determine whether or not the site for a proposed regulated activity is located within a liquefaction or dynamic settlement hazard area. ~~(see EMC 14.90.070(B), Figure 14.90-2).~~

a. ~~The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional(s) finds that no liquefaction or dynamic settlement hazard areas exist within the site. The geotechnical letter shall meet the requirements contained in EMC 14.90.060, Appendix A.~~

~~ba.~~ The geological assessment shall be submitted in the form of a geotechnical verification when the geotechnical professional(s) finds that ~~a no~~ liquefaction or dynamic settlement hazard area exists ~~on the site but is located outside within~~ the proposed project area. The geotechnical verification shall meet the requirements contained in EMC 14.90.060, Appendix A.

~~eb.~~ The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional(s) finds that a liquefaction or dynamic settlement hazard area exists within the proposed project area. The geotechnical report shall meet the requirements contained in EMC 14.90.060, Appendix A.

3. ~~An engineering geologist~~ A geotechnical professional shall complete a field investigation and geological assessment presented in the form of a geotechnical report to determine whether or not the site for a proposed regulated activity is located within a fault rupture hazard area. The geological assessment shall meet the requirements contained in EMC 14.90.060, Appendix B. Any structural recommendations proposed to mitigate the fault rupture hazard that are included in the geotechnical report shall be prepared by an engineer.

4. All geological assessments for seismic hazards submitted under this chapter shall include, at a minimum, the following:

a. The dates when the geological assessment was conducted and when the assessment was prepared.

b. The parcel number(s) of the subject property.

c. Site address, if the city has assigned one.

d. A brief description of the project (including the proposed land use) and the area to be developed.

e. A map showing the property lines for the site, existing two-foot contours of the existing site topography, and the location of any existing structures, utilities, wells, stormwater or septic systems, or other developments.

f. A site plan delineating the limits of the proposed development and the location of all areas of the site subject to potential seismic hazards based on the ~~Critical Areas Atlas—Seismic Hazard Areas-~~ MapGeologically Hazardous Areas map and, if applicable, limits of associated buffers.

g. A description of the surface and subsurface geology, hydrology, soils, and vegetation of the site.

h. A detailed overview of the field investigations, published data and references, data and conclusions from past geological assessments or geotechnical investigations of the site, site-specific measurements, tests, investigations, or studies, as well as the methods of data analysis and calculations that support the determination regarding whether liquefaction and/or dynamic settlement hazards are present on the site.

i. The results, conclusions, and recommendations resulting from the geological assessment of the liquefaction and/or dynamic settlement hazards on the subject property as prepared by a geotechnical professional(s).

5. Geological assessments shall be prepared, signed, stamped, and dated by the appropriate geotechnical professional(s) (as defined in Chapter 14.15 EMC ~~EMC 14.10.060~~ and established in this chapter) and the format shall be pre-approved by the department.

6. Geological assessments that do not contain the minimum required information will be returned to the geotechnical professional(s) for revision.

7. The department shall review the geological assessment and either:

a. Accept the geological assessment and approve the application; or

b. Reject the geological assessment and require revisions or additional information.

8. A geological assessment for a specific site may be valid for a period of up to five years when the proposed land use activity and surrounding site conditions are unchanged. However, if any environmental conditions associated with the site change during that five-year period, the applicant may be required to submit an amendment to the geological assessment. (Ord. 02-200 § 2).

14.90.040 Seismic hazard area standards.

A. Earthquake Induced Landslide Hazard Areas. All standards set forth in Chapter 14.80 EMC shall apply to earthquake induced landslide hazard areas.

B. Liquefaction and/or Dynamic Settlement Hazard Areas.

1. All building structures shall conform to the standards set forth in EMC Title 15, Buildings and Construction.

2. Utility Lines. Utility lines, except for gas pipelines, which are prohibited, will be permitted when no other conveyance alternative is available. The line shall be located above ground and properly anchored and/or designed so that it will continue to function in the event of seismically induced ground deformation. Provision for automatic shut-off of utilities in a ground-rupturing event will be required.

3. Roads, Bridges, and Trails. Roads, bridges, and trails shall be allowed when mitigation measures are provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from seismic induced ground deformation. Mitigation measures shall be designed for static and seismic loading conditions in accordance with the most recent version of the American Association of State Highway and Transportation Officials (AASHTO) Manual and also for an estimated range of ground surface offset presented in the geotechnical report.

C. Fault Rupture Hazard Areas. Any development, encroachment, filling, grading, or building structures shall be prohibited within fault rupture hazard areas and associated buffers except as specified in the following standards:

1. Utility Lines. Utility lines, except for gas pipelines, which are prohibited, will be permitted when no other conveyance alternative is available. The line shall be located above ground and properly anchored and/or designed so that it will continue to function in the event of seismically-induced ground deformation. Provision for automatic shutoff of utilities in a ground-rupturing event will be required.

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

a. Mitigation measures are provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from seismically-induced ground deformation. Mitigation measures shall be designed for static and seismic loading conditions in accordance with the most recent version of the American Association of State Highway and Transportation Officials (AASHTO) Manual and also for an estimated range of ground surface offset presented in the geotechnical report.

b. The road is not a sole access for a development. (Ord. 02-200 § 2).

14.90.050 Buffer requirements.

A. Determining Buffer Widths.

1. The buffer width shall be measured on a horizontal plane from a perpendicular line established at the edge of the fault rupture hazard area limits. ~~(see EMC 14.90.070(C), Figure 14.90-3).~~

2. A buffer is an area that is adjacent to a fault rupture hazard area that may be potentially subject to ground surface displacement in a future earthquake. No development shall be permitted within a fault rupture hazard area and its associated buffer. The required buffer width is the greater amount of the following distances:

a. Fifty feet from all edges of a fault rupture hazard area, except for high occupancy or essential facilities, where the minimum buffer distance shall be 100 feet; or

b. The required buffer width is the minimum distance recommended by the geotechnical professional(s).

B. Modification of Buffer Widths. The Department may require a larger buffer width than the buffer distance, as determined in subsection (A) of this section, if the department determines the standard or proposed buffer is not adequate to protect the health, safety, or welfare of any proposed development. (Ord. 02-200 § 2).

14.90.060 Appendices.

A. Geological Assessments – Liquefaction or Dynamic Settlement Hazard Areas.

B. Geological Assessments – Fault Rupture Hazard Area Geotechnical Report.

APPENDIX A

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GEOLOGICAL ASSESSMENTS – LIQUEFACTION OR DYNAMIC SETTLEMENT HAZARD AREAS

Article I. Geotechnical Letter

A. A geotechnical letter shall, at a minimum, include the following:

1. The letter shall be labeled identifying the submittal as a “Liquefaction or Dynamic Settlement Hazard Geotechnical Letter,” and will include all mandatory items listed in EMC 14.90.030(B)(4).

2. The geological assessment must include a determination that no portion of the subject property [site] includes a liquefaction and/or dynamic settlement hazard.

3. A paragraph that states the following specific language:

I meet the qualifications contained in EMC 14.90.030 to prepare this geological assessment. I understand the requirements of the current seismic (earthquake) hazard areas Chapter 14.90-EMC and the definitions of the applicable terms contained within EMC 14.10.060. I have conducted an investigation of sufficient scope on the above referenced site to determine that no liquefaction and/or dynamic settlement hazard area exists within the boundaries of the proposed site.

4. The name, mailing address and telephone number of geotechnical professional(s) who prepared the letter.

5. The name, mailing address, and telephone number of the property owner.

B. The geotechnical professional(s) who prepared the geotechnical letter shall stamp the letter with his or her license stamp/seal.

C. Hold harmless clauses, disclaimers, and limitations are not allowed within a geotechnical letter.

Article II Article I. Geotechnical Verification

A. A geotechnical verification shall, at a minimum, include the following:

1. The general critical areas report requirements in EMC 14.10.082.

2. The first page of the document shall be labeled identifying the submittal as a “Liquefaction or Dynamic Settlement Hazard Geotechnical Verification,” and geotechnical verification shall will include all mandatory items listed in EMC 14.90.030(B)(4).

3. The geological assessment must include a determination that a no liquefaction and/or dynamic settlement hazard exists on the site, but is located outside within the proposed project area.

4. The verification shall include an accurate site plan drawn at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department) is required. The department may require that the site plan information be based on a field survey by a licensed surveyor. The site plan shall include:

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a. Property lines for the site, and the location of any existing structures.

~~b. The existing site topography presented in two-foot contours.~~

~~c. The limits/location of any liquefaction and/or dynamic settlement hazard area(s) as set forth in EMC 14.90.020(C)(2).~~

~~d. The full geographical limits of the proposed project area or conceptual project area (i.e., area to be developed) and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development, if known.~~

~~e. The limits of any setbacks from the defined locations of the liquefaction and/or dynamic settlement hazard areas determined by the geotechnical professional(s) as necessary to protect any portion of the proposed development activity from damage caused by liquefaction induced ground displacement.~~

4. A paragraph that states the following specific language:

~~I meet the qualifications contained in EMC 14.90.030 to prepare this geological assessment. I understand the requirements of the current seismic (earthquake) hazard areas Chapter 14.90 EMC and the definitions of the applicable terms contained within EMC 14.10.060. I have conducted an investigation of sufficient scope on the above referenced site to determine that no liquefaction and/or dynamic settlement hazard area exists within the boundaries of the proposed project area.~~

~~54. The name, mailing address, and telephone number of geotechnical professional(s) who prepared the letter.~~

~~65. The name, mailing address, and telephone number of the property owner.~~

B. The geotechnical professional(s) who prepared the geotechnical verification shall stamp the verification with his or her license stamp/seal.

C. Hold harmless clauses, disclaimers, and limitations are not allowed within a geotechnical verification.

~~Article III~~Article II: Geotechnical Report

A. A geotechnical report shall, at a minimum, include the following:

~~1. The general critical areas report requirements in EMC 14.10.082.~~

~~21. The first page of the document shall be labeled identifying the submittal as a "Liquefaction or Dynamic Settlement Hazard Geotechnical Report," and will document shall include all mandatory items listed in EMC 14.90.030(B)(4). The report shall be prepared by an engineer and shall be co-written by an engineering geologist where geological interpretations and conclusions critical to the assessment of liquefaction and/or dynamic settlement hazard and potential effects are necessary or prudent. The introductory section of the report shall specify the desired performance level of the structures and other development facilities (e.g., safety to building occupants, minimal damage to structure, post-earthquake serviceability for pre-earthquake operations, no damage, etc.).~~

~~32. The results, conclusions, and recommendations resulting from the geological assessment of the liquefaction and/or dynamic settlement hazards on the subject property as prepared by the geotechnical professional(s).~~

~~43. The geological assessment-geotechnical report shall include:~~

a. A statement that the proposed project area falls within a liquefaction and/or dynamic settlement hazard area.

b. A detailed engineering evaluation of expected ground displacements or other liquefaction and/or dynamic settlement effects (e.g., bearing failures, flotation of buried tanks, etc.) and proposed mitigation

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measures to ensure an acceptable level of risk for the proposed structure type or other development facilities, as well as the proposed land use type (i.e., occupancy category). The minimum level of acceptable risk for any proposed structure or development facility shall ensure the life safety of any occupant. ~~Designs shall evaluate the range of alternatives for achieving limited structural damage to no structural damage based on the proposed use intended for the structure. Where appropriate, a range of mitigation options should be considered depending on site conditions, the intended use of the structures, and acceptable levels of settlement.~~

~~54.~~ The report shall include ~~an accurate~~ site plan drawn ~~at a~~ scale of one inch equals 20 feet, ~~one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department) is required.~~ The department may require that the site plan information be based on a field survey by a licensed surveyor. The site plan shall include:

a. Property lines for the site and the location of any existing structures.

~~b. The existing site topography presented in two-foot contours.~~

~~c.~~ b. The limits/location of any liquefaction and/or dynamic settlement hazard area(s) as set forth in EMC 14.90.020(C)(2).

~~d.~~ c. The full geographical limits of the proposed project area or conceptual project area (i.e., area to be developed) and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development, if known.

~~e. The limits of any setbacks from the defined locations of the liquefaction and/or dynamic settlement hazard areas determined by the geotechnical professional(s) as necessary to protect any portion of the proposed development activity from damage caused by liquefaction-induced ground displacement.~~

~~f.~~ d. Location and unique identifier of geotechnical ~~borings and/or CPT soundings~~ explorations used to characterize subsurface conditions.

~~55.~~ The geotechnical study shall include field exploration sufficient to assess the potential for liquefaction or dynamic settlement hazards and options for mitigation of those hazards. ~~Copies of the exploration logs shall be provided in the report.~~ The geotechnical study shall include field exploration sufficient to assess the potential for liquefaction or dynamic settlement hazards and options for mitigation of those hazards. ~~Copies of the exploration logs shall be included in the report.~~ The project geotechnical professional must provide justification for the scope of the field exploration program. ~~The City's geotechnical professional reserves the right to request additional exploration if deemed appropriate.~~ If a dispute arises between the City's geotechnical professional and the project geotechnical professional regarding the scope of the field exploration, the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute. field investigation shall require the following elements:

a. Subsurface characterization using conventional geotechnical borings and standard penetration testing (SPT) ~~or using cone penetration testing (CPT).~~

b. Conventional geotechnical boring data shall be reported as a graphic log utilizing the following standards:

i. The vertical scale of the graphic log shall be such that five feet of drilled depth is scaled to range of one inch to two inch (1:60 or 1:30 scale), and shall include vertical columns that record depth in one-foot increments, SPT value and incremental blow counts, a graphic pattern representation of the soil type encountered during drilling, and sample descriptions and other comments regarding drilling.

ii. The graphic log shall have a header on the first page that includes a unique identifier for the boring, the times and dates of the start and completion of drilling, the manufacturer and model of the drilling rig, the company name of the drilling contractor, the name(s) of the site geologist(s) or engineer(s) overseeing the drilling activities, the details of the method used to advance the borehole (e.g., four-inch i.d. hollow-stem auger), the type of drilling fluid used to stabilize the borehole, verification that the SPT followed all applicable ASTM

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standards including a description of the sampler, hammer weight, drop height, the type of hammer used to perform the SPT, number of turns of rope if a cathead is used to raise the hammer, condition of rope (i.e., new, used, frayed, oily, etc.), and the depth of static groundwater measured immediately prior to abandonment of the boring and the time and date of this measurement.

iii. All subsequent pages of the graphic log shall have the unique identifier for the boring, the times and dates of the start and completion of drilling, and the number of the page and the total number of pages comprising the log.

iv. Each SPT value will be reported in the appropriate column showing the blow counts recorded at each six-inch interval, and the sum of the blow counts between penetration distances of six inches to 18 inches, unless refusal conditions (50 or more blows with less than six inches of sampler penetration) are met anywhere in this interval. At refusal, the blow count shall be recorded as the number of blows with the corresponding sampler penetration, in inches.

v. SPT tests shall be performed every five feet during drilling, at a minimum. Additional undisturbed samples, collected following ASTM standards for undisturbed soil sampling, cannot be substituted for SPT testing.

vi. The soil sample descriptions will include the total length of the recovered sample, the soil color, odor, the density or consistency (loose to very dense, very soft to very stiff), degree of water saturation (dry, moist, wet, saturated), and dilatancy. For granular (sand and gravel) soils, the description shall include a physical description of the soil sample, including size distribution (poorly or well graded), angularity, composition, amount and plasticity of the fines fraction. For fine soils (silt and clay), the description shall include a qualitative estimate of the proportion of the silt and clay size particles (e.g., silty clay, clay with some silt, etc.), plasticity, and amount and type of organic material. The sample description shall include a description of any bedding, laminations, slickensides, or other textural or deposition features, including contact between dissimilar soil types. The sample description shall also include a field classification of the soil sample using the Unified Soil Classification System where the classification is expressed in lower case letters (e.g., sp, ml, etc.). The sample classification shall be expressed in upper case letters (e.g., SP, ML, etc.) where subsequent laboratory testing has been performed. This column of the graphic log will also include any other information relevant to the subsurface investigation, such as loss of drilling fluid, heaving, churning of the drill in gravelly soils, etc.

c. CPT sounding data shall be reported as a graphic log utilizing the following standards:

i. The vertical scale of the graphic log shall be such that five feet of penetrated depth is scaled to range of one inch to two inch (1:60 or 1:30 scale), and shall include vertical columns that record depth in one foot increments.

ii. The graphic log shall have a header on the first page that includes a unique identifier for the boring, the times and dates of the start and completion of the CPT sounding, the manufacturer and model of the CPT system, the company name of the CPT service contractor, the name(s) of the site geologist(s) or engineer(s) overseeing the CPT sounding, and any comments regarding the conduct of the testing, reaction of the CPT system during sounding, etc.

iii. All subsequent pages of the graphic log shall have the unique identifier for the boring, the times and dates of the start and completion of drilling, and the number of the page and the total number of pages comprising the log.

iv. The graphic log shall display, at a minimum, a continuous depth plot of the uncorrected tip resistance, the friction (sleeve) resistance, the friction ratio, and the measured pore pressure with an overlay of the calculated hydrostatic pore pressure. These curves shall be plotted so as to show the full variation of the measured quantities within the depth range of the sounding, and each curve shall have a visible scale with the minimum and maximum ranges labeled.

v. All of the CPT data recorded for each sounding shall also be provided in either electronic or hardcopy format. Electronic data will be presented in an ASCII text file format.

d. All SPT or CPT testing will be conducted to a minimum depth of 50 feet below the existing ground surface or lowest proposed finished grade, except where a minimum thickness of 10 feet of consolidated soils are encountered where the $(N_1)_{60}$ is greater than 30, or CPT corrected tip resistance (q_{c15}) is greater than 175. In addition, SPT or CPT testing should extend a minimum of 20 feet below the lowest expected foundation level, including the lowest elevation of piling support.

76. ~~If beneficial to the assessment of seismic hazards for the project,~~ the three-dimensional subsurface conditions at the site shall be presented using one or more cross-sections showing location and depth penetration of borings or CPT soundings, interpretation of the geometry of major soil units, and projected location of the static groundwater surface determined from the subsurface exploration. The cross-sections shall be presented at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department). Each cross-section shall have a legend with a description of the various major soil units. The City's geotechnical professional reserves the right to request inclusion of one or more cross sections in the geotechnical report. If a dispute arises between the project geotechnical professional and the City's geotechnical professional regarding this issue, then the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute.

87. All assessments of liquefaction and/or dynamic settlement hazards and effects will be based on a design earthquake using ground motion parameters consistent and equivalent to those specified in the most current version of the International Building Code. ~~The choice of moment magnitude used in the determination of the magnitude scaling factor, as well as the scaling relations used in the analysis, shall be justified in the report narrative.~~ These assessments shall use the shallowest groundwater table observed during or inferred from subsurface exploration and characterization (e.g., the measured depth of static groundwater immediately prior to abandonment of borings, observation of iron-oxide mottling of soils samples, etc.).

98. Results of laboratory testing of samples retrieved during drilling and sampling shall be presented in order to support the values of fines contents used in subsequent analysis of liquefaction and/or dynamic settlement hazard. Where only CPT methods are used in site assessment, the correlation between fines content and CPT measurements will be discussed and documented. This documentation will require rigorous correlation of CPT and fines content measurements from similar geological deposits within the Puget Sound region.

109. The geotechnical report shall include a detailed assessment of the liquefaction and/or dynamic settlement hazard based on analysis of all available SPT or CPT available subsurface data using state-of-the-practice methodologies, ~~such as provided in Youd and Idriss (1997) or subsequent technical publications.~~ The ~~methodology used in results~~ of the analysis shall be documented, and all results of intermediate and final calculations and results, including factors of safety, shall be included.

1011. ~~When appropriate,~~ the geotechnical report shall ~~contain~~ include an assessment of the potential for large lateral spreads or flow failures, bearing failures, settlement, limited lateral displacement, and flotation of buried facilities. The methodologies used must be, at a minimum, state-of-the-practice, and ~~where applicable should employ more than one method of analysis.~~ ~~All results of intermediate and final calculations and the~~ conclusions regarding the potential and severity of the possible liquefaction and/or dynamic settlement induced failure modes shall be presented.

1112. Alternative mitigative measures including structural and foundation design options and/or soil improvement techniques shall be evaluated and compared for their effectiveness in reaching the level of performance specified in the report introduction. ~~Final designs and specifications and plans for structural and/or foundation design shall be included if applicable.~~ Effectiveness of soil improvement techniques shall be specified in terms of post-treatment densification or strength improvement as measured by appropriate subsurface investigation and testing. The extent of the post-treatment verification testing shall be provided on a site map at the same scale as the map presented in subsection (A)(4) of this article. Geotechnical review of all final plans is required and the findings of the review shall be documented in writing.

12. The name, mailing address, and telephone number of geotechnical professional(s) who prepared the letter.

13. The name, mailing address, and telephone number of the property owner.

B. The geotechnical professional(s) who prepared the geotechnical report shall stamp the report with his or her license stamp/seal.

C. Hold harmless clauses, disclaimers, and limitations are not allowed within a geotechnical report.

APPENDIX B

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GEOLOGICAL ASSESSMENTS – FAULT RUPTURE HAZARD AREA GEOTECHNICAL REPORT

A. A geotechnical report shall, at a minimum, include the following:

1. The general critical areas report requirements in EMC 14.10.082.

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~~21. The first page of the document shall be labeled identifying the submittal as a "Fault Rupture Hazard Geotechnical Report," and will document shall~~ include all mandatory items listed in EMC 14.90.030(B)(4). The report shall be prepared by an engineer and shall be co-written by an engineering geologist where geological interpretations and conclusions critical to the assessment of liquefaction and/or dynamic settlement hazard and potential effects are necessary or prudent.

~~2. The geological assessment for fault rupture hazards shall include the minimum requirements specified in EMC 14.90.030(B)(4).~~

~~323.~~ The following topics should be considered and addressed in detail where essential to support opinions, conclusions, and recommendations in any geologic report on faults. It is not expected that all the topics or investigative methods would be necessary in a single investigation. In specific cases, it may be necessary to extend some of the investigative methods well beyond the site or property being investigated.

- a. Purpose and scope of investigation; description of proposed development.
- b. Geologic and tectonic setting. Include seismicity and earthquake history.
- c. Site description and conditions, including dates of site visits and observations. Include information on geologic units, graded and filled areas, vegetation, existing structures, and other factors that may affect the choice of investigative methods and interpretation of data.
- d. Methods of Investigation.
 - i. Review of published and unpublished literature, maps, and records concerning geologic units, faults, groundwater barriers, and other factors.
 - ii. Stereoscopic interpretation of aerial photographs, review of LiDAR based topography, and other remotely sensed images to detect fault-related topography (geomorphic features), vegetation and soil contrasts, and other lineaments of possible fault origin. The area interpreted usually should extend beyond the site boundaries.
 - iii. Surface observations, including mapping of geologic and soil units, geologic structures, geomorphic features and surfaces, springs, deformation of engineered structures due to fault creep, both on and beyond the site.
 - iv. Subsurface Investigations.

(A) Trenching and other excavations to permit detailed and direct observation of continuously exposed geologic units, soils, and structures; must be of adequate depth and be carefully logged (Taylor & Cluff 1973, Hatheway & Leighton 1979, McCalpin 1996b).

(B) Borings and test pits to permit collection of data on geologic units and groundwater at specific locations. Data points must be sufficient in number and spaced adequately to permit valid correlations and interpretations.

(C) Cone penetrometer testing (CPT) (Grant et al., 1997, Edelman et al., 1996). CPT must be done in conjunction with continuously logged borings to correlate CPT results with on-site materials. The number of borings and spacing of CPT soundings should be sufficient to adequately image site stratigraphy. The existence and location of a fault based on CPT data are interpretative.

v. Geophysical Investigations. These are indirect methods that require a knowledge of specific geologic conditions for reliable interpretations. They should seldom, if ever, be employed alone without knowledge of the geology (Chase & Chapman 1976). Geophysical methods alone never prove the absence of a fault nor do they identify the recency of activity. The types of equipment and techniques used should be described and supporting data presented (California Board of Registration for Geologists and Geophysicists, 1993).

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(A) High-resolution seismic reflection (Stephenson et al., 1995, McCalpin, 1996b).

(B) Ground penetrating radar (Cai et al., 1996).

(C) Other methods include: seismic refraction, magnetic profiling, electrical resistivity, and gravity (McCalpin, 1996b).

vi. Age-dating techniques are essential for determining the ages of geologic units, soils, and surfaces that bracket the time(s) of faulting (Pierce 1986, Birkeland et al., 1991, Rutter & Catto, 1995, McCalpin, 1996a).

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(A) Radiometric dating (especially ¹⁴C).

(B) Soil-profile development.

(C) Rock and mineral weathering.

(D) Landform development.

(E) Stratigraphic correlation of rocks/minerals/fossils.

(F) Other methods – artifacts, historical records, tephrochronology, fault scarp modeling, thermoluminescence, lichenometry, paleomagnetism, dendrochronology, etc.

vii. Other methods should be included when special conditions permit or requirements for critical structures demand a more intensive investigation.

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(A) Aerial reconnaissance overflights.

(B) Geodetic and strain measurements.

(C) Microseismicity monitoring.

e. Conclusions.

i. Location and existence (or absence) of hazardous faults on or adjacent to the site; ages of past rupture events.

ii. Type of faults and nature of anticipated offset, including sense and magnitude of displacement, if possible.

iii. Distribution of primary and secondary faulting (fault zone width) and fault-related deformation.

iv. Probability of, or relative potential for, future surface displacement. The likelihood of future ground rupture seldom can be stated mathematically, but may be stated in semiquantitative terms such as low, moderate, or high, or in terms of slip rates determined for specific fault segments.

v. Degree of confidence in, and limitations of data and conclusions.

f. Recommendations.

i. The recommended increase from the standard buffer distance (50 feet) of proposed structures from fault rupture hazard areas. The recommended buffer distance generally will depend on the quality of data and type and complexity of fault(s) encountered at the site and the proposed land use type (i.e., occupancy). In order to establish an appropriate buffer distance from a fault located by indirect or interpretative methods (e.g., borings or cone penetrometer testing), the area between data points also should be considered underlain by a fault unless additional data are used to more precisely locate the fault. Additional measures (e.g., strengthened foundations, engineering design, and flexible utility connections) to accommodate warping and distributive deformation associated with faulting (Lazarte and others, 1994).

ii. Risk evaluation relative to the proposed development.

iii. Limitations of the investigation; need for additional studies.

g. References.

i. Literature and records cited or reviewed; citations should be complete.

ii. Aerial photographs or images interpreted – list type, data, scale, source, and index numbers.

iii. Other sources of information, including well records, personal communications, and other data sources.

h. Illustrations. The following illustrations should be provided:

i. A location map that identifies site locality, significant faults, geographic features, regional geology, seismic epicenters, and other pertinent data; 1:24,000 scale is recommended.

ii. A site development map that shows site boundaries, existing and proposed structures and limits of the proposed project area, graded areas, streets, exploratory trenches, borings geophysical traverses, locations of faults, and other data; recommended scale is 1:2,400 (one inch equals 200 feet), or larger.

iii. A geologic map that shows the distribution of geologic units (if more than one), faults and other structures, geomorphic features, aerial photo graphic lineaments, and springs; on topographic map 1:24,000 scale or larger; can be combined with subsection (B)(h)(i) or (ii) of this appendix.

iv. Geologic cross-sections, if needed, to provide three-dimensional picture.

v. Logs of exploratory trenches and borings that show details of observed features and conditions (note: these should not be generalized or diagrammatic). Trench logs should show topographic profile and geologic structure at a 1:1 horizontal to vertical scale; scale should be 1:60 (one inch equals five feet) or larger.

vi. Geophysical data and geologic interpretations.

i. Appendix. Attach any supporting data not included above (e.g., water well data, photographs, aerial photographs).

443. The geotechnical professional who prepared the geotechnical shall stamp the report with his or her license stamp/seal.

554. The department may request a geotechnical professional to provide additional information in the geotechnical report based upon existing conditions, changed conditions, or unique circumstances occurring on a case-by-case basis.

~~65g~~6. Hold harmless clauses, disclaimers, and limitations are not allowed to be included, neither expressly nor implied, within a geological assessment. (Ord. 02-200 § 2).

14.90.070 — Figures.

~~A. Figure 14.90-1, Fault Rupture Hazard Areas.~~

~~B. Figure 14.90-2, Seismic Hazard Area Review.~~

~~C. Figure 14.90-3, Fault Rupture Hazard Area Buffers.~~

~~(Ord. 02-200 § 2).~~

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Chapter 14.110

EROSION HAZARD AREAS

Sections:

- 14.110.010 Purpose.
- 14.110.020 Erosion hazard areas.
- 14.110.030 Erosion hazard area review procedures.
- 14.110.040 Erosion hazard area standards.
- 14.110.050 Buffer requirements.
- 14.110.060 Appendices.

~~14.110.070 — Figures.~~

14.110.010 Purpose.

The following statements describe the purpose of this chapter:

- A. Protect human life and health;
- B. Regulate uses of land in order to avoid damage to structures and property being developed and damage to neighboring land and structures;
- C. Identify and map erosion hazard areas;
- D. Minimize impacts on wetlands and critical fish and wildlife species and their associated habitat that can result from erosion;
- E. Establish a permit requirement and review procedures for development proposals in areas with potential erosion hazards;
- F. Strike a balance between the need to maintain natural shoreline erosion/regression processes and the need to protect existing and proposed development. (Ord. 02-200 § 2).

14.110.020 Erosion hazard areas.

A. Shoreline Erosion Hazard Indicators. Shoreline ~~erosion~~ hazard areas are areas potentially subject to land regression or retreat due to a combination of geologic, seismic, ~~tidally influenced~~, and/or hydrologic or manmade factors. Shoreline hazard areas can be identified by ~~the presence of any of the following indicators:~~indicators of active land retreat as a result of fluvial processes.

~~1. Areas with active bluff retreat that exhibit continuing sloughing or calving of bluff sediments, resulting in a vertical or steep bluff face with little or no vegetation.~~

~~2. Areas with active land retreat as a result of wave action.~~

B. Erosion Hazard Area Categories.

1. Potential Erosion Hazard Areas. Potential erosion hazard areas, as depicted on the ~~Critical Areas Atlas — Erosion Hazard Areas Map~~Geologically Hazardous Areas map, are those areas where the suspected risk of erosion through either loss of soil, slope instability, or land regression is sufficient to require additional review to assess the potential for active erosion activity or apply additional standards. These potential erosion hazard areas are determined using the following criteria:

- a. Shoreline Erosion Hazard Areas. Areas within 200 feet of a freshwater (lake, pond, or shoreline) as measured landward perpendicularly from the edge of the ordinary high water mark. ~~(see EMC 14.110.070(A), Figure 14.110-1).~~

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b. Riverine Erosion Hazard Areas. The rivers subject to regulation as a channel migration zone listed in EMC 14.70.020(B)(45).

c. Soil Erosion Hazard Areas. Areas identified as having slopes of 20 percent or greater and that are classified as having severe, or very severe erosion potential by the Soil Conservation Service, United States Department of Agriculture (USDA).

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

3. Riverine Erosion Hazard Areas. Riverine erosion hazard areas are located within the lateral extent of likely watercourse channel movement due to bank destabilization and erosion, rapid incision, and shifts in location of watercourse channels. Riverine erosion hazard areas are also referred to as channel migration zones (CMZs). Rivers and streams subject to erosion are regulated as a CMZ as listed in EMC 14.70.020(B)(4).

4. Soil Erosion Hazard Areas. Soil erosion hazard areas are identified by the presence or absence of natural vegetative cover, soil texture condition, slope, and rainfall patterns, or man-induced changes to such characteristics that create site conditions which are vulnerable to erosion of the upper soil horizon. Soil erosion hazard areas ~~include~~ are those areas with slopes of 20 percent or greater and that are classified as having severe, or very severe erosion potential by the ~~Soil Conservation Service, USDA~~ Natural Resources Conservation Service. (Ord. 02-200 § 2).

14.110.030 Erosion hazard area review procedures.

A. General Requirements.

1. The City's ~~Critical Areas Atlas—Erosion Hazard Area Map~~Geologically Hazardous Areas map provides an indication of where potential erosion hazard areas are located ~~within the county~~. The actual presence or location of an erosion hazard area and/or additional potential erosion hazard area that have not been mapped, but may be present on or adjacent to a site, shall be determined using the procedures and criteria established in this chapter.

2. The department will complete a review of the ~~Critical Areas Atlas—Erosion Hazard Area Map~~Geologically Hazardous Areas map, and any other source documents for any proposed regulated activity to determine whether the site for the regulated activity is located within a potential erosion hazard area.

3. When the department's maps, sources, or field investigations indicate that the site for a proposed regulated activity is located within a potential shoreline erosion hazard area, the department shall require a geological assessment as outlined in subsection (B) of this section. ~~(see EMC 14.110.070(B), Figure 14.110-2).~~

4. When the department's maps, sources, or field investigations indicate that the proposed project area for a regulated activity is located within a potential riverine erosion hazard area (channel migration zone), the department shall conduct a review pursuant to the requirements set forth in EMC 14.70.030. All standards set forth in Chapter 14.70 EMC shall apply to riverine erosion hazard areas (CMZs).

5. When the department's maps, sources, or field investigations indicate that the proposed project area for a regulated activity is located within a potential soil erosion hazard area, the department shall require submittal of an erosion control plan pursuant to the requirements set forth in EMC Title 15, Buildings and Construction.

6. Applicants requesting to develop a bulkhead along a ~~freshwater or marine~~ shoreline shall be required to submit a geotechnical report. The geotechnical report shall comply with the requirements established in EMC 14.110.060, Appendix C.

7. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC 14.10.080 shall apply.

B. Geological Assessment. A geological assessment is a site investigation process to evaluate the on-site geology affecting a subject property and proposed development.

1. Geological assessments shall be submitted to the department for review and approval together with a shoreline erosion hazard area application.
2. The geological assessment shall include a field investigation and may also include review of public records and documentation, analysis of historical air photos, ~~LiDAR mapping, published mapping, published~~ data and references, etc.
3. The geological assessment shall include the following information and analysis:
 - a. An analysis of the shoreline erosion processes on and in the vicinity of the site including an evaluation of erosion and ~~bluff shoreline~~ retreat that has occurred over the past decade and an estimated probable rate of erosion based upon the historic rate of erosion that has occurred on the site.
 - b. A determination of which areas on the site meet the criteria for an active shoreline erosion hazard area as set forth in EMC 14.110.020(B)(2).
 - c. A determination of the area on the site or in the vicinity of the site that will experience regression in the next 120 years given natural processes.
4. Geological assessments shall be prepared, signed, and dated by a geotechnical professional (as defined in ~~Chapter 14.15 EMC EMC-14.10.060~~ and established in this chapter) and the format shall be pre-approved by the department.
5. A geotechnical professional shall complete a field investigation and geological assessment to determine whether or not an active shoreline erosion hazard area exists within 200 feet of the site. ~~(see EMC-14.110.070(B), Figure 14.110-2).~~
 - a. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no active shoreline erosion hazard area exists within 200 feet of the site. The geotechnical letter shall meet the requirements contained in EMC 14.110.060, Appendix A.
 - b. The geological assessment shall be submitted in the form of geotechnical verification when the geotechnical professional finds that an active shoreline erosion hazard area exists but is located more than 200 feet away from the proposed project area. The geotechnical verification shall meet the requirements contained in EMC 14.110.060, Appendix B.
 - c. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that an active shoreline erosion hazard area exists within 200 feet of the proposed project area or when a geotechnical professional determines that mitigation measures, such as a bulkhead, are necessary in order to construct or develop within a potential shoreline erosion hazard area. The geotechnical report shall meet the requirements contained in EMC 14.110.060, Appendix C.
6. The department shall review the geological assessment and either:
 - a. Accept the geological assessment and approve the application; or
 - b. Reject the geological assessment and require revisions or additional information.
7. A geological assessment for a specific site may be valid for a period of up to five years when the proposed land use activity and surrounding site conditions are unchanged. However, if any environmental conditions associated with the site change during that five-year period, the applicant may be required to submit an amendment to the geological assessment.

C. Riverine Erosion Hazard Area (Channel Migration Zones) Review. Riverine erosion hazard areas shall be reviewed pursuant to the requirements set forth in EMC 14.70.030.

D. Soil Erosion Hazard Area Review. Soil erosion hazard areas shall be reviewed pursuant to the requirements set forth in EMC Title 15, Buildings and Construction. (Ord. 02-200 § 2).

14.110.040 Erosion hazard area standards.

A. Active Shoreline Erosion Hazard Areas. Any development, encroachment, filling, clearing, or grading, timber harvest, building structures, impervious surfaces, and vegetation removal shall be prohibited within active shoreline erosion hazard areas and associated buffers except as specified in the following standards:

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

a. The proposed shoreline protection measure shall comply with the standards set forth in ~~EMC-14.40.030~~ [Chapter 14.40 EMC, Fish and Wildlife Habitat Conservation Areas](#).

b. A geological assessment-shoreline erosion geotechnical report has been conducted in accordance with the provisions set forth in EMC 14.110.030(B) that indicates that the shoreline is currently experiencing active erosion (i.e., land retreat or regression).

c. The use of the shoreline erosion protection measure will not cause a significant adverse impact on adjacent properties or critical fish and wildlife species and their associated habitat (i.e., increase erosion on adjacent properties).

d. The use of soft armoring techniques (soil bioengineering erosion control measures) is the preferred method for shoreline protection.

e. Hard armoring shoreline erosion control measures shall be approved only when a geological assessment-shoreline erosion geotechnical report, as set forth in EMC 14.110.030(B), has been completed and indicates the following:

i. The regression has been monitored on a yearly interval for a period of at least five consecutive years prior to allowing a bulkhead to be constructed. This monitoring shall be conducted by field survey measurements of a licensed surveyor. The department may shorten or eliminate the monitoring period if there are indicators that the regression rate is rapid and an existing structure may be threatened prior to completion of the monitoring period;

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

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

f. Hard armoring shoreline protection measures shall not be allowed when structures can be located landward of the 120-year rate of regression area.

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

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

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

a. Mitigation measures are provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from active erosion.

b. The road is not a sole access for a development.

B. Shoreline Erosion Hazard Management Area. All regulated activities such as but not limited to building structures, impervious surfaces, vegetation removal, timber harvest, and clearing or grading activities may be allowed in areas located within 200 feet of an active shoreline erosion hazard area subject to the following standards:

1. The department reviews and approves a geological assessment – shoreline erosion hazard geotechnical report and determines that the proposed project area is located outside an active shoreline hazard area and the required buffer, as set forth in EMC 14.110.050.

2. The proposed recommendations and mitigation measures contained within the geotechnical report are adequate to reduce or mitigate risks to the natural environment, health, and safety.

3. Surface drainage from the proposed project area, including downspouts, landscape irrigation systems, and runoff from paved or unpaved surfaces upland of the shoreline, shall not be directed through an active shoreline erosion hazard area or its associated buffer unless it is conveyed in conformance with the provisions in subsection (A)(2) of this section.

4. Stormwater retention and detention systems, such as dry wells and infiltration systems utilizing buried pipe or french drains, shall not be permitted unless such systems are designed by a professional engineer and the geotechnical report indicates that such a system will not affect the stability of the shoreline.

5. Proposed developments, with the exception of shoreline erosion protection measures, shall be sited far enough from regressing shorelines to ensure 120 years of useful life for any proposed structures or infrastructure.

C. Riverine Erosion Hazard Area (Channel Migration Zones) Review. Riverine erosion hazard areas shall be reviewed pursuant to the requirements set forth in EMC 14.70.030.

D. Soil Erosion Hazard Area Review. Soil erosion hazard areas shall be reviewed pursuant to the requirements set forth in EMC Title 15, Buildings and Construction. (Ord. 02-200 § 2).

14.110.050 Buffer requirements.

A. Determining Buffer Widths.

1. The buffer width shall be measured on a horizontal plane from a perpendicular line established at the edge of the active shoreline erosion hazard area limits. ~~(see Figure 14.110-3).~~

2. An undisturbed buffer of existing vegetation shall be required for an active shoreline erosion hazard area. The required standard buffer width is the greatest amount of the ~~following~~ distances in EMC 14.110.050(A)(2)(a) and (b):

a. Fifty feet from all edges of the active shoreline erosion hazard area limits;

b. A distance of one-third the height of the slope at the top of the slope and a distance of one-half the height at the bottom of the slope; or

c. ~~The minimum distance recommended by the geotechnical professional measured from the edge of the active shoreline erosion hazard area. The buffer width may be reduced below the widths specified in EMC 14.110.050(A)(2)(a) and (b) or eliminated upon approval by the Department of a geotechnical report that demonstrates that such a reduction would not result in an increased risk of erosion either on or off of the subject property.~~

B. Modification of Buffer Widths. The department may require a larger buffer width than the standard buffer distance, as determined in subsection (A) of this section, if any of the following are identified through the geological assessment process:

1. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse impacts.
2. The area has a severe risk of slope failure or downslope stormwater drainage impacts. (Ord. 02-200 § 2).

14.110.060 Appendices.

A. Geological Assessment – Shoreline Erosion Hazard Geotechnical Letter.

B. Geological Assessment – Shoreline Erosion Hazard Geotechnical Verification.

C. Geological Assessment – Shoreline Erosion Hazard Geotechnical Report.

APPENDIX A

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GEOLOGICAL ASSESSMENT – SHORELINE EROSION HAZARD GEOTECHNICAL LETTER

A. A geotechnical letter shall, at a minimum, include the following:

~~1. The letter shall be labeled identifying the submittal as a “Shoreline Erosion Hazard Geotechnical Letter.”~~

~~1. The general critical areas report requirements in EMC 14.10.082.~~

~~2. The date when the geological assessment was conducted. The date when the letter was prepared.~~

~~3. The parcel number(s) of the site.~~

~~4. Site address, if the city has assigned one.~~

~~25. A brief description of the project (including the proposed land use) and a description of the area to be developed. The letter will include a summary of the findings of the site visit, a site plan, and a summary of the findings from the review of documents listed in EMC 14.110.030(B)(2). The appropriate professional preparing the geotechnical letter shall provide conclusions and recommendations as to slope-shoreline stability for the proposed development.~~

~~6. A paragraph that states the following specific language:~~

~~I meet the qualifications contained in EMC 14.110.030 to prepare a geological assessment. I understand the requirements of the current erosion hazard area Chapter 14.110 EMC and the definitions of the applicable terms contained within EMC 14.10.060. I have performed a shoreline erosion hazard geological assessment, conducted a field investigation, and researched available historic records on the above referenced site and determined that that no active shoreline erosion hazard area exists within 200 feet of the site.~~

~~76. The name, mailing address, and telephone number of the geotechnical professional who prepared the letter.~~

~~87. The name, mailing address, and telephone number of the property owner.~~

B. The geotechnical professional who prepared the geotechnical letter shall stamp the letter with his or her seal.

C. Hold harmless clauses, disclaimers, and limitations are not allowed within a geotechnical letter.

APPENDIX B

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GEOLOGICAL ASSESSMENT – SHORELINE EROSION HAZARD GEOTECHNICAL VERIFICATION

A. A geotechnical verification shall, at a minimum, include the following:

~~1. The cover letter for the document shall clearly identify the submittal as a "Shoreline Erosion Hazard Geotechnical Verification."~~

~~1. The general critical areas report requirements in EMC 14.10.082.~~

~~21. The date when the geological assessment was conducted. The date when the verification was prepared.~~

~~32. The parcel number(s) of the site.~~

~~43. Site address, if the city has assigned one.~~

~~54. A detailed description of the project (including the proposed land use) and a description of the area to be developed.~~

~~625. A summary of the results, conclusions, and recommendations resulting from the geological assessment, as set forth in EMC 14.110.030(B). The verification will also include a summary of the findings of the site visit, a site plan, and a summary of the findings from the review of the documents listed in EMC 14.110.030(B)(2).~~

~~736. An accurate site plan drawn at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department) is required. The department may require that the site plan information listed below be based on a field survey by a licensed surveyor. The site plan shall include:~~

- ~~a. The limits/location of the active shoreline erosion hazard area(s) set forth in EMC 14.110.020(B)(2).~~
- ~~b. The limits of the required shoreline erosion hazard buffer based upon the requirements set forth in EMC 14.110.050(A).~~
- ~~c. The limits/location of the shoreline erosion hazard management area.~~
- ~~d. The limits/location of the 120-year regression area.~~
- ~~e. The location of any existing structures, utilities, on-site septic systems, wells, and stormwater management facilities.~~
- ~~f. The location of any proposed structures, utilities, on-site septic systems, wells, and stormwater management facilities.~~
- ~~g. The full geographical limits of the proposed project area (area to be developed).~~
- ~~h. Dimension of the closest distance between the identified active shoreline hazard area boundary and the proposed project area.~~
- ~~i. Dimension of the closest distance between the 120-year regression line and the proposed project area.~~
- ~~j. Existing contours on the site at two-foot intervals.~~
- ~~k. Property lines for the site.~~
- ~~l. North arrow and scale.~~

~~8. A paragraph that states the following specific language:~~

~~I meet the qualifications contained in EMC 14.110.030 to prepare a geological assessment. I understand the requirements of the current erosion hazard area Chapter 14.110 EMC and the definitions of the applicable terms contained within EMC 14.10.060. I have performed a shoreline erosion hazard geological assessment, conducted a field investigation, and researched available historic records on the above referenced site and determined that an~~

~~active shoreline erosion hazard area exists, but is located more than 200 feet away from the proposed project area.~~

~~97. The name, mailing address, and telephone number of the geotechnical professional who prepared the verification.~~

~~108. The name, mailing address, and telephone number of the property owner.~~

B. The geotechnical professional who prepared the geotechnical verification shall stamp the verification with his or her seal.

C. Hold harmless clauses, disclaimers, and limitations are not allowed within a geotechnical verification.

APPENDIX C

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GEOLOGICAL ASSESSMENT – SHORELINE EROSION HAZARD GEOTECHNICAL REPORT

A. A geotechnical report shall, at a minimum, include the following:

~~1. The cover letter for the document shall clearly identify the submittal as a “Shoreline Erosion Hazard Geotechnical Report.”~~

~~1. The general critical areas report requirements in EMC 14.10.082.~~

~~21. The date when the geological assessment was conducted. The date when the verification was prepared.~~

~~32. The parcel number(s) of the site.~~

~~43. Site address, if the city has assigned one.~~

~~54. A detailed description of the project (including the proposed land use) and a description of the area to be developed.~~

~~625. A summary of the results, conclusions, and recommendations resulting from the geological assessment, as set forth in EMC 14.110.030(B). The report will also include a summary of the findings of the site visit, a site plan, and a summary of the findings from the review of documents listed in EMC 14.110.030(B)(2). The summary shall specifically address:~~

a. Whether it is possible given the physical constraints of the property (size, shape, building setbacks, utility requirements, etc.) to locate the proposed development outside of the 120-year area of regression based on natural shoreline processes.

b. If it is not possible to locate the development outside of the 120-year area of regression (based on natural processes), determine whether beach nourishment and/or soft armoring techniques can be used to slow the rate of regression such that the proposed development is no longer within the 120-year regression area.

c. If it is not possible to locate the development outside of the ~~120-year~~120-year area of regression (based on the use of beach nourishment and/or soft armoring techniques), outline the strategy, as set forth in EMC 14.110.040(A)(1), to monitor the rate of regression on the site.

d. Determine whether any proposed shoreline erosion protection measures will cause an increase in the rate of regression on neighboring properties.

~~736. An accurate site plan drawn at a scale of one inch equals 20 feet, one inch equals 30 feet, one inch equals 50 feet (or other scale deemed appropriate by the department) is required. The department may require that the site plan information listed below be based on a field survey by a licensed surveyor. The site plan shall include:~~

- a. The limits/location of the active shoreline erosion hazard area(s) set forth in EMC 14.110.020(B)(2).
- b. The limits of the required shoreline erosion hazard buffer based upon the requirements set forth in EMC 14.110.050(A).
- c. The limits/location of the shoreline erosion hazard management area.
- d. The limits/location of the 120-year regression area based on natural shoreline processes and, if applicable, based upon proposed shoreline protection measures.
- e. The location of any existing structures, utilities, on-site septic systems, wells, and stormwater management facilities.
- f. The location of any proposed structures, utilities, on-site septic systems, wells, and stormwater management facilities.
- g. The full geographical limits of the proposed project area (area to be developed).
- h. Dimension of the closest distance between the identified active shoreline hazard area boundary and the proposed project area.
- i. Dimension of the closest distance between the 120-year regression line and the proposed project area.
- j. Existing contours on the site at two-foot intervals.
- k. Property lines for the site.
- l. North arrow and scale.

~~847.~~ A discussion of any proposed shoreline protection measures including design and construction drawings is required.

~~958.~~ A list of references utilized in preparation of the report.

~~109. The name, mailing address, and telephone number of the geotechnical professional(s) who prepared the report.~~

~~1110. The name, mailing address, and telephone number of the property owner.~~

B. The geotechnical professional(s) who performed the geological assessment shall stamp the report with his or her license stamp/seal. The report must be co-authored by a licensed professional engineer when engineering designs or interpretations are necessary to address the report requirements. The engineer must also stamp the report with his or her license stamp/seal.

C. The department may request a geotechnical professional to provide additional information in the geotechnical report based upon existing conditions, changed conditions, or unique circumstances occurring on a case-by-case basis.

D. Hold harmless clauses, disclaimers, and limitations are not allowed within a geotechnical report.

E. Geotechnical reports shall be in conformance with a format that is pre-approved by the department. (Ord. 02-200 § 2).

~~14.110.070—Figures.~~

~~A. Figure 14.110-1, Potential Erosion Hazard Area.~~

~~B. Figure 14.110-2, Shoreline Erosion Hazard Area Review.~~

C. ~~Figure 14.110-3, Active Shoreline Erosion Hazard Area Buffers.~~

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(Ord. 02-200 § 2).

Chapter 14.500

NATURAL RESOURCE LANDS

Sections:

14.500.010	Purpose.
14.500.020	Intent.
14.500.030	Applicability.
14.500.031	Mineral resource lands designation.
14.500.040	Natural resource lands noticing requirements.
14.500.050	Current use assessment.
14.500.060	Variances and appeals.
14.500.070	Review process.
14.500.080	Title, plat, and regulated activities notification.
14.500.090	Permitted uses.
14.500.100	Appendices.

14.500.010 Purpose.

This chapter establishes requirements and regulations to protect natural resource lands and is established pursuant to WAC 197-11-908 and RCW 36.70A.170 and 36.70A.060. The city therefore designates agricultural lands and mineral resource lands, and all associated buffers as being environmentally sensitive areas and designated natural resource lands. By regulating development ~~within, and adjacent to, or abutting~~ within 500 feet of natural resource lands, this title seeks to implement the following goals and policies to:

- A. Inform the public of the existence, location and potential incompatibility impacts of development on, or ~~adjacent to~~ within 500 feet of, these environmentally sensitive areas within the city.
- B. Encourage the retention of open space, development of recreational opportunities, conserve priority habitat, increase access to natural resource lands and water, and develop parks.
- C. Assure the conservation of resource lands and related activities by limiting encroachment of incompatible development thereon.
- D. Promote the conservation of mineral resource lands through inclusion of known deposits of minerals and materials.
- E. Assure that undeveloped mineral and material resources will not be forever lost by prior development of the land for other purposes.
- F. Allow for the necessary mineral processing to convert such minerals and materials into marketable products.
- G. Protect the environment and enhance the state's high quality of life, including air and water quality and the availability of water.
- H. Maintain and enhance the biological and physical functions and values of wetlands. (Ord. 02-200 § 2).

14.500.020 Intent.

Resource lands are of special concern to the citizens, the city, and the state. The intent of this chapter is to conserve resource lands by establishing standards for development of sites which contain, or ~~are adjacent to~~ are within 500 feet of, resource lands to promote the public health, safety, and welfare by:

- A. Noticing of property on, or within, natural resource land areas;
- B. Mitigating unavoidable impacts by regulating development;
- C. Protecting from development impacts;

D. Protecting the public against losses from:

1. Costs of public emergency rescue and relief operations where the causes are avoidable;
2. Degradation of the natural environment and the expense associated with repair or replacement;

E. Preventing adverse impacts on water availability, water quality, wetlands, and streams;

F. Protecting unique, fragile, and valuable elements of the environment, including fish and wildlife habitat;

G. Providing sufficient information to show that critical areas are adequately protected prior to approving, conditioning, or denying public or private development activity;

H. Providing the public with sufficient information and notice of potential risks associated with development in critical and sensitive areas;

I. Implementing the goals and requirements of the ~~Growth Management Act of 1990, the State Environmental Policy Act, the Puget Sound Water Quality Management Plan, the Pierce County Charter, the Pierce County Growth Management Policies,~~ Growth Management Act (RCW 36.70A.060) the city of Edgewood comprehensive plan, and all updates and amendments, functional plans, and other land use policies formally adopted or accepted by the city. (Ord. 02-200 § 2).

14.500.030 Applicability.

This chapter shall apply to all properties designated as resource lands (agricultural lands or mineral resource lands) or properties ~~adjacent to~~ within 500 feet of designated resource lands within Edgewood. When the requirements of this title are more stringent than those of other local, state or federal law, codes, or regulations, the requirements of this title shall apply.

A. Agricultural Lands. Lands that are not already characterized by urban growth and that have long-term significance for the commercial production of food or other agricultural products. Agricultural lands are those lands meeting all of the following criteria:

1. Lands in parcels which are 10 acres or larger in size;
2. Lands which are on prime or unique soils as identified in:
 - a. United States Department of Agriculture (USDA), Soil Conservation Service, February 1979, Soil Survey of Pierce County Area, Washington; or
 - b. USDA, Soil Conservation Service, June 1981, Important Farmlands of Pierce County, Washington;
 - c. Lands which are primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by RCW 84.33.100 through 84.33.140, or livestock, and which have long-term commercial significance for agricultural production; and
 - d. Lands which are not ~~adjacent to~~ within 500 feet of lots of record of one acre or less on more than 50 percent of the perimeter of the parcel.

B. Mineral Resource Lands. Mineral resource lands shall be identified by the city using the criteria set forth in WAC 365-190-070 as now exists or as may hereafter be amended or modified.

C. Property Adjacent to Resource Lands. All plats, short plats, development permits, and building permits issued for development activities within 500 feet of lands designated as natural resource lands shall contain a notice that a variety of commercial activities may occur that are not compatible with residential development for certain periods of limited duration. (Ord. 04-221 § 1; Ord. 02-200 § 2).

14.500.031 Mineral resource lands designation.

A. The city has classified the following areas as potential mineral resource lands based on the criteria in EMC 14.500.030(B).

1. Parcels: 0420164023, 0420164024, 0420164016 (commonly known as Olson); and
2. Parcels: 0420162047, 0420162048 (commonly known as Josties); and
3. Parcels: 0420084072, 0420084002, 0420084005, 0420084069, 0420084068, 0420171073, 0420171057, 0420171000, 0420171059 (commonly known as Fife Sand and Gravel).

B. The city staff shall study each area and prepare a written analysis of each area.

C. The city council's land use and economic development committee shall review the staff analysis and either send the analysis back to staff for clarification or recommend approval/denial of each area as a mineral resource land to the city council. The staff analysis and land use and economic development committee's recommendation shall be forwarded to the city council for review and action.

D. The city council shall review the staff analysis and recommendation(s) of the land use committee and shall, by ordinance, approve, deny or modify the particular study area designation using the criteria in EMC 14.500.050(B). (Ord. 04-234 § 1).

14.500.040 Natural resource lands noticing requirements.

Pursuant to RCW 36.70A.060, the city shall require that all plats, development applications, or permits issued for development activities on, abutting, or within 500 feet of lands designated as natural resource lands contain a notice (see Appendices A through C).

A. General. If more than one natural resource land subject to the provisions of this title intersects the subject parcel, then one notice addressing all of the natural resource areas shall be sufficient.

B. Title Notification.

1. When the city determines that activities not exempt from this title are proposed, the owner shall file a notice with the Pierce County auditor (Appendices A through C). The notice shall provide a public record of the presence of the sensitive area(s); the application of this title to the property; and any limitations on activity in or affecting such sensitive area.
2. The notice shall be notarized and recorded with the Pierce County auditor before approval of any regulated use or activity on the site.

C. Plat Notification. For all proposals requiring a plat within sensitive areas, the applicant shall note the face of the plat consistent with the language set forth in Appendices A through C.

D. Permit Notification. The department shall require that all permits issued for regulated activities ~~within or adjacent to-on or within 500 feet of~~ natural resource lands contain a notice as set forth in Appendices A through C. (Ord. 02-200 § 2).

14.500.050 Current use assessment.

A. An owner of natural resource lands or open space desiring current use classification under Chapter 84.40 RCW may file for such current use classification.

B. An owner of undeveloped land with critical areas which has been placed in a separate tract or tracts, protective easement, public or private land trust dedication, or other similarly preserved area for the protection of these critical areas may have that portion of land reviewed for reassessment by the assessor-treasurer's office consistent with those restrictions to determine the fair market value of the land pursuant to RCW 84.40.030.

C. The owner shall notify the assessor-treasurer's office when restrictions on development occur on a particular site, and shall provide a plat map in addition to the following, or other special study documents as may be required by the department.:

1. ~~Wetland delineation; and/or~~
2. ~~Geotechnical study; and/or~~
3. ~~Priority habitat studies; and/or~~
4. ~~Special studies as determined by the department. (Ord. 02-200 § 2).~~

14.500.060 Variances and appeals.

Procedures for variances and appeals of an administrative decision issued pursuant to this chapter are set forth in EMC 18.40.090, Process II, Administrative action. (Ord. 02-200 § 2).

14.500.070 Review process.

A. The department shall review any permit or application requested for any regulated activity, including, but not limited to, those set forth in EMC 14.500.010 on a site which includes, or ~~is adjacent to~~ is within 500 feet of, or ~~abutting~~ one or more resource land is located, unless otherwise provided in this title.

B. As part of all development applications, the department shall review the information submitted by the applicant to:

1. Confirm the nature and type of the resource land and evaluate any required title, plat, and/or regulated activity notification;
2. Determine whether the development proposal is consistent with this title; and
3. Determine whether any proposed alterations to the site containing resource lands are necessary.

C. The city may approve, approve with conditions, or deny any development proposal in order to comply with the requirements and carry out the goals, purposes, objectives, and requirements of this title.

D. Approval of a development proposal does not discharge the obligation of the applicant to comply with the provisions of this title. (Ord. 02-200 § 2).

14.500.080 Title, plat, and regulated activities notification.

A. If more than one resource land subject to the provisions of this title exists on the site, then one notice addressing all of the resource lands shall be sufficient.

B. Notification shall be approved by the department and shall be consistent with the forms set forth in EMC 14.500.100, Appendices A through C as applicable.

C. Title notifications shall be notarized and recorded with the Pierce County auditor prior to approval of any regulated use or activity for the site. (Ord. 02-200 § 2).

14.500.090 Permitted uses.

Uses permitted on designated resource land sites shall be the same as those permitted in the zone classifications shown on the city zoning map. (Ord. 02-200 § 2).

14.500.100 Appendices.

A. Property Adjacent to Resource Lands.

B. Agriculture Lands Noticing.

C. Mineral Resource Lands Noticing.

APPENDIX A

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PROPERTY ADJACENT TO RESOURCE LANDS

A. Title Notification.

Parcel Number: _____

Site Address: _____

NOTICE: This parcel lies within 500 feet of land designated resource lands by Edgewood. A variety of commercial and industrial activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of chemicals, or from spraying or extraction which occasionally generates dust, smoke, noise, and odor. The city has established resource uses as priority uses on productive resource lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary commercial resource lands operations.

Signature of Owner

(NOTARY ACKNOWLEDGMENT)

B. Plat Notification. The owner of any site within 500 feet of land designated as resource lands on which a large lot, short subdivision, or formal subdivision is submitted, shall record a notice on the face of the plat. Such notification shall be in the form as set forth below:

PROPERTY ADJACENT TO RESOURCE LANDS PLAT NOTIFICATION. This property lies within 500 feet of land designated resource lands by Edgewood. A variety of commercial and industrial activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of chemicals, or from spraying or extraction which occasionally generates dust, smoke, noise, and odor. The city has established resource uses as priority uses on productive resource lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary commercial resource lands operations.

C. Regulated Activities Notification. The department shall require that permits issued for regulated activities, as defined in Chapter 14.500 EMC, within 500 feet of lands designated as resource lands, contain a notice as set forth below.

REGULATED ACTIVITIES NOTIFICATION. This property lies within 500 feet of land designated resource lands by Edgewood. A variety of commercial and industrial activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of chemicals, or from spraying or extraction which occasionally generates dust, smoke, noise, and odor. The city has established resource uses as priority uses on productive resource lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary commercial resource lands operations.

APPENDIX B

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AGRICULTURAL LANDS NOTICING

A. Title Notification.

Parcel Number: _____

Site Address: _____

NOTICE: This parcel lies within ~~an~~ 500 feet of an area identified as agricultural lands by Edgewood. A variety of commercial agricultural activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of agricultural chemicals, including herbicides, pesticides, and fertilizers; or from spraying, pruning, and harvesting which occasionally generate dust, smoke, noise, and odor. Edgewood has established agriculture as a priority use on productive agricultural lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary farm operations.

Signature of Owner

Signature of Owner

(NOTARY ACKNOWLEDGMENT)

B. Plat Notification. The owner of any site within this designation on which a large lot, short subdivision, or formal subdivision is submitted, shall record a notice on the face of the plat. Such notification shall be in the form as set forth below.

AGRICULTURAL LANDS PLAT NOTIFICATION. This parcel lies within an area identified as agricultural lands by Edgewood. A variety of commercial agricultural activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of agricultural chemicals, including herbicides, pesticides, and fertilizers; or from spraying, pruning, and harvesting which occasionally generate dust, smoke, noise, and odor. The city has established agriculture as a priority use on productive agricultural lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary farm operations.

C. Regulated Activities Notification. The department shall require that all permits issued for regulated activities, as defined in Chapter 14.500 EMC, within this zone classification contain a notice as set forth below.

REGULATED ACTIVITIES NOTIFICATION. This parcel lies within 500 feet of an area identified as agricultural lands by Edgewood. A variety of commercial agricultural activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of agricultural chemicals, including herbicides, pesticides, and fertilizers; or from spraying, pruning, and harvesting which occasionally generate dust, smoke, noise, and odor. The city has established agriculture as a priority use on productive agricultural lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary farm operations.

APPENDIX C

MINERAL RESOURCE LANDS NOTICING

A. Title Notification.

Parcel Number: _____

Site Address: _____

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NOTICE: This parcel lies within 500 feet of an area of land designated mineral resource lands by the city. A variety of commercial mineral extraction activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of heavy equipment, chemicals, and spraying which may generate dust, smoke, and noise associated with the extraction of mineral resources. Edgewood has established mineral resource extraction as a priority use on productive mineral resource lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary mineral resource extraction operations.

Signature of Owner

(NOTARY ACKNOWLEDGMENT)

B. Plat Notification. The owner of any site within this overlay district on which a large lot, short subdivision, or formal subdivision is submitted, shall record a notice on the face of the plat. Such notification shall be in the form as set forth below:

MINERAL RESOURCE LANDS PLAT NOTIFICATION. This property lies within 500 feet of an area of land designated mineral resource lands by the city of Edgewood. A variety of mineral resource extraction activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of heavy equipment, chemicals, and spraying which may generate dust, smoke, and noise associated with the extraction of mineral resources. Edgewood has established mineral resource extraction as a priority use on productive mineral resource lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary mineral resource extraction lands.

C. Regulated Activities Notification. The department shall require that all permits issued for regulated activities, as defined in Chapter 14.500 EMC, within this designation contain a notice as set forth below:

REGULATED ACTIVITIES NOTIFICATION. This property lies within 500 feet of an area of land designated mineral resource lands by Edgewood. A variety of mineral resource extraction activities occur in the area that may be inconvenient or cause discomfort to area residents. This may arise from the use of chemicals and extraction of minerals, which occasionally generates dust, smoke, noise, and odor. The city has established mineral resource extraction as a priority use on productive mineral resource lands, and residents of adjacent property should be prepared to accept such inconveniences or discomfort from normal, necessary mineral resource extraction lands.

(Ord. 02-200 § 2).

City of Edgewood
Critical Areas Ordinance (CAO) Update
Best Available Science Review and Gap Analysis Matrix

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
Global CAO Revisions						
General	N/A	Resource lands not found within the City	The CAO contains several provisions/references relating to natural resource lands, agricultural lands, forest practices, and mineral lands, which don't seem to be applicable to the City of Edgewood and code should be removed. (See 14.30.030 for an example). These code provisions appear to be "left overs" from the Pierce County code.	Improve clarity and ease-of-use.	Remove References to resource and ag lands, forest practices and mineral lands	Complete.
General	N/A	SEPA provisions redundant with CAO	The CAO contains several provisions/reference relating to SEPA and EISs. Recommend including code language in the "General Provisions" chapter stating that critical areas regulations shall apply concurrently with review conducted under SEPA, and removing the other SEPA references throughout the code.	Improve clarity and ease-of-use.	Agreed. Simplify accordingly.	Complete.
General	N/A	N/A	Several of the CAO chapters describe "mitigation sequencing" (i.e. the preference to avoid, minimize, and mitigate impacts to critical areas, in that order). As mitigation sequencing would apply to all critical areas, recommend moving the description to the "General Provisions" and deleting this language elsewhere.	Improve clarity and ease-of-use.	Agreed.	Complete.
General	N/A	N/A	The CAO contains several figures; we recommend that these be removed. If requested by applicants, figures can be given as handouts at the permit counter. In that way, the figures can be revised and updated as needed, without having to formally amend the CAO.	Improve clarity and ease-of-use.	Agreed. Reference as an Appendices perhaps?	Complete.
General Provisions (Chapter 14.10)						
14.10.010 Authority	Could be revised to be more consistent with GMA	References to Tri-County 4(D) rule-land management development regulations, etc. are unnecessary are not required by GMA.	Simplify; state Title 14 is established and adopted pursuant to the Growth Management Act. Also state that the Director has the authority to interpret, apply, and enforce this Title.	CTED (2007), and clarity and consistency.	Agreed	Complete.
14.10.020 Repeal	N/A	Section is not necessary.	Remove section.	Improve clarity and ease-of-use.	Agreed	Complete.
14.10.025 Title	N/A	Section is not necessary.	Remove section.	Improve clarity and ease-of-use.	Agreed	Complete.
14.10.030 Purpose	Could be revised to be more consistent with GMA	Section is generally consistent with GMA, although Subsections (I) and (J) could be revised to be more consistent.	In Subsection (I), limit the policy and regulation references to GMA and the City comp. plan.	CTED (2007), and clarity and consistency.	Agreed.	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
14.10.040 Interpretation	Consistent with BAS/GMA				Perhaps make reference to BAS here.	Created a new section (14.10.45) directly below that references BAS.
14.10.050 Applicability Subsection (G)	N/A	Subsection contains a list of 11 critical areas maps, which will change after new critical areas maps are developed.	Revise subsection after new critical areas maps are developed.	Improve clarity and ease-of-use.	Agreed.	Complete.
14.10.060 Definitions	N/A		Review “Definitions” section after code is updated, and removed any terms from this section that are no longer used. Suggestion	Improve clarity and ease-of-use.		
	Inconsistent with GMA	“Aquifer recharge area” definition is inconsistent with GMA.	Insert the “ <u>critical</u> aquifer recharge area” definition from the GMA.	GMA/CTED (2007)	Agreed throughout	Complete.
	Inconsistent with GMA	“Best available science” definition is inconsistent with GMA.	Insert the “best available science” definition from the GMA.	GMA/CTED (2007)		Complete.
	N/A	“Critical area” definition is generally consistent with the GMA, but using the definition in the GMA would improve clarity.	Insert the “critical areas” definition from the GMA.	Improve clarity and ease-of-use; GMA/CTED (2007)		Complete.
	Inconsistent with BAS	“Delineation” definition references an out-of-date version of the federal wetland delineation manual.	Reference the current version of the federal wetland rating manual (or as amended).	USACE (2010)		Complete.
	N/A	“Director” is defined as the mayor or designee.	Typically, the “Director” is defined as the planning department head or his/her designee.	Improve clarity and ease-of-use.		Complete.
	Could be revised to be more consistent with GMA	“Flood hazard areas” definition is generally consistent with the GMA, but using the definition in the GMA would improve clarity.	Insert the “frequently flooded areas” definition from the GMA.	GMA/CTED (2007)	OK, no conflict with recent FEMA update	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
	Inconsistent with GMA Could be revised to be more consistent with BAS N/A	"Wetland" definition is inconsistent with GMA. "Wetland specialist" definition is inconsistent with Ecology guidance. "Wetland, isolated" definition is already defined in the code (as 'hydrologically isolated wetland').	Insert the "wetland" definition from the GMA. Recommend using the "wetland specialist" definition from the Ecology wetland guidance document. Remove the "Wetland, isolated" definition.	GMA/CTED (2007) Bunten et al., 2012 Improve clarity and ease-of-use.		Complete. Complete. Complete.
14.10.070 Administration	Could be revised to be more consistent with BAS	Subsection (A) states that a critical areas approval must be obtained if a project is located within a critical area.	State that critical areas review/approval must be obtained if a site project area is located within 300 feet of a critical area.	CTED (2007)	Agreed.	Complete.
14.10.080 Critical area protective measures Subsection (H) (2)(b)	Could be revised to be more consistent with BAS	Subsection does not specify the type of permanent critical areas fencing that is required.	State that "wildlife-passable" fencing (such as split-rail fencing) is required.	Bunten et al., 2012	Agreed.	Complete.
14.10.085 Variances to critical areas	Could be revised to be more consistent with GMA	Section refers to EMC Chapter 18.50, and contains specific variance criteria for two critical areas (flood hazard areas and priority habitat buffers), but not the other critical areas.	Recommend removing existing code language and inserting variance criteria that is specific to critical areas, such as the language in the Commerce model ordinance.	CTED (2007); clarity and ease-of- use.	Agreed. Please note subsection C was added with our recent FEMA-related code update, so this either needs to be retained here or move to somewhere in 14.70.	Complete. Subsection C variance criteria left as-is— flood hazard variance applicants would need to meet both the general variance criteria (new) as well as the criteria in subsection C.
14.10.090 Reconsideration and appeal procedures	Consistent with BAS/GMA				Processing Procedures are likely to change with other code updates currently in review. The reference to EMC 18.40.090 may need revising accordingly as the code update moves forward. It should be flagged for future editing.	Flagged code section in draft code, per comment.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
14.10.100 Fees	Consistent with BAS/GMA					
14.10.110 Compliance	Consistent with BAS/GMA					
14.10.120 Warning and disclaimer of liability	Could be revised to be more consistent with GMA.	Sections states that the title is based on “scientific and engineering considerations.”	Recommend changing the wording to “best available science.” Also, consider having City attorney review this code section.	GMA.	Agreed. Flag for Attorney review.	Complete, and flagged code section for attorney review, per comment.
14.10.130 Severability	Consistent with BAS/GMA					
14.10.135 Violation— Civil infraction.	Consistent with BAS/GMA					
14.10.140 Appendices Appendix A- Mapping Sources	N/A	Appendix contains a list of mapping sources, that may be used to indicate the presence of critical areas	Remove appendix.	Specific mapping data sources should not be codified, as critical areas inventory data is continually revised by government agencies and other organizations.	Agreed. The maps should stand alone to represent the general location of critical areas.	Complete.
Use and Activity Regulations (Chapter 14.20)						
14.20.010 Permitted Uses	Consistent with BAS/GMA					
14.20.020 Regulated Uses and Activities Subsection B	N/A	Subsection lists the specific critical areas that are regulated by the CAO. Additionally, subsection lists a variety in activities that are regulated under the CAO, including some vague activities such as “activities which result in significant changes in water temperature....”	Simplify; just state that the Title shall apply to any “alteration or development,” within “critical areas and their buffers.” Also, include a definition for “alteration” and in the Definitions section.	Clarity and ease-of-use.	Need to be sure to specifically include installation of manufactured and/or mobile homes for FEMA flood code update purposes.	Complete----although after further consideration, kept an explicit list of activities that are regulated (including installation of mobile or manufactured homes), as this may be clearer to applicants. Activities that do not require critical areas approval (such as application of pesticides) were removed.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
14.20.030 Exemptions						
N/A	Inconsistent with BAS	There is no language that states that exempted activities shall use reasonable methods to avoid impacts, ect...	Add intro code section that requires methods to avoid potential impacts where possible, and that any critical areas alteration that are not a necessary outcome of the exempted activity shall be restored.	GMA; CTED (2007);	Add language	Complete.
Subsection A	Inconsistent with BAS	Subsection states that existing agricultural activities are exempt from the CAO.	Remove subsection.	According to case law (Clallam County v. WWGMHB, 2005), pre-existing agriculture can generally no longer be exempted from the CAO.	Agreed.	Complete.
Subsections C, D, L, P, Q, R, T, and X	N/A	All of these sections relate to operation, maintenance, and/or repair of existing structures and uses.	Consolidate into one subsection that exempts operations/ maintenance/ repair of existing structures and uses, provided that the activity does not further encroach into a critical area.	Clarity and ease-of-use.	Section may need some additional review for buffers outside of existing ROW to allow for use.	Complete.
Subsection H	Inconsistent with BAS/GMA	Subsection not state that restoration and/or mitigation for critical areas impacts is required, after the emergency action occurs.	State that, after the emergency is resolved, that the applicant shall fully fund and conduct necessary critical area restoration and/or mitigation.	GMA; CTED (2007).	Agreed.	Complete.
Subsection I	N/A	N/A	Remove subsection.	After the wetland definition is updated (see above) this subsection will not be necessary. The new definition will state that artificial wetlands are not considered regulated wetlands.	Agreed.	Complete.
Subsection J	Inconsistent with BAS	Subsection exempts small Category III and IV wetlands without requiring mitigation.	Limit exemption to isolated Category III and IV wetlands less than 1,000 square feet in area that are not associated with riparian areas or buffers, are not part of a wetland mosaic, and do not contain habitat for priority species. This revised code should be moved to the “Wetlands” chapter.	Scientific literature does not support exempting wetlands based on size or category alone, since small wetlands may perform important functions. However, Ecology has developed a strategy for exempting small wetlands when additional criteria are considered (Bunten et al., 2012).	Provide criteria consistent with DOE instead.	Complete.
Subsection K	Inconsistent with BAS/GMA	Subsection exempts access roads/utilities poles that cross Category IV wetlands and buffers.	Remove subsection as an exemption and consider including as an “allowed use” (with mitigation) in the Wetlands chapter.	Exemption is not supported by BAS/GMA.	Agreed.	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
Subsection M	N/A	Subsection exempts activities in wetlands that are “managed according to a special area management plan...designed to protect wetland resources.”	Are any “special area management plans” in effect within the City? Wetland enhancement actions are already exempted under other subsections in EMC 14.20.030. Consider removing unless needed.	Clarity and ease-of-use.	None that I am aware of. We may want to retain this section, to allow creation of “special area management plans” in the future	Left code as-is.
Subsection S	Inconsistent with BAS/GMA	Subsection exempts new residential development on existing lots, if the land division action was subject to previous reports and assessments.	Remove subsection	Exemption is not supported by BAS/GMA. New development should be required to comply with the latest regulations.	Agreed but what about critical area tracts? How does this integrate as intent in existing code is that tracts incorporate the resources.	Removed code subsection. The code revisions would not alter existing critical area tracts.
Subsection Y	N/A	Subsection is specific to aquifer recharge areas.	Move code language to the Critical Aquifer Recharge chapter.	Clarity and ease-of-use.	Agreed.	Complete
14.20.040 Nonconforming uses and structures	Could be revised to be more consistent with BAS/GMA.	Section refers to projects legally permitted prior to February 1, 1992.	Remove date, replace with “prior to the effective date of this Title.”	CTED (2007).	Agreed.	Complete.
14.20.050 Reasonable use exceptions						
Subsection A	Could be revised to be more consistent with BAS/GMA.	The section does not limit potential impacts to critical areas, or state that mitigation would be required.	State that the proposed critical area impact must be the minimum necessary to allow for reasonable use, and that mitigation may be required to assure that the proposal results in no net loss of critical area function.	GMA; CTED (2007).	Agreed	Complete.
Subsection C	Could be revised to be more consistent with GMA.	Subsection 2(e) refers to lots created after February 1, 1992	Remove date, replace with “prior to the effective date of this Title.”	GMA;CTED (2007).	Agreed	Complete.
	Could be revised to be more consistent with BAS.	Subsection 2(f) refers to mitigating impacts to critical areas “to the maximum extent possible.”	Change wording to “to ensure no net loss of critical area functions.”	GMA/CTED (2007)	Agreed	Complete.
	N/A	Subsections 3 and 4 describe additional decision criteria for wetlands and fish and wildlife habitat areas—these subsections would no longer be needed if the revision state above, referring to	Remove subsections.	Improve clarity and ease-of-use.	Agreed	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
		specifying no net loss of critical area functions, is made.				
14.20.060 Current Use Assessment Program	N/A	N/A	This section it consistent with BAS/GMA, but seems more applicable for a County CAO; is it ever used in Edgewood? City to provide feedback whether this section should stay, or be removed.	Improve clarity and ease-of-use.	Perhaps refer to Pierce County's Current Use Assessment Program code, instead of having our own version codified?	Flagged section in draft code, City to review and discuss section.
N/A	Could be revised to be more consistent with BAS/GMA.	Code does not include provisions for standard report requirements that apply to all critical areas.	Consider adding a new section titled, "Critical Areas Reports" that provides a set of minimum information required for <i>all</i> critical areas. Additional relevant issues will be addressed in the applicable critical area chapter. For example, a critical area report for a wetland should include all the information listed here and all the information listed in Section 14.30.030.B "Additional Report Requirements for Wetlands."	Improve clarity/user friendliness for applicants and consistency with guidance. CTED, 2007.	Makes sense, sounds reasonable	Complete.
Wetlands (Chapter 14.30)						
14.02.010 Purpose	Consistent with BAS.					
14.30.020 Wetland areas	N/A	N/A	Consider changing title of section to 'Identification & Rating'	Clarity and ease-of-use.	OK	Complete.
Subsection A	Inconsistent with GMA.	The wetland definition is not consistent with definition set by state law.	The definition of wetland should be the same as under RCW 36.70A.030 (as required by WAC 365-190-090(2)). http://apps.leg.wa.gov/RCW/default.aspx?cite=36.70A.030	Compliance with state law. RCW 36.70A.030	Agreed	Complete.
	Inconsistent with GMA/BAS.	Subsection references outdated wetland delineation manuals.	Revise reference to the approved federal wetland delineation manual and applicable regional supplements.	Compliance with federal and state requirements (WAC 173-22-035)	Agreed	Complete.
Subsection B	N/A	Subsection is not necessary.	Remove section.	Clarity and ease-of-use.	OK	Complete.
Subsection C	N/A	Subsection could be revised for clarity.	Consider changing title to 'Mapping.'	Clarity and ease-of-use.	Agreed	Complete.
	Inconsistent with BAS.	Subsection C.1 requires identification of potential wetland areas within 165 feet of the site.	Revise to require a distance of 200 feet, which is supported by Ecology for identifying sensitive areas near sites. Change should apply to all subsequent relative inconsistencies.	Bunten et al., 2016.	Agreed	Subsection deleted- Section 14.10.070(D) already modified to require critical areas approval if a project site is located within 300 feet of a potential critical area (including wetlands).

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
Subsection D	N/A	Subsection C.1 could be revised for clarity.	Consider consolidating C.1 with first paragraph regarding City mapping and remove all other specific mapping data sources listed in subsection. These sources should not be codified, as data is continually revised by government agencies and other organizations.	Clarity and ease-of-use.	Agreed	Complete.
	N/A	Subsections C.2 and 3 are not necessary.	Remove subsections.	Clarity and ease-of-use.	Agreed	Complete.
	Inconsistent with GMA/BAS.	Subsection does not reference GMA approved wetland rating methods and manual.	Remove subsections and reference approved Washington State Wetland Rating System for Western Washington, 2014 Update.	Inconsistent with BAS. The updated 2014 wetland rating manual constitutes BAS for wetland rating WAC 365-190-090.	Agreed	Complete.
	N/A	Subsection is not necessary.	Remove subsection.	Clarity and ease-of-use.	OK	Complete.
14.30.030 Wetland review procedures						
Subsection A	N/A	Subsection is not necessary	Remove subsection	Clarity and ease-of-use.	OK	Complete.
Subsection B	Could be more consistent with BAS.	Reporting requirements in subsection are unclear and confusing (wetland verification, wetland delineation, or wetland analysis)	Remove subsections B.1 and B.2. If recommendations are implemented to include general critical area report requirements, then simplify by requiring additional applicable wetland information. Retitle subsection to 'Additional Report Requirements for Wetlands'. See CTED, 2007.	Clarity and ease-of-use; CTED, 2007	OK	Complete.
	Inconsistent with BAS and could be revised for clarity.	Subsection B.3 specifies a wetland delineation is valid for 4 years.	Remove Appendix B (Information to be included in a wetland analysis report) as well.	Corps of Engineers Regulatory Guidance Letters RGL 05-02 and 08-02 set a 5-year standard on wetland determinations.	Agreed	Complete.
Subsections C, D, and E	N/A	Subsections C, D, and E are not necessary.	Revise to specify that wetland delineations are valid for 5 years and add to general reporting requirements under B.1.	Also clarity and ease-of-use.	OK	Complete.
14.30.040 Wetland Standards						
Subsection B	N/A	N/A	Consider changing section title to "Allowed Activities"	Clarity and ease-of-use.	OK	Complete.
	N/A	First paragraph of Subsection B is not necessary.	Remove paragraph.	Clarity and ease-of-use.	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
	Inconsistent with BAS	Subsection allows for a well to be located within a wetland buffer.	Remove provision or review “Allowed Buffer Uses” in Bunten et al., (2016).	Bunten et al., 2016	Agreed	Complete.
	Could be revised to be more consistent with BAS.	Subsection B.3 provides little to no criteria for placing utility poles within wetland buffers.	Revise provision to only allow ‘minor or short-duration utility projects’ constructed with BMPs and that they meet the following criteria: 1. There is no practical alternative to the proposed activity with less impact on wetlands; 2. The activity involves the placement of a utility pole, street signs, anchor, or vault or other small component of a utility facility; and 3. The activity involves disturbance of an area less than 75 square feet.	CTED, 2007;Bunten et al, 2016	OK	Complete.
	Inconsistent with GMA.	Subsection B.4 allows for new farm and agricultural activities within wetland buffers.	Remove provision. BAS supports allowing existing and ongoing agricultural activities, but not new agricultural activities.	Bunten et al, 2016 Also, clarity and ease-of-use; agricultural activities do not occur and are unlikely to occur within City limits.	As commented earlier, we still have agricultural uses occurring in the City – As those uses are allowed to continue, is it appropriate to remove these provisions?	Section removed, per recommendation. New agricultural development activities (such as land clearing for new fields) could still occur within the City, but they would be required to comply with the CAO (e.g. buffer requirements)
14.30.050 Mitigation requirements	Inconsistent with BAS.	Code does not include provisions for mitigation site preference.	Revise to include preference of mitigation actions for permittee responsible mitigation which should be, in this order: restoration, creation, and enhancement. These terms should be defined in the Definitions section.	BAS indicates that wetland restoration has a better likelihood of replacing wetland functions as opposed to creation, etc. <i>Wetlands and CAO Updates: Guidance for Small Cities</i> (Bunten et al., 2012).	Agreed	Complete
Subsections B and C	Inconsistent with BAS.	Compensatory mitigation subsections and corresponding Appendices D and E, including mitigation ratios are outdated and inconsistent with BAS.	Remove subsections and appendices D and E. Replace with new Compensatory Mitigation section consistent with Ecology guidance: <i>Wetland Mitigation in Washington state-Part 2: Developing Mitigation Plans-Version 1</i> (Ecology Publication #06-06-011b) and <i>Selecting Wetland Mitigation Sites Using a Watershed Approach, Western Washington</i> (Ecology Publication #09-06-32).	Ecology 2006a, 2006b; Bunten et al., 2016	Agreed	Complete.
Subsection D	Inconsistent with BAS.	Currently, the code does not include allowance for the use of mitigation banks and in-lieu fee (ILF) programs. Federal and state agencies	Revise to allow mitigation banks and ILF programs, and consider specifying that mitigation using banks or ILF programs is preferred over permittee-responsible mitigation, if the wetland alteration falls within the service area of an existing bank or ILF program. Also, add definitions for mitigation banks and ILF programs to the Definitions chapters.	Inconsistent with current federal mitigation preference <i>Source: Compensatory Mitigation for Losses of Aquatic Resources.</i>	Agreed	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
		are now requiring the use of these mitigation programs, if and when they are available.		<i>Final Rule.</i> (Federal Register 73(70): 19594-1970) BAS indicates that mitigation banks and ILF programs have a significantly greater likelihood of mitigation success, as opposed to permittee-responsible mitigation.		
14.30.060 Buffer requirements						
Subsection A	Inconsistent with BAS.	Buffer widths are inconsistent with BAS.	Revise section to reflect recent BAS updates for buffers as shown in “Table XX.1” in Ecology guidance (Bunten et al., 2016).	Bunten et al., 2016	Agreed	Complete.
Subsection B	N/A	Subsections B.1.b and c, and B.2.b and c are not necessary since provisions for a habitat assessment report are covered under 14.40 Critical Fish and Wildlife Habitat Areas.	Remove subsections.	Clarity and ease-of-use.	OK	Complete.
	N/A	Subsection B.1.d is not necessary.	Remove subsection.	Clarity and ease-of-use.	OK	Complete.
	Could be revised to be more consistent with BAS.	Subsection B.1 and B.2 do not state that any proposed buffer decrease should result in no net loss of wetland and buffer functions and values.	Revise to state that buffer averaging or reduction should only be allowed if will provide equal or greater protection of current wetland functions and values.	Granger et al., 2005	Agreed	Complete.
	Inconsistent with BAS.	Subsection B.1.g allows for reducing wetland buffers up to 50 percent of its original width and is not consistent with BAS.	Update provisions so that the width of the buffer after averaging is no smaller than 75% of the standard buffer.	Bunten et al., 2016	Agreed	Complete.
	Could be revised to be more consistent with BAS.	Code does not list any specific measures to minimize wetland impacts from adjacent land uses.	Revise section to include specific wetland impact minimization measures, as show in Table 8C-8 in Appendix 8-C e in Ecology’s wetland guidance.	Granger et al., 2005	Agreed	Complete.
14.30.070 Appendices						
Appendix A	N/A	Appendix not necessary	Remove appendix	Clarity and ease-of-use.	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
Appendix B	N/A	If general critical areas report requirements are added to the “Use and Activity Regulations” chapter, some items within this appendix would be redundant.	Revise appendix to include only wetland-specific reporting requirements not captured in General Regulations.	Clarity and ease-of-use.	OK	Complete. Removed appendix, and moved reporting criteria to 14.30.030
Appendices C through E	N/A	Appendices are generally consistent with BAS, but could be combined/simplified into a single appendices that lists wetland mitigation requirements.	Combine mitigation appendices, and base requirements upon Ecology’s wetland guidance	Clarity and ease-of-use.	Agreed	Complete—removed appendices and moved relevant sections into the code chapter.
Appendix F	Inconsistent with BAS.	Appendix include an outdated wetland rating system.	Remove appendix and refer to Ecology 2014 Wetland Rating Form, or as revised		Agreed	Complete.
Critical Fish and Wildlife Habitat Areas (Chapter 14.40)						
N/A	Chapter could be revised to be more consistent with GMA.	Code does not use GMA term ‘Fish and Wildlife Habitat Conservation Areas.’	Revise to use GMA term.	WAC 365-190-130	Agreed	Complete.
14.40.010 Purpose	Could be more consistent with BAS.	Section does not refer to “no net loss” habitat functions and values.	Revise section to reference no net loss.	Chapter 36.70A RCW	Agreed	Complete.
14.40.020 Critical fish and wildlife species and habitat areas	N/A	N/A	Consider changing section title to ‘Identification’ for clarity.	Clarity and ease-of-use.	OK	Complete.
Subsection A	Could be revised to be more consistent with GMA.	Definition of critical fish and wildlife species and habitat areas is not entirely consistent with GMA definition of FWHCAs.	Update this section with the FWHCA definition in WAC 365-190-130. Also consider placing/listing GMA defined FWHCA types in this section. This would make Subsections D.2.f and g (waters of the state and wetlands) unnecessary and can be removed.	Compliance with GMA (WAC 365-190-130); CTED, 2007	Agreed	Complete.
Subsection B	N/A	If the above change is made to Subsection A, then	Remove subsection B.	Clarity and ease-of-use.	OK	Complete.

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Subsection C	N/A	subsection B is not necessary. Listed species of local importance could be more clear.	Revise to list species by individual and include scientific names.	Clarity and ease-of-use.	Agreed	Complete.
Subsection D	Inconsistent with BAS.	Subsection D.1 references to outdated WDFW policies and WDFW website is not necessary.	Remove references.	Clarity.	OK	Complete.
	N/A	The habitat areas listed in Subsection D.2.a-d do not currently occur within the City.	Remove subsections.	Clarity.	OK	Complete.
	N/A	If change is made to Subsection A then Subsections D.2.f and g are not necessary.	Remove subsections.	Clarity and ease-of-use.	OK	Complete.
Subsection E	N/A	Subsection is not necessary.	Remove subsection.	Clarity and ease-of-use.	OK	Complete.
14.40.030 Critical fish and wildlife habitat area review procedures						
Subsection A	N/A	Subsections A.1 is not necessary.	Remove subsection	Clarity and ease-of-use.	OK	Complete.
Subsection B	Could be revised to be more consistent with BAS.	Section B requirements are not entirely consistent with BAS and are confusing.	Replace Section B with BAS-recommended habitat assessment requirements, see CTED, 2007. If recommendations are implemented to include general critical area report requirements, then simplify by requiring additional applicable FWHCA information. Retitle subsection to 'Habitat assessment requirements'. See CTED, 2007.	CTED, 2007.	Agreed	Complete.
14.40.040 Critical fish and wildlife habitat area standards						
	N/A	N/A	Consider placing aquatic (streams) and terrestrial (wildlife habitat) regulations in separate sections, as the applicable regulations for these habitat types can vary significantly.	Clarity and ease-of-use.	Please suggest how to best accomplish this	Revised section, and separated permitted uses based upon the need for an HMP.

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Subsection B	Could be more consistent with EMC.	Code does not include reference to tree preservation standards (EMC 18.90.180).	State that vegetation removal will also be subject to the standards provided in EMC 18.90.180 (Tree preservation).	Internal code consistency.	Agreed	Complete.
	N/A	Subsections B.2.c and d are redundant and not necessary.	Remove subsections.	Clarity and ease-of-use.	OK	Complete.
	N/A	Subsection B.4 is not necessary; no regulated shorelines are present within the City.	Remove subsection B.4.	Clarity and ease-of-use.	Agreed	Left as-is; there are erosion hazard areas mapped along a couple of the city's stream. Changed the word "shoreline" to "stream." Also, references to intertidal habitats removed.
	N/A	Subsection B.6 is not necessary; the construction of launching ramps is unlikely to occur within the City.	Remove subsection B.6	Clarity and ease-of-use.	We do have Lake Chalet, and may see activity on other pothole(s) if water becomes more consistently present throughout the year...	Left as-is (with some minor edits)
	Inconsistent with BAS.	Subsection B.8 refers to outdated WDFW and NMFS guidelines.	Update references to WDFW 2013 <i>Water Crossing Design Guidelines</i> , and NMFS's <i>Anadromous Salmonid Passage Facility Design</i> (2008), or as revised.	Both guidelines (WDFW, 2013; NMFS, 2008) constitute BAS.	Agreed	Complete.
	Inconsistent with GMA.	Subsection B.14 allows for new farm and agricultural activities within buffers.	Remove provision; BAS and case law does not support this provision.	Clallam County v. WWGMHB, 2005).	OK	Complete.
	Inconsistent with GMA and BAS.	Subsection B.15 permits new development to be located within critical fish and wildlife habitat areas and their buffers.	Remove provision; BAS does not support blanket provisions for new or re-development. BAS does support modification to existing structures, see X.10.160.2 in CTED, 2007.	CTED, 2007	OK	Complete.
Subsection C	N/A	Code provides protection for Caves, Cliffs, Oregon White Oak Trees and Woodlands; these habitats do not occur within the City.	Remove subsection.	Clarity and ease-of-use.	OK	Complete
Subsection D	N/A	Subsection is not necessary.	Remove subsection.	Clarity and ease-of-use.	OK	Complete

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14.40.050 Mitigation requirements						
Subsection A	Could be revised to be more consistent with BAS.	Mitigation sequence provided by code is not entirely consistent with BAS guidance.	If recommendation to add a general mitigation code section is implemented, just provide reference here to new section.	WAC 197-11-168; CTED, 2007;	OK	Complete
Subsections B and C	N/A	Specific mitigation elements and enhancement plans for the habitat assessment report are redundant and unnecessary.	Remove subsections. If changes are made to 14.40.030.B to include BAS habitat assessment report requirements, mitigation elements will be covered.	Clarity and ease-of-use.	OK	Complete
Subsection E	N/A	If recommendation to add a general mitigation code section is implemented, then this subsection is not necessary	Remove subsection.	Clarity and ease-of-use.	OK	Complete
14.40.060 Buffer requirements						
Subsection B	Inconsistent with BAS.	The stream types in Table 14.40.060 are not completely consistent with State standards.	Replace two columns of table with the State stream typing system and descriptions (WAC 222-16-030).	WAC 222-16-03 is consistent with BAS.	Agreed	Complete
Subsection C	Inconsistent with BAS.	Subsection B.1.g allows for reducing stream buffers up to 50 percent of its original width.	Update provisions so that the width of the buffer after averaging is no smaller than 75% of the standard buffer.	CTED, 2007.	OK	Complete
14.40.070 Appendices	N/A	If general critical areas report requirements are added to the "Use and Activity Regulations" chapter, some items within this appendix would be redundant. Also, appendices are generally consistent with BAS, but could be combined/simplified into a	Revise appendices to include only fish and wildlife habitat conservation area-specific reporting requirement, and combine appendices.	Clarity and ease-of-use; CTED, 2007.	OK	Removed appendices; reporting requirements moved into main code chapter (to be consistent with revisions to the wetland chapter).

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		single appendices that lists habitat assessment.				
Aquifer Recharge and Wellhead Protection Areas (Chapter 14.50)						
N/A	Could be revised to be more consistent with GMA.	Name of chapter is "Aquifer Recharge and Wellhead Protection Areas"	Consider changing the name of this chapter (and all applicable references) to "Critical Aquifer Recharge Areas," to be consistent with the GMA/other CAOs.	GMA; Clarity and ease-of-use.	OK	Complete.
14.50.010 Purpose	Consistent with BAS/GMA					
14.50.020 Aquifer Recharge and Wellhead Protection Areas	Inconsistent with GMA	Sole source aquifers not listed.	Add a subsection that lists and describes sole source aquifers that have been designated by EPA; these are also Critical Aquifer Recharge Areas	GMA	Is this applicable to Edgewood?	Added section, per recommendation. There is a sole source aquifer mapped just south of the City; EPA could adjust the boundary in the future. Specified that there are no sole source aquifers mapped within the City, as of the effective date of the CAO.
14.50.030 Aquifer Recharge and Wellhead Protection Area Review Procedures	Consistent with GMA/BAS					Simplified/consolidated section, to be consistent with revisions to other chapters.
14.50.040 Aquifer recharge and wellhead protection area standards Subsection B	Could be revised to be more consistent with BAS	List of prohibited uses does not give the Department/Director to prohibit other uses (other than those that are listed) that would significantly reduce aquifer recharge/water quality.	Add a line that states that the Department/Director may prohibit and/or require a hydrological assessment for other uses that have the potential to significantly impact CARAs.	CTED, 2007.	Agreed	Complete.
Volcanic Hazard Areas (Chapter 14.70)						

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
14.60.010 Purpose	Consistent with GMA/BAS					
14.60.020 Volcanic hazard areas Subsection A	Could be revised to be more consistent with BAS	The existing code refers to volcanic hazard categories and time travel zones, but does not identify the parts of the city to which the various hazard categories and travel times apply.	Adding volcanic hazard categories and time travel zones to the Geologically Hazardous Areas map. Add the following sentence to the end of this section of the code: "Volcanic hazard areas are shown on the Geologically Hazardous Areas map." A link to the map should also be posted here.	Clarifies the locations of the volcanic hazard areas and makes the code more user friendly. The following is a link to this information: http://gisdata-piercecowi.opendata.arcgis.com/datasets?q=volcanic&sort_by=relevance	OK	Complete.
14.60.030 Volcanic hazard area review procedures	Consistent with GMA/BAS					
14.60.040 Volcanic hazard area standards Subsection C	N/A	N/A	Revise to include: 4. Time Travel Zone D. Special occupancy structures located within Time Travel Zone D area shall be limited to a maximum 5,000 person occupancy.	The code currently includes capacity restrictions for special occupancy structures in Time Travel Zones A through C, but not D. Review of USGS mapping indicates that the City of Edgewood contains an area within this time travel zone.	OK	Complete.
Flood Hazard Areas (Chapter 14.70)						
17.70.010 Purpose	Consistent with GMA/BAS					
17.70.020 Flood Hazard Areas	Consistent with GMA/BAS					
17.70.030 Flood Hazard Area Review Procedures						

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
Subsection A	N/A	Subsection A(9)(b) states that aerial photographs of the city, especially those taken in wintertime 1996 and 1997, may be used as a source of information to identify flood hazard areas.	The winter/spring of 2017 was also very wet; if the flooding was equivalent or greater to what occurred in wintertime 1996 and 1997, may want to include this.	Clarity and ease-of-use.	It was not as bad as 1996 / 1997, so this benchmark is still relevant.	Left subsection as-is
14.70.040 Flood Hazard Area Standards	Consistent with GMA/BAS					
14.70.050 Appendices	Consistent with GMA/BAS					
Landslide Hazard Areas (Chapter 14.80)						
14.80.020(A)(2)	N/A	N/A	Eliminate areas of active bluff retreat from Landslide Hazard designation	Not applicable to the City of Edgewood. In the Puget lowland, the term “bluff” is normally used to describe a steep slope or cliff above Puget Sound.	OK	Complete.
14.80.020(A)(3)	N/A	N/A	Revise to read: “Areas with all of the following characteristics”	Clarification: Current wording is “Areas with the following characteristics”	OK	Complete.
14.80.020(A)(3)(a)	Not consistent with BAS	In areas of emergent seepage, there is a risk of landsliding on slopes flatter than 20 percent.	Change to read: Slopes steeper than 15 percent with a vertical relief of 20 feet or more. The current code applies to slopes steeper than 20 percent. The figure shown in Section 14.80.070 referenced in this section of the code should also be revised to be consistent with this revision.	Reducing the minimum slope inclination from 20 to 15 percent is more consistent with critical area codes in other area municipalities (e.g. Sumner, Bonney Lake).	OK, consistency is good	Complete.
14.80.020(A)(4)	N/A	N/A	Eliminate this section of the code which describes one of the characteristics of a Landslide Hazard Area as “Slopes that are parallel to sub-parallel to planes of weakness, such as bedding planes, joint systems, and fault planes in subsurface materials”.	These characteristics typically apply to landslide hazards in bedrock. Review of regional geologic mapping indicates that there are no bedrock outcrops in the City of Edgewood.	OK	Complete.
14.80.020(A)(5)	Not consistent with BAS	Due to major alteration of surface (topographic) and subsurface conditions during	Change wording to read:	The suggested change eliminates older (Fraser to pre-Fraser) age slide features which occurred at a	OK	Complete.

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		the Fraser Glaciation, physical conditions which led to landsliding prior to Holocene time, likely no longer apply.	Areas exhibiting geomorphological features indicative of historical slope movement during the past 10,000 years.	time when topographic and subsurface conditions were different from the existing conditions. The suggested change is consistent with the standards applied in other jurisdictions and is consistent with BAS.		
14.80.020(A)(6)	N/A	N/A	Eliminate this section which identifies some geomorphological characteristics of historical slope movement not previously included in Section 14.80.020 (5).	Revision of section 14.80.020 (5) as suggested will eliminate the need for this section.	OK	Complete.
14.80.020(A)(7)	Inconsistent with BAS.	This section of the code specifies that one characteristic used to define the presence of a Landslide Hazard Area is “structural damage such as settling and cracking of building foundations or separation of steps or porch from a main structure that is located near the edge of a bluff or ravine”. Although such structural damage can be landslide related, it can also result from other causes (e.g. presence of poorly compacted fill, consolidation of soft, natural sediments, etc.).	Eliminate this section of the code.	Revision of section 14.80.020 (5) as suggested will eliminate the need for this section.	OK	Complete.
14.80.020(A)(8)	Inconsistent with BAS.	Although tree trunk deformation can be related to landslide activity, it can also result from other causes, such as light conditions, normal growth characteristics of some tree species, or soil creep.	Eliminate this section of the code.	Revision of section 14.80.020 (5) as suggested will eliminate the need for this section.	OK	Complete.
14.80.020(A)(9)	Inconsistent with BAS.	Too ambiguous and all-encompassing.	Eliminate this section of the code.	The presence of soft or liquefiable soils is not unique to landslide hazard areas and the presence of	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				such soils is not necessarily indicative of high landslide risk.		
14.80.020(A)(10)	Inconsistent with BAS.	Gullyng and other types of surface erosion are characteristics of Erosion Hazard Areas.	Eliminate this section of the code.	The described characteristics are representative of Erosion Hazard Areas, not Landslide Hazard Areas. The characteristics of the slope should define whether or not the area classifies as a Landslide Hazard Area, not the presence of accelerated erosion.	OK	Complete.
14.80.020(A)(11)	N/A	Redundant	Eliminate this section of the code.	Already addressed under 14.80.020 (3a).	OK	Complete.
14.080.020(A)(12)	Inconsistent with BAS.	The possibility of high landslide risk exists for slopes less than 15 feet in height.	The reference in this section of the code to Section 14.80.060, Apx D should be eliminated. Reword the exemption for manmade slopes created under the design and inspection of a geotechnical engineer to read: Manmade slopes of 40 percent or steeper with a vertical relief of 10 feet or more may be exempted from the requirements of this section of the code provided that it can be demonstrated by a qualified geotechnical professional that such an exemption does not result in an increased risk of landsliding or damage to the subject site, nearby properties, or existing structures and, any associated hazards to proposed structures are suitably mitigated.	14.80.060, Apx D does not exist. Many legally graded slopes were either created at a time when the services of a geotechnical professional where not commonly required or predate the time when engineering records are commonly available. Because legally graded slopes (including those associated with municipal road construction) are common, exemption of such slopes avoids unnecessarily onerous restrictions on use of property.	OK	Complete.
14.80.070(A), Figure 14.80-1	N/A	N/A	Change figure to reflect suggested changes to 14.80.020A3a and 14.080.020A12. Also, the units on the slope heights shown on this figure should be changed from inches to feet.	Consistency with suggested code changes.	OK	Complete.
14.80.020(B)	Inconsistent with BAS.	BAS	The referenced “Critical Areas Atlas – Landslide Hazard Areas Map” should be replaced with the updated Geologically Hazardous Areas map recently completed by ESA and the updated map should be made available on line. The referenced figure in the line 1 of this section should be changed from EMC 14.80.070(B) to EMC 14.80.070(C).	The Critical Areas Atlas referenced in the current code is outdated and not readily available to the public.	OK	Complete.

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				The existing code mistakenly references the wrong figure.		
14.80.020(B)(1) and 14.80.020(B)(2)	N/A	N/A	Delete B1 and replace with wording in B2 modified to read as follows: "Areas that possess one or more of the landslide hazard indicators (stratigraphy, topography, emergent groundwater seepage, etc.) as set forth in subsection (A) of this section and any adjacent area within a distance of 65 feet (see EMC 14.80.070(A), Figure 14.80-1. These areas include, but are not necessarily limited to, those areas designated on the City's Geologically Hazardous Areas map as moderate or steep slope areas."	Changing the definition of Potential Landslide Hazard Areas to exclude the reference to city topographic maps avoids problems with discrepancies between regional topographic mapping and actual site topography.	OK	Complete.
14.80.070(C), Figure 14.80-3	N/A	N/A	Remove this figure from the code.	The figure is based on Coastal Zone Atlas designation which doesn't apply to Edgewood, which has no marine shorelines.	OK	Complete.
14.80.070(D), Figure 14.80-4	N/A	N/A	Remove this figure from the code.	The figure is not consistent with the suggested revisions to 14.80.020B.	OK	Complete.
14.80.020(C)	N/A	N/A	Remove this section from the code	This section of the code is confusing, imprecise, unnecessary, and partly relies on marine shoreline hazard designations shown in the Coastal Zone Atlas for areas outside of Edgewood city limits.	OK	Complete.
14.80.030(B)	Inconsistent with agency guidance	Guidance	Recommend revising the introductory paragraph to read: B. Geological Assessment. A geological assessment is a site investigation process to evaluate the on-site geology affecting a subject property. The findings of the geological assessment shall be presented in a Landslide Hazard Geotechnical Letter, Geotechnical Verification, or Geotechnical Report in accordance with EMC 14.80.070, Figure 14.80-6.	The code defines three types of geologic assessment reports. The suggested change references the guidance on which type of assessment report is appropriate based on the site conditions.	OK	Complete.
14.80.030A1	N/A	N/A	Revise to read: The city's Geologically Hazardous Areas Map provides an indication of where Potential Landslide Hazard Areas are located in the city. The actual presence or location of a Landslide Hazard Area shall be determined using the geological assessment procedures established in this chapter. The Geologically Hazardous Areas Map should be revised to indicate the	The suggested changes are consistent with the previously suggested changes regarding reference to the updated Geologically Hazardous Area map	OK	Complete.

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			range of slope inclination associated with Moderate Slopes and Steep Slopes. The term “Steep Slope” should consist of areas with inclinations >40% over a height of at least 15 feet and the term “Moderate Slope” should consist of areas with inclinations between 15 and 40 percent over a height of at least 20 feet.	and elimination of Section 14.80.020C.		
14.8.030(A)(2)	N/A	N/A	Revise to read: The department will complete a review of the Geologically Hazardous Area map and other source documents for any proposed regulated activity to determine whether the site is, or may be, located within a Potential Landslide Hazard Area. Identification of a Potential Landslide Hazard Area may also occur as a result of field investigations conducted by department staff.	The suggested changes are consistent with the previously suggested changes regarding reference to the updated Geologically Hazardous Area map and elimination of Section 14.80.020C.	OK	Complete.
14.80.030(A)(3)	N/A	N/A	Revise to read: When the department’s maps or sources indicate that the site for a proposed regulated activity is or may located within a Potential Landslide Hazard Area, the department shall require the submittal of a geological assessment as outlined in Subsection (B) of this section.	The suggested changes are consistent with the previously suggested changes regarding elimination of Section 14.80.020C. The figure referenced in this section in the current code is not applicable.	OK	Complete.
14.80.030(B)(2)	Inconsistent with BAS.	BAS	Revise as follows: A geologic assessment shall include a field investigation and may include the use of historical air photo analysis, LIDAR mapping, review of regional geologic mapping, review of public records...	Adds LIDAR mapping and regional geologic mapping to the list of documents to be reviewed. LIDAR topographic mapping is a relatively new remote sensing technology that allows detection of geomorphic features not distinguishable in conventional aerial photography. Review of regional geologic mapping is strongly recommended as a basic requirement for all geologic assessments.	OK	Complete.
14.80.030(B)(3)	N/A	N/A	Revise to read: A determination of which areas on the or within the vicinity of the site meet the criteria for a Landslide Hazard Area as set forth in EMC 14.80.020(A).	The suggested changes are consistent with the previously suggested changes regarding elimination of Section 14.80.020C.	OK	Complete.

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14.80.030(B)(5)	N/A	N/A	Revise to read: A geotechnical professional shall complete a field investigation and geological assessment to assess whether or not a Landslide Hazard Area is likely to exist within 300 feet of the site. Where access to off-site properties is not available by the geotechnical professional, evaluation of off-site landslide hazards must include review of regional geologic mapping and LIDAR based topographic mapping. Remove reference to Figure 14.80-5	Substitution of the term “geotechnical professional” for “engineering geologist” is consistent with 14.80.030B4. Substitution of “Landslide Hazard Area” for “active landslide hazard area” is consistent with previously suggested changes. It may not be feasible to determine if a Landslide Hazard Area exists on off-site properties given that these properties are unlikely to be accessible by the geotechnical professional. Consequently, in most cases such an evaluation will be non-intrusive. The referenced figure in the existing code (Fig. 14.80-5) does not seem to apply to this section.	OK The figure should be fixed as well.	Complete.
14.80.030(B)(5)(a)	N/A	N/A	Recommend removing from code.	See suggested revision for 14.80.030(B)(5)(b) below.	OK	Complete.
14.80.030(B)(5)(b)	N/A	N/A	Revise to read: The geological assessment shall be submitted in the form of a geotechnical verification when the geotechnical professional finds that no Landslide Hazard Area exists within 300 feet of the project area. The geotechnical verification shall meet the requirements contained in EMC 14.80.060, Appendix B.	Use of the term “geotechnical professional” is consistent with 14.80.030(B)(4). Substitution of “Landslide Hazard Area” for “active landslide hazard area” is consistent with previously suggested changes. The existing code requires a geotechnical letter if the Landslide Hazard Area is more	OK	Complete.

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				than 300 feet from the site and a geotechnical verification if the Landslide Hazard Area is more than 300 feet from the project area. The suggested change is to hold to the higher standard of the geotechnical verification if the Landslide Hazard Area is more than 300 feet from either the site or the project area. In our opinion, the geotechnical verification represents a reasonable minimum standard of reporting and provides some simplification of the code.		
14.80.030(B)(5)(c)	N/A	N/A	Recommend substituting “geotechnical professional” for “engineering geologist”	Suggested change is consistent with 14.80.030B4	OK	Complete.
14.80.040(A)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “an active landslide hazard area”	Substitution of “Landslide Hazard Area” for “active landslide hazard area” is consistent with previously suggested changes.	OK	Complete.
14.80.040(B)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “an active landslide hazard area”	Substitution of “Landslide Hazard Area” for “active landslide hazard area” is consistent with previously suggested changes.	OK	Complete.
14.80.040(B)(2)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “an active landslide hazard area”	Substitution of “Landslide Hazard Area” for “active landslide hazard area” is consistent with previously suggested changes.	OK	Complete.
14.80.040(B)(4)	Inconsistent with BAS.	BAS	Revise to read: The proposed development shall not decrease the factor of safety for landslide occurrence below the limits of 1.5 for static conditions and 1.1 for dynamic conditions. Analysis of dynamic (seismic) conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.	A minimum factor of safety of 1.1 is consistent with the common standard of practice in the project area.	OK	Complete.
14.80.040(B)(10)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “an active landslide hazard area”	Substitution is consistent with previously suggested changes.	OK	Complete.

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14.80.040(B)(11)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “a stable landslide hazard area”	Substitution is consistent with previously suggested changes.	OK	Complete.
14.80.050(A)(1)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “an active landslide hazard area”	Substitution is consistent with previously suggested changes.	OK	Complete.
14.80.050(A)(2)	N/A	N/A	Recommend substituting “a Landslide Hazard Area” for “an active landslide hazard area”. Revise the second sentence in this section to read: “The required buffer width is the greater amount of the distances described in (a) or (b).”	Leaves open the possibility of reducing or eliminating the buffer if such a reduction can be justified by site conditions and BAS.	OK	Complete.
14.80.050(A)(2)(c)	Inconsistent with BAS.	BAS	Revise to read: The buffer width may be reduced below the widths specified in 14.80.050A2(a) and (b) or eliminated upon approval by the Department of a geotechnical report that demonstrates that such a reduction would not result in an increased risk of landslide activity either on or off of the subject property.	Leaves open the possibility of reducing or eliminating the buffer if such a reduction can be justified by site conditions and BAS.	OK	Complete.
14.80.060 Appendix A	N/A	N/A	Remove from code.	Suggested revision is consistent with suggested revision for 14.80.030(B)(5)(b)	OK	Complete.
14.80.060 Appendix B, Item A1	N/A	N/A	Remove from code.	Geologic hazard studies are typically conducted as part of an overall geotechnical engineering report. Separate documents are not typically prepared for each hazard. For this reason it is impractical to require the first page of the document to be titled “Landslide Hazard Verification”.	OK	Complete.
14.80.060 Appendix B, Item A7	Inconsistent with BAS.	BAS	Revised to include the following sentence at the end of the paragraph: The summary should include description of observations during the site visit and a discussion of information obtained from review of the listed documents in 14.80.030(B)(2).	Verifies compliance with the minimum assessment requirements per 14.80.030(B)(2).	OK	Complete.
14.80.060 Appendix B, Item A9	N/A	N/A	Recommend removing this section of the code.	This section of the code consists of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped	OK	Complete.

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				by a geotechnical professional per section 14.80.030(B)(4), the intent of this paragraph is satisfied. The latter part of this paragraph which consists of a statement verifying that the scope of the investigation is sufficient is unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by incompetency or oversight, the city has the right to respond with review comments.		
14.80.060 Appendix B, Item A10	N/A	N/A	Substitute "geotechnical professional" for "engineering geologist"	Suggested change is consistent with 14.80.030B4	OK	Complete.
14.80.060 Appendix B, Item B	N/A	N/A	Substitute "geotechnical professional" for "engineering geologist"	Suggested change is consistent with 14.80.030B4	OK	Complete.
14.80.060 Appendix C, Item A1	N/A	N/A	Remove from code.	Geologic hazard studies are typically conducted as part of an overall geotechnical engineering report. Separate documents are not typically prepared for each hazard. For this reason it is impractical to require the first page of the document to be titled "Landslide Hazard Report".	OK	Complete.
14.80.060 Appendix C, Item A8a	N/A	N/A	Revise to read: The limits/location of the Landslide Hazard Area(s) within the site boundaries as set forth in EMC 14.80.020(C)(1). Delineation of the Landslide Hazard Area limits shall identify any areas of historic landslide activity.	Suggested change is consistent with previously suggested changes.	OK	Complete.
14.80.060 Appendix C, Item A8c	N/A	N/A	Recommend that A8c be removed from the code	Suggested change is consistent with previously suggested changes.	OK	Complete.
14.80.060	Inconsistent with BAS.	BAS	Recommend that these sections be struck from the code	Boring log scale, content, sampling methods, soil	OK	Complete.

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Appendix C, Items Aga and Agb				descriptions should be determined by the geotechnical professional based on their professional opinion and project specific information. Boring log scales and formats may vary depending on type and depth of exploration. Overly detailed descriptions of drilling equipment used may not be useful or appropriate, sampling intervals and methods may vary with project needs and site conditions, and soil classification/descriptions/data presentation should be at the discretion of the licensed geotechnical professional based on project scope and subsurface conditions at the site.		
14.80.060 Appendix C, Item A10	Inconsistent with BAS.	BAS	Recommend that this section be struck from the code.	This section appears to be intended for projects where a quantitative slope stability analysis is conducted. Such an analysis is not appropriate for all projects and inclusion of this information may not be applicable. We recommend that where inclusion of this information is appropriate, the format of presentation and basis for justification of the values used be at the discretion of the geotechnical professional.	OK	Complete.
14.80.060 Appendix C, Item A12	Inconsistent with BAS.	BAS	Recommend adding the following to the beginning of this section: "Where deemed appropriate by the geotechnical professional" assessments and conclusions...	A slope stability analysis is not appropriate for all projects.	Not sure on this. What if our geotechnical professional disagrees with the assessment that a SSA is necessary/not necessary?	I recommend adding the following provisions: 1. The geotechnical professional must provide justification for not including a slope stability analysis if one is excluded; 2. The City's geotechnical professional

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						reserves the right to request a slope stability analysis based on site conditions; If a dispute arises between the project geotechnical professional and the City's geotechnical professional regarding the need for a slope stability analysis, then the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute.
14.80.060 Appendix C, Item A13	N/A	N/A	Recommend revising the first paragraph of this section to read: Mitigation recommendations using engineered measures to protect the proposed structure(s) and any adjacent structures, infrastructure, adjacent wetlands, or critical fish and wildlife habitat from damage or destruction as a result of proposed construction activities shall be provided by a professional engineer. Design plans and detailed geotechnical recommendations may be provided in a document separate from the geotechnical report. When appropriate, such recommendations/plans may include, but are not necessarily limited to:	Development of mitigation plans is often a multi-phased effort and therefore requiring all information to be presented in a single report may not be practical. Also, the listed mandatory report content may not be appropriate for all projects. Such content should be at the discretion of the design professional.	OK	Complete.
14.80.070 Figure 14.80-5	N/A	N/A	Revise to avoid use of "Active" landslide hazard area and remove reference to Geotechnical Letter	The suggested changes are consistent with previously recommended changes.	OK	Complete.
14.80.070 Figure 14.80-6	N/A	N/A	Remove figure from code.	The figure is not referenced in the code and does not appear to serve any purpose.	OK	Complete.
Seismic (Earthquake) Hazard Areas (Chapter 14.90)						
14.90.020(B)	N/A	N/A	Revise first sentence as follows to eliminate the reference to the Critical Areas Atlas: Potential seismic hazard areas are those areas where the	The Critical Areas Atlas is being replaced by the new Geologically Hazardous Areas map. Liquefaction prone areas are depicted on the Geologically Hazardous Areas map.	OK	Complete.

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				Therefore, we recommend that the new map be referenced under the liquefaction hazards section of the code as indicated below.		
14.90.020(B)(2)	Inconsistent with BAS.	Existing code references a document that is not readily available and may be out of date.	Revise this portion of the code to reference the new Geologically Hazardous Areas (GHA) map instead of the DNR liquefaction and dynamic settlement hazard area table referenced in the current code. We recommend that the "Seismic Hazard Area" shown on the draft version of the new GHA map be renamed "Liquefaction and/or Dynamic Settlement Hazard Area". The area shown on the new map should match areas of the city shown on the Liquefaction Susceptibility Map of Pierce County as Moderate, Moderate to High, or High liquefaction susceptibility. ftp://www4.dnr.wa.gov/geology/pubs/o fro4-20/ofr2004-20_sheet53_pierce_liq.pdf	The table referenced in the existing code is not readily available and may be out of date. Within the City of Edgewood dynamic settlement prone areas appear to be largely coincident with the liquefaction prone areas, but consist of the portion of the soil column above the ground water level.	OK	Complete.
14.90.020(B) (3)	N/A	N/A	Remove "reserved"	Current code shows this as Reserved.	OK	Complete.
14.90.020(B)(4)	Inconsistent with BAS.	BAS	Remove reference to Tsunami and Seiche Hazard Area from code.	Tsunami simulation studies by Washington DNR indicate that Edgewood lies outside of projected tsunami inundation areas.	Really? Even the valley floor areas on the south end of the City? I am ok if that is the case.	Yes. The source of this information is Walsh, T.J., Arcas, D., Venturato, A.J., Tiov, V.V., Mofjeld, H.O., Chamberlin, C.C., and Gonzalez, F.I., 2009, Tsunami Hazard Map of Tacoma, Washington: Model results for Seattle fault and Tacoma fault earthquake tsunamis: Washington Division of Geology and Earth Resources Open File Report 2009-9.
14.90.030(A) (1)	N/A	N/A	Revise to read: The city's Geologically Hazardous Areas map provides an indication of where potential liquefaction and dynamic settlement hazard areas are located in the city.	Replaces the reference to the outdated Critical Areas Atlas with the new GHA map. Replaces "potential seismic hazard areas" with "potential liquefaction and dynamic settlement hazard areas". As	OK	Complete.

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				stated in EMC 14.90.020(B), Seismic Hazard Areas include Fault Rupture Areas and Earthquake Induced Landslide Hazard Areas. Landslide hazards (both static and seismic) are addressed in EMC 14.80. There are no mapped active faults in Edgewood, but we recommend leaving the fault rupture hazard sections in the code. Seismic research is on-going in the Puget Sound region and there is the potential for the discovery of new information that could change our understanding of fault systems in this area.		
14.90.030(B)(2)(a)	N/A	Unnecessary	Remove this section of the code.	The current code requires a geotechnical letter when no liquefaction prone areas exist within the site, but a geotechnical verification when a liquefaction prone area exists on the site but outside of the project area. Whether the liquefaction prone area lies outside of the site or just outside of the project area has no bearing on the project. In either case, the project is not impacted and therefore the reporting standards should be the same. We recommend that the minimum report requirements meet the standard of the geotechnical verification.	OK	Complete.
14.90.070(B), Figure 14.90-2	N/A	N/A	Revise figure to delete reference to "Geotechnical Letter"	Suggested change is consistent with recommended change to 14.90.030(B)(2)(a)	OK	Complete.
14.90.030(B)(2)(b)	N/A	N/A	Revise the first sentence to read: The geological assessment shall be submitted in the form of a geotechnical verification when the geotechnical professional(s) finds that no Liquefaction or Dynamic Settlement Hazard Area exists within the proposed project area.	The revised wording makes the reporting requirements the same regardless of whether the Liquefaction/Dynamic Settlement Hazard Area lies outside of the	OK	Complete.

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				project site, or inside the site but outside of the project area.		
14.90.030(B)(4)(f)	Inconsistent with BAS.	BAS	Substitute “Critical Area Atlas – Seismic Hazard Areas Map” with “Geologically Hazardous Areas Map” and provide a link to this map.	The Critical Area Atlas is out of date and not readily available.	OK	Complete.
14.90.030(B)(5)	N/A	N/A	Revise to read: Geological assessments shall be prepared, signed, stamped, and dated...	The requirement that the report be stamped by the geotechnical professional is consistent with the normal standard of practice and eliminates the need for the compulsory paragraph in 14.90.060, Appendix A, Article I, (A)(3) and other similar compulsory paragraphs.	OK, good.	Complete.
14.90.040(B)(2)	Inconsistent with BAS.	BAS	Recommend that the prohibition against gas pipelines be reviewed by a mechanical engineer to confirm if this is necessary.	Is this ban consistent with other areas with liquefaction prone sediments (e.g. Duwamish, Tacoma tide flats, Kent valley)? Can mitigation be achieved through the use of HDPE or other flexible piping?	OK	Complete.
14.90.040(B)(3)	Inconsistent with BAS.	BAS	Recommend that this section of the code be reviewed by a qualified civil engineer.	Clarify if this is limited to roads that access critical facilities or all roads. This seems to be an especially high standard for trails.	Done, please leave trails reference in.	Complete.
14.90.060, Appendix A, Article I	N/A	N/A	Recommend removal from the code.	Elimination of the Geotechnical Letter is consistent with the suggested change for Section 14.90.030(B)(2)(a).	OK	Complete.
14.90.060, Appendix A, Article II, (A)(1)	N/A	N/A	Revise to read: The document shall include all mandatory items listed in EMC 14.90.030(B)(4).	The requirement for the document to be titled “Liquefaction or Dynamic Settlement Hazard Verification” impractical. Typically an evaluation of all geologic hazards is addressed in a single geotechnical report along with recommendations for mitigation of those hazards, if appropriate. Separate reports are not typically	Agreed	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				prepared for each geologic hazard.		
14.90.060, Appendix A, Article II, (A)(2)	N/A	N/A	Revise to read: The geological assessment must include a determination that no liquefaction and/or dynamic settlement hazard exists within the project area.	The proposed change is consistent with the suggested change to section 14.90.030(B)(2)(a).	OK	Complete.
14.90.060, Appendix A, Article II, (A)(3)(b)	N/A	N/A	Recommend that this section be removed.	Topography is usually not relevant to liquefaction hazards.	OK	Complete.
14.90.060, Appendix A, Article II, (A)(3)(c)	N/A	N/A	Remove from code.	By definition, a geotechnical verification would only be conducted for projects where no Liquefaction/Dynamic Settlement Hazard Area exists within the project area. Consequently, the limits of the Liquefaction/Dynamic Settlement Hazard Area would lie outside of a site plan of the project area.	OK	Complete.
14.90.060, Appendix A, Article II, (A)(3)(d)	N/A	N/A	Revise to read: The full geographical limits of the proposed project area or conceptual project area, (i.e. area to be developed) and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development, if known.	It is common for geotechnical studies to be conducted early in the design phase of the project when the locations of proposed structures or clearing limits are conceptual or unknown, or dependent on the findings of the geotechnical study.	OK	Complete.
14.90.060, Appendix A, Article II, (A)(3)(e)	N/A	N/A	Remove this section from the code.	Typically, liquefaction hazards are mitigated through the use of deep or modified foundations, or site improvement techniques, not setbacks.	OK	Complete.
14.90.060, Appendix A, Article II, (A)(4)	N/A	N/A	Recommend removing this section of the code.	This section of the code consists of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped by a geotechnical professional per	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				sections 14.90.030(B)(5) and 14.90.060, Apx A, Article II (B) the intent of this paragraph is satisfied. The latter part of this paragraph which consists of a statement verifying that the scope of the investigation is sufficient is unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by incompetency or oversight, the city has the right to respond with review comments.		
14.90.060, Appendix A, Article II (A)(3)	N/A	N/A	Recommend removing this section of the code.	This section of the code consists of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped by a geotechnical professional per sections 14.90.030(B)(5) and 14.90.060, Apx A, Article I (B) the intent of this paragraph is satisfied. The latter part of this paragraph which consists of a statement verifying that the scope of the investigation is sufficient is unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by incompetency or oversight, the city has the right to respond with review comments.	OK	Complete.
14.90.060, Appendix A, Article III(A)(1)	N/A	N/A	Revise the first sentence to read: The document shall include all mandatory items listed in EMC 14.90.030(B)(4). Revise the third sentence to read:	Typically an evaluation of all geologic hazards is addressed in a single geotechnical report along with recommendations for mitigation of those hazards, if appropriate, and design recommendations. Separate	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
			The introductory section of the report shall specify the desired performance levels...	reports are not typically prepared for each geologic hazard. If the report content meets the intent of the code, the title of the report and the section or page number of the report in which liquefaction hazards are addressed is not important.		
14.90.060, Appendix A, Article III(A)(3)(b)	N/A	N/A	Revise the last sentence to read: Where appropriate, a range of mitigation options should be considered depending on site conditions, the intended use of the structures, and acceptable levels of settlement.	Current wording requires an evaluation of a range of alternatives based on anticipated structural damage. Depending on the project and site conditions, evaluation of a range of options may not be necessary. Also, geotechnical evaluations of liquefaction hazards are typically limited to an evaluation of anticipated liquefaction induced settlement. How the predicted settlement translates into structural damage lies outside of the field of geotechnical engineering/engineering geology.	OK	Complete.
14.90.060, Appendix A, Article III(A)(4)	N/A	N/A	Revise first sentence to read: The report shall include site plan drawn to scale.	As long as the site plan is to scale, the geotechnical professional should be able to use their own discretion to determine the scale of the drawing. Setting mandatory scale sizes in the code could result in the excessively large site plans or other undesirable results.	OK	Complete.
14.90.060, Appendix A, Article III(A)(4)(b)	N/A	N/A	Recommend removing is section of the code.	Site topography is typically not relevant to liquefaction hazards.	OK	Complete.
14.90.060, Appendix A, Article III(A)(4)(d)	N/A	N/A	Revise to read as follows: The full geographical limits of the proposed project areas or conceptual project area (i.e. area to be developed) and the location of any structures, on-site septic systems, wells, stormwater management features, or facilities associated with the development, if known.	It is common for geotechnical studies to be conducted early in the design phase of the project when the locations of proposed structures or clearing limits are conceptual or unknown, or	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				dependent on the findings of the geotechnical study.		
14.90.060, Appendix A, Article III(A)(4)(e)	N/A	N/A	Remove this subsection of the code.	Typically, liquefaction hazards are mitigated through the use of deep or modified foundations, or site improvement techniques, not setbacks.	OK	Complete.
14.90.060, Appendix A, Article III(A)(4)(f)	N/A	N/A	Revise to read: Location and unique identifier of geotechnical explorations used to characterize subsurface conditions.	Substitution of “explorations” for “borings and/or CPT soundings” leaves open the option of other exploration methods where appropriate.	OK	Complete.
14.90.060, Appendix A, Article III(A)(5)	N/A	N/A	Revise to read: The geotechnical study shall include field exploration sufficient to assess the potential for liquefaction or dynamic settlement hazards and options for mitigation of those hazards. Copies of the exploration logs shall be provided in the report. Eliminate the remainder of this section.	The type of exploration conducted and details of the exploration log format and content should be at the discretion of the geotechnical professional. The level of detail included in the existing code appears to be excessive.	Not sure on this. What if our geotechnical professional disagrees with the assessment that field study is necessary/not necessary?	To address this concern, I suggest adding the following to the code: The geotechnical study shall include field exploration sufficient to assess the potential for liquefaction or dynamic settlement hazards and options for mitigation of those hazards. Copies of the exploration logs shall be included in the report. The project geotechnical professional must provide justification for the scope of the field exploration program. The City’s geotechnical professional reserves the right to request additional exploration if deemed appropriate. If a dispute arises between the City’s geotechnical professional and the project geotechnical professional regarding the scope of the field exploration, the City reserves the right to require an independent, third party review to be paid for by the

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
						applicant to resolve the dispute. This modification retains the requirement for subsurface exploration, but leaves the type of exploration, and other details (such as the exploration log format) up to the discretion of the geotechnical professional. It also includes provisions to require additional field exploration, if necessary, if the scope of the field exploration conducted falls short of the normal standard of practice as determined through independent third party review.
14.90.060, Appendix A, Article III(A)(6)	N/A	N/A	Remove from code.	In many cases, cross sections may not be relevant or helpful for analysis of liquefaction or dynamic settlement hazards. The need for preparation of cross sections should be at the discretion of the geotechnical professional.	Same comment as above. Discretion of geotech vs peer review geotech. How is this addressed throughout the revised code?	Instead of removing this section of code, we suggest adding the following to the beginning of the paragraph in the code: If beneficial to the assessment of seismic hazards for the project, the three-dimensional subsurface conditions at the site shall be presented... The following should then be added to the end of the existing paragraph in the code: The City's geotechnical professional reserves the right to request inclusion of one or more cross sections in the geotechnical report. If a dispute arises between the project geotechnical

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
						professional and the City's geotechnical professional regarding this issue, then the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute.
14.90.060, Appendix A, Article III(A)(7)	Inconsistent with BAS.	BAS	Revise the first sentence to read: ...equivalent to those specified in the most current version of the International Building Code. Also, remove the second sentence in this section. The sentence recommended for removal reads: "The choice of moment magnitude used in the determination of the magnitude scaling factor, as well as the scaling relations used in the analysis, shall be justified in the report narrative."	Procedures for selecting seismic design parameters are specified in the International Building Code.	OK	Complete.
14.90.060, Appendix A, Article III(A)(9)	Inconsistent with BAS.	BAS	Revise to read: The geotechnical report shall include a detailed assessment of the liquefaction and/or dynamic settlement hazard based on analysis of available subsurface data using state-of-the-practice methodologies. The results of the analysis shall be documented.	The reference to Youd and Idriss (1997) is out of date with research in this area on-going. For this reason, we recommend avoiding citation of a specific methodology.	OK	Complete.
14.90.060, Appendix A, Article III(A)(10)	Inconsistent with BAS.	BAS	Revise to read: When appropriate, the geotechnical report shall include an assessment of the potential for large lateral spreads or flow failures, bearing failures, settlement, limited lateral displacement, and flotation of buried facilities. The methodologies used must be, at a minimum, state-of-the- practice and conclusions regarding the potential and severity of the possible liquefaction and/or dynamic settlement induced failure modes shall be presented.	The list of cited failure types includes some failure mechanisms that are relevant in most liquefaction prone areas and may not apply to areas within the city. The revised wording is intended limit the need for analysis to hazards of concern.	OK, good	Complete.
14.90.060, Appendix A, Article III(A)(11)	N/A	N/A	Recommend that the following sentence, which references required geotechnical report content, be removed from this section: "Final designs and specifications and plans for structural and/or foundation design shall be included if applicable."	Plans and specifications are not typically included in a geotechnical report. They are typically stand-alone documents prepared by others based, in part, on design recommendations provided by the geotech.	I think this is referring to review of designs by others and geotechnical approval of said design. Why would we get rid of this?	We agree that geotechnical review of design plans that are prepared by others is appropriate. As currently written, it sounds as if the code is referring to plans prepared by the geotech as part of the assessment. To avoid confusion we suggest

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
						making the proposed revision and adding the following statement to the code: Geotechnical review of all final plans is required and the findings of the review shall be documented in writing.
14.90.060, Appendix B, Item (A)(1)	N/A	N/A	Revise the first sentence to read: The document shall include all mandatory items listed in EMC 14.90.030(B)(4).	Typically an evaluation of all geologic hazards is addressed in a single geotechnical report along with recommendations for mitigation of those hazards, if appropriate. Separate reports are not typically prepared for each geologic hazard. If the report content meets the intent of the code, the title of the report and the section or page number of the report in which fault rupture hazards are addressed is not important.	OK	Complete.
14.90.060, Appendix B, Item (A)(2)	N/A	N/A	Remove from code.	Redundant; previously stated in 14.90.060, Appendix B, Item (A)(1)	OK	Complete.
14.90.060, Appendix B, Item (A)(3)(d)(ii)	Inconsistent with BAS.	BAS	Revise first sentence as follows: Stereoscopic interpretation of aerial photographs, review of LIDAR based topography, and other remote...	LIDAR (Light Ranging and Detection) is a relatively new remote sensing technology that is extremely useful for identification of geomorphic features not readily identifiable from conventional aerial photos.	OK	Complete.
Erosion Hazard Areas (Chapter 14.110)						
14.110.020(A)(1) and (2)	N/A	N/A	Remove section 14.110.020(A)(1).	There are no marine shorelines in Edgewood. Removing section (A) (1) and combining the remainder of this section of code	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				as suggested eliminates use of this term.		
14.110.020(B)(1)	Inconsistent with BAS.	BAS	Replace “Critical Areas Atlas – Erosion Hazard Areas Map” with “Geologically Hazardous Areas Map” and make the Geologically Hazardous Areas Map available on-line.	The Geologically Hazardous Areas Map is the more current reference document.	OK	Complete.
14.110.020(B)(2)	N/A	N/A	Replace “freshwater or marine waters” with “surface water bodies”	There are no marine areas in Edgewood.	OK	Complete.
14.110.020(B)(4)	N/A	N/A	Recommend revising the last sentence in this section to read: Soil Erosion Hazard Areas include those areas with slopes of 20 percent or greater and that are classified as having severe or very severe erosion potential by the USDA Natural Resources Conservation Service.	The first part of this section defines other characteristics of erosion hazard areas. Use of the word “include” rather than the existing word “are” clarifies the intent of this section of the code. The “Soil Conservation Service” has changed its name to the “Natural Resources Conservation Service”. Although hard copies of the old Soil Conservation Service soil surveys are still in use, this information is now available on- line through the Natural Resource Conservation Service Web Soil Survey https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	OK	Complete.
14.110.030(A)(1) and (2)	Inconsistent with BAS.	BAS	Replace “Critical Areas Atlas – Erosion Hazard Areas Map” with “Geologically Hazardous Areas Map” and make the Geologically Hazardous Areas Map available on-line.	The Geologically Hazardous Areas Map is the more current reference document.	OK	Complete.
14.110.030(A)(6)	N/A	N/A	Revise to read: “Applicants requesting to develop a bulkhead along a shoreline”...	Replaces “freshwater and marine shoreline” with “shoreline”. Removes the reference to a “marine shoreline” which doesn’t exist in Edgewood.	OK	Complete.
14.110.030(B)(2)	Inconsistent with BAS.	BAS	Revise as follows: ...analysis of historical air photos, LIDAR mapping, published data...	Add LIDAR mapping to the list. LIDAR mapping is a relatively new remote sensing technology that allows detection of geomorphic	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				features not discernable in conventional air photos.		
14.110.030(B)(3)	N/A	N/A	Revise to read: ...“erosion and shoreline retreat”...	Avoids use of the term “bluff retreat” which is typically used in reference to marine shorelines.	OK	Complete.
14.110.050(A)(2) (c)	Inconsistent with BAS.	BAS	Revise to read: The buffer width may be reduced below the widths specified in 14.110.050(A)(2)(a) and (b) or eliminated upon approval by the Department of a geotechnical report that demonstrates that such a reduction would not result in an increased risk of erosion either on or off of the subject property.	Leaves open the possibility of reducing or eliminating the buffer if such a reduction can be justified by site conditions and BAS.	OK	Complete.
14.110.060 Appendix A, Item 1	N/A	N/A	Remove from code.	Typically an evaluation of all geologic hazards is addressed in a single geotechnical report along with recommendations for mitigation of those hazards, if appropriate. Separate reports/letters are not typically prepared for each geologic hazard. Therefore it would not typically be appropriate to label or title a document as a “Shoreline Erosion Hazard Geotechnical Letter” if that is not the main subject of the document.	OK	Complete.
14.110.060 Appendix A, Item 5	Inconsistent with BAS.	BAS	The letter will include a summary of the findings of the site visit, a site plan, and a summary of the findings from the review of documents listed in 14.110.030(B)(2).	Verifies compliance with the minimum assessment requirements per 14.110.030(B)(2).	OK	Complete.
14.110.060 Appendix A, Item 6	N/A	N/A	Recommend removing this section of the code.	This section of the code consists of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped by a geotechnical professional per section 14.110.030(B)(4), the intent of this paragraph is satisfied.	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				The latter part of this paragraph which consists of a statement verifying that the scope of the investigation is sufficient is unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by incompetency or oversight, the city has the right to respond with review comments.		
14.110.060 Appendix B, Item 1	N/A	N/A	Remove from code.	Typically an evaluation of all geologic hazards is addressed in a single geotechnical report along with recommendations for mitigation of those hazards, if appropriate. Separate reports/letters are not typically prepared for each geologic hazard. Therefore it would not typically be appropriate to label or title a document as a "Shoreline Erosion Hazard Geotechnical Verification" if that is not the main subject of the document.	OK	Complete.
14.110.060 Appendix B, Item 6	Inconsistent with BAS.	BAS	Revise to include the following: The verification will also include a summary of the findings of the site visit, a site plan, and a summary of the findings from the review of documents listed in 14.110.030(B)(2).	Verifies compliance with the minimum assessment requirements per 14.110.030(B)(2).	OK	Complete.
14.110.060 Appendix B, Item 8	N/A	N/A	Recommend removing this section of the code.	This section of the code consists of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped by a geotechnical professional per section 14.110.030(B)(4), the intent of this paragraph is satisfied. The latter part of this paragraph which consists of a statement verifying that the scope of the investigation is sufficient is	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by incompetency or oversight, the city has the right to respond with review comments.		
14.110.060 Appendix C, Item 1	N/A	N/A	Remove from code.	Typically an evaluation of all geologic hazards is addressed in a single geotechnical report along with recommendations for mitigation of those hazards, if appropriate. Separate reports/letters are not typically prepared for each geologic hazard. Therefore it would not typically be appropriate to label or title a document as a "Shoreline Erosion Hazard Geotechnical Report" if that is not the main subject of the document.	OK	Complete.
14.110.060 Appendix C, Item 6	Inconsistent with BAS.	BAS	Revise to include the following after the first sentence: The report will also include a summary of the findings of the site visit, a site plan, and a summary of the findings from the review of documents listed in 14.110.030(B)(2).	Verifies compliance with the minimum assessment requirements per 14.110.030(B)(2).	OK	Complete.
14.110.060 Appendix C, Item 8	N/A	N/A	Recommend removing this section of the code.	This section of the code consists of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped by a geotechnical professional per section 14.110.030(B)(4), the intent of this paragraph is satisfied. The latter part of this paragraph which consists of a statement verifying that the scope of the investigation is sufficient is unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by	OK	Complete.

Existing CAO Provision EMC Chapter / Section	Degree of Consistency with BAS, GMA, & Guidance	Reason For Lack of Consistency	Suggested Change	Rationale/ Basis for Suggested Change	Direction from City	Code Update Tracking
				incompetency or oversight, the city has the right to respond with review comments.		
Natural Resource Lands (Chapter 14.500)						
N/A	N/A	N/A	Recommend removing this section, if it is not used and/or there are no agricultural or mineral resource lands designated within the City	Clarity and ease-of-use.	14.500.031 A.2 may still be a potential resource land (mining).	Left section as-is, with some minor edits.



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memorandum

date June 23, 2017

to Aaron Nix, City of Edgewood

from Adam Merrill and Christina Hersum

subject Critical Areas Ordinance Update - Gap Analysis and Best Available Science Consistency Review

The City of Edgewood (City) is in the process of updating its Critical Areas Ordinance (CAO) (Edgewood Municipal Code [EMC] Title 14) in accordance with the requirements of the Growth Management Act (GMA) (RCW 36.70A). ESA is pleased to be assisting the City with that process. The GMA requires cities to consider best available science (BAS) in the development of critical areas policies and regulations.

ESA reviewed the City's CAO for consistency with the current scientific literature and applicable agency guidance now available. Associated Earth Sciences, Inc. (AESI) reviewed the Geologically Hazardous Areas regulations (EMC Chapters 14.60, 14.80, 14.90, and 14.110) as a subconsultant to ESA.

In general, the latest documents in the record pertaining to critical areas have been prepared by state agencies in Washington as guidance to local governments. The ESA team also reviewed recently updated critical area codes from other neighboring jurisdictions and recommended changes that would help the City achieve greater consistency with current standards and practices. Our recommendations also reflect our professional judgment and experience assisting numerous cities and counties with code interpretation and administration.

Gap Analysis and Consistency Review Methods

ESA and AESI conducted a review of the current CAO sections for the purposes of identifying areas of inconsistency with agency guidance and best available science. To organize our review and recommendations, we developed a matrix (attached to this memo) documenting consistency between CAO provisions and GMA regulations, relevant agency guidance and best available science published since 2017. The gap analysis matrix provides an assessment of general consistency, a suggested or recommended change to the CAO, and the corresponding rationale and source for each recommendation. When the matrix states that the CAO is "inconsistent with BAS" or "inconsistent with GMA", this means that the code provision does not, in our opinion, meet or is not supported by best available science or state agency guidance. When the matrix states that the CAO is "could be revised to be more consistent," this means that portion(s) of the code provision are supported by best available science or state agency guidance, but could be strengthened to be fully compliant.

We also provide recommendations that are better described as changes to “improve clarity” or “improve ease-of-use;” these address provisions that could be confusing or difficult to administer due to a lack of clarity or readability.

Overall Code Structure and Content

In general, the Edgewood CAO is reasonably clear and has a comparable structure with state guidelines. However, as detailed in the attached matrix, several of the code provisions need to be updated to improve their consistency with BAS and current agency guidelines. Additionally, to improve ease-of-use and simplify the administration of the CAO, we recommend removing and/or consolidating many of the code section in the CAO. We understand that the existing CAO was adapted from the version of the Pierce County CAO that was in affect at the time the City was incorporated (1996), and contains code provisions may not be applicable to the City or its more limited land uses.

Updates to Scientific Literature

The following sections summarize new scientific literature and regional policy concerning critical areas protection and management and are intended to inform the specific recommendations for code updates in the attached matrix.

Wetlands

Wetlands are specifically identified for protection as a critical area by the GMA (WAC 365-190-080[3]). The current CAO provides standards for protection of wetlands in EMC Chapter 14.30. In general, the latest documents in the record pertaining to wetlands have been prepared by state and federal agencies. Since the City’s last major CAO update, new scientific findings have been published describing methods for assessing wetland functions on a watershed-based and landscape-scale, alternative mitigation strategies (mitigation banking and in-lieu fee programs), improving the success of compensatory mitigation, and buffer effectiveness. For example, the Washington Department of Ecology (Ecology) and Washington Department of Fish and Wildlife (WDFW) released a two-volume BAS document in 2005 that is still the primary source of information for wetland management: *Wetlands in Washington State – Vol. 1 A Synthesis of the Science* (Sheldon et al. 2005) and *Vol. 2 Guidance for Protecting and Managing Wetlands* (Granger et al. 2005).

Wetland Model Code: The wetland model code found in the *Critical Areas Assistance Handbook: Protecting Critical Areas Within the Framework of the Washington Growth Management Act* (CTED, 2007) was updated in 2016 and can be found in *Wetlands and CAO Updates: Guidance for Small Cities, Western Washington Version* (Bunten et al., 2016). This model code offers example language recommended by Ecology that reflects many of the updates suggested in this section.

Wetland Delineation and Rating: In 2010, the U.S. Army Corps of Engineers released the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coasts* (Corps, 2010). The regional supplement updates portions of the 1987 Corps’ Wetland Delineation Manual and provides additional technical guidance and updated procedures for identifying and delineating wetlands. State law requiring the *Washington State Wetlands Identification and Delineation Manual* (Ecology, 1997) was repealed in 2011, and the state manual is no longer required or supported by Ecology. The Regional Supplement is now required by state law (WAC 173-22-035).

Ecology released an update to their wetland rating system, the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby, 2014), that went into effect January 2015. Most of the material in the 2014 updated manual remains the same as that in the 2004 manual. The updated wetland rating manual includes a new scoring range (i.e., between 9 and 27 under the updated manual versus 1 to 100 in the 2004 manual) that is based on a qualitative scale of functions from high, medium, or low. The new approach to scoring wetland functions on a high, medium, or low scale is considered by Ecology to be an improvement over the old rating system (Hruby, 2014). The 2014 updated manual also includes new sections for assessing a wetland's potential to provide functions and values on a landscape-scale.

Alternative Mitigation: One of the most significant changes in BAS since Edgewood's last code update involves alternative mitigation strategies. According to the National Research Council, compensatory mitigation implemented in the past, particularly on-site mitigation installed by the permittee, has frequently been unsuccessful and has not achieved the national policy of "no net loss" of wetland area and functions (NRC, 2001). Traditionally, permit applicants have constructed mitigation projects on the development site to compensate for effects to aquatic resources (e.g., wetlands, streams) with limited oversight and enforcement of mitigation requirements. This type of mitigation is referred to as "permittee-responsible" mitigation. Additionally, alternative forms of mitigation, such as mitigation banks and in-lieu fee (ILF) programs, and advance mitigation were not established uniformly across the country, or within individual states, and there were numerous cases where alternative mitigation programs were operated unsuccessfully.

To address these mitigation deficiencies, in early 2008 the US Army Corps of Engineers (Corps) and Environmental Protection Agency (EPA) released revised regulations governing compensatory mitigation for authorized impacts to waters of the US, including wetlands. The Federal Rule, formally known as the Compensatory Mitigation for losses of Aquatic Resources; Final Rule, lays out criteria and performance standards designed to improve the success and quality of mitigation activities (Corps, 2008).

The Federal Rule emphasizes a watershed approach to mitigation as part of the planning, implementation, and management of mitigation projects. A watershed approach is an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed; it involves consideration of watershed needs, and how locations and types of compensatory mitigation projects address those needs.

Alternatives to permittee-responsible mitigation are increasingly implemented within Washington State and around the country to compensate for authorized effects to aquatic resources. Common forms of alternative mitigation include:

- *Mitigation Banks*—restoring, establishing, enhancing, and/or preserving aquatic resources through funds paid to a public or private Sponsor to satisfy compensatory mitigation requirements for Corps permits. At banks, the Sponsor has already secured a mitigation site and initiated mitigation activities before fees are accepted. Typically, mitigation banks exist at one location and the Corps does not have authority over bank expenditures.
- *In-Lieu Fee (ILF) Programs*—restoring, establishing, enhancing, and/or preserving aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements for Corps permits. In-lieu fee programs accept mitigation fees before securing and implementing projects. These programs implement mitigation at multiple sites as funds become available and after the Corps approves project funding.

- *Consolidated Off-site Mitigation*— restoring, establishing, enhancing, and/or preserving aquatic resources through funds paid to a public or private entity Sponsor. Mitigation typically occurs at a single location in a phased approach; as compensatory mitigation fees are paid to the public or private entity by permit applicants, portions of the mitigation site are constructed.
- *Advance Mitigation*— restoring, establishing, enhancing, and/or preserving of aquatic resources, undertaken by public or private permit applicants in advance of permitted impacts. This type of mitigation is considered permittee-responsible compensatory mitigation because only the permit applicant who implements the advance mitigation may use it to satisfy their compensatory mitigation obligations.

In the Federal Rule, the Corps outlined a mitigation hierarchy, preferring mitigation banks over ILF programs and ILF programs over permittee-responsible mitigation.

Alternative forms of mitigation do not change the requirements for permit applicants to adhere to “mitigation sequencing” required by regulatory agencies. These are step-wise requirements under federal and state laws that require permit applicants to demonstrate that, first, avoidance and minimization measures have been taken before the remaining aquatic resource effects are determined unavoidable. Avoidance and minimization measures occur during project design and are intended to avoid and reduce a project’s effects prior to construction. Once a determination is made that project effects are unavoidable, compensatory mitigation is required.

Compensatory Mitigation: Where compensatory mitigation (permittee-responsible) is the best option for mitigating wetland impacts, recent guidance has been developed to improve mitigation success. Ecology, in coordination with the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA), developed a two-part guidance document intended to improve the quality, consistency, and effectiveness of compensatory mitigation in Washington State.

Part 1 of the document, *Wetland Mitigation in Washington State—Part 1: Agency Policies and Guidance* (Ecology Publication #06-06-011a, March 2006a), provides regulatory background and outlines information that regulatory agencies use. Some of this information has been superseded by recent guidance discussed in the Alternative Mitigation section; however, wetland mitigation ratios listed in this document are the basis for many local jurisdictions’ mitigation requirements. Part 2 of the document, *Wetland Mitigation in Washington State—Part 2: Developing Mitigation Plans* (Ecology Publication #06-06-011b, March 2006b) provides specific technical guidance on developing a compensatory wetland mitigation plan.

As an alternative to using mitigation ratios, the Ecology developed *Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington* (Hruby, 2012) for estimating whether a project’s compensatory mitigation plan adequately replaces lost wetland functions and values. Termed the “Credit-Debit Method,” this manual describes a functions-based approach to determine wetland functions lost during project development (i.e., “Debits”) compared to functions gained at a mitigation site (i.e., “Credits”). A mitigation project is considered successful when the “credit” score for a compensatory mitigation project is higher than the “debit” score. Based on our local experience, the Corps and Ecology are starting to rely on the Credit-Debit Method instead of mitigation ratios alone.

Buffer Effectiveness: In 2005, Ecology summarized the literature related to wetland buffers and buffer effectiveness (Sheldon et al, 2005). In 2013, the Department of Ecology updated this document with a literature

review of scientific documents published between 2003 and 2012, titled *Update on Wetland Buffers: The State of the Science, Final Report* (Hruby, 2013).

The updated buffer paper confirmed that buffers perform an important water quality function by trapping pollutants before they reach a wetland. Generally, the wider the buffer, the more effective it may be at protecting water quality; however, recent research reveals that several other factors contribute to the effectiveness of water quality functions (e.g., slope, type of vegetation, surface roughness, soil properties, type and concentration of pollutants, etc.). Specifying only the width of a buffer as a means for protecting water quality functions can be complicated and may not address these other factors (Hruby, 2013). With respect to protecting habitat quality, research in the past decade reveals that larger buffers are needed to protect wetland-dependent species, which may require larger areas of relatively undisturbed uplands for survival (Hruby, 2013).

Ecology's recommended buffers in the model wetlands code (Table "XX.1") outlines a combined fixed-width and variable-width approach to wetland buffers, with a minimum buffer prescribed based on a wetland's category and an additional buffer based on increasing habitat points (Bunten et al., 2016). In developing communities, such as Edgewood, standard buffer widths may be difficult to achieve. For reductions to a standard buffer width, an applicant should demonstrate that a smaller buffer will protect wetland functions and values, with additional mitigation measures applied where needed to support "no net loss" of those functions and values (Granger et al., 2005). Ecology's model code (Table XX.2) outlines required mitigation measures that can be used to protect wetlands (Bunten et al., 2016). The model code recommends that standard buffers should not be reduced below 25 percent of the standard buffer with (Bunten et al., 2016).

Streams, and Fish and Wildlife Priority Habitats

Fish and wildlife habitat conservation areas (FWHCA) are specifically identified for protection as a critical area by the Growth Management Act (WAC 365-190-080[3]). The current CAO provides standards for protection of streams (included in the GMA as a FWHCA) in EMC Chapter 14.40.

The latest documents in the record pertaining to fish and wildlife habitat conservation areas have been prepared predominantly by state, federal, and tribal agencies. Much of this science is related to protecting salmon and fisheries habitat. For example, in 2009, the Washington Department of Fish and Wildlife (WDFW) published *Land Use Planning for Salmon, Steelhead and Trout: A Land Use Planner's Guide to Salmonid Habitat Protection and Recovery* as part of an initiative to integrate local planning programs with salmon recovery efforts (Knight, 2009). Other documents are related to managing biodiversity and habitat quality with urban development. In 2009, WDFW also published *Landscape Planning for Washington's Wildlife: Managing for Biodiversity in Developing Areas*, which provides guidance for wildlife issues related to rural and urban residential development.

Fish and Wildlife Habitat Conservation Areas Model Code: The model code found in the *Critical Areas Assistance Handbook: Protecting Critical Areas Within the Framework of the Washington Growth Management Act* (CTED, 2007) is the most recent state recommendations related to fish and wildlife habitat conservations areas; however, portions of Wetlands and CAO Updates: Guidance for Small Cities, Western Washington Version (Bunten et al., 2016) are applicable or were referenced for code consistency.

Buffer Effectiveness: When discussing BAS for buffers and buffer effectiveness for fish and wildlife habitat conservation areas, one must distinguish between stream/riparian buffers (those areas providing functions

related to fish habitat and stream processes) and habitat buffers (areas including riparian buffers and the terrestrial areas adjacent to them which provide wildlife functions for a variety of species). Recommendations for stream buffers have remained relatively similar since the City's last CAO update, with recommended buffer widths varying from 75 feet to over 300 feet to protect a suite of ecological functions (Brennan et al., 2009; May, 2003; Knutson and Naef, 1997).

Research indicates that uplands surrounding wetlands and streams can serve as critical habitat for some species, a concept that expands the notion of a buffer beyond simply protecting riparian functions to protecting aquatic-dependent species (Hruby, 2013; Semlitsch and Jensen, 2001). Research indicates that stream/riparian buffers alone will not be enough to protect certain species and that a broader approach to protecting wildlife is needed, especially in areas that are intensely developed (Hruby, 2013; Semlitsch and Jensen, 2001). These broader approaches may include establishing wildlife habitat corridors or other habitat connections.

Research related to general wildlife habitat connectivity, however, indicates that connectivity is important for species to travel and carry out life processes. Small mammals, amphibians, and reptiles are generally more sensitive to changes and gaps in connectivity compared to larger mammals and birds (WDFW, 2009). Areas with less than 50 percent undisturbed land cover (i.e., developed urban environments) need assistance to ensure that habitat connectivity is maintained (WDFW, 2009). In addition to using local critical areas inventory information and Priority Habitats and Species (PHS) data, WDFW recommends protecting large undeveloped habitat patches and open space areas as part of planning and building habitat corridors (WDFW, 2009).

In general, the standards related to wetland buffer reductions and averaging discussed earlier are deemed to be applicable to fish and wildlife habitat conservation area buffers, although specific requirements and protections may be required for local, state, and federally listed species.

Frequently Flooded Areas

Frequently flooded areas are specifically identified for protection as a critical area by GMA (WAC 365-190-110). The current CAO provides standards for regulating development within frequently flooded areas in EMC Chapter 14.70. These regulations were updated in March 2017.

The adopted flood hazard area regulations focus chiefly from the perspective of flood effects on human health, safety, and property, and the effects of human activities on flooding. Floodplains perform a variety of beneficial functions including providing for natural flood and erosion control, water quality maintenance, groundwater recharge, biological productivity, fish and wildlife habitat (Steiger et al. 2005), production and of wild and cultivated products, recreational opportunities, and areas for scientific study and outdoor recreation (Kusler 2011). Floodplains typically contain several major types of habitats including aquatic, riparian, wetland, and upland habitat.

Recent BAS and regional guidance for protection of ecological functions within a floodplain emphasizes the importance of other critical areas (including wetlands, streams, riparian areas, and FWHCAs) within floodplains, and emphasizes the importance of protection of these critical areas (PSP 2010; NMFS 2009; Ecology 2015). Guidance highlights the importance of other critical areas provisions in ensuring that floodplain ecological functions are protected into the future. Due to a 2009 Biological Opinion by the National Marine Fisheries Service (NMFS) regarding protection Endangered Species Act listed salmonid species from the effects of floodplain development activities, assessment of floodplain habitat impacts and new standards for protection are now required for NFIP participating communities (NMFS 2009; FEMA 2013).

Ecology has recently published *Guidance to Local Governments on Frequently Flooded Areas Updates in CAO's* that addresses the key elements of updating the frequently flooded areas provisions in a CAO Update (Ecology 2015). The guidance addresses relevant information sources and approaches to incorporating the protection of ecological functions into the CAO. The City's current frequently flooded areas code provisions were found to be generally consistent with this guidance.

Geologically Hazardous Areas

Geologically hazardous areas are specifically identified as a critical area by GMA (WAC 365-190-120). The current CAO provides standards for protection of safety of citizens from geologically hazards areas in EMC Chapters 14.60 (Volcanic Hazard Areas), 14.80 (Landslide Hazard Areas), 14.90 (Seismic [Earthquake] Hazard Areas), and 14.110 (Erosion Hazard Areas). BAS related to geologically hazardous areas, along with a summary review of existing regulations, is presented in the attached memo from AESI. Specific geologically hazardous area code update recommendations are included in the attached gap analysis matrix.

Critical Aquifer Recharge Areas

Critical aquifer recharge areas (CARAs) are specifically identified for protection as a critical area by GMA (WAC 365-190-100). The current CAO provides standards for protection of CARAs in Chapter 14.40. Two types of CARAs are identified within the City: 1) areas designated as "Vulnerable Aquifer Recharge Areas" as identified by Pierce County and 2) wellhead protection areas designated by the Mt. View-Edgewood Water Company.

The risk of ground water contamination depends on two main components. One set of conditions relates to the ground itself and how easy it is for water to pass through to ground water – this is the component that is identified through development of critical aquifer recharge area mapping. The other component relates to how likely it is for potential contaminants to reach ground water. The amount of potential contaminant material, chemical composition, and how the material is handled all contribute to this component, and are the key area where CARA standards are necessary to ensure that the potential is minimized. CARA regulations to minimize the potential for aquifer contamination have not changed significantly in the last ten years, and remain focused on ensuring that uses and activities with higher potential for contamination are appropriately evaluated (or prohibited) when occurring in CARAs.

Ecology has published guidance to assist local jurisdictions with developing protection measures in their CAO that includes an 8-step process for identifying, characterizing, and managing groundwater withdrawals and recharge impacts (Ecology, 2005). The guidance also includes BAS sources for protecting CARAs.

Best Available Science References Consulted During Consistency Review

See attached memo from AESI for a list of geologically hazard areas references consulted during consistency review

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Technical Memorandum

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Date:	June 12, 2017	From:	Timothy J. Peter, L.E.G., L.Hg.
To:	Environmental Science Associates	Project Manager:	Timothy J. Peter, L.E.G., L.Hg.
	5309 Shilshole Avenue NW, Suite 200	Principal in Charge:	Curtis J. Koger, L.E.G., L.Hg.
	Seattle, Washington 98107	Project Name:	Edgewood CAO Update
Attn:	Mr. Adam Merrill	Project No:	170237E001
Subject:	Geologic Hazard Code Update - Gap Analysis and Best Available Science Consistency Review		

The City of Edgewood is in the process of reviewing and revising their Critical Area Ordinance (CAO) which specifies standards for development in and around critical areas. Associated Earth Sciences, Inc. (AESI) is assisting Environmental Science Associates (ESA) in their review and revision of the critical area codes. Specifically, our scope of work is limited to a review of the portions of the code addressing development within geologic hazard areas, including the following chapters of the Edgewood Municipal Code (EMC):

- Chapter 14.60 Volcanic Hazard Areas
- Chapter 14.80 Landslide Hazard Areas
- Chapter 14.90 Seismic (Earthquake) Hazard Areas
- Chapter 14.110 Erosion Hazard Areas

Under Washington's Growth Management Act (GMA), and the *Revised Code of Washington* (RCW) 36.70A, protection of environmentally critical areas must take into account Best Available Science (BAS). This memo provides a summary of the BAS as it relates to the geologic hazard code. The suggested code revisions are intended to allow use of BAS for protection of critical areas, reduce the risk of damage to property by geologic hazards while avoiding excessively conservative restrictions on land use in those areas where mitigation of geologic hazards can reasonably be achieved. We have also attempted to make the code more "user friendly" by eliminating portions of the existing code that are not applicable to conditions found in the city of Edgewood, providing consistency in the use of terms, simplification of reporting requirements, and improved hazard mapping resources.

The following is a discussion of the four geologic hazard categories.

VOLCANIC HAZARDS

Volcanic Hazard Mapping

The U.S. Geological Survey (USGS) has developed mapping of volcanic hazard categories and time travel zones for Pierce County, including the City of Edgewood (USGS, 1995). This mapping represents BAS for volcanic hazards in the city and is recommended for use in identifying those areas of the city where restrictions to bonus densities, essential facilities, hazardous facilities, or special occupancy structures apply.

LANDSLIDE HAZARDS

Although landslides are often associated with steep slopes, other factors such as geology, land use, grading, extreme weather events and other climactic factors can contribute to landslide hazard risk over a wide range of topographic conditions. In the Puget Lowland topographic and geologic conditions vary greatly over a relatively small area and it is therefore important to understand the conditions and processes associated with landslide hazard risk. For this reason, critical area codes typically include requirements for geologic hazard studies by qualified geotechnical professionals to evaluate hazard risk and mitigation options in areas of suspected risk. The landslide hazard code is designed to provide screening criteria to identify areas of potential risk, and to establish minimum standards for further geotechnical study and development standards in these areas.

The following is a discussion of technological advancements in landslide hazard studies, development trends, area specific conditions, and recommended changes to the Edgewood landslide hazard code.

Identification of Existing Landslide Features

A relatively recent technological advance that has improved the ability to identify existing landslide features is LiDAR-based imagery. High quality, LiDAR-based imagery has become increasingly available throughout Western Washington and is currently available for the entire Puget Lowland (Puget Sound LiDAR Consortium). LiDAR (Light Detection and Ranging), uses airborne scanning lasers generating topographic surveys of the ground and top of vegetation, referred to as first returns and last returns. These laser transmitters fire thousands of pulses per second. Typically the data is gathered in winter when leaves are off. Data is filtered by travel time of laser pulses to determine ground surface versus top of vegetation or built environment (Harding, 2000). The bare earth data is particularly useful in areas such as Western Washington where surface features are typically obscured by heavy vegetation. For this reason, LiDAR imagery has been found to be a useful tool in identifying landslide features not readily recognizable by conventional aerial photography or ground reconnaissance (Baum et al., 2007; McKenna et al., 2008).

Development in Landslide Hazard Areas

The rapid population growth in the Puget Lowland in recent decades has resulted in widespread development, decreased availability of land, and increasing development costs. In response to this trend, property owners seek to maximize use of the developable portions of their land within the constraints of the local critical area codes. In response to land development pressures and the need to protect the environment and public safety many municipalities require site-specific studies by qualified professionals for proposed

developments in geologic hazard areas to evaluate site conditions, identify potential impacts and risks, and provide options for suitable mitigation of hazards. These site-specific studies qualify as BAS based on the criteria presented in Chapter 365-195-905 of the *Washington Administrative Code* (WAC) by providing relevant data to evaluate landslide hazard risks and recommendations for mitigation of those risks. Municipalities lacking in-house expertise to evaluate the adequacy of these site-specific critical area studies have the option of requiring a third party geotechnical peer review. This review process and code-specified report requirements encourages BAS.

Area-Specific Conditions

The city of Edgewood is located on a plateau bounded to the east by the White River valley and to the south and southwest by the Puyallup River valley. Review of the draft geologic map of the Puyallup 7.5 minute quadrangle by GeoMapNW (2004) and the *Geologic Map of the Poverty Bay 7.5 Minute Quadrangle, King and Pierce Counties*, Washington by Booth et al. (2004) indicates that the plateau is primarily underlain by glacially derived or glacially overridden sediments. Steep slopes occur along the flanks of the plateau and in several drainage ravines, such as Simons Creek and several other unnamed creeks, that extend from the plateau down into the adjacent river valleys. Areas of moderately inclined slopes also occur in some areas along the flanks of the plateau, in the drainage ravines incised into the plateau, and in isolated locations on the plateau surface. Landslide Hazard Areas or potential Landslide Hazard Areas are limited to these moderately to steeply sloping areas. Post-glacial (Holocene) alluvial sediments are mapped in several locations along the lower flanks of the plateau and in the portions of the city that extend out into the Puyallup and White River valleys.

Review of Existing Regulations

Based on review of geologic hazard codes for cities and counties in the Puget Lowland, including the City of Edgewood, the codes are generally crafted to mitigate landslide hazards by establishing buffers and/or building setbacks from high risk areas, or by restricting these areas to limited activities or uses. Complexities in the codes arise in describing details, such as exemptions, variances, permitted alterations, performance standards, buffer/building setbacks, or minimum standards for geotechnical studies. In some cases, key terms, requirements, or references in the code are poorly defined, not applicable to site conditions, or are inconsistent with standards of practice or BAS, which can lead to disputes. The following is a description of suggested changes, organized by category within the code. Some of the suggested changes presented below are discussed in general terms and may not refer to specific code citations. For a more detailed description of the suggested changes, please refer to the Gap Analysis Matrix.

Definitions

Section 14.80.020 of the EMC provides a list of landslide hazard indicators or indicators of potential landslide hazards. The suggested changes to the existing code are intended to provide clarification, eliminate indicators not applicable to the City of Edgewood, are not necessarily indicative of past landsliding or increased risk of future landsliding, or are not consistent with BAS. A summary of the proposed changes is provided below.

- We recommend eliminating EMC 14.80.020(A)(2) which refers to areas of active bluff retreat. We recommend removal of this section because in the Puget Sound region, the term “bluff” is normally used in reference to steep slopes along marine shorelines, which are not present in the City.

- We recommend revising EMC 14.80.020(A)(3) to refer to “Areas with all of the following characteristics.” The addition of the words “all of” clarifies that all of the characteristics listed in this section must be present to be considered a Landslide Hazard Area.
- We recommend revising EMC 14.80.020(A)(3)(a) to include slopes steeper than 15 percent rather than 20 percent. Although landslides in the Puget Lowland rarely occur on slopes flatter than 15 percent, landslides have been known to occur on slopes flatter than 20 percent (Laprade, 1989). Reducing the minimum inclination threshold to 15 percent is also consistent with codes in other municipalities in the surrounding area (e.g., Sumner and Bonney Lake).
- We recommend eliminating EMC 14.80.020(A)(4) which refers to structural features typically reserved for evaluation of landslide hazards in bedrock. Review of the previously referenced geologic maps indicate that there are no bedrock exposures in the City of Edgewood.
- We recommend that EMC 14.80.020(A)(5) and EMC 14.80.020(A)(6) be combined into a single code section that eliminates reference to “past slope failure” without regard to age or to specific characteristics of historical landslide areas. We recommend that the revised section instead refer to “areas exhibiting geomorphological features indicative of historical slope movement during the past 10,000 years.” This provides further clarity and eliminates inclusion of older landslide deposits which formed at a time when subsurface and topographic conditions were different from the existing conditions.
- We recommend eliminating EMC 14.80.020(A)(7) which requires that areas with structures that exhibit structural damage be defined as Landslide Hazard Areas. We recommend that this section be eliminated because structural damage to buildings is not unique to areas of landslide activity.
- We recommend eliminating EMC 14.80.020(A)(8) which requires that areas with distorted tree trunks be defined as Landslide Hazard Areas. We recommend that this section be eliminated because tree trunk distortion is not unique to areas of landslide activity.
- We recommend eliminating EMC 14.80.020(A)(9) which requires that areas with soft or liquefiable soils be defined as Landslide Hazard Areas. We recommend that this section be eliminated because the presence of soft or liquefiable soils (without consideration of other factors, such as slope inclination) is not typically indicative of high landslide risk. In addition, areas underlain by liquefiable soils are addressed in the Seismic Hazards section of the Edgewood code (Chapter 14.90).
- We recommend eliminating EMC 14.80.020(A)(10) which refers to certain areas that have been subjected to gullying or other surface erosion. These features are characteristic of erosion hazards and are addressed in Chapter 14.110 of the code.
- We recommend eliminating EMC 14.80.020(A)(11) which refers to areas of seeps or springs on or adjacent to slopes. We recommend eliminating this section because these characteristics are already addressed in EMC 14.80.020(A)(3).
- We recommend modifying EMC 14.80.020(A)(12), which refers to slopes of 40 percent or steeper over a height of at least 15 feet. Specifically, we recommend the following modifications:

1. We recommend that the minimum vertical relief be decreased from 15 feet to 10 feet. This modification is recommended because our experience has indicated that landsliding can occur on slopes with heights less than 15 feet.
 2. We recommend that the exemption for manmade slopes created under the design and inspection of a geotechnical professional be extended to all manmade slopes provided that it can be demonstrated by a geotechnical professional that such an exemption does not result in increased risk of landsliding or property damage. Many legally graded slopes were either created at a time when the services of a geotechnical professional were not commonly required or predate the time over which engineering records are commonly available. Because legally graded slopes are numerous (such as those associated with road construction) exemption of such slopes avoids unnecessarily onerous restrictions on property use.
 3. We recommend that the reference to EMC 14.80.060, Appendix D be eliminated as this section of code does not exist.
- We recommend replacement of the “Critical Areas Atlas – Landslide Hazard Areas Map” in EMC 14.80.020(B) with the updated “Geologically Hazardous Areas” map. We understand that the updated map is based, in part, on LiDAR data and the most recent volcanic hazard data available from the USGS, and therefore represents BAS. All references to the old Critical Areas Atlas should be replaced with a reference to the updated map throughout the geologic hazard code.
 - All references in the code to the Washington Department of Ecology Coastal Zone Atlas (CZA) should be removed. The CZA addresses marine shoreline areas in Washington. No marine shorelines are located in the City of Edgewood.
 - We recommend that the term “engineering geologist” be replaced with the term “geotechnical professional.” These terms are used somewhat interchangeably in the code, although the term “geotechnical professional” is also used in reference to geotechnical engineers. In order to be consistent, we recommend use of the term “geotechnical professional” over engineering geologist to avoid confusion.

Geological Assessments

EMC 14.80.030 includes a description of the requirements for Landslide Hazard Area review procedures, including geological assessments. In consistency with BAS, we recommend that the use of LiDAR-based mapping be incorporated into the list of recommended or required research sources to be reviewed as part of geological assessments. Specific sections of the code affected by this recommendation include EMC 14.80.030(B)(2) and EMC 14.80.030(B)(5).

The existing code describes three types of geological assessment reports. In order of increasing complexity, these include Geotechnical Letter, Geotechnical Verification, and Geotechnical Report. The code specifies the conditions in which each of these three types of reports are required. In general, the complexity of the required report is based on the proximity of the site (or project area within a site) to a potential or known Landslide Hazard Area based on review of the City’s landslide hazard mapping or other source documents.

We recommend that the Geotechnical Letter be removed from the code and replaced with the Geotechnical Verification as the minimum reporting standard. In our opinion, the Geotechnical Verification presents a reasonable minimum standard of reporting and elimination of the Geotechnical Letter provides some simplification of the code.

Development Standards

EMC 14.80.040(B) specifies minimum standards for regulated activities within 300 feet of a Landslide Hazard Area. Section 14.80.040(B)(4) of the code states that “The proposed development shall not decrease the factor of safety for landslide occurrence below the limits of 1.5 for static conditions or 1.2 for dynamic conditions.” Until relatively recently, it was unusual for minimum factors of safety to be specified within geologic hazard codes in the Puget Sound region. Prior to that time, minimum acceptable factors of safety were typically based on “standard of practice” values, typically 1.5 for static conditions and 1.1 for dynamic conditions. Within the past several years, incorporation of minimum factors of safety for slopes into geologic hazard codes has become increasingly more common. Although this trend is likely driven primarily by the value such analyses provide to the assessment of landslide hazard risk and the availability of user friendly computer software, recent high-profile landslide events, such as the 2014 Oso landslide, have created a heightened awareness of landslide hazards. During the past several years, design accelerations have also increased dramatically from approximately 0.15g to up to 0.3g in some areas. In our opinion, revision of the code to include minimum factors of safety of 1.5 for static conditions and 1.1 for dynamic conditions provides a reasonable level of conservatism in line with the common standard of practice and other area jurisdictions, such as Bonney Lake and Snohomish County.

EMC 14.80.050 specifies minimum buffer widths around Landslide Hazard Areas. Specifically, the existing codes states that the minimum buffer shall be the greater amount of the following distances:

1. 50 feet from all edges of the Landslide Hazard Area;
2. A distance of one-third the height of the slope at the top of a Landslide Hazard Area;
3. A distance of one-half the height of the slope at the bottom of a Landslide Hazard Area; or,
4. The minimum distance from the edges of the Landslide Hazard Area recommended by the geotechnical professional.

In our opinion, the existing code should be revised to allow reduction of buffer widths below the default values listed above in items 1-3, if it can be demonstrated by the geotechnical professional through BAS that a reduced buffer will not result in an increased risk of landsliding or landslide-related property damage.

Reporting

Minimum reporting requirements are specified in Section 14.80.060 of the code. The following revisions are intended to revise the reporting requirements to be consistent with typical standard of practice and BAS as discussed below.

- We recommend that the requirement for the first page of the document to be titled “Landslide Hazard Geotechnical Verification” or “Landslide Hazard Geotechnical Report” be removed. Typically the contents of either of these documents would be conducted as part of an overall geotechnical engineering report that would address other geotechnical aspects of the project, such as design

values and other geologic hazards. Therefore, the report title as required under the existing code would not be appropriate given the scope of the report content.

- The geotechnical verification or report summary should include a discussion of the observations, subsurface conditions, and documents reviewed to verify compliance with the minimum reporting requirements.
- We recommend removing the requirement for a statement of qualification paragraph as currently specified in Appendix B (A)(9) of the EMC. Reporting requirements already specify that the document must be signed and stamped by a geotechnical professional, which would already be sufficient to demonstrate compliance with the minimum qualification requirements. In addition, the latter part of the statement of qualification consists of a statement verifying that the scope of the investigation is sufficient. It is the intent of any study to meet this standard and if the scope of the investigation is not met, either by incompetency or oversight, the City has the right to respond with review comments.
- We recommend that Appendix C (A)(9)(a) and (A)(9)(b) be removed from the code. These sections of the code specify required geotechnical exploration methods for borings and cone penetrometer tests, as well as detailed descriptions of required exploration log formats. In our opinion, boring log scale, content, sampling methods, and soil descriptions should be at the discretion of the geotechnical professional based on their professional opinion and project specific needs. Boring log scales and formats may vary depending on the type and depth of exploration. Overly detailed descriptions of drilling equipment used may not be useful or appropriate, sampling intervals and methods may vary with project needs and site conditions, and soil classification/descriptions/data presentation should be at the discretion of the licensed geotechnical professional based on project scope and subsurface conditions at the site.
- Appendix C (A)(10) includes a requirement for soil strength and index properties of all soil units encountered at a site to be listed in the report, along with justification for their use. This section appears to be intended for projects where a quantitative slope stability analysis is conducted. Such an analysis is not appropriate for all projects and inclusion of this information may not be applicable. We recommend that where inclusion of this information is appropriate, the format of presentation and basis for justification of the values used be at the discretion of the geotechnical professional.
- Appendix C (A)(12) requires that all reports include a quantitative slope stability analysis. In our opinion, a quantitative slope stability analysis may not be appropriate for all projects. We recommend that the need for a quantitative slope stability analysis be conducted at the discretion of the geotechnical professional with the provision that:
 1. The geotechnical professional must provide justification for not including a quantitative slope stability analysis if one is excluded; and,
 2. The City's geotechnical professional reserves the right to request a quantitative slope stability analysis based on site conditions; and,

3. If a dispute arises between the City's geotechnical professional and the project geotechnical professional regarding the need for a quantitative slope stability analysis, the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute.
- We recommend revising Appendix C (A)(13) to allow design plans and detailed geotechnical recommendations for mitigation of landslide hazards to be submitted in a document separate from the geotechnical report. Development of mitigation plans is often the result of a multi-phased effort and therefore the requirement for all information, including design plans, within a single report may not be practical.

SEISMIC HAZARDS

EMC 14.90.020 states that "Seismic Hazard Areas are areas subject to severe risk of damage as a result of earthquake-induced landsliding, seismic ground shaking, dynamic settlement, fault rupture, soil liquefaction, or flooding caused by tsunamis and seiches." Two factors that contribute to earthquake damage are ground motion and the presence of loose, saturated soils that lose strength during seismic events.

Regional Seismic Issues

All of Western Washington is at risk of strong seismic events resulting from movement of tectonic plates in the Cascadia Subduction Zone (CSZ). Geologic studies have documented large CSZ earthquakes in the past, such as the estimated M 9.0 earthquake that struck the Pacific Northwest in January 1700 (Obermeier and Dickenson, 2000). This earthquake was centered near the Washington coast. Other potential sources of strong ground motion events in the Edgewood area include the Tacoma and Seattle Faults. The Tacoma Fault is an east-west trending fault zone that spans Puget Sound north of Tacoma. Recent studies have identified evidence of a large (approximately M 7) seismic event near the Tacoma Fault Zone approximately 1,100 years ago (Gomberg et al., 2010). The Seattle Fault, also an east-west trending fault zone, extends through Seattle, extending east in the vicinity of the I90 corridor (Johnson et al., 2004). Studies have indicated that movement along the Seattle Fault caused on earthquake with an estimated magnitude of 7.5 approximately 1,000 years ago (Brink et al., 2006). Earthquakes could also originate from movement along other crustal faults, such as the M 6.8 Nisqually Earthquake in 2001.

Area-Specific Conditions

Liquefaction

During an earthquake, subsurface soils are subjected to a series of cyclic shear stresses that vary in magnitude. Saturated, loose granular sediments subjected to these cyclic loading conditions can develop rapid increases in the pore pressures within the sediments sufficient to cause a sudden loss of strength. This rapid increase in pore water pressure can transform loose, saturated, granular soil to a liquid state (liquefaction), with a loss in the ability to support loads resulting in settlement. Seismically induced settlement of unsaturated sediments, known as dynamic settlement, can also occur. Soil types most susceptible to dynamic settlement are similar to those prone to liquefaction.

The most significant BAS document for liquefaction hazards in the city of Edgewood is the *Liquefaction Susceptibility Map of Pierce County* by Palmer et al. (2004). This map and the accompanying report, titled *Liquefaction Susceptibility and Site Class Maps of Washington State, By County* were prepared by the Washington Department of Natural Resources (DNR) to describe the location and extent of earthquake hazards in Washington. One of the stated purposes of the report was to allow local jurisdictions “to delineate earthquake hazardous areas and enforce Critical Areas ordinances as required by the State Growth Management Act.” The report also states that “local building officials will be able to use these maps to help delineate areas requiring thorough geotechnical investigation in their enforcement of state and local building codes.”

Review of the *Liquefaction Susceptibility Map of Pierce County* indicates that within the Edgewood area, areas most susceptible to liquefaction include those portion of the city that extend into the valley floors of the White and Puyallup Rivers. These areas are underlain by loose, post-glacial alluvial deposits accompanied by a relatively shallow ground water level.

Tsunami Hazards

The most current source of information regarding tsunami hazards in the Edgewood area is the *Tsunami Hazard Map of Tacoma, Washington* by Walsh et al., 2009.

Ground Motion

Another important source of information for seismic data in the city of Edgewood is the U.S. Geological Survey Earthquake Hazards Program website (<https://earthquake.usgs.gov/designmaps/us/application.php>). This source of information provides seismic design maps for the entire U.S., including probabilities of earthquake ground motions which are used to provide design values for the seismic provisions of building codes, risk assessment, and public policy.

The following engineering manuals are periodically updated to address potential ground motions for design of buildings and other structures. The methodologies for obtaining engineering design values based on the current USGS probabilistic and deterministic ground motion parameters for designing structures.

- Recommended Seismic Provisions for New Buildings and Other Structures, FEMA P-1050 (“2015 NEHRP Provisions”) (NEHRP, 2015);
- 2015 Minimum Design Loads for Buildings and Other Structures, ASCE 7-16 (“2016 ASCE-7 Standard”) (ASCE, 2016); and,
- 2015 International Building Code (International Code Council, 2015).

These three manuals represent the BAS for seismic design of structures.

Review of Existing Regulations

The following is a description of suggested changes, organized by category within the code. Some of the suggested changes presented below are discussed in general terms and may not refer to specific code citations. For a more detailed description of the suggested changes, please refer to the Gap Analysis Matrix.

Seismic Hazard Mapping

We recommend that references in the code to the *Critical Areas Atlas* or to the DNR *Liquefaction and Dynamic Settlement Hazard Table* be replaced by a reference to the new Geologically Hazardous Areas map. The Liquefaction and/or Dynamic Settlement Hazard Area to be included on the new map should be based on the previously referenced *Liquefaction Susceptibility Map of Pierce County*.

Tsunami and Seiche Hazards

We recommend that EMC 14.90.020(B)(4) and any other references in the code to tsunami and seiche hazards be removed. Review of the *Tsunami Hazard Map of Tacoma, Washington* by Walsh et al., 2009 indicates that projected tsunami inundation associated with seismic events on the Seattle and Tacoma Faults does not extend into the Edgewood city limits. Based on correspondence with Timothy Walsh, assistant State geologist with Washington DNR, we also understand that inundation models for CSZ seismic events also indicate that tsunami inundation would not extend into the city of Edgewood (Walsh, pers. Comm, June 8, 2017).

A seiche is a temporary disturbance or oscillation in the water level of a lake or partially enclosed body of water in response to seismic activity. Given the lack of large surface water bodies in the city of Edgewood, it is our opinion that the risk of damage resulting from a seiche in the city of Edgewood is low.

Gas Pipelines

EMC 14.90.040(B)(2) prohibits the use of gas pipelines in Liquefaction and Dynamic Settlement Hazard Areas. We recommend that this be reviewed by a mechanical engineer to confirm if this is necessary.

Reporting

Minimum reporting requirements are specified in Sections 14.90.030(B) and 14.90.060 of the code. The following revisions are intended to revise the reporting requirements to be consistent with typical standard of practice and BAS as discussed below.

- The existing code describes three types of geological assessment reports. In order of increasing complexity, these include Geotechnical Letter, Geotechnical Verification, and Geotechnical Report. The code specifies the conditions in which each of these three types of reports are required. In general, the complexity of the required report is based on the proximity of the site (or project area within a site) to a Liquefaction or Dynamic Settlement Hazard Area as determined by the geotechnical professional. We recommend that the Geotechnical Letter be removed from the code and replaced with the Geotechnical Verification as the minimum reporting standard. In our opinion, the Geotechnical Verification presents a reasonable minimum standard of reporting and elimination of the Geotechnical Letter provides some simplification of the code.

- We recommend that EMC 14.90.030(B)(5) be revised to require that geologic assessments be stamped by the geotechnical professional. This requirement is consistent with the standard of practice and eliminates the need for the compulsory statement of qualifications paragraph in EMC 14.90.060, Appendix A, Article I, (A)(3) and other similar compulsory paragraphs.
- We recommend that the requirement for the first page of the document to be titled “Liquefaction or Dynamic Settlement Hazard Verification” or “Liquefaction or Dynamic Settlement Hazard Geotechnical Report” be removed. Typically the contents of either of these documents would be conducted as part of an overall geotechnical engineering report that would address other geotechnical aspects of the project, such as design values and other geologic hazards. Therefore, the report title as required under the existing code would not be appropriate given the scope of the report content.
- We recommend that the requirement for a topographic survey with 2-foot contours be removed from the code because topography is not typically relevant to liquefaction or dynamic settlement hazards.
- We recommend that the requirement to include a site plan with the locations of the proposed clearing limits, structures and other improvements be eliminated. It is common for geotechnical studies to be conducted early in the design phase of the project when the locations of proposed features are conceptual, unknown, or dependent on the findings of the geotechnical study.
- We recommend that EMC 14.90.060, Appendix A, Article III(A)(3)(b) be revised to eliminate the requirement to provide mitigation options resulting in a range of structural damage. Depending on the project and site conditions, evaluation of a range of options may not be necessary. Also, geotechnical evaluations of liquefaction or dynamic settlement hazards are typically limited to an evaluation of anticipated seismically induced settlement. Determination of how the predicted settlement translates into structural damage lies outside of the field of geotechnical engineering/engineering geology.
- We recommend that the code be revised to eliminate the requirement for all site plans to be drawn to specific scales. As long as the site plan is drawn to scale, the geotechnical professional should be able to use their own discretion to determine the scale of the drawing. Setting mandatory scale sizes in the code could result in excessively large plans or other undesirable results.
- We recommend that the requirement for the geotechnical professional to provide a recommendation for a setback from Liquefaction and/or Dynamic Settlement Hazard Areas should be deleted from the code. Typically mitigation of these hazards is accomplished through the use of deep or modified foundations, or ground improvement techniques, not setbacks.
- We recommend that EMC 14.90.060, Appendix A, Article III(A)(5) be revised to exclude specification of the type of field exploration to be conducted. In our opinion, revision of this section of the code to read: “The geotechnical study shall include field exploration sufficient to assess the potential for liquefaction or dynamic settlement hazards and options for mitigation of those hazards. Copies of the exploration logs shall be included in the report. The project geotechnical professional must provide justification for the scope of the field exploration program. The City’s geotechnical

professional reserves the right to request additional exploration if deemed appropriate. If a dispute arises between the City's geotechnical professional and the project geotechnical professional regarding the scope of the field exploration, the City reserves the right to require an independent, third party review to be paid for by the applicant to resolve the dispute." This modification retains the requirement for subsurface exploration, but leaves the type of exploration, and other details (such as the exploration log format) up to the discretion of the geotechnical professional. It also includes provisions to require additional field exploration, if necessary, if the scope of the field exploration conducted falls short of the normal standard of practice as determined through independent third party review.

- We recommend that EMC 14.90.060, Appendix A, Article III(A)(7) be modified to require use of ground motion parameters equivalent to the most current version of the *International Building Code* (IBC).
- We recommend that EMC 14.90.060, Appendix A, Article III(A)(9) be modified to eliminate the reference to Youd and Idriss (1997). This reference is out of date and research in this area is on-going. The proposed revision leaves the methodology of analysis open to "state-of-the-practice methodologies."
- EMC 14.90.060, Appendix A, Article III(A)(10) specifies that the geotechnical report shall include an assessment of a wide variety of failure mechanisms. Some of these failure mechanisms, such as settlement, are applicable to all liquefaction-prone sites, but others, such as lateral spreading or flotation of buried facilities, are uncommon or not applicable to areas within the city. For this reason, we recommend that this section be prefaced with "When appropriate,". The revised wording is intended to limit the need for analysis to hazards of concern.
- EMC 14.90.060, Appendix A, Article III(A)(11) specifies minimum reporting requirements regarding mitigation of seismic hazards, including mitigation options, inclusion of final design, plans, and specifications if applicable, performance standards and verification testing requirements for ground improvement. Because geotechnical reports typically include geotechnical design recommendations, but not actual plans and specifications (which are usually prepared by others), we recommend that this section of the code also include a statement specifying that geotechnical review of all design plans is required and shall be documented in writing.
- We recommend that EMC 14.90.060, Appendix B, Item (A)(3)(d)(ii) be modified to include review of LiDAR mapping.

EROSION HAZARDS

Soil erosion is defined as the wearing away of the earth's surface as a result of the movement of wind, water, or ice (Pierce County, 2015). Factors influencing erosion potential include soil characteristics, vegetative cover, topography, and climate (Washington State Department of Ecology [Ecology], 2014). Water is typically the primary agent contributing to erosion in Western Washington. Sedimentation is defined as the gravity-induced settling of soil particles transported by water (Ecology, 2014). In order to mitigate impacts associated with erosion and sedimentation, Temporary Erosion and Sedimentation Control (TESC) plans are generally

required by municipalities for grading activities. In addition, seasonal grading restrictions are also commonly implemented to reduce the risk of erosion hazards during the wet season (typically between October 31st and April 1st).

Erosion Hazard Impacts

Potential impacts of erosion and sedimentation include (Ecology, 2014):

1. Natural, nutrient-rich topsoils erode. Re-establishing vegetation is difficult without applying soil amendments and fertilizers.
2. Silt fills culverts and storm drains, decreasing capacities and increasing flooding and maintenance frequency.
3. Detention facilities fill rapidly with sediment, decreasing storage capacity and increasing flooding.
4. Sediment clogs infiltration devices, causing failure.
5. Sediment causes obstructions in streams and harbors, requiring dredging to restore navigability.
6. Shallow areas in lakes form rapidly, resulting in growth of aquatic plants and reduced usability.
7. Nutrient loading from phosphorus and nitrogen attached to soil particles and transported to lakes and streams cause a change in the water pH, algal blooms, and oxygen depletion, leading to eutrophication and fish kills.
8. Water treatment for domestic uses becomes more difficult and costly.
9. Turbid water replaces aesthetically pleasing, clear, clean water in streams and lakes.
10. Eroded soil particles decrease the viability of macro-invertebrates and food-chain organisms, impair the feeding ability of aquatic animals, clog gill passages of fish, and reduce photosynthesis.
11. Sediment-clogged gravel diminishes fish spawning and can smother eggs or young fry.

Erosion Hazard Mapping

The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has mapped soils throughout Pierce County and provides erosion hazard ratings for each of the mapped soil types. The predecessor of the NRCS, known as the Soil Conservation Service, published the Soil Survey for Pierce County in 1979. Updated soil survey data is now available on line through the NRCS through their Web Soil Survey <https://websoilsurvey.nrcs.usda.gov/app/>. This is the best source of information for soil erosion hazards in Pierce County and represents BAS.

Erosion and Sedimentation Control

Regulatory protection for Erosion Hazard Areas in Western Washington typically include the following:

- Required preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for land-disturbing activities. The 13 essential elements of a SWPPP are defined in the 2014 Washington State Department of Ecology *Stormwater Management Manual for Western Washington*, typically referred to as the “Ecology Manual.”
- Implementation of permitting requirements through the Construction Storm Water General Permit (also known as the National Pollutant Discharge Elimination System [NPDES] permit).
- Required TESC monitoring by a Certified Erosion and Sediment Control Lead (CESCL) for the duration of the construction.
- Vegetation management.
- Seasonal clearing and grading restrictions.

Best Management Practices (BMPs) for erosion and sedimentation control for each of the 13 essential elements of a SWPPP are defined in the 2014 Ecology Manual and represent BAS.

Review of Existing Regulations

The following is a description of suggested changes, organized by category within the code. Some of the suggested changes presented below are discussed in general terms and may not refer to specific code citations. For a more detailed description of the suggested changes, please refer to the Gap Analysis Matrix.

Erosion Hazard Indicators, Categories, and Review Procedures

Erosion hazard indicators and categories are defined in EMC 110.020 and EMC 110.030. The following changes are intended to revise this section of the code to be consistent with typical standard of practice and BAS.

- EMC 14.110.020(A)(1) refers to areas of active bluff retreat. In the Puget Lowland, the term “bluff” is normally used to refer to describe a steep slope or cliff along a marine shoreline area. Because no marine shoreline areas exist in the city of Edgewood, we recommend that this section be removed from the code. Other references in the code to marine shorelines should also be removed, such as those in EMC 14.110.020(A)(2), EMC 14.110.030(B)(3), and EMC 14.110.030(B)(6).
- We recommend that all references in the code to the Critical Areas Atlas be replaced with a reference to the new Geologically Hazardous Areas map. For ease of use, we also recommend that this map be made available on line. The Geologically Hazardous Areas map should be revised to include Erosion Hazard Areas and Potential Erosion Hazard Areas as defined in EMC 14.110.020.
- We recommend that EMC 110.030(B)(2) be revised to include review of LiDAR-based mapping.

Buffer Widths

We recommend that EMC 110.050(A)(2) be revised to allow reduction or elimination of the shoreline buffer widths specified in EMC 110.050(A)(2)(a) and EMC 110.050(A)(2)(b) upon approval by the Department of a geotechnical report that demonstrates that such a reduction would not result in an increased risk of erosion either on or off of the subject property. This modification to the code would open the possibility of reducing or eliminating the buffer if it can be justified by site conditions and BAS.

Reporting

Minimum reporting requirements are specified in Sections 14.110.060 of the code. The following revisions are intended to revise the reporting requirements to be consistent with typical standard of practice and BAS as discussed below.

- We recommend that the requirement for the first page of the document to be titled “Shoreline Erosion Hazard Letter,” “Shoreline Erosion Hazard Verification,” or “Shoreline Erosion Hazard Report” be removed. Typically the contents of any of these documents would be conducted as part of an overall geotechnical engineering report that would address other geotechnical aspects of the project, such as design values and other geologic hazards. Therefore, the report title as required under the existing code would not be appropriate given the scope of the report content.
- We recommend that EMC 14.110.060, Appendix A, Item 5, EMC 14.110.060, Appendix B, Item 6, and EMC 14.110.060, Appendix C, Item 6 be revised to include a statement that the document will include a summary of the findings of the site visit, a site plan, and a summary of the findings from review of the documents listed in EMC 14.110.030(B)(2). This requirement would verify compliance with the minimum assessment requirements per 14.110.030(B)(2).
- We recommend that EMC 14.110.060, Appendix A, Item 6, EMC 14.110.060, Appendix B, Item 8, and EMC 14.110.060, Appendix C, Item 8 be removed from the code. These sections of the code consist of a statement of qualification. By definition, a licensed geotechnical professional is qualified. If the report is signed and stamped by a geotechnical professional as required under EMC 14.110.030(B)(4), the intent of this paragraph is satisfied. The latter part of this paragraph, which consists of a statement verifying that the scope of the investigation is sufficient, is unnecessary. It is the intent of any study to meet this standard and if the scope of the investigation is not met, whether by incompetency or oversight, the City has the right to respond with review comments.

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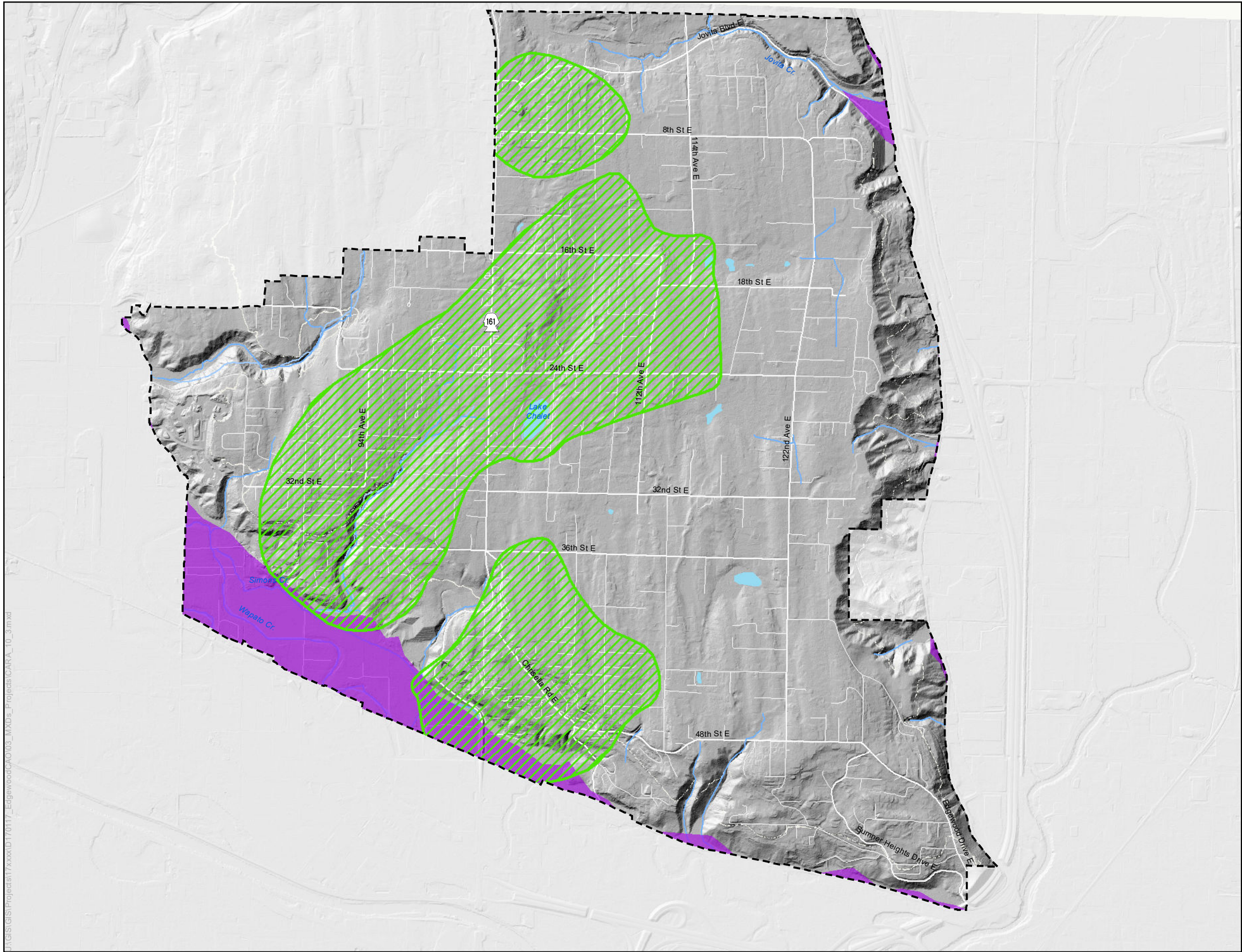
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City of
Edgewood

**ENVIRONMENTALLY
CRITICAL AREAS INVENTORY**

**Critical Aquifer
Recharge Areas**

-  City Boundary
-  Waterbodies
-  Streams/Drainage Courses
-  Vulnerable Aquifer Recharge Areas
-  Wellhead Protection Areas

0 0.5
Miles



SOURCE: City of Edgewood, 2017; Pierce County, 2015 & 2017; Puget Sound LiDAR Consortium, 2008; Robinson Noble, 2005

This figure is intended for planning purposes only. Environmentally critical areas layers depicted in this figure are based on available City of Edgewood, Pierce County, and Washington State inventory information, and do not represent surveyed boundaries. The City makes no representation or warranty as to this product's accuracy or location of any mapped features. For more information, contact the City of Edgewood.





City of
Edgewood

ENVIRONMENTALLY CRITICAL AREAS INVENTORY

Frequently Flooded Areas

- City Boundary
- Waterbody
- City Identified Flood Hazard Areas
- FEMA Floodway
- City-Identified Floodway
- FEMA 100-Year Floodplain
- City-Identified 100-year Floodplain

0 0.5
Miles

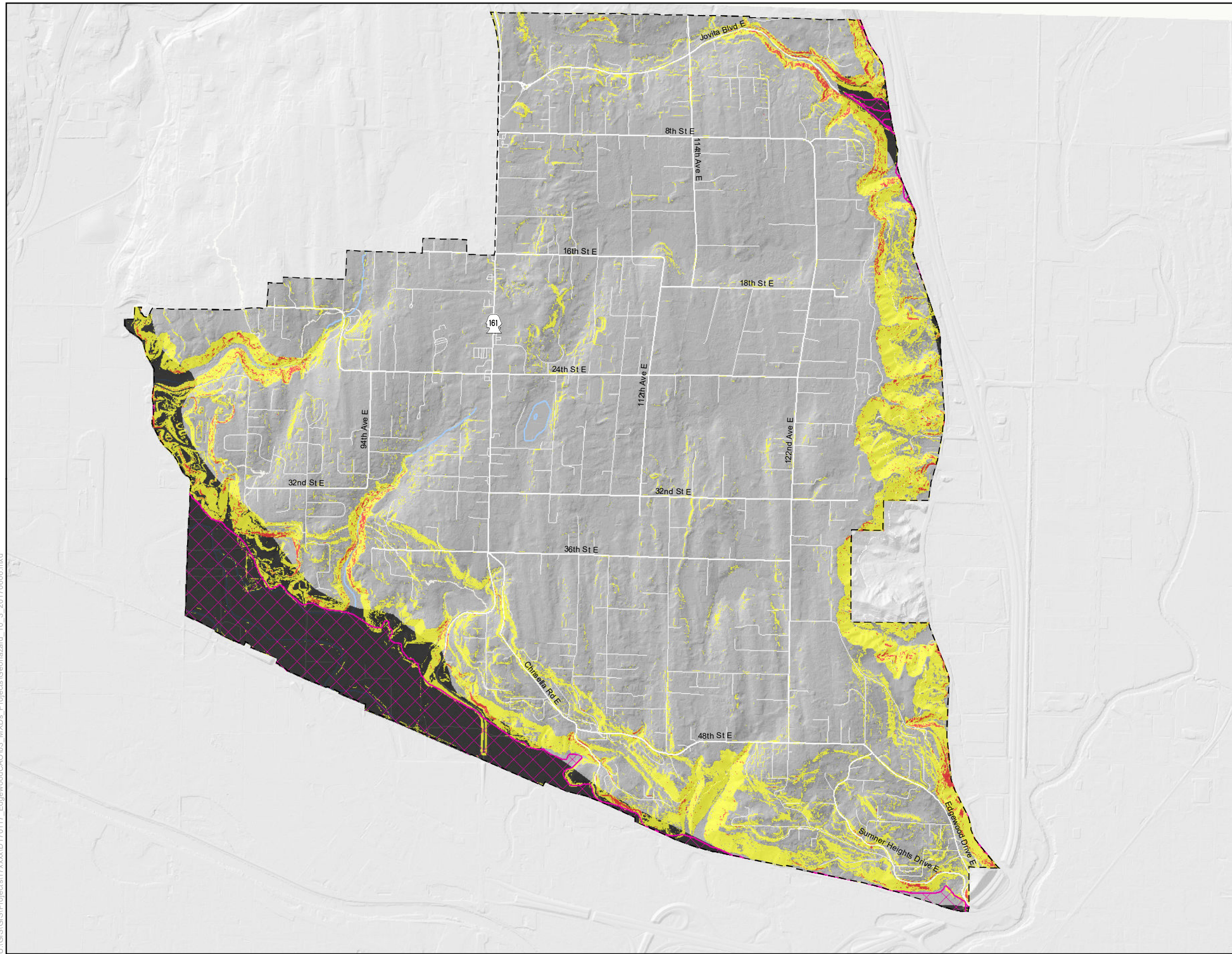


SOURCE: City of Edgewood, 2005 & 2017; FEMA, 1987;
Puget Sound LiDAR Consortium, 2008

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City of
Edgewood

ENVIRONMENTALLY CRITICAL AREAS INVENTORY

Geologically Hazardous Areas

- City Boundary
- Steep Slope Indicator
- Landslide Hazard Indicator
- Liquefaction and Dynamic Settlement Hazard Areas
- Volcanic Hazard

0 0.5
Miles

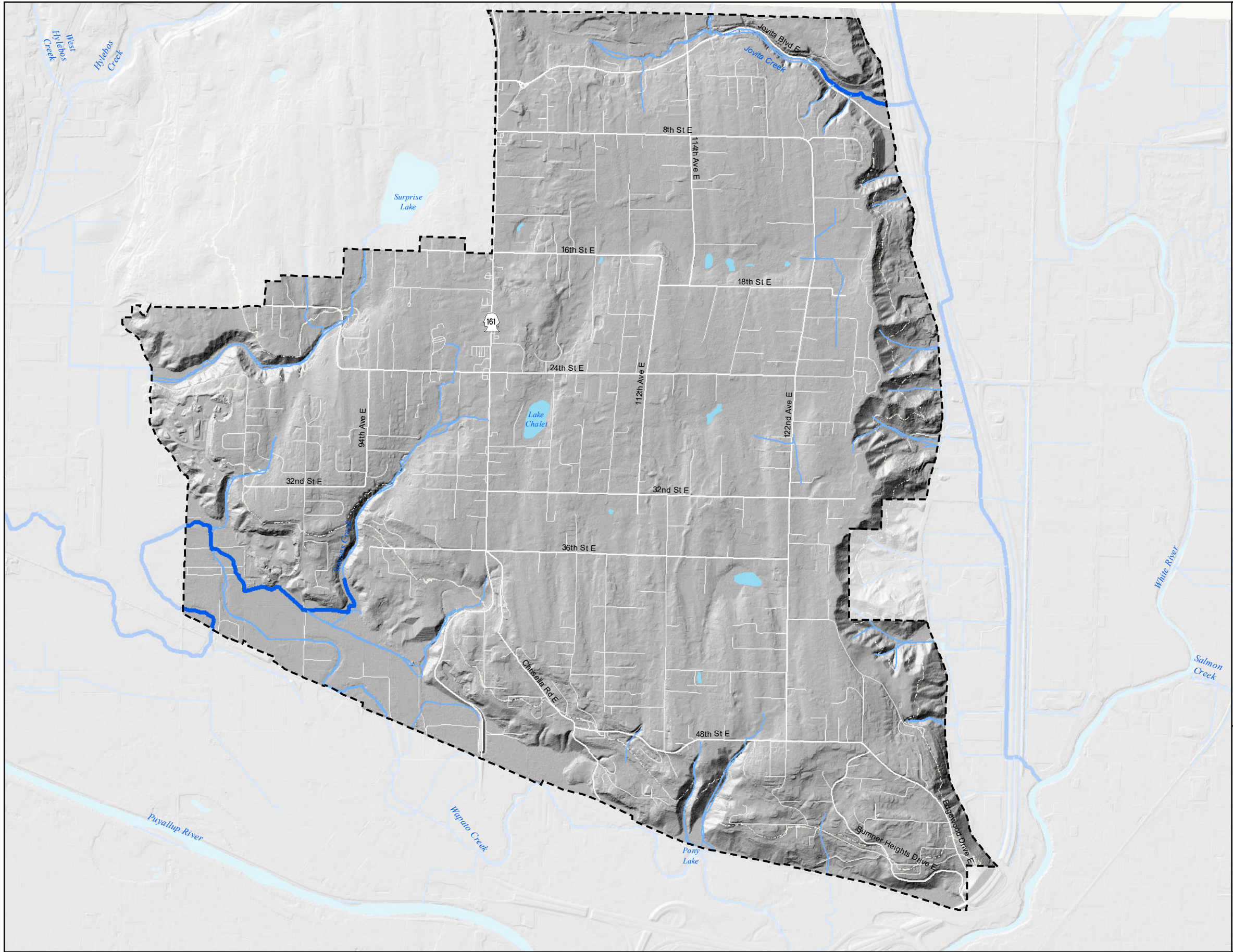


SOURCE: Pierce County, 2005 & 2012; WDNR, 2004;
Puget Sound LiDAR Consortium, 2008

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City of
Edgewood

ENVIRONMENTALLY CRITICAL AREAS INVENTORY

Streams

- City Boundary
- Waterbodies
- Untyped Stream/Drainage Course*
- Type F Stream (Fish Bearing)

* Untyped streams, as shown in this map, may be fish bearing. Assessment by WDFW and/or a qualified fisheries biologist may be required to determine fish presence or absence.

0 0.5
Miles

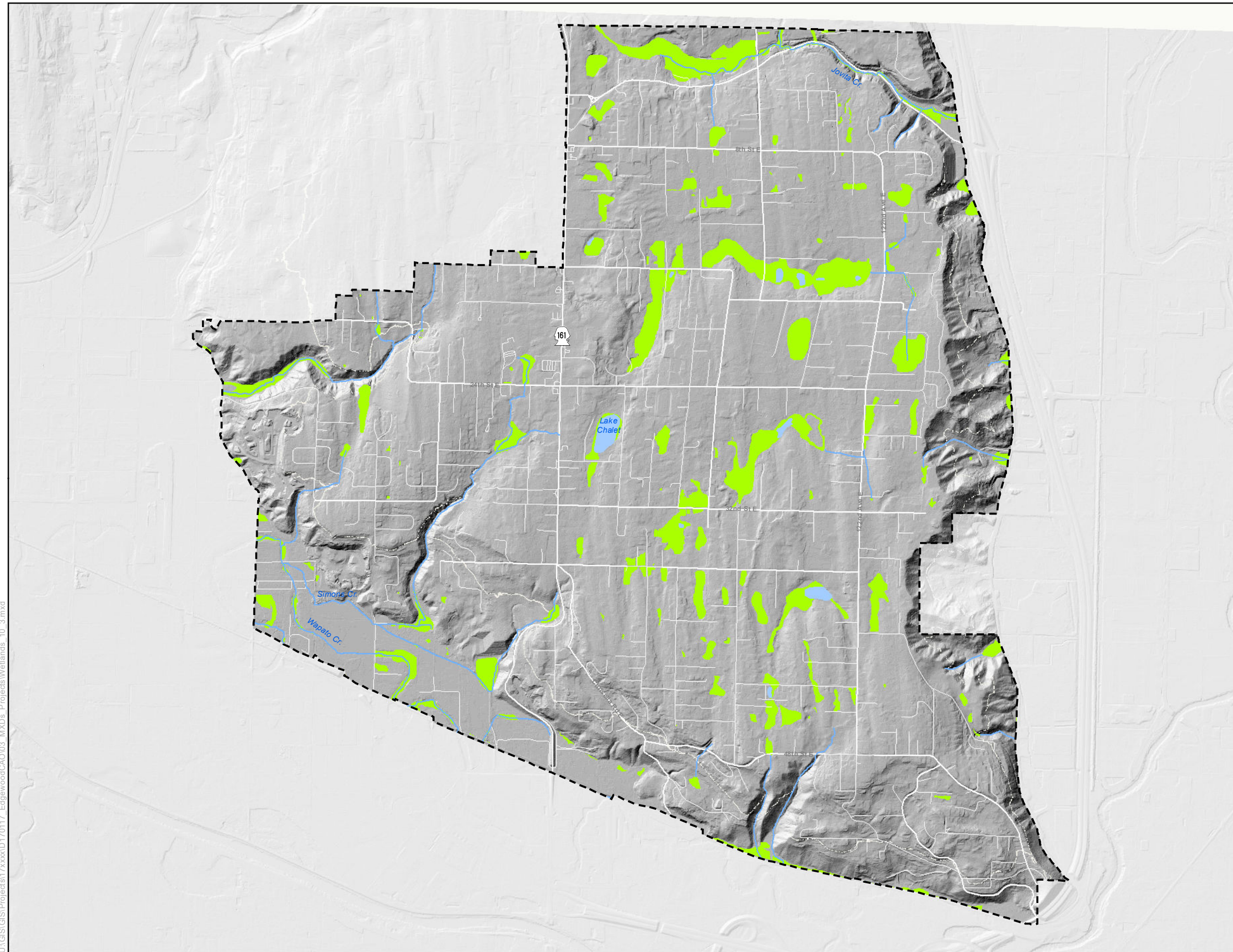


SOURCE: City of Edgewood, 2017; Pierce County, 2017; WDFW, 2017; Puget Sound LiDAR Consortium, 2008

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City of
Edgewood

ENVIRONMENTALLY CRITICAL AREAS INVENTORY

Wetlands

- City Boundary
- Waterbodies
- Streams/Drainage Courses
- Potential Wetlands

0 0.5
Miles



SOURCE: City of Edgewood, 2005 & 2017; Pierce County, 2010 & 2016

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CITY OF EDGEWOOD
STAFF REPORT
STUDY SESSION AGENDA ITEM: SWMP Update

Date: August 29, 2017

Title: Surface Water Management Plan Update – Status and Schedule

Attachments: None at this time – Materials to be forthcoming

Submitted By: Jeremy Metzler, PE – Senior Engineer / SW Program Manager

Approved For Agenda By: Daryl Eidinger, Mayor

Discussion: Continuing our discussion from August 1, as we work on our comprehensive Surface Water Management Plan (SWMP) update, we have received two more draft “white” papers for review and discussion: one is regarding infiltration of surface water into an aquifer, and the other identifies gaps and concerns regarding our utility rate structure.

The aquifer infiltration paper contains evidence of successful systems installed throughout the region, and recommends methods of installation and maintenance. Once this paper is finished, we hope to perform our initial subsurface investigations and start preparing grant applications for ongoing design and implementation. The utility rate paper identifies a significant inequity between our commercial and residential rates. Edgewood’s commercial rate is 25% of the residential rate, even though commercial properties typically impose a higher cost on surface water utilities.

At this time, we plan to discuss the SWMP Update in further detail with the Planning Commission on September 18, followed by debrief with Council at the September 19 Study Session. A public workshop is planned for Monday, September 25, 2017, to formally gather public input and ensure a transparent process. This schedule maintains our target completion date of late November / early December.

Recommendation: While no action is required at this time, a capital budget amendment is expected soon (see Fiscal Impact, below). We will continue to update the Council as progress is made, and we welcome any comments and input the Council may have throughout the process.

Fiscal Impact: The SWMP Update is fully under contract and paid for exclusively by existing Surface Water Utility Funds. As the rate analysis and Capital Improvement Plan components continue taking shape, we anticipate revisions to the City’s existing Surface Water Rates, and there will be several opportunities for public input and discussion before any such revisions are made.

In order to fully evaluate the pothole flood control concept of aquifer infiltration, we hope to monitor both surface and aquifer water levels and contaminants during the coming wet season, which may require a capital budget amendment. Staff will provide more details as they become available.