WHEREAS, the Board of Jefferson County Commissioners ("the Board") has, as required by the Growth Management Act, as codified at RCW 36.70A.010 et seq., adopted the Jefferson County Comprehensive Plan (the "Plan"), a Plan that was originally adopted by Resolution No. 72-98 on August 28, 1998 and subsequently later amended, and;

WHEREAS, in furtherance of the Plan, the County adopted its GMA-derived development regulations, known locally as the Unified Development Code (or "UDC"), in December 2000 to be effective as of January 16, 2001, and;

WHEREAS, the UDC, upon its adoption, was timely challenged through means of not less than five Petition For Reviews ("PFRs") filed with the Western Washington Growth Management Hearings Board (or "WWGMHB"), and

WHEREAS, another of the five PFRs was filed by two citizens' groups: the Olympic Environmental Council and the Shire Community Action Council; and

WHEREAS, the PFR filed by these citizens' group proceeded through to a Hearing on the Merits before the WWGMHB in December 2001; and

WHEREAS, the WWGMHB ruled against the County on all but one issue (that one issue being the sufficiency of protections offered critical areas with respect to the installation of asphalt batch plants) by publishing a Final Decision and Order (or "FDO") in January 2002 that mandated this County to undertake and implement six distinct steps; and
ORDINANCE NO. 07-0723-02 re: Seawater Intrusion

WHEREAS, that FDO listed as mandate or directive #1 that this County enact as part of the UDC the four housekeeping changes listed in the Response Brief of the County and discussed at the Hearing on the Merits; and

WHEREAS, Ordinance #04-0422-02, adopted April 22, 2002, put the County in compliance with mandate #1 of the FDO; and

WHEREAS, this Ordinance amends the UDC so that it reflects and includes the changes the County was required to make in order to gain compliance with directives #2 through #6 of the FDO.

NOW, THEREFORE, BE IT ORDAINED by the Board of County Commissioners that they approve the following revisions and additions to the UDC and;

BE IT FURTHER ORDAINED by the Board that they make the following general Findings of Facts applicable to these revisions and additions to the UDC:

Section 1 - General Findings of Fact for Revisions and Additions to the UDC:


2. The Growth Management Act, which mandates that Jefferson County generate and adopt a Comprehensive Plan, also requires that there be in place a process to amend the Comprehensive Plan.

3. These amendments to the County’s UDC are being made in order to resolve certain litigation before the WWGMHB, specifically the PFR timely filed by two citizens’ groups, the Olympic Environmental Council and the Shine Community Action Council.

4. The elected County Commissioners and staff discussed possible routes to compliance, including adopting UDC amendments, after the FDO was issued, specifically in meetings open to the public during February and March of 2002.

5. Staff presented in writing possible routes to compliance in early March 2002. But the County Commissioners wanted to open this discussion about seawater intrusion to the entire populace of the County.
6. In the spirit of the GMA, which requires "early and continuous" participation by all who are interested and/or expressly or potentially affected by any proposed GMA-derived regulations, the County Commissioners decided to empower a stakeholder group to discuss the issues of seawater intrusion and return to them with a report within 30-45 days. The County Commissioners took the formal step of empowering the stakeholder group on April 8, 2002.

7. The stakeholder group was specifically informed that the task before them was not whether or not this County should impose regulations to protect impacted regions from seawater intrusion but instead was to determine the how and the what of the regulations that would be put in place.

8. The stakeholder group consisted of nine persons, including the representative of the Petitioners. The stakeholders met four times and an outside consultant was present at all the meetings to facilitate the process. A non-voting County representative was present at the meetings not to offer opinions but to simply offer information.

9. The stakeholder group made its report to the elected Commissioners in late May 2002.

10. The recommendations of the stakeholder group, as memorialized in a document entitled "Coastal Seawater Intrusion Policy" prepared by the County’s Natural Resources Director, were discussed and reviewed by County staff in another public meeting of the elected Commissioners on June 10, 2002.

11. Proposed UDC amendments, reflecting the substance and content of the policy paper prepared by the County’s Natural Resources Division Manager, were prepared by County planners and, with the approval of the elected County Commissioners, sent to the County Planning Commission for review by that advisory body.


13. The Planning Commission prepared a written recommendation and sent that recommendation to the elected County Commissioners.

14. The policy document prepared by the County’s Natural Resources Division Manager describes the “adaptive management practices” that will be undertaken, enacted and implemented by the County Commissioners if data collected indicates, via scientifically valid methods, a “statistically significant degradation
of water quality in a particular region of the County due to seawater intrusion.” They are:

- Adopt a moratorium in the affected area on the issuance of building permits for which individual groundwater wells are proposed as proof of potable water until such time as area water quality improves or a plan is developed with the objective of improving area water quality.
- Adopt a moratorium on subdivisions in the affected area that propose individual groundwater wells as proof of potable water until such time as area water quality improves or a plan is developed with the objective of improving area water quality.
- Arrange for a public vote to form an aquifer protection district (RCW 36.36) or petition Ecology to form a groundwater management area (per WAC 173-100).

15. The policy document is being adopted by this County Commission separately but simultaneously as a Resolution of this elected body.

16. Adoption of the policy document via a Resolution serves to place this County in partial compliance with a portion of FDO Directive #4.

17. All types of building permits that require proof of potable water use are subject to this policy, specifically building permits for new single-family residences (SFRs) or other structures with plumbing that are not associated with an existing SFR, e.g., shops or garages with a bathroom.

18. The attached UDC amendments serve to “classify and designate vulnerable seawater intrusion areas,” as is required by FDO Directive #2, by classifying three types of “Seawater Intrusion Protection Zones,” or “SIPZ’s.”

19. The first type of SIPZ is known as a “Coastal” SIPZ. A Coastal SIPZ is found on all islands within the County and any other area within ¼ mile of a shoreline as long as there is no history of any individual well having a chloride reading in excess of 100 mg/L or parts per million (“ppm”) within 1000 feet of any new well or any well that is to be used as a source for potable water. The landowner must undertake certain mandatory and voluntary measures if the land in question falls within a Coastal SIPZ.

20. The second kind of SIPZ is known as an “At Risk” SIPZ. An At Risk SIPZ is found within 1000 feet of any groundwater source showing a chloride reading between 100 and 200 ppm. Again, the landowner must undertake certain mandatory and voluntary measures if the site of the well in question falls within or creates an At-Risk SIPZ.
21. The final type of SIPZ is known as a “High Risk” SIPZ. A High Risk SIPZ is found within 1000 feet of any groundwater source showing a chloride reading in excess of 200 ppm. Much like with the “At Risk” SIPZ, certain protective measures will be mandatory for new wells or wells newly needed for proof of potable water if that well is located within or creates a High Risk SIPZ.

22. Note well that not until potable water has a chloride reading that exceeds 250 ppm does that potable water exceed the United States Environmental Protection Agency secondary standard promulgated pursuant to the National Secondary Drinking Water Regulations. In Jefferson County any individual well with a chloride reading in excess of 250 ppm will require a “Notice to Title” to be recorded with the County Auditor’s land records indicating that the well water contains unacceptable (according to the US EPA) salinity.

23. All of the numbers listed in paragraphs #19 through #22, both in terms of a) distances and b) categorizing risk levels by the chloride readings found in the water of any particular well, are based upon the ‘best available science’ found and described in various reports placed before the Jefferson County Commissioners during the last seven years, including, but not limited to, the Washington State Department of Ecology Bulletin #59 [relating to Marrowstone Island,] the Hong West report and the 1996 report of the Pacific Groundwater Group.

24. However, in some cases, high chloride readings may be indicative of what is called “connate” seawater (i.e., relic seawater in aquifers as opposed to active seawater intrusion). When best available science or hydrogeologic assessment demonstrates that high chloride readings in a particular area are the result of connate seawater being present then the area in question shall NOT be considered to be an “At Risk” or “High Risk” SIPZ. The Chimacum valley is an example of this type of area. If the status of a region or area is in question, then the UDC Administrator is responsible for making the determination based upon a recommendation from the Department of Health and Human Services.

25. The stakeholder group was familiar with and used these same BAS reports when deciding on distances and the categorization of risk according to the quantity of chloride found in any particular well water sample.

26. These UDC amendments also reflect the County’s “develop[ment] and adopt[ion] [of] protection standards for CARA’s, based on BAS, to prevent further groundwater degradation from seawater intrusion,” the mandate of item #3 listed in the FDO handed down by the WWGMHB.

27. While all the protection standards will not be listed here since they are found in the UDC amendments and the distinct “policy” document, the protection standards
implemented by the County include mandating that no new well be built within any category of SIPZ if that residence or business can instead be hooked up to a public water system.

28. Most, if not all of the protection standards are mandatory in any High Risk SIPZ. The MANDATORY protection standards within a High Risk SIPZ include water conservation measures, installation of a flow meter, ongoing well monitoring for chloride concentrations, submittal of that monitoring data to the County and a waiver (permission) from the State Department of Ecology for the installation of any well that is within 1,100 feet (1,000 feet zone and 100 foot buffer) of another well showing chloride concentrations in excess of 200 ppm.

29. In situations where there is a lesser risk of seawater intrusion into the groundwater, i.e., well locations found inside either the “At Risk” or “Coastal” SIPZ’s, certain of the mandatory protection standards become voluntary.

30. But for any individual well in an “At Risk” or “High Risk” SIPZ, the ongoing monitoring of the chloride levels found in that well’s water is and shall remain mandatory. Also mandatory is the reporting of that data to the appropriate officials in order to monitor that well for potential degradation of the aquifer it is attached to and/or the area within 1000 feet of that well.

31. The UDC, as a GMA-derived development regulation, is not well-suited to answer many of the procedural and substantive questions about the monitoring of chloride levels that the County intends to perform in order to gather the data that will allow it to take a scientific approach to “regularly evaluat[ing] the effectiveness of adopted performance standards, as is mandated by FDO Directive #4.

32. But certain other steps that the County has agreed to do put this County in compliance with FDO Directive #4. These are some of the other action steps the County has promised to undertake in order to protect any and all groundwater sources, as reflected in the adoption of the “policy” Resolution simultaneously to the adoption of this Ordinance:

• Enter into a contract with PUD No. 1 of Jefferson County with respect to a monitoring program and data exchange;
• Standardize chloride sampling in a manner that assures quality control;
• Establish other well monitoring locations, as resources allow;
• Coordinate data interpretation and application through the Water Resource Inventory Area (WRIA) 17 Planning Unit; and
• Seek grant funding for additional research and encourage State and Federal partners to conduct research related to the issue of seawater intrusion in Jefferson County.
33. Jefferson County also intends to do outreach and education programs for the citizens to increase awareness about the need to protect groundwater sources. Listed below are items this County intends to pursue with respect to public education programs:

- Conduct education and outreach programs through Washington State University (WSU) Extension;
- Establish Memorandum of Understanding (MOU) with WSU for the education/outreach program;
- Encourage water conservation measures countywide;
- Mandate water conservation measures in high risk SIPZ; and
- Contact new Jefferson County residents/property owners regarding groundwater use and protection or implement another means of public notice, as resources allow.

34. The County also intends to strengthen protections for aquifer recharge areas through adoption and implementation of the rules and regulations laid out within the document known as the 2001 Stormwater Management Manual for Western Washington, a document promulgated by the Washington State Department of Ecology.

35. Adoption of this amending language (which alters the UDC) promotes the health and welfare of the citizens of Jefferson County.

36. Adoption of these UDC amendments was made necessary by the FDO issued by the WWGMBH on January 10, 2002. These UDC amendments and the “policy” document attached to the distinct but simultaneously-enacted Resolution place Jefferson County in compliance with the FDO.

37. Although the substance of these amendments, if not the particular language chosen, has been mandated by a quasi-judicial body, making these amendments extraordinary and not necessarily suitable for the usual UDC-driven analysis, it remains wise to make certain findings that would otherwise be made with respect to any UDC amendments adopted without the mandate of a quasi-judicial body.

38. Pursuant to Section 9 of this County’s Unified Development Code, all proposed amendments to the GMA-derived development regulations should be analyzed, in part, through the “filter” of the seven growth management indicators (or “GMI”) listed at UDC §9.5.4(b), although those GMI represent only some of the criteria that the County Commission must use when deciding whether to adopt or reject a proposed UDC amendment.
39. Because of the general nature of the GMI, each and every GMI will not be applicable or apropos for each and every amendment that this County Commission has considered.

40. However, the County Commission, in order to comply with UDC Section 9, should and must make generalized findings of fact with respect to the seven GMI listed there and do so now.

41. With respect to UDC §9.5.4(b)(1), the County Commission finds, as an example of numerous findings they might make with respect to (b)(1), that in the short-term the population of this County has not increased as quickly as the Comprehensive Plan envisioned, but this short-term decline in the rate of population growth does not necessarily mean that the County’s current population is not, in certain regions of the County, already causing stress on groundwater sources.

42. Regardless of the possible fluctuation in the rate of population growth that does occur or might occur in this County the adoption of these UDC amendments supports GMA goals to further protect groundwater resources.

43. With respect to UDC §9.5.4(b)(2), the County Commission finds that the capacity of the County to provide adequate services has not changed, although expected continued severe pressures on the County’s budget may alter this picture in the coming years, thus suggesting that it is wise to protect groundwater resources now.

44. With respect to UDC §9.5.4(b)(3), the County Commission finds that while sufficient ‘urban’ land is designated and zoned within this County to meet projected demand and need pursuant to the agreed-upon population allocation in Joint City and County Resolution No. 17-96, that conclusion will, by definition, be revisited and reconsidered as the County considers establishing an urban growth area in the Port Hadlock and Irondale neighborhoods. If this County creates additional UGA’s, then the protection of groundwater will be of paramount concern.

45. With respect to UDC §9.5.4(b)(4), the County Commission finds that while most of the assumptions that supported the policies and goals of the 1998 Comprehensive Plan remain valid, there are at least two assumptions that need revisiting.

46. The first assumption of the 1998 plan worthy of reconsideration comes about because of the documented need for additional rural commercial and industrial land as indicated by the Regional Economic Analysis and Forecast of January 1999 prepared by Richard Trottier, which suggests the County can expect to see a growth in jobs of some 7,000 to 9,000 in the next decades and must accommodate
them with additional commercially and industrially zoned land not currently in existence. This commercially and industrially zoned land must not be allowed to impose any additional stresses on the groundwater sources, and thus these UDC amendments do further one or more GMA goals.

47. Secondly, the County always intended to revisit its conservatively-drawn boundaries around the rural commercial districts, known formally as “limited areas of more intensive rural development” or “LAMIRD’s” and has new definitions of “built environment” provided to it by the Western Washington Growth Management Hearings Board to work with as it does that redrawing. Again, the presence of rural commercial land on the County’s zoning map cannot be allowed to additionally stress the groundwater sources of this County.

48. Each of these new assumptions makes protecting groundwater resources and, more generally, critical areas, of that much greater importance.

49. With respect to UDC §9.5.4(b)(5), the County Commission finds that recent election results indicate not necessarily a change in the attitudes of the County’s citizenry, but certainly a reprioritization of those basic values with an emphasis now placed on economic opportunity and a healthy economy. This reprioritization becomes particularly important in the face of increasing unemployment and our current national recession. While this shift in priorities does not necessarily require wholesale changes to the goals of the plan, it does and will require some modification of the plan in order to better achieve opportunity for improving the economic base in a manner that is consistent with GMA and the County’s Plan, which do and will continue to mandate the protection of critical areas and groundwater resources so that this continues to be an attractive place to live.

50. With respect to UDC §9.5.4(b)(6), the County Commission finds that the County has undergone changed circumstances with respect to the worsening of the gap between the median income of a citizen and the general unavailability of housing that is affordable based on such a salary, the listing of salmon species as “endangered” pursuant to federal statute, new development regulations adopted by the County to implement the GMA and the County’s Plan and additional Hearings Board decisions which illuminate what the state laws permit or do not permit. Such changed circumstances may make amendments to the Plan appropriate.

51. With respect to UDC §9.5.4(b)(7), the County Commission finds that any inconsistencies between the County’s Plan and the GMA exist because Jefferson County was found to be out of compliance with respect to the protection of critical areas and groundwater resources.
52. With respect to UDC §9.8.1(b), another portion of the UDC which the County Commission should consider when adopting amendments or revisions to the UDC, the County Commission finds at least two of the three criteria listed there inapplicable in these circumstances, specifically circumstances where the UDC is being revised to implement the written mandate of an FDO published by the WWGMHB in January 2002 directing this County to undertake and complete six distinct actions.

53. With respect to the criterion listed at UDC §9.8.1(b)(3), the County Commission finds that there has been much public testimony and concern on the issue of seawater intrusion during the entire GMA era of this County and that therefore there is interest in this issue among the general public.

54. Adoption of this amending and revision language to the UDC, this County’s GMA-derived development regulations, and simultaneous adoption of a Resolution (with an attached “policy” document) places Jefferson County in compliance with the January 2002 FDO published by the WWGMHB with respect to the PFR filed by the Olympic Environmental Council and the Shine Community Action Council.

55. On June 7, 2002, the Jefferson County Department of Community Development generated and mailed an “Integrated GMA/SEPA Document & Notice of Hearing.” This document simultaneously served three purposes: 1) it notified the Washington State Office of Community Development of this County’s intent to amend its GMA-driven development regulations, 2) notified the world that existing documents would be adopted in lieu of a distinct SEPA-driven environmental review and 3) informed the world that elected County Commissioners would hold a public hearing on this topic on July 22, 2002.

Section 2 - Language Revisions and Additions to the UDC:
The language of the attached Exhibit, consisting of 7 pages, is hereby adopted as the detailed revisions and additions to the UDC.

Section 3 - Section 3 - Severability:
If any section, subsection, sentence, clause, phrase, or figure of this ordinance or its application to any person or circumstances is held invalid, the remainder of the ordinance or the application to other persons or circumstances shall not be affected.
Section 4 - Effective Date:
This ordinance shall become effective 60 days from adoption by the Board of County Commissioners, also known herein as the County Commission.

APPROVED AND ADOPTED this 23rd day of July, 2002

JEFFERSON COUNTY
BOARD OF COMMISSIONERS

Richard Wojt, Chair

Dan Titterness, Member

APPROVED AS TO FORM:

David Alvarez, 7/22/02
Deputy Prosecuting Attorney

Glen Huntingford, Member
UDC groundwater protection/seawater intrusion amendments
In conjunction with Coastal Seawater Intrusion Policy dated July 23, 2002

Section 2 Definitions

Alternative Water System
Any source of water for an individual single-family use that is not a legally constructed well that produces more than 400 gallons per day or an approved public water system that can provide adequate water for the intended use of a structure.

Critical Aquifer Recharge Areas (for reference; no amendment proposed)
Selected watersheds and critical aquifers where resources are potentially threatened by salt water intrusion or primary contaminants or limited due to poor recharge. (p.2-6)

Seawater Intrusion
(See "Salt Water Intrusion")

Salt Water Intrusion (for reference; no amendment proposed)
The underground flow of salt water into wells and aquifers. (p.2-20)

Source of Contamination
A facility or disposal or storage site for material that impairs the quality of ground water to a degree that creates a potential hazard to the environment, public health, or interferes with a beneficial use. Or in reference to well drilling, a specific area or source as defined in WAC 173-160-171. (p.2-22)

Section 3 Land Use Districts
3.6 Overlay Districts

3.6.5 Critical Aquifer Recharge Areas.
a. Classification. Critical Aquifer Recharge Areas are naturally susceptible due to the existence of permeable soils or a seawater wedge in coastline aquifers. Certain overlying land uses can lead to water quality and/or quantity degradation. The following classifications define Critical Aquifer Recharge Areas.

(1) Susceptible Aquifer Recharge Areas are those with geologic and hydrologic conditions that promote rapid infiltration of recharge waters to groundwater aquifers. For the purposes of this section, unless otherwise determined by preparation of an Aquifer Recharge Area Report authorized under this section, the following geologic units, as identified from available State of Washington Department of Natural Resources geologic mapping, define Susceptible Aquifer Recharge Areas for east Jefferson County:

UDC seawater intrusion amendment
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i. Alluvial fans (Ha),
ii. Artificial fill (Hx),
iii. Beach sand & gravel (Hb),
iv. Dune sand (Hd),
v. Flood plain alluvium (Hf),
vi. Vashon recessional outwash in deltas and alluvial fans (Vrd),
vii. Vashon recessional outwash in meltwater channels (Vro),
viii. Vashon ice contact stratified drift (Vi),
ix. Vashon ablation till (Vat),
x. Vashon advance outwash (Vac),
xi. Whidbey formation (Pw), and
xii. Pre-Vashon stratified drift (Py).

(2) Those areas meeting the requirements of Susceptible Aquifer Recharge Areas (above) and which are overlain by the following land uses as identified in this Code are subject to the provisions of the protection standards in this Section:

i. All Industrial Land Uses
ii. All Commercial Uses
iii. All Rural Residential Land Uses
   A. requiring a Discretionary Use or Conditional Use Permit or
   B. with nonconforming uses that would otherwise require a Discretionary Use or Conditional Use Permit
iv. Unsewered Planned Rural Residential Developments
v. Unsewered residential development with gross densities greater than one unit per acre

(3) Special Aquifer Recharge Protection Areas include:

i. Sole Source Aquifers designated by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act of 1974 (Public Law 93-523).
ii. Special protection areas designated by the Washington Department of Ecology under Chapter 173-200 WAC.
iii. Wellhead Protection Areas determined in accordance with delineation methodologies specified by the Washington Department of Health under authority of Chapter 246-290 WAC.
iv. Ground Water Management Areas designated by the Washington Department of Ecology in cooperation with local government under Chapter 173-100 WAC.

(4) Seawater Intrusion Protection Zones (SIPZ) are aquifers and land overlying aquifers with some degree of vulnerability to seawater intrusion. SIPZ are defined either by proximity to marine shoreline or by proximity to groundwater sources that have demonstrated high chloride readings. All islands and land area within ¼ mile of marine shorelines and associated aquifers together compose the coastal SIPZ. Additionally, areas within 1000 feet of a groundwater source with a history of chloride analyses above 100 milligrams per liter (mg/L) are categorized as either at risk (between 100 mg/L and 200 mg/L) or high risk (over 200 mg/L) SIPZ. High-risk SIPZ shall be considered “sea-salt water intrusion areas,” which are among the

In some cases, high chloride readings may be indicative of connate seawater (i.e., relic seawater in aquifers as opposed to active seawater intrusion). When best available science or a hydrogeologic assessment demonstrate that high chloride readings in a particular area are due to connate seawater, the area in question shall not be considered an at risk or high risk SIPZ. When the status of an area is in question, the UDC Administrator is responsible for making the determination based upon recommendation from County Department of Health and Human Services.

b. Designation. Jefferson County shall prepare and exhibit a dated Critical Aquifer Recharge Area maps which will demonstrate the approximate distribution of the Susceptible Aquifer Recharge Areas, and Special Aquifer Recharge Protection Areas, and Seawater Intrusion Protection Zones. The Critical Aquifer Recharge Area maps shall be periodically revised, modified, and updated to reflect additional information.

c. Applicability.

(1) The following land use activities are considered high impact land uses due to the probability and/or potential magnitude of their adverse effects on groundwater and shall be prohibited in Susceptible Aquifer Recharge Areas and Special Aquifer Recharge Protection Areas. In all other areas of the County outside of Susceptible Aquifer Recharge Areas and Special Aquifer Recharge Protection Areas, these activities shall require an Aquifer Recharge Area Report pursuant to this Section.

i. Chemical manufacturing and reprocessing;

ii. Creosote/asphalt manufacturing or treatment (except that asphalt batch plants may be permitted in Susceptible Aquifer Recharge Areas only if such areas lie outside of Special Aquifer Recharge Protection Areas and only if best management practices are implemented pursuant to sections 4.24.8d ad 6.17 of this Code and an accepted Aquifer Recharge Area Report);

iii. Electroplating and metal coating activities;

iv. Hazardous waste treatment, storage and disposal facilities;

v. Petroleum product refinement and reprocessing;

vi. Underground storage tanks for petroleum products or other hazardous materials;

vii. Recycling facilities as defined in this Code;

viii. Solid waste landfills;

ix. Waste piles as defined in Chapter 173-304 AC;

x. Wood and wood products preserving;

xi. Storage and primary electrical battery processing and reprocessing.

(2) All other land uses shall be subject to the protection standards contained in this Section and mitigating conditions included with an Aquifer Recharge Area Report, where applicable.

(3) Seawater Intrusion Protection Areas. Marine shorelines and islands are susceptible to a condition that is known as seawater intrusion. Seawater intrusion is a condition in which the saltwater/freshwater interface in an aquifer moves inland so that wells drilled on upland areas cannot obtain freshwater suitable for public consumption without significant additional treatment and cost. Maintaining a stable balance in the saltwater/freshwater interface is primarily a function of the rate of aquifer recharge (primarily through rainfall) and the rate of groundwater withdrawals (primarily through wells). The Washington Department of Ecology is the only agency

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with statutory authority to regulate groundwater withdrawal for individual wells in Jefferson County. Therefore, new development, redevelopment, and land use activities on islands and in close proximity to marine shorelines in particular should be developed in such a manner to maximize aquifer recharge and maintain the saltwater/freshwater balance to the maximum extent possible by infiltrating stormwater runoff so that it recharges the aquifer. To help prevent seawater from intruding landward into groundwater aquifers, all new development on Marrowstone Island, Indian Island and within 500 feet of any marine shoreline shall be required to infiltrate all stormwater runoff, to the maximum extent practicable, onsite.

d. Protection Standards.

(1) General. The following protection standards shall apply to land use activities in Susceptible Aquifer Recharge Areas and Special Aquifer Protection Areas, and when specified in Seawater Intrusion Protection Zones, unless mitigating conditions have been identified in a Critical Aquifer Recharge Report that has been prepared pursuant to this section.

(2) Stormwater Disposal.

i. Stormwater runoff shall be controlled and treated in accordance with best management practices and facility design standards as identified and defined in the Stormwater Management Manual for the Puget Sound Basin, as amended and the stormwater provisions contained in Section 8 of this Code.

ii. To help prevent seawater from intruding landward into underground aquifers, all new development activity on Marrowstone Island, Indian Island and within 1/4 mile of any marine shoreline shall be required to infiltrate all stormwater runoff onsite. The Administrator will consider requests for exceptions to this policy on a case-by-case basis and may require a hydrogeologic assessment.

(3) On-Site Sewage Disposal.

i. All land uses identified in Section 3.6.5.a and Special Aquifer Recharge Protection Areas that are also classified as Susceptible Aquifer Recharge Areas (as defined in this Section), shall be designated Areas of Special Concern pursuant to Chapter 246-272-21501 WAC.

A. Such designation shall identify minimum land area and best management practices for nitrogen removal as design parameters necessary for the protection of public health and groundwater quality.

B. Best Management Practices (BMPs) shall be adopted by action of the Board of Health.

ii. As new information becomes available that would classify an area as a Special Aquifer Recharge Protection Area or an Area of Special Concern under this Section, said area may be designated as such by the County. Any additional Areas of Special Concern designated through this process shall receive the same protections identified in Subsection (3)i.A and B above.

(4) Golf Courses and Other Turf Cultivation. Golf courses shall be developed and operated in a manner consistent with "Best Management Practices for Golf Course Development and Operation," King County Environmental Division (now Department of Development and Environmental Services), January 1993. Recreational and institutional facilities (e.g. parks and schools) with extensive areas of cultivated turf, shall be operated in a manner consistent with portions of the aforementioned best management practices pertaining to fertilizer and pesticide use, storage, and disposal.

(5) Commercial Agriculture. Commercial agricultural activities, including landscaping operations must be operated in accordance with best management practices for
fertilizer, pesticide, and animal waste management as developed by the Jefferson County Conservation District.

(6) **Above Ground Storage Tanks.** Above ground tanks shall be fabricated, constructed, installed, used and operated in a manner which prevents the release of a hazardous substances or dangerous wastes to the ground or groundwater. Above ground storage tanks intended to hold or store hazardous substances or dangerous wastes are provided with an impervious containment area, equivalent to or greater than 100 percent of the tank volume, enclosing and underlying the tank, or ensure that other measures are undertaken as prescribed by the Uniform Fire Code which provide an equivalent measure of protection.

(7) **Mining and Quarrying.** Mining and quarrying performance standards containing ground water protection best management practices pertaining to operation, closure, and the operation of gravel screening, gravel crushing, cement concrete batch plants, and asphalt concrete batch plants, where allowed, are contained in Sections 4 and 6 of this Code.

(8) **Hazardous Materials.** Land use activities that generate hazardous waste, which are not prohibited outright under this code, and which are conditionally exempt from regulation by the Washington Department of Ecology under WAC 173-303-100, or which use, store, or handle hazardous substances, shall be required to prepare and submit a hazardous materials management plan that demonstrates that the development will not have an adverse impact on ground water quality. The hazardous materials management plan must be updated annually by the facility owner.

(9) **Well Drilling, Land Division, and Building Permits in Seawater Intrusion Protection Zones.**

i. **Well Drilling:** Proposed wells must be sited at least 100 feet from “known or potential sources of contamination,” which include “Sea-salt water intrusion areas” (WAC 178-160-171), unless a variance is obtained from the Washington State Department of Ecology per WAC 173-160-106.

ii. **Subdivisions:** Applications for land division (UDC Section 7) when the average net density proposed is less than five acres per dwelling unit must include specific and conclusive proof of adequate supplies of potable water through a qualifying hydrogeologic assessment (relevant components of an Aquifer Recharge Area Report per UDC 3.6.10.e) that demonstrates that the creation of new lots and corresponding use of water will not impact the subject aquifer such that water quality is degraded by seawater intrusion.

iii. **Building Permits:**

A. Evidence of potable water may be an individual well, connection to a public water system, or an alternative system. Whatever method is selected, the regulatory and operational standards for that method must be met, including Jefferson County Health Codes and Washington Administrative Code.

B. All types of building permits that require proof of potable water use are subject to this policy, specifically building permits for new single-family residences (SFRs) or other structures with plumbing that are not associated with an existing SFR (i.e., shops or garages with a bathroom).

iv. Voluntary and mandatory measures of the Jefferson County seawater intrusion policy apply to development proposals within the coastal, at risk, and high risk SIPZ in the following manner, in addition to all existing applicable Health Codes:

A. **COASTAL SIPZ**
VOLUNTARY ACTIONS:
1. Water conservation measures.
2. Installation of a flow meter.
3. On-going well monitoring for chloride concentration.
4. Submittal of data to County.

MANDATORY ACTIONS:
1. For proof of potable water on a building permit application, applicant must utilize DOH-approved public water system if available.
2. If public water is unavailable, an individual well may be used as proof of potable water subject to the following requirements:
   o Chloride concentration of a laboratory-certified well water sample submitted with building permit application.
3. If public water is unavailable, a qualifying alternative system may be used as proof of potable water.

B. AT RISK SIPZ

VOLUNTARY ACTIONS:
1. Water conservation measures.

MANDATORY ACTIONS:
1. For proof of potable water on a building permit application, applicant must utilize DOH-approved public water system if available.
2. If public water is unavailable, an individual well may be used as proof of potable water subject to the following requirements:
   o Chloride concentration of a laboratory-certified well water sample submitted with building permit application.
   o Installation of a flow meter.
   o On-going well monitoring for chloride concentration.
   o Submittal of flow and chloride data to the County per monitoring program.
3. If public water is unavailable, a qualifying alternative system may be used as proof of potable water.

C. HIGH RISK SIPZ

MANDATORY ACTIONS:
1. Water conservation measures (per list maintained by UDC Administrator).
2. For proof of potable water on a building permit application, applicant must utilize DOH-approved public water system if available.
3. If public water is unavailable, an individual well may only be used as proof of potable water subject to the following requirements:
   o Variance from Chapter 173 WAC standards granted by Ecology per WAC 173-160-106 for a new groundwater well within 100 feet of a sea-salt water intrusion area per WAC 173-160-171 (i.e., within 1100 feet of a groundwater source showing chloride concentrations above 200 mg/L); or for an existing groundwater well, applicant must provide evidence through a hydrogeologic assessment (relevant components
of an Aquifer Recharge Area Report per UDC 3.6.10.e) that subject aquifer will not be degraded by the proposed use of the well.

- Chloride concentration of a laboratory-certified well water sample submitted with a building permit application.
- If chloride concentration exceeds 250 mg/L in a water sample submitted for a building permit, then the property owner shall be required to record a restrictive covenant that indicates a chloride reading exceeded the U.S. Environmental Protection Agency secondary standard (250 mg/L) under the National Secondary Drinking Water Regulations.
- Installation of a flow meter.
- On-going well monitoring for chloride concentration.
- Submittal of flow and chloride data to the County per monitoring program.

4. If public water is unavailable, a qualifying alternative system may be used as proof of potable water.

(9)(10) Mitigating Conditions. The Administrator may require additional mitigating conditions, as needed, to provide protection to all Critical Aquifer Recharge Areas to ensure that the subject land or water use action will not pose a risk of significant adverse groundwater quality impacts. The determination of significant adverse groundwater quality impacts will be based on the Antidegradation policy included in Chapter 173-200 WAC.

(10)(11) Authority for Denial. The Administrator may deny approval if the protection standards contained herein or added mitigating conditions cannot prevent significant adverse groundwater quality impacts.

Section 4 4.24 Mineral Extraction, Mining, Quarrying and Reclamation.

4.24.8. The following performance standards are required for mining, quarrying, and asphalt/concrete batch operations located within a designated Critical Aquifer Recharge Area Susceptible Aquifer Recharge Area or Special Aquifer Recharge Protection Area...

Section 6 6.17 Mining, Quarrying and Asphalt/Concrete Batch Plant Best Management Practices in Critical Aquifer Recharge Areas.

The following shall be considered minimum development standards necessary ONLY for mineral extraction, quarrying and asphalt/concrete batch operations located in Critical Aquifer Recharge Areas Susceptible Aquifer Recharge Areas or Special Aquifer Recharge Protection Areas as defined in Section 3.6.5 of the UDC...


The following best management practices (BMPs) are required to meet minimum onsite sewage standards within Critical Aquifer Recharge Areas Susceptible Aquifer Recharge Areas or Special Aquifer Recharge Protection Areas, as identified in Section 3.6.5 of this Code...
UDC groundwater protection/seawater intrusion amendments
In conjunction with Coastal Seawater Intrusion Policy
as adjusted September 23, 2002

Section 3 Land Use Districts
3.6 Overlay Districts

3.6.5 Critical Aquifer Recharge Areas.
a. Classification. Critical Aquifer Recharge Areas are naturally susceptible due to the
existence of permeable soils or a seawater wedge in coastline aquifers. Certain overlying
land uses can lead to water quality and/or quantity degradation. The following
classifications define Critical Aquifer Recharge Areas.

(1) Susceptible Aquifer Recharge Areas are those with geologic and hydrologic
conditions that promote rapid infiltration of recharge waters to groundwater aquifers.
For the purposes of this section, unless otherwise determined by preparation of an
Aquifer Recharge Area Report authorized under this section, the following geologic
units, as identified from available State of Washington Department of Natural
Resources geologic mapping, define Susceptible Aquifer Recharge Areas for east
Jefferson County:

i. Alluvial fans (Ha),
ii. Artificial fill (Hx),
iii. Beach sand & gravel (Hb),
iv. Dune sand (Hd),
v. Flood plain alluvium (Hf),
vi. Vashon recessional outwash in deltas and alluvial fans (Vrd),
vii. Vashon recessional outwash in meltwater channels (Vro),
viii. Vashon ice contact stratified drift (Vi),
ix. Vashon ablation till (Vat),
x. Vashon advance outwash (Vao),
xi. Whidbey formation (Pw), and
xii. Pre-Vashon stratified drift (Py).

(2) Those areas meeting the requirements of Susceptible Aquifer Recharge Areas
(above) and which are overlain by the following land uses as identified in this Code
are subject to the provisions of the protection standards in this Section:

i. All Industrial Land Uses
ii. All Commercial Uses
iii. All Rural Residential Land Uses
   A. requiring a Discretionary Use or Conditional Use Permit or
   B. with nonconforming uses that would otherwise require a Discretionary Use
   or Conditional Use Permit
iv. Unsewered Planned Rural Residential Developments
v. Unsewered residential development with gross densities greater than one unit
   per acre

(3) Special Aquifer Recharge Protection Areas include:

i. Sole Source Aquifers designated by the U.S. Environmental Protection
   Agency in accordance with the Safe Drinking Water Act of 1974 (Public Law
   93-523).
ii. Special protection areas designated by the Washington Department of Ecology under Chapter 173-200 WAC.

iii. Wellhead Protection Areas determined in accordance with delineation methodologies specified by the Washington Department of Health under authority of Chapter 246-290 WAC.

iv. Ground Water Management Areas designated by the Washington Department of Ecology in cooperation with local government under Chapter 173-100 WAC.

4. **Seawater Intrusion Protection Zones** (SIPZ) are aquifers and land overlying aquifers with some degree of vulnerability to seawater intrusion. SIPZ are defined either by proximity to marine shoreline or by proximity to groundwater sources that have demonstrated high chloride readings. All islands and land area within ½ mile of marine shorelines and associated aquifers together compose the coastal SIPZ. Additionally, areas within 1000 feet of a groundwater source with a history of chloride analyses above 100 milligrams per liter (mg/L) are categorized as either at risk (between 100 mg/L and 200 mg/L) or high risk (over 200 mg/L) SIPZ. High-risk SIPZIndividual groundwater sources with a history of chloride analyses above 200 mg/L shall be considered “sea-salt water intrusion areas,” which are among the “sources or potential sources of contamination” listed in Washington Administrative Code (WAC) 173-160-171, implementing code for the Water Well Construction Act.

In some cases, high chloride readings may be indicative of connate seawater (i.e., relic seawater in aquifers as opposed to active seawater intrusion). When best available science or a hydrogeologic assessment demonstrate that high chloride readings in a particular area are due to connate seawater, the area in question shall not be considered an at risk or high risk SIPZ. When the status of an area is in question, the UDC Administrator is responsible for making the determination based upon recommendation from County Department of Health and Human Services.

b. **Designation.** Jefferson County shall prepare and exhibit dated Critical Aquifer Recharge Area maps which demonstrate the approximate distribution of the Susceptible Aquifer Recharge Areas, Special Aquifer Recharge Protection Areas, and Seawater Intrusion Protection Zones. The Critical Aquifer Recharge Area maps shall be periodically revised, modified, and updated to reflect additional information.

c. **Applicability.**

1. The following land use activities are considered high impact land uses due to the probability and/or potential magnitude of their adverse effects on groundwater and shall be prohibited in Susceptible Aquifer Recharge Areas and Special Aquifer Recharge Protection Areas. In all other areas of the County outside of Susceptible Aquifer Recharge Areas and Special Aquifer Recharge Protection Areas, these activities shall require an Aquifer Recharge Area Report pursuant to this Section.

   i. Chemical manufacturing and reprocessing;

   ii. Creosote/asphalt manufacturing or treatment (except that asphalt batch plants may be permitted in Susceptible Aquifer Recharge Areas ONLY if such areas lie outside of Special Aquifer Recharge Protection Areas and ONLY if best management practices are implemented pursuant to sections 4.24.8d ad 6.17 of this Code and an accepted Aquifer Recharge Area Report);

   iii. Electroplating and metal coating activities;

   iv. Hazardous waste treatment, storage and disposal facilities;

   v. Petroleum product refinement and reprocessing;

   vi. Underground storage tanks for petroleum products or other hazardous materials;

   vii. Recycling facilities as defined in this Code;
viii. Solid waste landfills;
ix. Waste piles as defined in Chapter 173-304 AC;
x. Wood and wood products preserving;
xii. Storage and primary electrical battery processing and reprocessing.

(2) All other land uses shall be subject to the protection standards contained in this Section and mitigating conditions included with an Aquifer Recharge Area Report, where applicable.

(3) **Seawater Intrusion Protection Zones.** Marine shorelines and islands are susceptible to a condition that is known as seawater intrusion. Seawater intrusion is a condition in which the saltwater/freshwater interface in an aquifer moves inland so that wells drilled on upland areas cannot obtain freshwater suitable for public consumption without significant additional treatment and cost. Maintaining a stable balance in the saltwater/freshwater interface is primarily a function of the rate of aquifer recharge (primarily through rainfall) and the rate of groundwater withdrawals (primarily through wells). The Washington Department of Ecology is the agency with statutory authority to regulate groundwater withdrawal for individual wells in Jefferson County. New development, redevelopment, and land use activities on islands and in close proximity to marine shorelines in particular should be developed in such a manner to maximize aquifer recharge and maintain the saltwater/freshwater balance to the maximum extent possible by infiltrating stormwater runoff so that it recharges the aquifer.

d. **Protection Standards.**

(1) **General.** The following protection standards shall apply to land use activities in Susceptible Aquifer Recharge Areas and Special Aquifer Protection Areas, and when specified in Seawater Intrusion Protection Zones, unless mitigating conditions have been identified in a Critical Aquifer Recharge Report that has been prepared pursuant to this section.

(2) **Stormwater Disposal.**

i. Stormwater runoff shall be controlled and treated in accordance with best management practices and facility design standards as identified and defined in the Stormwater Management Manual for the Puget Sound Basin, as amended and the stormwater provisions contained in Section 6 of this Code.

ii. To help prevent seawater from intruding landward into underground aquifers, all new development activity on Marrowstone Island, Indian Island and within ¼ mile of any marine shoreline shall be required to infiltrate all stormwater runoff onsite. The Administrator will consider requests for exceptions to this policy on a case-by-case basis and may require a hydrogeologic assessment.

(3) **On-Site Sewage Disposal.**

i. All land uses identified in Section 3.6.5.a and Special Aquifer Recharge Protection Areas that are also classified as Susceptible Aquifer Recharge Areas (as defined in this Section), shall be designated Areas of Special Concern pursuant to Chapter 246-272-21501 WAC.

A. Such designation shall identify minimum land area and best management practices for nitrogen removal as design parameters necessary for the protection of public health and groundwater quality.

B. Best Management Practices (BMPs) shall be adopted by action of the Board of Health.
ii. As new information becomes available that would classify an area as a Special Aquifer Recharge Protection Area or an Area of Special Concern under this Section, said area may be designated as such by the County. Any additional Areas of Special Concern designated through this process shall receive the same protections identified in Subsection (3)i. and B above.

(4) **Golf Courses and Other Turf Cultivation.** Golf courses shall be developed and operated in a manner consistent with "Best Management Practices for Golf Course Development and Operation," King County Environmental Division (now: Department of Development and Environmental Services), January 1993. Recreational and institutional facilities (e.g. parks and schools) with extensive areas of cultivated turf, shall be operated in a manner consistent with portions of the aforementioned best management practices pertaining to fertilizer and pesticide use, storage, and disposal.

(5) **Commercial Agriculture.** Commercial agricultural activities, including landscaping operations must be operated in accordance with best management practices for fertilizer, pesticide, and animal waste management as developed by the Jefferson County Conservation District.

(6) **Above Ground Storage Tanks.** Above ground tanks shall be fabricated, constructed, installed, used and operated in a manner which prevents the release of a hazardous substances or dangerous wastes to the ground or groundwater. Above ground storage tanks intended to hold or store hazardous substances or dangerous wastes are provided with an impervious containment area, equivalent to or greater than 100 percent of the tank volume, enclosing and underlying the tank, or ensure that other measures are undertaken as prescribed by the Uniform Fire Code which provide an equivalent measure of protection.

(7) **Mining and Quarrying.** Mining and quarrying performance standards containing ground water protection best management practices pertaining to operation, closure, and the operation of gravel screening, gravel crushing, cement concrete batch plants, and asphalt concrete batch plants, where allowed, are contained in Sections 4 and 6 of this Code.

(8) **Hazardous Materials.** Land use activities that generate hazardous waste, which are not prohibited outright under this code, and which are conditionally exempt from regulation by the Washington Department of Ecology under WAC 173-303-100, or which use, store, or handle hazardous substances, shall be required to prepare and submit a hazardous materials management plan that demonstrates that the development will not have an adverse impact on ground water quality. The hazardous materials management plan must be updated annually by the facility owner.

(9) **Well Drilling, Land Division, and Building Permits in Seawater Intrusion Protection Zones.**

i. **Well Drilling:** The Washington State Department of Ecology regulates well drilling pursuant to the Water Well Construction Act. Proposed wells, including those exempt from permitting requirements, must be sited at least 100 feet from "known or potential sources of contamination," which include "sea-salt water intrusion areas" (WAC 178-160-171), unless a variance is obtained from the Washington State Department of Ecology per WAC 173-160-106.

ii. **Subdivisions:** Applications for land division (UDC Section 7) when the average net density proposed is less than five acres per dwelling unit must
include specific and conclusive proof of adequate supplies of potable water through a qualifying hydrogeologic assessment (relevant components of an Aquifer Recharge Area Report per UDC 3.6.10.e) that demonstrates that the creation of new lots and corresponding use of water will not impact the subject aquifer such that water quality is degraded by seawater intrusion.

iii. **Building Permits:**

A. Evidence of potable water may be an individual well, connection to a public water system, or an alternative system. Whatever method is selected, the regulatory and operational standards for that method must be met, including Jefferson County Health Codes and Washington Administrative Code.

B. All types of building permits that require proof of potable water use are subject to this policy, specifically building permits for new single-family residences (SFRs) or other structures with plumbing that are not associated with an existing SFR (i.e., shops or garages with a bathroom).

iv. Voluntary and mandatory measures of the Jefferson County seawater intrusion policy apply to development proposals within the coastal, at risk, and high risk SIPZ in the following manner, in addition to all existing applicable Health Codes:

A. **COASTAL SIPZ**

   **VOLUNTARY ACTIONS:**
   1. Water conservation measures.
   2. Installation of a flow meter.
   3. On-going well monitoring for chloride concentration.
   4. Submittal of data to County.

   **MANDATORY ACTIONS:**
   1. For proof of potable water on a building permit application, applicant must utilize DOH-approved public water system if available.
   2. If public water is unavailable, an individual well may be used as proof of potable water subject to the following requirements:
      - Chloride concentration of a laboratory-certified well water sample submitted with building permit application.
   3. If public water is unavailable, a qualifying alternative system may be used as proof of potable water.

B. **AT RISK SIPZ**

   **VOLUNTARY ACTIONS:**
   1. Water conservation measures.

   **MANDATORY ACTIONS:**
   1. For proof of potable water on a building permit application, applicant must utilize DOH-approved public water system if available.
   2. If public water is unavailable, an individual well may be used as proof of potable water subject to the following requirements:
- Chloride concentration of a laboratory-certified well water sample submitted with building permit application.
- Installation of a flow meter.
- On-going well monitoring for chloride concentration.
- Submittal of flow and chloride data to the County per monitoring program.

3. If public water is unavailable, a qualifying alternative system may be used as proof of potable water.

C. HIGH RISK SIPZ

MANDATORY ACTIONS:
1. Water conservation measures (per list maintained by UDC Administrator).
2. For proof of potable water on a building permit application, applicant must utilize DOH-approved public water system if available.
3. If public water is unavailable, an individual well may only be used as proof of potable water subject to the following requirements:

   o Variance from Chapter 173 WAC standards granted by Ecology per WAC 173-160-106 for a new groundwater well within 100 feet of a sea-salt water intrusion area per WAC 173-160-171 (i.e., within 1100 feet of a groundwater source showing chloride concentrations above 200 mg/L or within 100 feet of the marine shoreline); or for an existing or proposed groundwater well not subject to an Ecology variance, applicant must provide evidence through a hydrogeologic assessment (relevant components of an Aquifer Recharge Area Report per UDC 3.6.10.e) that of a reasonable probability that the subject aquifer will not be degraded by the proposed use of the well.

   o Chloride concentration of a laboratory-certified well water sample submitted with building permit application.

   o If chloride concentration exceeds 250 mg/L in a water sample submitted for a building permit, then the property owner shall be required to record a restrictive covenant that indicates a chloride reading exceeded the U.S. Environmental Protection Agency secondary standard (250 mg/L) under the National Secondary Drinking Water Regulations.

   o Installation of a flow meter.

   o On-going well monitoring for chloride concentration.

   o Submittal of flow and chloride data to the County per monitoring program.

4. If public water is unavailable, a qualifying alternative system may be used as proof of potable water.

(10) Mitigating Conditions. The Administrator may require additional mitigating conditions, as needed, to provide protection to all Critical Aquifer Recharge Areas to ensure that the subject land or water use action will not pose a risk of significant adverse groundwater quality impacts. The determination of significant adverse
groundwater quality impacts will be based on the Antidegradation policy included in Chapter 173-200 WAC.

(11) Authority for Denial. The Administrator may deny approval if the protection standards contained herein or added mitigating conditions cannot prevent significant adverse groundwater quality impacts.