

STATE OF WASHINGTON
County of Jefferson

Administrative Procedure

Seawater Intrusion

Jefferson County adopted Ordinance No. 05-0509-94, the Jefferson County Interim Critical Areas, as amended June 26, 1995. Section 7.510, entitled Seawater Intrusion, requires that Best Management Practices (BMPs) shall be adopted for application in vulnerable seawater intrusion areas by procedures specified in subsection 4.10 item #2 a & b of the Critical Areas Ordinance.

- I. Seawater intrusion occurs from over-utilization of limited ground water resources. Water conservation is the primary method for insuring that available water resources are used in the most efficient manner to provide for the needs for residential development.
 - A. Best Management Practices (BMPs) have been developed that promote water conservation. These BMPs shall be updated as new technologies for water conservation and reuse are reviewed and approved by Jefferson County Environmental Health and/or Washington State Department of Ecology. BMPs are **recommended** to be utilized throughout Jefferson County, but are highly recommended in areas mapped as Vulnerable Seawater Intrusion Areas according to Sections 7.304 and 7.307 of the Critical Areas Ordinance. Information will be provided at the Building Permit Center which advises homeowners of the water conservation BMPs.
 - C. Water conservation BMPs should be considered when a homeowner is considering one of the following activities:
 1. New construction of single family residential units; or,
 2. alterations, additions, and remodels to single family residential units that will add to the load on the existing water system. For the purposes of this ordinance, expansion is defined as an addition of a bedroom, bathroom, or kitchen to an existing building, or conversion of the type usage that would lead to additional water use (e.g. modification of a garage to living quarters).
- II. BMPs are based on recommendations in “Geology, Water Resources, and Seawater Intrusion Assessment of Marrowstone Island, Jefferson County, Washington (Water Supply Bulletin No. 59) published by the Washington State Department of Ecology. The following are the water conservation BMPs:

- A. An upgrade to current standards of all well and plumbing fixtures, including well pumps, toilets, faucets, and shower heads, is required for new construction. Installation and use of water conserving dishwashers and washing machines are strongly encouraged.
- B. All new individual water wells should be installed with a functioning flow meter. The meter would be used to check for water leaks, self-regulate water consumption, and monitor needs as they change seasonally.
- C. All new individual water wells should set a pump rate that minimizes the potential for upconing of seawater, and should be set to no more than 3.5 gallons per minute.
- D. A rainwater collection (catchment) system is a device which collects rainwater from impervious surfaces such as rooftops and driveways. The rainwater catchment may be designed for one of two purposes. Catchments can be designed to attenuate stormwater flows and release the stored water slowly to enhance recharge and minimize runoff, or to store water so that it may be put to beneficial use (either potable or non-potable) sometime in the future.
 - 1. Catchments for enhancing recharge (drywells) are recommended where conditions allow.
 - a) Drywells should not be used where infiltration would exacerbate erosion of cliffs or bluffs, cause other drainage problems, or impair the function of onsite sewage systems.
 - b) When conditions allow the use of a drywell, the design of a drywell should follow the design in the Puget Sound Stormwater Management Manual. The drywell should be sized to capture a 10 year-24 hour rainfall from rooftops, including garages and outbuildings. This rainfall amount can be calculated from the Puget Sound Stormwater Manual, Figure 27, Volume III, Appendix A, and by estimating the surface area of rooftop from the home.
 - 2. Catchments for water storage (cisterns) are recommended at all sites to reduce the withdrawals of ground water. If a building permit is to be based on the catchment system, the homeowner shall follow the guidelines in Jefferson County Board of Health Policy Statement 97- for the use of rainwater catchment systems. Under no circumstances should untreated catchment water be mixed with drinking water supplies.
- E. Use of ground water for irrigation shall be minimized. If ground water is used for irrigation, hand watering and drip/trickle irrigation is highly recommended.

- III. The county shall generally not encourage the development of new Group A public water systems (water systems with more than 15 service connections) within areas designated as vulnerable to seawater intrusion, unless the water source is located outside the vulnerable area and conveyed into the vulnerable area by pipeline.
- IV. Alternative water sources shall be allowed under the following circumstances:
 - A. Treatment devices designed or intended to reduce chloride concentrations to meet potable standards may be allowed for the purpose of adequacy determination only if all necessary state and local environmental permits have been obtained. Potentially, the treatment device may require a water right, shoreline permit, and point-source waste discharge permit.
 - B. Desalination of marine waters may be allowed provided process wastewater is returned directly to the marine waters from which the withdrawal was made and any necessary state permits have been obtained. The applicant must also demonstrate that the proposed system will comply with the water quality and quantity criteria specified in Washington Department of Health guidelines.
 - C. Individuals may import drinking water (transportation by truck) if the water meets criteria specified in the State Department of Ecology's "Guidelines for Determining Water Availability for New Buildings". Individuals may use a rainwater collection (catchment) system to demonstrate water adequacy for a building permit if the applicant can demonstrate that the proposed water source will comply with the water quality and quantity criteria specified in Jefferson County Board of Health Policy Statement [proposed] on the use of rainwater catchment systems.
- V. Well owners or concerned parties within an area delineated as susceptible may contend that a particular water source is not within an area where seawater intrusion is occurring (for example, due to different depth, aquifer condition, etc.), or that the proposed use will not contribute to seawater intrusion. Those concerned parties may submit a hydrogeologic report that supports the contention. The report must be prepared by a qualified professional and should include geochemical analysis, hydrogeologic cross-sections, and/or other technically sound methods.
- VI. Appeals: Conditions imposed or decisions made in accordance with this policy may be appealed to the Jefferson County Hearing Examiner as outlined in Sections 5.404.2 and 4.30, Jefferson County Critical Areas Ordinance (No. 05-0509-94), and subsequent amendments.