

Model Ordinance for Protecting Surface Water Sources of Drinking Water

Background

Protection of Oregon's drinking water resources is critical to support a growing population and to fuel the state's continued economic health. Safe drinking water is fundamental to the viability of any community, and the cost of treating contaminated water is extremely high. There are no state or federal regulations requiring communities to protect drinking water, but local governments can take their own steps to address this issue. There are many ways to protect drinking water. This involves reducing the risk of contamination of the groundwater, rivers, streams, and lakes that serve as sources of drinking water for local communities.

This document provides model ordinance language that jurisdictions can use to protect drinking water obtained from surface water sources. Developing a drinking water protection ordinance is one of many tools communities can voluntarily use to safeguard community health and reduce the risk of contamination of water supplies. Communities are encouraged to examine all of the potential management options (such as education, outreach, incentives, technical assistance and land acquisition) and tailor a protection strategy to meet the specific needs of their community.

Why use an ordinance or overlay zone?

A jurisdiction might determine that an ordinance is necessary to protect public health if 1) current regulations do not protect the drinking water supply to the level the community desires, or 2) other potential management options are not as effective for the potential risks being addressed.

To reduce the risk of contamination from pollutants commonly present in developed areas, communities can develop a local ordinance to limit higher risk activities in areas with a strong hydrologic connection to the drinking water source.

A local ordinance has the potential for reducing risk to a drinking water from both new and existing sources of contaminants. However, the mechanisms for review, inspection and enforcement associated with new development are different than those for existing development. It is important to write the ordinance to reflect the available implementation structure or create a new structure if needed. The ordinance typically

defines the resource (as a mapped overlay area) and enacts specific legislation for land uses and development within these boundaries. The Source Water Assessment Reports prepared by Dept. of Human Services and DEQ for all public water supplies serving at least 25 individuals or 15 service connections at least 60 days of the year is a valuable reference for establishing appropriate boundaries for the drinking water protection ordinance. These assessments include maps of drinking water watersheds and highly sensitive areas within those watersheds, and an inventory of potential sources of contamination.

The model code provides standards for several development and other activities with the intent of leveraging the natural protective functions of the watershed and moderating higher-risk human activity. Risk of drinking water contamination will be reduced by:

- Preserving the bank stability function and the filtering function provided by a healthy vegetated riparian area.
- Setting standards for the use, handling and storage of toxic substances.
- Requiring erosion control and stormwater management practices to prevent the flow of sediment and contaminated runoff from impacting the drinking water source.
- Setting standards, in addition to those established by DEQ, for the placement, inspection and maintenance of individual wastewater disposal systems, where nutrient loading is a concern.

Using the model ordinance

The model ordinance language below serves as a guide for jurisdictions to develop a drinking water protection ordinance/overlay zone. It is intended that the jurisdiction alter the language as needed. Within the model ordinance language, the material to be customized by the local jurisdiction is included in [brackets]. Brackets also show where a decision needs to be made. When the word [jurisdiction] is in brackets the name of the city or county or the word "city" or "county" should be inserted.

If you would like a word processing version of the model ordinance to modify for use in your community, please contact Sue Gries (information at right).



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Drinking Water Protection Overlay Zone (For surface water sources)

Section I – General

The regulations that apply to this overlay zone are in addition to those of the underlying zoning districts and other [city/county] regulations. Where the regulations and permitted uses specified by another regulation conflict with those of the overlay zone, the more restrictive standards shall apply.

Section II – Purpose

The [jurisdiction] recognizes: (a) that residents of [jurisdiction] rely on [name drinking water source] for a safe drinking water supply, and (b) that certain land uses or activities in [jurisdiction] can contaminate surface water. The purpose of the Drinking Water Protection Overlay Zone is to protect public health and safety by minimizing contamination risks to surface waters that supply [jurisdiction] with drinking water. This Article establishes standards for: use and storage of hazardous materials and other contaminate sources which pose a risk to drinking water; protection of riparian areas; and management of stormwater within the Drinking Water Protection Overlay Zone.

Section III – Definitions

DEVELOPMENT. The carrying out of any construction, reconstruction, alteration of surface or structure or change of land use or intensity of use.

TRIBUTARY STREAM. Any perennial or intermittent stream, including any lake, pond or other body of water formed there from, flowing either directly or indirectly into any main body or stream in the Drinking Water Protection Area

WATERSHED. The defined area lying within the drainage basin of the Drinking Water Protection Area

DRINKING WATER PROTECTION OVERLAY ZONE [Refer to map or description of the area]

Section IV – Drinking Water Protection Area

The Drinking Water Protection Zone and Highly Sensitive Areas within the zone are identified in the [Name document, possibly DHS and DEQ’s Source Water Assessment] and shown on [Name Map]. Highly sensitive areas are generally defined as those areas within [200] feet of [Name source water] and its tributaries, and [areas of high soil erosion potential, high permeability and high runoff soils identified in the Source Water Assessment].

Section V – Use Provision

- A. Permitted Uses. Within the Drinking Water Protection Overlay Zone, the permitted uses, special permit uses, accessory uses, dimensional standards and special requirements established by the underlying zoning district shall apply, unless specifically modified by the requirements of this ordinance.
- B. Special Exceptions. The following uses are permitted only under the terms of a special exception and must conform to provisions of the underlying zoning district and meet the performance standards outlined in subsection D below.
Expansion of existing nonconforming uses to the extent allowed by the underlying district. (NOTE: Consult local plan for nonconforming uses and standards and criteria for their expansion.) The [Council/Planning Commission] shall not grant approval unless it finds such expansion meets the criteria for nonconforming uses and in addition does not pose greater potential contamination of water than the existing use.
- C. Prohibited Uses. The following uses shall be prohibited within the Drinking Water Protection Overlay Zone:
 1. Storage, use or production of hazardous materials, except as provided in section (VIII). Hazardous materials include substances defined as such in either of the following:
 - a) Superfund Amendment and Reauthorization Act of 1986; and
 - b) Identification and Listing of Hazardous Wastes, 40 C.F.R. §261 (1987).
 2. Fueling facilities, except as provided in section (VIII)
 3. Disposal of hazardous materials or solid wastes, except for inert substances such as rock, dirt and concrete as allowed by [Reference local provisions and DEQ rule. Possibly provide definitions for “inert substances” or “clean fill” in definitions section.]
 4. Treatment of hazardous material, except rehabilitation programs authorized by a government agency to treat hazardous material present at a site prior to the adoption of this ordinance.

5. Disposal of septage or septic sludge. [Consider placing this restriction in the highly sensitive area only.]
6. Automobile wrecking yards or activities, commercial or otherwise, that result in the accumulation of [4] or more non-operating vehicles.
7. Outside storage of [8] or more nonfunctioning appliances.
8. [Note: Consider other uses which might impact your drinking water supply and list them here. Provide clear and objective definitions or otherwise provide standards for activities that are allowable if best management practices are used.] Refer to your Source Water Assessment for information on types and location of potential sources of contamination. Consider whether to prohibit uses from the entire Drinking Water Protection Overlay Zone or just the Highly Sensitive Areas based on local conditions and risk.]

Section VI – Review Procedures

- A. New development and all activities requiring development approval – A safe drinking water plan (SDWP) is required for all activities requiring review by the Planning Department or Building. This plan shall include information listed in Section VII (A).
- B. Existing development
 1. Commercial activities which involve the storage, use or production of hazardous materials shall prepare a SDWP and submit a copy of the plan to [Name authority responsible for review and inspection of existing uses, i.e. local Fire Department].
 - a) Existing businesses to which this applies shall submit a copy of the SDWP within [12 months] of the effective date of this ordinance. This plan shall be updated annually and kept on the premises. The plan shall include information listed in Section VII (B).
 - b) New or expanding businesses that will occupy existing structures or for other reasons will not require review by the planning or building department shall prepare or update their SDWP and submit it to [Name authority] prior to beginning or expanding operations. (For the purpose of this ordinance expansion is a greater than [10%] increase in the use, storage or production of hazardous materials, since the previous SDWP was submitted.) The Plan shall include information listed in Section VII (B). The SDWP shall be updated annually and kept on the premises.
 2. *[(For drinking water sources that are at risk for elevated nutrient levels) Owners of individual septic systems shall have their systems inspected by [a certified inspector] and submit a confirmation of inspection to [Name authority responsible for review and inspection of existing septic systems] within [12 months] of the effective date of this ordinance. Confirmation of inspections conducted up to [24 months prior to the effective date of this ordinance will also satisfy this requirement. Systems shall be inspected and confirmation of inspection sent to [Name authority] every [5] years. Owner is required to perform maintenance activities needed to insure proper functioning of the system. (Discharge of untreated sewage onto the ground or into waters of the state is a violation of state law.)]*

Section VII – Safe Drinking Water Plans

- A. Safe Drinking Water Plans for new development shall contain the following information:
 1. Site map showing
 - a. Property lines
 - b. Contour lines at [5] foot intervals
 - c. Hydrology including drainages and surface water on the site and within [250 feet] of the site.
 - d. Location of proposed structures
 2. Erosion prevention and sediment control plan
 3. Storm water management plan for post construction
 4. Highly sensitive area management plan
 5. Hazardous material management statement (HMMS) including
 - a) Inventory of and Material Safety Data Sheet for any hazardous materials to be used, stored or produced on site that are not exempt by section (VIII) of this ordinance;
 - b) A detailed description of the activities conducted at the facility that involve the storage, handling, treatment, use or production of hazardous materials in quantities greater than those exempt by section (VIII);
 - c) A description of the primary and secondary containment devices proposed and an explanation of whether such containment devices will drain to sanitary or storm sewer;

- d) A proposed Hazardous Material Management Plan for the facility that describes procedures to be followed to prevent, control, collect and dispose of any accidental release of hazardous material;
 - e) A description of procedures for inspection and maintenance of containment devices and emergency equipment;
 - f) A description of procedures for disposition of unused hazardous materials or hazardous material waste products including the type of transport and proposed route;
 - g) For partitions and subdivisions, an explanation of how newly crated lots will provide a sufficient building envelope that does not encroach on Highly Sensitive Areas [Alternatively, could specify a minimum # of square feet for a building envelope.]
- B. Safe Drinking Water Plans for existing development shall contain the following information:
- 1. Site map showing
 - a) Property lines
 - b) Contour lines at [5] foot intervals
 - c) Hydrology including drainages and surface water on the site and within [250 feet] of the site.
 - 2. [Consider adding this here: Highly sensitive area management plan]
 - 3. Hazardous Material management statement (HMMS) including
 - a) Inventory of and Material Safety Data Sheet for any hazardous materials to be used, stored or produced on site that are not exempt by section (VIII) of this ordinance;
 - b) A detailed description of the activities conducted at the facility that involve the storage, handling, treatment, use or production of hazardous materials in quantities greater than those exempt by section (VIII);
 - c) A description of the primary and secondary containment devices proposed and an explanation of whether such containment devices will drain to sanitary or storm sewer;
 - d) A proposed Hazardous Material Management Plan for the facility that describes procedures to be followed to prevent, control, collect and dispose of any accidental release of hazardous material;
 - e) A description of procedures for inspection and maintenance of containment devices and emergency equipment;
 - f) A description of procedures for disposition of unused hazardous materials or hazardous material waste products including the type of transport and proposed route;
- C. [Could move the details of septic system inspection and maintenance here.]

Section VIII – Exemptions for SDWP and (HMMS) requirements

This ordinance does not exempt any material or use from fire code regulations adopted by [Jurisdiction].

- A. A SDWP is not required of uses involving new construction, remodeling or expansion of existing structures if:
- 1. All uses accommodated by the construction will be inside uses, covered, or otherwise isolated from the flow of stormwater
 - 2. No more than [300] square feet of impervious surface is created; and
 - 3. No more than [500] square feet of bare soil is exposed during construction.
- B. Except as otherwise provided by this ordinance, a HMMS is not required
- 1. For the use storage, and handling of specific hazardous materials that do not present a risk to the aquifer, as determined and listed by the Director in consultation with [public water supplier], [with the exception of listing these hazardous materials on the Hazardous Material Inventory Statement as required by Fire Code]. A hazardous material exemption request may be submitted to the Director for hazardous materials that can be demonstrated to pose no threat to the public water source. These materials may be exempt from regulation and added to the list. The demonstration of no threat is the responsibility of the applicant seeking the exemption and will be subject to review by technical experts.
 - 2. Hazardous materials offered for sale in their original containers of five (5) gallons or less;
 - 3. Hazardous materials in fuel tanks and fluid reservoirs attached to a private or commercial motor vehicle and used directly in the motoring operation of that vehicle;
 - 4. Hazardous materials in fuel tanks and fluid reservoirs attached to machinery, including but not limited to fuel, engine oil and coolant;
 - 5. Fuel oil used in existing heating systems;
 - 6. Emergency use, storage and handling of hazardous materials by governmental organizations or non-governmental disaster relief organizations in the public interest;
 - 7. Hazardous materials used and stored specifically for water treatment processes of the public water system and private systems for the same purpose when approved by the director;



8. Hazardous materials contained in properly operating sealed units (transformers, refrigeration units) etc. that are not opened as part of routine use;
9. Local natural gas distribution lines;
10. Any commonly used office supply – such as correcting fluid, toner, or cleaning supplies, where supplies are purchased off-site for use onsite;
11. Aggregate quantities equal to or less than 20 gallons of hazardous materials.

Section IX – Standards for approval of Safe Drinking Water Plans

- A. Site plans shall be drawn at a scale of [x] or larger.
- B. Erosion and sediment control plans shall be designed to reduce the potential for erosion, maintain all sediment on site, and stabilize all soil prior to removal of temporary control measures, and shall be stamped by certified engineer or erosion control specialist. *[Alternatively, refer to design standards existing elsewhere in your code or an erosion prevention and sediment control manual developed by another jurisdiction. – See section on Erosion and sediment control in the Water Quality Model Code and Guidebook.]*
- C. Stormwater management plan shall be designed to remove 80% of all total suspended solids carried by stormwater flowing off of newly created impervious surfaces, or to retain all runoff such that the rate and volume of stormwater leaving the developed site is the same or less than that from the undeveloped site. *[Alternatively, refer to design standards existing elsewhere in your code or stormwater manual developed by another jurisdiction. – See section on stormwater management in the Water Quality Model Code and Guidebook.]*
- D. Applications shall comply with the following standards. Where the following standards are more restrictive than the standards of the Uniform Fire Code, the following standards shall apply:
 1. Highly Sensitive Area standards
 - a) Within the Highly Sensitive Area, hazardous materials that pose a risk to surface water may be stored in aggregate quantities of no more than 500 gallons if in original containers not exceeding 5 gallons* in size. Within that aggregated 500-gallon inventory, no more than 150 gallons of hazardous materials that pose a risk to surface water may be on the premises in opened containers for handling, treatment, use production, or dispensing on site. Hazardous materials that pose a risk to surface water shall be allowed only upon compliance with containment and safety standards set by the most recent Fire Code adopted by the City. *A waiver of the 5-gallon maximum size may be given by the Director if the applicant can demonstrate that a larger size container would pose less risk to the drinking water source.
 - b) Except those exempted, all hazardous materials that pose a risk to surface water shall be stored in areas with approved secondary containment in place (Uniform Fire Code Articles 2 and 8003.1.3.3).
 - c) All new uses of hazardous materials shall be prohibited.
 - d) Any change in type of use or an increase in maximum daily inventory quantity of any hazardous materials shall be considered a new use and shall be prohibited.
 - e) The following certain types of new facilities or changes in use and/or storage of hazardous materials that pose a risk to surface water shall be prohibited:
 - i. Underground hazardous material storage facilities;
 - ii. Hazardous material product pipelines used to transport the hazardous material off of the tax lot where it is produced or used;
 - iii. Injection wells, except dry wells for roof drainage;
 - iv. Solid waste landfills and transfer stations;
 - v. Fill materials containing hazardous materials;
 - vi. Land uses and new facilities that will use, store, treat, handle, and/or produce hazardous materials.
 - f) Requirements found in Uniform Fire Code Appendix II-E 3.2.6 for a monitoring program and in 8003.1.3.3 for monitoring methods to detect hazardous materials in the secondary containment system shall be met for all amounts of hazardous materials that pose a risk to surface water except those exempted.
 - g) Requirements found in Uniform Fire Code Appendix II-E Section 3.2.7 for inspection and record keeping procedures for monthly in-house inspection and maintenance of containment and emergency equipment for all amounts of hazardous materials that pose a risk to surface water except those exempted shall be met.
 2. Drinking Water Protection Zone.
 - a) The storage, handling, treatment, use, production or otherwise keeping on premises of more than 20 gallons of hazardous materials that pose a risk to surface water in aggregate

- b) All hazardous materials that pose a risk to surface water shall be stored in areas with approved secondary containment in place (Uniform Fire Code Articles 2 and 8003.1.3.3).
- c) All new use of hazardous materials shall be prohibited.
- d) Any change in type of use or an increase in the maximum daily inventory quantity of any hazardous materials shall be considered a new use and shall be prohibited.
- e) Requirements found in Uniform Fire Code Appendix II-E Section 3.2.7 for inspection and record keeping procedures for monthly in-house inspection and maintenance of containment and emergency equipment for all amounts of hazardous materials that pose a risk to surface water except those exempted shall be met.

E. Highly Sensitive Area Management Plans

1. Highly Sensitive Area Management Plans for new development shall exclude all vegetation removal, and the placement of structures and impervious surfaces except for the following uses, provided alteration and disturbance of the Highly Sensitive Management Area is kept to a minimum and native vegetation is used to replant disturbed areas after construction:
 - a) Development which is appurtenant to the production, supply, distribution or storage of water by a public water supplier.
 - b) Public roads, main-line utilities and trails
 - c) Private roads and driveways necessary to access buildable portions of a parcel
 - d) Stormwater management structures sited within the context of a [city/county] approved stormwater management program.
 - e) Construction, clearing or other activities on [city/county] owned property if the encroachment is authorized in writing by [jurisdiction]
 - f) Construction, clearing, or other activities on [public water utility] owned land if the encroachment is authorized in writing by the [Public Water Utility board] [Note: use if water district or other non-municipal entity operates the water supply];
2. Management plans shall identify the location of trash containers and dumpsters. Trash containers and dumpsters shall not be located within the Highly Sensitive Area unless they are under a roof or are located so that leachate from the receptacle can not escape unfiltered and untreated.

Section X – Conditions of Approval

The [Director] may attach conditions of approval that will minimize negative impacts of regulated activities on drinking water and ensure that the facility or the proposed development can fully meet the standards specified in Section IX. These conditions may include stormwater monitoring, special stormwater facilities, signage, or other conditions to address risks associated with the proposed development.

Section XI – Appeals

The only portions of this ordinance that are subject to appeal are [x]. The appeal of a decision of the [Director] may be appealed to the [Planning Commission] under a type II procedure as specified in [reference appropriate section of code].

For more information please contact:
Sue Gries, Drinking Water Protection Program,
 (503) 229-6210

To obtain a local or regional map or copy of an individual source water assessment report, or to arrange a presentation on drinking water protection, contact **Sheree Stewart**, Drinking Water Protection Program Coordinator, DEQ, Portland, (503) 229-5413. For information on land use planning for drinking water protection, contact **Doug White**, Department of Land Conservation and Development, Bend, (541) 318-8193.

Oregon DHS – Drinking Water Program
<http://oregon.gov/DHS/ph/dwp/swp.shtml>

Oregon DEQ
<http://www.deq.state.or.us/wq/dwp/dwp.htm>

Oregon Department of Land Conservation and Development
Water Quality Model Code and Guidebook
<http://www.oregon.gov/LCD/waterqualitygb.shtml>

U.S. Environmental Protection Agency
 EPA’s Office of Ground Water and Drinking Water
<http://www.epa.gov/safewater/>

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Portland, at (503) 229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

