

Section 10.21.5. **“WHP” Wellhead Protection District**

Subd. 1. **Purpose.** The purpose of the “WHP” Wellhead Protection District is to protect the public health, safety, and general welfare of the community and its people through the establishment of minimum regulations governing development and use of property proximate to the City’s municipal water well field.

Subd. 2. **Applicability** The following requirements apply to all land within the Wellhead Protection Zones, as defined in subparagraph C, with the exceptions of all uses existing at the time of passage of this ordinance and of single and multi-family residential land uses connected to municipal sanitary and storm sewers. After the effective date of this ordinance: No building, structure, premises, or part thereof shall be constructed, erected, enlarged, extended, or relocated except in conformity with these regulations and for uses permitted by this ordinance and until the proposed site and land use description has been filed with and approved by the City of Alexandria Planning and Zoning Department.

Subd. 3. **Establishment of Wellhead Protection Zones** For purposes of this ordinance, the following areas are designated as Wellhead Protection Zones:

Zone I

The area contained within the Inner Wellhead Management Zone of a public water supply well or Wellhead, as defined by a modeled delineation performed in compliance with Minnesota Rules, part 4720.5510 to 4720.5590; or
The areas within two hundred (200) feet of a public water supply well.

Zone 2

The area contained within a one (1) year time-of-travel to a public water supply well or Wellhead, as defined by a modeled delineation performed in compliance with Minnesota Rules, part 4720.5510 to 4720.5590; or
The areas within one thousand (1,000) feet of a public water supply well.

Subd. 4 **Site and Plan Review**

A. Development Plans Required. Unless otherwise exempted under Subd. 4.B any proposed land use

within a Wellhead Protection Zone must submit a Site and Development Plan, as described in Subd. 4.D

B. Exemptions. The following are not required to submit Site and Development Plans:

1. Zone 1 district -- Any land use, in the ordinary course of their business, that has, or will have, less than the threshold amount of one (1) gallon of liquids in the aggregate or six (6) pounds of water soluble solids; and
2. Zone 2 district -- Any land use, in the ordinary course of their business, that has, or will have, less than the threshold amount of one hundred (100) gallons of liquid in the aggregate or six hundred (600) pounds of water soluble solids in the aggregate.
3. In determining thresholds, the following substances shall be exempted:
 - a. Reasonable quantities of substances used for routine building and yard maintenance stored inside a facility;
 - b. Liquids required for normal operation of a motor vehicle in use in that vehicle;
 - c. Substances contained within vehicles for bulk deliveries to the site;
 - d. Beverages and food at restaurants, supermarkets, convenience stores, and other retail food establishments;
 - e. Uncontaminated public water supply water, groundwater and/or surface water;
 - f. Substances, which are packaged in pre-sealed containers, sold at retail establishments;
 - g. Substances utilized for the production and treatment of public water supply; and
 - h. Substances, which due to their inherent chemical or physical properties, that are determined to pose no significant threat to groundwater quality.

C. Plan Review. Property located within Zones 1 and 2 proposed for new construction or expansion of existing facilities shall prepare and submit a description of said construction or expansion and

the new or expanded use of the property. The site description shall be submitted to the City of Alexandria Planning and Zoning Department for review and either approval, disapproval, or approval with conditions. The City of Alexandria Planning and Zoning Department may solicit comments from Alexandria Light and Power on the site and development plan.

In reviewing the site and land use description, the City of Alexandria Planning and Zoning Department shall assess whether the site and proposed land use:

1. Will prevent potential ground water contaminants associated with human activity from interfering with each community public water supply system's ability to produce drinking water that meets all applicable federal and State drinking water standards after undergoing conventional ground water treatment, as employed by the public water supply system. These treatment processes include, but are not limited to aeration, detention, pressure filtration, and disinfection;
2. Will not unreasonably endanger the quality of groundwater in a designated wellhead protection area. An unreasonable risk includes, but is not limited to, the inappropriate storage, handling, use and/or production of metals, inorganic compounds, volatile organic compounds, semi-volatile organic compounds or other substances listed at MN Rules Chapter 7045 and
3. The site complies with the standards and prohibitions listed in Section E.

D. Plan Documentation and Supporting Information.
Said Site and Development Plans shall include the following:

1. A narrative report of the proposed site, including:
 - a. A narrative description of the site including any existing uses, setbacks,

- available sewage disposal facilities, and a brief history of the site (including any former uses, historical environmental concerns, abandoned wells, underground storage tanks, septic systems, etc.);
- b. Description of the proposed operations, including chemicals / products used or generated, chemical/product storage area descriptions, waste generation quantities, equipment cleaning/maintenance procedures
 - c. Methods and locations of receiving, handling, storing and shipping chemicals/products and wastes
 - d. Spill or release response measures and reporting
 - e. Description of slopes near containment vessels and waste storage areas
2. A Site Plan including:
- a. A Vicinity Map (USGS quadrangle preferred);
 - b. A site Map (drawn to scale) depicting:
 - All existing and proposed structures
 - Paved and non-paved areas
 - Utility lines (inside and outside structures) including sanitary sewers, storm sewers, storm retention ditches/basins/french drains/dry wells, etc. (both proposed and existing)
 - Floor drain locations and outlets
 - Chemical/product storage locations
 - Waste storage locations
 - Liquid transfer areas
 - Site surface water bodies (streams, rivers, ponds)
 - Underground Storage Tanks (and associated piping)
 - Aboveground Storage Tanks (and associated piping)
 - Slope and contours of finished grade at 2-foot intervals
 - Regulated Drains
 - Any and all easements

3. Proposed containment area detail drawings, including area, heights, materials, specifications, if applicable.

Subd. 5 **Development Standards and Prohibitions**

- A. All development shall be connected to available municipal sanitary sewers or combined sewers. Floor drains, if present, must be connected to sanitary sewers or combined sewers or routed to a temporary holding area for removal;
- B. No surface impoundments, pits, ponds or lagoons shall be in Zone 1.
- C. Surface impoundments in Zone 2 are allowed for:
 1. Storm water detention and retention ponds; and
 2. Public water supply purposes
- D. In Zone 2, detention and retention ponds shall be constructed in a manner that provides an effective barrier to the migration of potential ground water contaminants into ground water, as demonstrated by sealing the bottom of the structure with clay or other approved low permeability material.
- E. The following restrictions apply to new storage areas in Zone 1:
 1. Existing above ground storage tanks are non-compliant and must be removed when taken out of service;
 2. No new above ground storage tanks are permitted;
 3. No new underground storage tanks (USTs) are permitted
- F. All above ground storage of liquids in excess of 1,000 gallons capacity within Zones 1 and 2 are prohibited
- G. Above ground storage of liquids with less than 1,000 gallons capacity must provide secondary containment which meets the following requirements:
 - Containment must be capable of containing one-hundred and ten percent (110%) of the volume of the tank or tanks;
 - Constructed to meet one of the following:
 1. Designed to prevent and control the escape of the contaminant(s) into ground water for a minimum of 72 hours before removal; or

2. Designed and built with an outer shell and a space between the tank wall and outer shell that allows and includes interstitial monitoring.
 - The secondary containment structure shall be properly maintained and shall be free of vegetation, cracks, open seams, open drains, siphons, or other openings that jeopardize the integrity of the structure; and
 - Secondary containment systems shall be designed so that the intrusion of precipitation is inhibited or that stormwater is removed to maintain system capacity.
- H. In Zone 1, Underground Storage Tanks (UST) are considered a non-conformity that cannot be replaced or upgraded and must be removed when out of service.
- I. In Zone 2, the requirements of MN Rules Chapter 7150.0030 apply to all existing registered USTs. Existing registered UST's may be replaced in compliance with said Chapter.
- J. All Class V Injection Wells (including but not limited to dry wells, large-capacity cesspools, motor vehicle waste disposal wells, or other injection wells as defined at 40 CFR 146 shall be prohibited with the exception of the following:
 1. Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump, if non-contact;
 2. Cooling water return flow wells used to inject water previously used for cooling, if non-contact;
 3. Barrier recharge wells used to replenish the water in an aquifer or to improve ground water quality, provided the injected fluid does not contain potential ground water contaminants; and
 4. Wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power, if non-contact.
- K. The transfer area for bulk delivery of liquids shall be required to accommodate and contain a release that occurs during loading and unloading of a tank as follows:
 1. The liquid transfer area shall be

- constructed in a manner to prevent a release in the transfer area from reaching the ground water; and
2. The portion of the liquid transfer area intended to contain releases shall be maintained so that it is free of vegetation, cracks, open seams, open drains, siphons, or other openings that jeopardizes the integrity of the area.
- L. No disposal of Solid Waste, (as defined in City Code Section 2.70 and/or CFR 261.2), or other hazardous materials (defined as any substance that: (1) conveys toxic, lethal, or other injurious effects or which causes sub-lethal alterations to plant, animal, or aquatic life; or (2) may be injurious to human beings; or (3) any matter identified as "hazardous waste" by the Environmental Protection Agency or its successor or a "controlled hazardous substance" by the Minnesota Pollution Control Agency or its successor), is permitted in either Zone 1 or Zone 2.
- M. The following requirements apply to all excavation activities associated with the removal of sand and gravel materials:
1. The extraction of sand and gravel shall not be allowed below the normal groundwater level.
 2. There shall be no de-watering of sites utilized for sand and gravel extraction
 3. No form of solid waste (as defined at City Code Section 2.70) or any other form of waste material of any kind, including but not limited to construction/demolition debris, shall be used on the site. Clean natural earth fill materials may be used without restriction as to origin or placement on-site.
 4. All fuels, oils, lubricants, hydraulic fluids, petroleum products, or other similar materials on site shall have appropriate secondary containment.

Table 1

**Cross-reference of Development Standards and Prohibitions
by Land Use Wellhead Protection Zone**

Land Use	Zoning District	
	Zone 1 (IWMZ) or 200-foot radius of Public Water Supply Well	Zone 2 (One Year Time-of-Travel) or 1000-foot radius of Public Water Supply Well
Sanitary land fills	Prohibited	Prohibited
On-Site Sewage Disposal (Commercial Facilities)	Prohibited	Prohibited
Sand and Gravel Mining	Prohibited	Allowed Prohibited below water level
Surface Impoundments (e.g., pits, ponds & lagoons)	Prohibited	Prohibited Exceptions for stormwater
Detention and Retention Basins	Prohibited	Allowed Must be lined
New ASTs (>1,000 gallons)	Prohibited	Prohibited
New ASTs (<1,000 gallons)	Prohibited	Allowed Must have secondary containment at 110% of volume
Existing ASTs	Allowed as Non-Conforming Remove when taken out of service	Replacement allowed. Must have secondary containment at 110% of volume
Permitted Hazardous Waste Storage	Prohibited	Allowed (Small to Medium) Must prevent release to ground, and be appropriately maintained
New USTs	Prohibited	Prohibited

Existing USTs	Allowed as Non-Conforming Remove when taken out of service. No expansion allowed	Replacement allowed. Must meet all requirements of MN Rules Chapter 7150.0030
Class 5 Injection Wells (e.g., dry wells)	Prohibited	Prohibited
Liquid Transfer Areas	Allowed Must prevent release to ground, and Must be appropriately maintained	Allowed Must prevent release to ground, and Must be appropriately maintained

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