



CITY OF LANCASTER

Division of Water

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City of Lancaster
Interim Policy for Development within the Wellhead Protection Zones

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The City of Lancaster Water Treatment Plants has been processing drinking water since the Miller Park Water Treatment Plant was built in 1932. Joined by the South Water Plant in 2004, the system provides a reliable and clean source of water for residents and businesses. The water is drawn from the Hocking River Valley Aquifer through a series of wells located adjacent to each plant. The aquifer is comprised of subsurface sand and gravel deposits. In 1994 the City initiated a source water assessment to determine the potential for contamination. This was followed in 1996 by the development of the Wellhead Protection Program, one of the first in the State of Ohio.

The Program developed and codified in Chapter 1335 of the Lancaster Codified Ordinances, the creation of Wellhead Protection Zones around the supply wells to regulate high risk land uses that are potential sources of contamination to the aquifer. While the program regulated land uses, it did not address development and construction practices within the wellhead protection zone that could also impact the aquifer. This interim policy is intended to serve and development regulations bridging the current ordinance and a revised program expected to be implemented in 2015.

Zoning Permits

No new facilities that practice prohibited activities will be allowed to locate in the Wellhead Protection Zone 1 or 2. Applications for any Zoning Clearances within the Wellhead Protection Zones shall include a facility survey identifying proposed uses and proposed materials to be used or stored on the site. Prior to issuance of a Zoning Clearance Permit, the Superintendent of Water shall approve the usage in accordance with Chapter 1335.

Grandfathered non-conforming uses may apply to upgrade or expand operations under a variance if the business can demonstrate an overall reduction of risk to the aquifer and/or wellfield through a pollution prevention program instituted by the facility and approved by the City of Lancaster. Variances will be approved based on the following

1. Nonconforming use is changed to a conforming use. Whenever a nonconforming use has been changed to a conforming use, such use shall not thereafter be changed to a nonconforming use;
2. The expansion does not increase the amount of regulated substances at the facility; or
3. The containment and method of handling and disposal of all regulated substances reduces the risk due to improvements of quality of such procedures;

4. Monitoring wells are installed if required. All cost associated with installation of the wells, maintenance of the wells, and monitoring of water quality will be paid by the nonconforming facility.
5. Site information as required for new construction is submitted and approved.

Approval of variances shall be the responsibility of the Superintendent of Water.

New Construction Plans

Construction within the Wellhead Protection Zones may create potential pollution issues even if the facility is an allowed use within the zone.

A. For new construction of any type the developer shall submit the following

1. A narrative report for the proposed facility including:
 - a. Description of proposed operations including chemicals/products used or generated, chemical/product storage area descriptions, water generation quantities, equipment cleaning/maintenance procedures;
 - b. Methods and locations of receiving, handling, storing, shipping and disposal chemicals/products and wastes;
 - c. Spill or release response measures and reporting;
 - d. Soil Boring and Testing Information;
 - e. Property Specific Risk Analysis, if required; and
 - f. Stormwater Pollution Prevention Plan or Notice of Non-Exposure. Within 30 days of receipt the developer shall submit their General Construction Stormwater Permit or Industrial Stormwater Permit if required by the Ohio Environmental Agency.
 - g. A Phase I Environmental Site Assessment (ESA) conducted following American Society for Testing and Materials (ASTM), ASTM 1527-13 for Phase I ESA's.
2. A site plan including:
 - a. All existing and proposed structures;
 - b. Paved and unpaved areas;
 - c. Utility lines (inside and outside) including sanitary sewers, storm sewers, stormwater management facilities, water lines, and any other buried utilities;
 - d. Floor drains locations and outlets;
 - e. Chemical/product and waste storage locations;
 - f. Liquid transfer areas;
 - g. Soil Boring and Testing Locations
 - h. Slope contours of finished grade at two foot intervals.
 - i. Property Specific Risk Mitigation practices if required.
3. Proposed containment area detail drawings including, area, heights, materials, and specifications.
 - a. Secondary containment systems required for new facilities and expansions shall be constructed or lined with materials compatible with the regulated substance stored.
 - b. Materials shall be of sufficient thickness, density, and composition so as not to be weakened from contact with the regulated substance precipitation
 - c. Systems shall be free from cracks, joints, gaps, or other imperfections which would allow leakage through the containment.
 - d. Containments shall be designed to contain the total volume of regulated substance stored.
4. Professional review by expert/consultant selected by the city with the cost to be borne by the developer or owner if required by the Superintendent of Water.

5. Proof of liability insurance or bond to cover cost of cleanup of possible contamination.
6. The City shall review all plans submitted under this policy and issue comments within 45 days of receipt of such plans.

General Construction Activities

1. Regulated substances associated with paving, the pouring of concrete, or construction for which all necessary permits have been obtained may be handled in the Wellhead Protection Zones provided such regulated substances are present at the construction site for which the permits have been issued and do not pose a danger of contaminating surface or groundwater. All wastes generated during construction shall be removed from the construction site on a timely basis and disposed of in accordance with all applicable rules and regulations. If construction activity has ceased, all regulated substances shall be removed from the site.
2. Any development involving earthmoving and grading operations in the Wellhead Protection Zone shall comply with the requirements of Lancaster Codified Ordinances 919 Erosion and Sediment Control. Grading operations shall be minimized to the area required for a 90 day work period as estimated in the project schedule.
3. All prophylactic termite treatment for new construction in the Wellhead Protection Zone shall consist of nontoxic methods and/or bait system termiticides; all developers will notify potential buyers of this provision and demonstrate to the Division of Water that they have done so.
4. Excavations within the Wellhead Protection Zone shall be allowed only for construction activities (including soil testing), surface water drainage control purposes under an approved stormwater management plan, or landscaping purposes, and only upon approval of the City of Lancaster. All excavations within the Wellhead Protection Zone shall be performed in such a way as to minimize the contamination of soils and other deposits with hazardous matter.
5. If stormwater runoff is determined to be a possible source of contamination by the Stormwater Inspector, a corrective action plan shall be implemented to contain and remove stormwater or to provide on site treatment by vegetative cover.
6. All fill operations shall use clean, hard fill materials. Fill materials shall be sampled and analyzed by a laboratory certified by the Ohio Environmental Protection Agency (OEPA) Voluntary Action Program (VAP). All fill material shall meet the OEPA VAP residential land use standards outlined in the "Required Chemical Testing" section of this Policy. Fill materials shall not contain fly ash, sewage sludge, asphalt, shingles, construction debris or any other material prohibited by any local, state or federal regulation. All fill operations shall comply with local, state and federal law. Fill material from the site are subject to these requirements, and shall not be used unless sampled, analyzed, and found to meet the indicated standards.
7. All fill sites shall have limited controlled access, and be posted with signage indicating "Wellhead protection area. Up to \$100 per day fine for illegal dumping or fill materials. No asphalt, shingles, construction debris, or any other prohibited material." The site shall be secured during unauthorized times with emergency contact information posted.
8. Temporary above ground fuel storage tanks may be permitted for construction purposes if shown and approved on the site plans. Temporary tanks shall be state of the art construction having leak detection monitoring devices and secondary containment approved by the Lancaster Fire Department.

Foundations

1. Soil testing will not be required for footers and foundations with a depth of less than six feet unless the site is identified in the City's Potential Contaminate Source Inventory in the Wellhead Protection Plan or the Phase I ESA indicates the potential for contamination exists.
2. For footers and foundations greater than six feet, soil boring shall be required at each building corner and at each piling location. The boring shall be at a minimum to the depth of each footer and foundation plus two feet. Soil borings shall be logged by a geologist or geotechnical engineer.
3. Each boring shall be evaluated for the following items
 - a. Depth to groundwater;
 - b. Subsurface lithology, including clay, silt, sand, and gravel;
 - c. Depth and thickness of fill materials;
 - d. Zones that appear anomalous, such as discoloration of soil, unusual odors, etc.
4. When fill material is encountered above the depth of the footer, soils shall be sampled and analyzed in accordance with the Required Chemical Testing Section.
5. When clay is encountered above the depth of the footer, soils shall be sampled and analyzed in accordance with the Required Chemical Testing Section.
6. When groundwater is encountered above the depth of the footer, groundwater shall be sampled and analyzed in accordance with the Required Chemical Testing Section.

Required Chemical Testing

1. Soil and groundwater analysis shall include, at a minimum, the parameters listed on the attached Table 1. Soil analytical results shall be compared to the residential land use category generic numerical direct-contact soil standards found in Appendix A to the Ohio Administrative Code (OAC) 3745-300-08, Table 1. Groundwater analytical results shall be compared to the generic unrestricted potable use standards found in Appendix A to OAC 3745-300-08, Table VI.
2. The Superintendent of Water may require additional soil and/or groundwater analytical parameters for sites included in the Potential Contaminant Source Inventory of the Wellhead Protection Plan or as identified by the Phase I ESA. Soil analytical results shall be compared to the Ohio VAP residential land-use category generic numerical direct-contact soil standards found in Appendix A to OAC 3745-300-08, Table 1. Groundwater analytical results shall be compared to the Ohio VAP generic unrestricted potable use standards (UPUS) found in Appendix A to OAC 3745-300-08, Table VI.
3. Fill material shall comply Ohio VAP residential land-use category generic numerical direct-contact soil standards found in Appendix A to OAC 3745-300-08, Table 1.
4. For sites where soil and groundwater meet the Ohio VAP generic numerical standards found in Appendix A of OAC 3745-300-08 and as described above, no further action is required.
5. For sites where soil or groundwater samples exceed the Ohio VAP generic numerical standards found in Appendix A of OAC 3745-300-08, a property specific risk assessment (PSRA) must be conducted in accordance with the requirements of OAC 3745-300-09. For the purposes of the PSRA, the land use shall be residential and the groundwater shall be critical resource. The PSRA shall be conducted under the direction of an Ohio EPA VAP Certified Professional.

Risk Mitigation

1. The VAP Certified Professional in conjunction with the Structural Engineer and the Site Engineer shall prepare a Risk Mitigation Work Plan that recommends construction techniques and practices required to mitigate the risks identified in the PSRA. The Risk Mitigation Work Plan shall be submitted to the City for

review. Upon approval by the City, techniques and practices proposed in the Risk Mitigation Work Plan shall be incorporated into the plans.

Table 1
Required Analytical Parameters

<u>Inorganics</u>	<u>Volatile Organic Compounds</u>	<u>Synthetic Organic Compounds</u>
Aluminum	Benzene	Alachlor (LASSO)-2051
Antimony	Carbon Tetrachloride	Atazine-2650
Arsenic	Monochlorobenzene	Simazine-2037
Barium	1,2-Dichlorobenzene	
Beryllium	1,4-Dichlorobenzene	
Cadmium	1,2-Dichloroethane	
Chromium	1,1-Dichloroethene	
Cobalt	cis-1,2-Dichloroethene	
Copper	trans-1,2-Dichloroethene	
Cyanide	Dichloromethane	
Lead	1,2-Dichloropropane	
Magnesium	Ethylbenzene	
Mercury	Styrene	
Nickel	Tetrachloroethene	
Selenium	Toluene	
Silver	1,2,4-Trichlorobenzene	
Sodium	1,1,1-Trichloroethane	
Thallium	1,1,2-Trichloroethane	
Vanadium	Trichloroethene	
Zinc	Vinyl Chloride	
	Xylenes, total	

This Policy is hereby approved



Michael B. Nixon, Superintendent, Water/Water Pollution

12/15/14

Date



Brian S. Kuhn, Service Safety Director

12/15/14

Date