

**M E M O R A N D U M**

**DATE:** January 8, 2025

**TO:** Licensed Well and Boring Contractors  
Advisory Council on Wells and Borings  
Baytown Township  
West Lakeland Township  
City of Bayport  
City of Lake Elmo  
Washington County Public Health and Environment  
Property Owners  
Real Estate Professionals

**FROM:** Thomas P. Hogan, Director  
Environmental Health Division  
P.O. Box 64975  
St. Paul, Minnesota 55164-0975

**PHONE:** 651-201-4675

**SUBJECT:** Boundary Expansion and Update of Requirements for the Baytown/West Lakeland Township Special Well and Boring Construction Area, Washington County, Minnesota

**Introduction**

The Minnesota Department of Health (MDH) is expanding the boundary and updating the requirements of the Baytown/West Lakeland Township Special Well and Boring Construction Area (SWBCA) effective January 8, 2025. The SWBCA covers portions of Baytown Township, West Lakeland Township, and the cities of Lake Elmo and Bayport in Washington County, Minnesota. The SWBCA applies to the construction, repair, and sealing of all wells and borings regulated by MDH and remains in effect until further notice.

The SWBCA is being expanded because groundwater contamination has been detected in domestic water-supply wells located beyond the previous boundary. The expanded SWBCA boundary is depicted in the attached map. The SWBCA boundary expansion adds the Northeast ¼ of Section 24, Township 29 North, Range 21 West in the City of Lake Elmo and the North half of Section 28, Township 29 North, Range 20 West in West Lakeland Township.

The SWBCA was last updated on March 30, 2005. The current update also includes changes to the requirements of the SWBCA that reflect additional information and new well and boring construction standards MDH has observed since the previous update.

## Authority

Minnesota Statutes, section 103I.101, subdivision 5, paragraph (6) grants the commissioner of health the authority to establish standards for the construction, maintenance, sealing, and water quality monitoring of wells in areas of known or suspected contamination. Minnesota Rules, part 4725.3650 details the requirements for construction, repair, and sealing of wells within a designated SWBCA, including plan review and approval, water quality monitoring, and other measures necessary to protect public health or prevent the degradation of groundwater.

## Site and Contamination History

The Baytown/West Lakeland Township SWBCA was created to mitigate risks to people and groundwater from wells and borings near the Baytown Township Groundwater Contamination Superfund Site. The SWBCA exists to inform the public of potential health risks, provide for the construction of safe water supplies, and prevent the spread of contamination due to improper construction of wells or borings.

For information on the history of the Baytown Township Groundwater Contamination Superfund Site, the contamination that is present, and the response to the contamination by state and federal authorities, see the Minnesota Pollution Control Agency (MPCA) webpage: [Minnesota Groundwater Contamination Atlas](https://webapp.pca.state.mn.us/cleanup/search/superfund?text=Baytown%20GW%20Contamination%20Site&siteId=21451-AREA0000000002) (<https://webapp.pca.state.mn.us/cleanup/search/superfund?text=Baytown%20GW%20Contamination%20Site&siteId=21451-AREA0000000002>).

## Public Health Concerns

The primary contaminant of concern in the Baytown/West Lakeland Township SWBCA is trichloroethylene, also known as trichloroethene or TCE. TCE is one of a class of chemicals called Volatile Organic Compounds (VOCs).

For more information about the health effects of TCE and drinking water concerns, see:

- [Trichloroethylene \(TCE\) and Your Health](https://www.health.state.mn.us/communities/environment/hazardous/topics/tce.html) (<https://www.health.state.mn.us/communities/environment/hazardous/topics/tce.html>)
- [TCE in Drinking Water \(PDF\)](https://www.health.state.mn.us/communities/environment/hazardous/docs/tcedrinkingwater.pdf) (<https://www.health.state.mn.us/communities/environment/hazardous/docs/tcedrinkingwater.pdf>)

## Hydrogeology

Surface geology in the Baytown/West Lakeland Township SWBCA consists of unconsolidated glacial sediments composed of layers of sand, gravel, and clay of varying thicknesses that are present at the surface and extend down to the bedrock surface. Some glacial layers of sand and gravel contain adequate volumes of groundwater and are considered glacial aquifers.

Directly beneath the glacial sediments are sedimentary bedrock formations consisting of layers of limestone, sandstone, dolomite, and shale that date back to the Paleozoic Era. Several of these bedrock formations contain significant volumes of groundwater and are bedrock aquifers.

The primary bedrock aquifers present include the Prairie du Chien dolomite aquifer, Jordan sandstone aquifer, Tunnel City sandstone aquifer, Wonewoc sandstone aquifer, and Mount Simon-Hinckley sandstone aquifer, which is the deepest bedrock aquifer in the area. There are also two bedrock formations that act as confining layers or aquitards, which are natural protective layers with low vertical permeability. The St. Lawrence confining layer consists of layers of siltstone, sandstone, and shale and acts as a protective barrier separating the Jordan and Tunnel City aquifers. The Eau Claire confining layer consists of siltstone, sandstone, and shale and acts as a protective barrier between the Wonewoc and Mount-Simon Hinckley aquifers.

The depth to bedrock in most of the SWBCA is less than 100 feet. In a small portion of the central part of the SWBCA, the depth to bedrock in areas of higher elevation can be up to 200 feet. Near the city of Bayport, depths to bedrock may be as deep as 300 feet due to erosion of the upper bedrock formations along the St. Croix River valley.

Groundwater flow direction in both the glacial sediments and the bedrock is predominantly eastward toward the St. Croix River. Groundwater flow is complicated due to fracture flow patterns in the Prairie du Chien aquifer and in the east portion of the SWBCA where geologic faults and folds exist in the bedrock formations. For more detail on geology and groundwater flow in the SWBCA, see: [C-39, Geologic Atlas of Washington County, Minnesota \(https://conservancy.umn.edu/items/223f10e9-d67d-4bb1-a9a4-b06cdd9ba542\)](https://conservancy.umn.edu/items/223f10e9-d67d-4bb1-a9a4-b06cdd9ba542).

## Special Well and Boring Construction Area Boundary

The revised boundary of the SWBCA is depicted in the attached map. The SWBCA includes the following areas within Baytown and West Lakeland Townships and the cities of Lake Elmo and Bayport, Washington County, Minnesota:

- The South ½ of Sections 7 and 8; all of Sections 9, 10, 11 14, 15, 16, 17 and 18; the North ½ of Section 19; all of Sections 20, 21, 22, and 23; and the North ½ of Section 28; Township 29 North, Range 20 West;
- All of Section 13 and the Northeast ¼ of Section 24, Township 29 North, Range 21 West.

## Well and Boring Construction Information

Except for some locations at the northern, southern, and eastern boundaries of the SWBCA, the glacial deposits will not provide an adequate supply of water, or the water will exceed TCE health risk limits.

The Prairie du Chien aquifer shows the greatest plume extent and the highest concentrations of TCE within the SWBCA. The aquifer is limited in extent within the SWBCA, and in many areas it is not allowed for potable use because the aquifer is not covered by at least 50 feet of unconsolidated material within a 1-mile radius, as required by Minnesota Rules, part 4725.4250. The aquifer is susceptible to contamination due to generally thin geologic materials overlying the formation and the unfiltered fracture flow in the aquifer. Also, nitrate levels in groundwater in the area are elevated.

The Jordan aquifer, north or south of the plume, may be clean or have low levels of TCE and may be permitted for use. Within the plume, the Jordan aquifer has high levels of TCE that make it unsuitable for use.

The Tunnel City aquifer east of Oakgreen Avenue has elevated levels of TCE similar to the Jordan aquifer. Drilling deeper below the Jordan aquifer in this area to try to find water unaffected by elevated levels of TCE would be expensive and unlikely to be successful. There is limited data in the Tunnel City aquifer west of Oakgreen Avenue to understand the extent of TCE contamination in that area.

In some areas near the St. Croix River where the Jordan aquifer is not present, wells completed in a glacial aquifer or in the Tunnel City or Wonewoc aquifers may be permitted. Groundwater in the glacial aquifer along the St. Croix River is contaminated in some areas.

The Mount Simon-Hinkley aquifer may not be affected by TCE contamination. It is expensive to complete a well or boring in this aquifer, and MDH has concerns with spreading contamination to this aquifer through well and boring construction or use.

## **Requirements of the Special Well and Boring Construction Area**

1. All wells and borings regulated by MDH and located within the boundaries of this SWBCA are subject to the requirements of this SWBCA.
2. Construction of new wells and borings will be allowed following approval of plans by MDH. MDH may review plans in consultation with other state and local agencies. MDH may deny plans if it determines the well or boring will interfere with remediation efforts, adversely affect the contamination plume, cause further spread of contamination, or result in environmental or human exposures above environmental and public health standards.
3. Construction of a new well or boring, or reconstruction or modification of the depth of an existing well or boring, must not occur until plans detailing the work have been submitted to MDH by a Minnesota-licensed well or boring contractor and have been reviewed and approved in writing by MDH. Well and boring construction plans must include the following information:
  - a. well or boring owner name and mailing address;
  - b. property owner name and mailing address (if different from well or boring owner);
  - c. name, mailing address, and license number of the well or boring contractor;
  - d. Minnesota Unique Well and Boring Number for a well or elevator boring, Minnesota Well and Boring Sealing Number for a temporary boring, or permit number for a bored geothermal heat exchanger;
  - e. street address of well or boring location;
  - f. well or boring depth;
  - g. casing type, diameter, and depth for each well casing;

- h. drilling method, type of grout material, and description of grouting method;
  - i. aquifer of well completion (if applicable);
  - j. proposed well or boring use; and
  - k. anticipated pumping rate (if applicable).
4. Special construction, location, use, monitoring, and treatment requirements may be included as conditions of plan approval to protect public health and groundwater quality or to prevent spread of contaminants. Conditions will be based on available knowledge of groundwater contaminant movement near the well or boring location, the date of property platting or development approval, and the proposed use and pumping rate of the well or boring. For high-capacity well proposals, MDH may require the requestor to provide detailed hydrogeologic pumping and modeling data, install environmental wells, or perform pumping tests to show that use of the well will not adversely impact existing remediation systems or alter the contamination plume.
  5. Requests to complete potable water-supply wells in the Prairie du Chien aquifer will not be approved.
  6. To prevent the potential spread of contamination, requests for wells and borings completed into the Mount-Simon Hinckley aquifer will not be approved.
  7. Full-depth grouting of all annular spaces with neat-cement or cement-sand grout will be required for all newly constructed wells and borings.
  8. As a condition of potable water-supply well construction plan approval, the well owner must agree and provide access to have water from the well tested for VOCs. Water samples must be analyzed by the MDH Public Health Laboratory for VOCs at the well owner's expense. The well may not be placed into service until the analytical results have been reviewed by MDH and reported to the well owner and well contractor.
  9. Construction of a community public water-supply well must not take place prior to approval of the proposed well site and well construction plans and specifications by MDH in accordance with Minnesota Rules, part 4725.5850. Public water-supply wells are regulated under the federal and state Safe Drinking Water Act and must comply with drinking water standards and management, testing, inspection, and oversight requirements.
  10. Construction of non-municipal water-supply wells may not be approved in areas served by municipal water systems.
  11. To prevent interference with remediation efforts and the contamination plume in the primary source area, construction of non-municipal water-supply wells will not be allowed in Section 13 or the Northeast ¼ of Section 24, Township 29 North, Range 21 West, Lake Elmo, Washington County.
  12. Permanent sealing of a well or boring must not occur until MDH has reviewed and approved plans for the proposed sealing in writing. Well and boring sealing plans must include the following information:
    - a. well or boring owner name and mailing address;

- b. property owner name and mailing address (if different from well or boring owner);
  - c. name, mailing address, and license number of the well or boring contractor;
  - d. Minnesota Unique Well and Boring Number for a well or elevator boring, Minnesota Well and Boring Sealing Number for a temporary boring, or permit number for a bored geothermal heat exchanger, if assigned;
  - e. street address of well or boring location;
  - f. well or boring depth;
  - g. casing type, diameter, and depth for each well casing;
  - h. description of plans for ungrouted liner casing perforation, removal, or grouting (if applicable);
  - i. type of grout material; and
  - j. description of sealing method.
13. All wells and borings within the SWBCA must be permanently sealed with neat-cement grout or cement-sand grout.
14. All other provisions of Minnesota Rules, chapter 4725, are in effect.

## Well Disclosure in Washington County

Minnesota Statutes, section 103I.236 states, “Before signing an agreement to sell or transfer real property in Washington County that is not served by a municipal water system, the seller must state in writing to the buyer whether, to the seller’s knowledge, the property is located within a special well construction area designated by the commissioner of health under Minnesota Rules, part 4725.3650. If the disclosure under section 103I.235, subdivision 1, paragraph (a), states that there is an unsealed well on the property, the disclosure required under this clause must be made regardless of whether the property is served by a municipal water system.”

This disclosure is in addition to the disclosure of the number, location, and status (in use, not in use, or sealed) of all wells on a property as required for all property transfers in Minnesota under Minnesota Statutes, section 103I.235. For more information on well disclosure in Minnesota, see:

- [Well Disclosure and Property Transfers \(https://www.health.state.mn.us/communities/environment/water/wells/disclosures/index.html\)](https://www.health.state.mn.us/communities/environment/water/wells/disclosures/index.html).

## Additional Regulations or Programs that May Apply to Private Wells within the SWBCA

### Township Ordinances

Baytown Township enacted Ordinance No. 36 on September 8, 2003, pertaining to water testing and installation, testing, and maintenance of whole-house granular activated carbon (GAC) filters for domestic wells within the township and within the boundaries of the SWBCA. Ordinance No. 36 was superseded by Ordinance No. 52, enacted on March 4, 2019. West Lakeland Township enacted a similar ordinance, Section No. 14, on March 1, 2004. The ordinances require residents in these areas to install an approved GAC filter when TCE or carbon tetrachloride is detected in a well at concentrations exceeding exposure limits. All filter installation, testing, and maintenance costs are the responsibility of the well owner. The ordinances also require periodic testing and reporting of results. Some requirements of the ordinances do not apply if the MPCA is monitoring and maintaining a whole house GAC filter for the well owner. Visit the Baytown Township and West Lakeland Township websites for the most recent versions of all ordinances.

### Baytown Township Groundwater Contamination Superfund Site

Currently, the MPCA will install, maintain, and test a whole-house GAC filter for an existing private well affected by contamination associated with the Baytown Township Groundwater Contamination Superfund Site when TCE in the well exceeds the Health Risk Limit established by MDH, but only if the well:

1. is located within one of the new areas added to the SWBCA effective January 8, 2025, and approved for development on or before the effective date; OR
2. is not located within the new areas added to the SWBCA effective January 8, 2025, and approved for development on or before April 9, 2002.

See the attached map for SWBCA boundaries. For more information, see: [Minnesota Groundwater Contamination Atlas \(https://webapp.pca.state.mn.us/cleanup/search/superfund?text=Baytown%20GW%20Contamination%20Site&siteId=21451-AREA0000000002\)](https://webapp.pca.state.mn.us/cleanup/search/superfund?text=Baytown%20GW%20Contamination%20Site&siteId=21451-AREA0000000002)

### 3M / East Metro PFAS Settlement

In February 2018, the state of Minnesota settled a 2010 lawsuit against the 3M Company for its production of chemicals known as per- and polyfluoroalkyl substances (PFAS) that contaminated drinking water and damaged natural resources in the Twin Cities East Metropolitan (East Metro) area. The MPCA is conducting private well sampling for PFAS in the East Metro area and in some cases provides whole-house GAC filters using Settlement funds. For more information, including an interactive map of the sampling area, see: [Well sampling in the east metro area | Minnesota Pollution Control Agency \(https://www.pca.state.mn.us/air-water-land-climate/well-sampling-in-the-east-metro-area\)](https://www.pca.state.mn.us/air-water-land-climate/well-sampling-in-the-east-metro-area).

## Persons to Contact

Well and boring construction and sealing notification forms or permit applications and fees must be submitted to MDH Well Management Section Central Office at: Minnesota Department of Health, Well Management Section, P.O. Box 64502, St. Paul, Minnesota 55164-0502 (Office) 651-201-4600, 651-201-4599 (Fax)

For questions about the SWBCA; well or boring construction, repair, or sealing; and plan review in the SWBCA, please contact:

Patrick Sarafolean  
Minnesota Department of Health  
Well Management Section – Metro District  
P.O. Box 64975  
St. Paul, Minnesota 55164-0975  
651-201-3962  
[patrick.sarafolean@state.mn.us](mailto:patrick.sarafolean@state.mn.us)

For information regarding public health concerns, please contact:

David Jones  
Minnesota Department of Health  
Site Assessment and Consultation Unit  
P.O. Box 64975  
St. Paul, Minnesota 55164-0975  
651-201-4565  
[david.bw.jones@state.mn.us](mailto:david.bw.jones@state.mn.us)

For information regarding groundwater quality and the investigation, monitoring, and remediation of groundwater contamination, please contact:

Mark Elliott  
Minnesota Pollution Control Agency  
Site Remediation and Redevelopment Section  
520 Lafayette Road  
St. Paul, Minnesota 55155-4194  
218-302-6649  
[mark.elliott@state.mn.us](mailto:mark.elliott@state.mn.us)

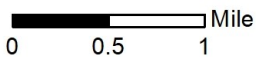
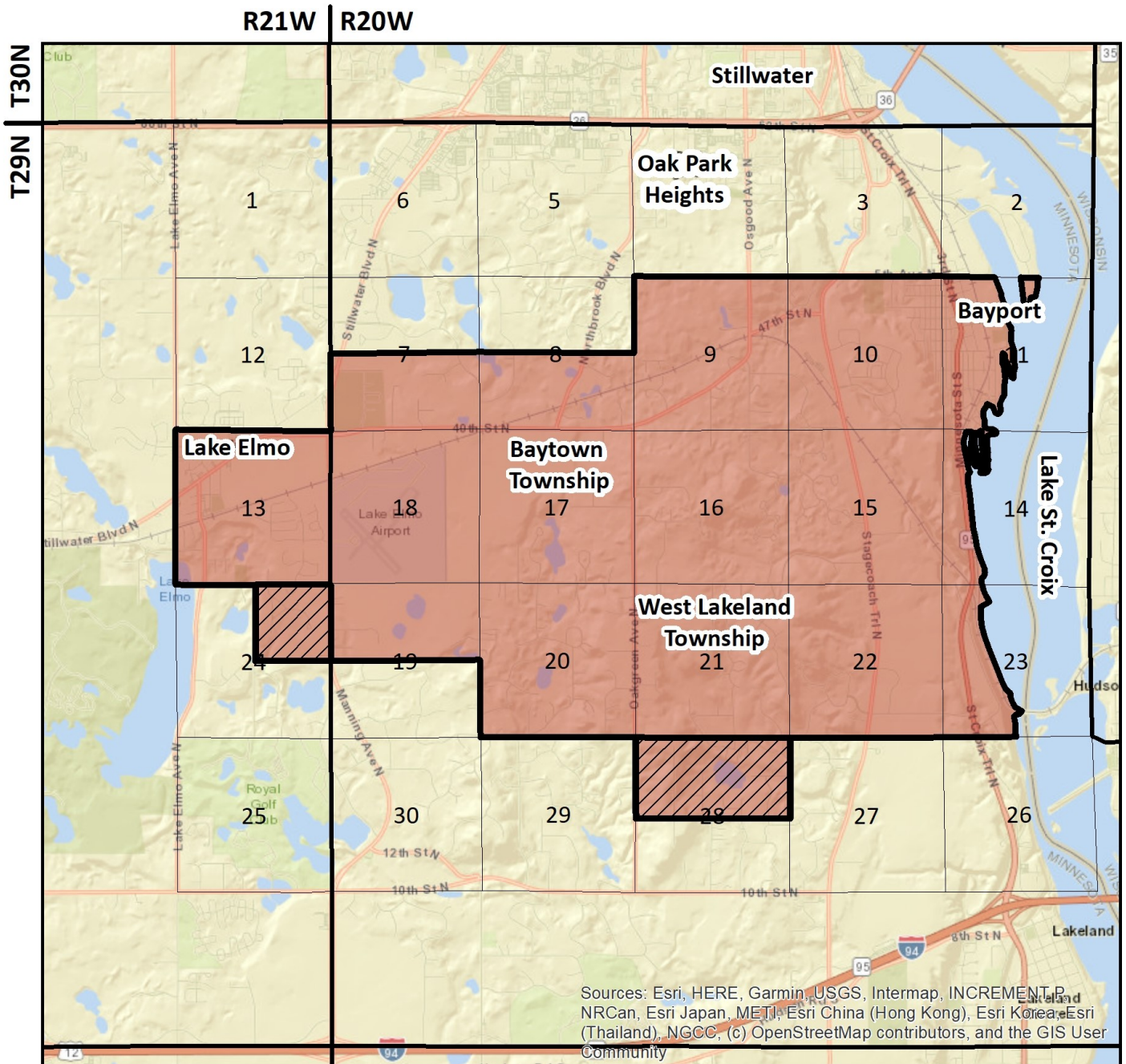
Brigitte Hay  
Minnesota Pollution Control Agency  
Site Remediation and Redevelopment Section  
520 Lafayette Road  
St. Paul, Minnesota 55155-4194  
651-757-2497  
[brigitte.hay@state.mn.us](mailto:brigitte.hay@state.mn.us)

If you have further questions, please contact [health.wells@state.mn.us](mailto:health.wells@state.mn.us) or 651-201-4600.



# Special Well and Boring Construction Areas

## Baytown Township/West Lakeland Township/Bayport/Lake Elmo



- Special Well and Boring Construction Area
- Special Well and Boring Construction Area Boundary Expansion - Effective January 8, 2025

\* Map revised January 8, 2025

