

Fridley Commons Park Well Field Superfund Site

Updated fact sheet prior to National Priorities List (NPL) delisting

This Minnesota Pollution Control Agency (MPCA) fact sheet for the Fridley Commons Park Well Field Superfund Site, located in the City of Fridley, Anoka County, Minnesota:

- Summarizes site investigation activities conducted during the remedial investigation, and
- Discusses the risks to human health and the environment that may be present at the site.

Where is the Site?

The Fridley Commons Park Well Field site (the Site) is about one mile north-northwest of the intersection of Interstate Highway 694 and Minnesota Highway 65; about one mile east of the Mississippi River; and approximately 0.2 miles northwest of Moore Lake. The Site is an active well field with eight municipal wells and the City of Fridley's water treatment plant, City Plant #2 (the WTP), owned by the City of Fridley. The City's WTP is designed to treat water from all eight wells on the Site.

- Four of the Site wells (Wells 6, 7, 8, and 9) are open to the Prairie du Chien-Jordan Aquifer (PdCJ), approximately 200 – 265 feet deep.
- The other four wells (Wells 2, 3, 4 and 5) are screened in the deeper Mount Simon Aquifer, approximately 740 – 842 feet deep.

Water from the wells is blended and treated onsite before it is distributed to the community. The well field serves a population of about 29,000. The Site is used as a park with sports fields. Land use in the surrounding Site area is mostly residential, with some areas of commercial and industrial use.

Site background

Trichloroethylene (TCE) is the main contaminant at the Site. The U.S. Environmental Protection Agency (EPA) and the MPCA utilize the following risk-based values for TCE for the remediation of contaminated sites:

- In 1987, the EPA established a Maximum Contaminant Level (MCL) for TCE of 5 micrograms per liter ($\mu\text{g/L}$), equivalent to parts per billion.
 - An MCL is the maximum concentration of a contaminant allowed for public water supplies under the Federal Safe Drinking Water Act.
- In 1994, the Minnesota Department of Health (MDH) established a Health Risk Limit (HRL) for TCE of 30 $\mu\text{g/L}$.
 - A HRL is the concentration of a chemical in drinking water that, based on the current level of scientific understanding, is likely to pose little or no health risk to humans, including vulnerable subpopulations.
- In 2007, the MDH revised the HRL for TCE to 5 $\mu\text{g/L}$.
- In 2015, the MDH revised the HRL for TCE to 0.4 $\mu\text{g/L}$.

In 1980, the City of Fridley began sampling its wells for the presence of volatile organic compounds (VOCs). TCE was detected in Well 8 and Well 9 in 1983, but it was not detected in the blended water distributed from the WTP at that time.

Summary of Site risks

The chemical of concern for this site is TCE, which was present in groundwater at detectable concentrations, and had at one time been detected in municipal wells at concentrations above the MCL and prevailing HRL.

- TCE is a colorless solvent with a slightly sweet odor used primarily in industrial processes as a degreaser for metal parts.
- Since TCE is very volatile, it is not typically found in surface soil or surface water.
- TCE is a probable human carcinogen.
- Long-term exposure to high levels of TCE in drinking water can damage the liver, kidney, immune system, and nervous system.

In general, potential routes of exposure for TCE-impacted groundwater include:

- Direct contact during activities, such as bathing and dishwashing.
- Ingestion of drinking water.
- Inhalation of volatilized TCE.

However, the City of Fridley managed the risk of exposure to contaminated water:

- Well 9 was shut off from 1989 – 2004.
- Water production from Wells 6, 7, and 8 was reduced when demand allowed.
- Water from Wells 6, 7, and 8 was mixed with water from non-impacted wells to ensure that any TCE concentrations in the finished water were below the MCL and prevailing HRL.

Thus, human exposure to TCE from the City of Fridley water system has been below risk-based standards or nonexistent.

Potential exposure to TCE through vapor intrusion is considered negligible because:

- Contaminant concentrations are not found in the uppermost zone of groundwater.
- Contaminant concentrations in the PdCJ Aquifer are located at depths greater than 200 feet.
- Contaminant concentrations are very low or not detected.

There are no ecological exposures to contamination at this site.

Investigation history

Subsequent testing of the wells at the Site revealed that the four PdCJ Aquifer wells (Wells 6, 7, 8, and 9) were contaminated with low levels of TCE.

- Monitoring of the four PdCJ Aquifer wells conducted by the City of Fridley, MPCA, and MDH began in 1989 and continues.
- Well 9 consistently had the highest concentrations of TCE, with the highest concentration of 79 µg/L in April 1992.
- From 1989 – 1992, Well 9 consistently showed TCE concentrations above the MCL.
- Well 9 was taken out of service from 1989 – 2004.

From 2002 – 2005, additional investigations of the groundwater and into possible contamination sources were conducted, but a contamination source was not identified. Potential sources were investigated, including nearby industrial facilities and former dumps. TCE contamination in the groundwater has been documented at several other Superfund sites within two miles of the Site; however, none of these other sites were found to be a contributing source. A groundwater plume, typically a larger area of defined continuous contamination, has not been identified at the Site.

Contaminants of emerging concern

In 2013/2014, MDH, in coordination with the City of Fridley, conducted sampling for per- and polyfluoroalkyl substances (collectively known as PFASs). PFASs were not contaminants identified in previous work. No PFASs were detected in the onsite wells or WTP.

Since 2015, when 1,4-dioxane was detected in the water from the New Brighton interconnection, the City of Fridley has been sampling the PdCJ Aquifer wells for 1,4-dioxane. Concentrations of 1,4-dioxane in the PdCJ Aquifer wells have been detected consistently, but well below the HRL and with concentrations near detection limits.

Cleanup history

- On February 20, 1991, the Site was placed on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) inventory of potential hazardous waste sites.
- In June 1992, the Site was added to Minnesota's Permanent List of Priorities (PLP), also known as the state Superfund list.
- In February 1999, the Site was listed on the National Priorities List (NPL), also known as the federal Superfund list.
- On December 1, 2003, a Feasibility Study was completed and evaluated several remedial alternatives for the Site.

The MPCA and the EPA wrote a No Action Record of Decision (ROD) that was proposed in July 2005. A public meeting to discuss the proposed ROD was held July 21, 2005. The ROD was signed in September 2005.

Additional monitoring of Wells 6, 7, 8, and 9, as required by the ROD in 2005, has continued to monitor for TCE concentrations. Concentrations of TCE in the four PdCJ Aquifer wells have either been undetectable or below the MCL and prevailing HRL. Breakdown products of TCE were not being detected.

The MPCA removed the Fridley Commons Park Well Field site from the state Superfund list in April 2010.

Basis for NPL delisting

- Contamination at the site is limited to TCE and 1,4-dioxane in the groundwater.
- Exposure to contamination is limited.
- The water supply is regulated by the MDH under the Safe Drinking Water Act – the City of Fridley provides enhanced monitoring and collects groundwater samples at least twice per year.
- The emerging contaminants PFASs and 1,4-dioxane have been investigated and concentrations are either not detected or are substantially below the MCLs and/or HRLs.
- TCE in the Site wells has been below the MCL and prevailing HRL since January 2004; therefore, current concentrations of TCE and 1,4-dioxane at the Site are considered protective of human health.

More information/Contacts

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To view the documents in the MPCA's administrative record that contain more details on the cleanup activities at this site, fill out an [Information Request Form](#) or call the MPCA at 651-296-6300 or 800-657-3864.