



Exclusive Cleaners Site, Worthington

Proposed addition to Minnesota's Permanent List of Priorities

Minnesota Pollution Control Agency (MPCA) staff in the MPCA Site Assessment (SA) Program has recommended that the Exclusive Cleaners Site at 1101 Second Ave. in Worthington be referred to the State Superfund Program and that the site be added to the Minnesota Permanent List of Priorities (PLP), so state funds can be used to conduct response actions.

This site is being referred to the MPCA Superfund Program based upon the findings from multiple MPCA SA Program investigations of the site (MPCA Project No. SA4589). The location of the site is shown as figures 1 and 2 on pages 2 and 3 of this fact sheet.

Background

The site operated as a gas station until the 1960s, when it was converted to a dry cleaner business (Exclusive Cleaners). According to a Phase I Investigation conducted in February 2010, the site operated as a dry cleaner from 1969 until 1998.

In 1991, the site was assigned Leak #4030 for a petroleum release at the site, and the leak site was closed in 1995.

In 1998, the YMCA purchased the property, the building on the site was demolished, and the site was turned into a parking lot.

An April, 2010 Phase II Investigation detected petroleum impacts in the groundwater, and the MPCA reopened Leak #4030. The suspected source of petroleum contamination was the former gas station. Soil gas sampling in the vicinity of the former dry cleaner detected chlorinated volatile organic compounds (cVOCs): the dry-cleaning solvent perchlorethylene (PCE) and a breakdown product of PCE, trichlorethylene (TCE), at 5,550,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 2,330 $\mu\text{g}/\text{m}^3$, respectively. PCE concentrations exceeded 100 times the MPCA Residential Intrusion Screening Value (ISV) in four of the five soil gas samples.

Review of historical information concluded the likely source of the PCE contamination was a former above-ground storage tank that Exclusive Cleaners used to store PCE. Based on field and laboratory analytical results, the MPCA Petroleum Remediation program closed Leak #4030 and referred the site to the Superfund Program for investigation of the PCE and TCE.

The MPCA SA Program hired a state contractor to conduct Phase II Investigations in April 2012 and in April 2013. Soil, soil gas, sub-slab, indoor air and groundwater samples were collected to determine the extent and magnitude of the PCE and TCE contamination and to assess potential risk to receptors.

In the vicinity of the former dry cleaner, elevated PCE concentrations were detected in soil [35,600 milligrams per kilogram (mg/kg)], soil gas (136,000 $\mu\text{g}/\text{m}^3$), and groundwater [7,160 micrograms per liter ($\mu\text{g}/\text{L}$)]. Elevated TCE concentrations (2,330 $\mu\text{g}/\text{m}^3$) were detected in soil gas.

A water sample collected from the basement floor sump of the adjacent Head Start daycare had a PCE concentration of 30 $\mu\text{g}/\text{L}$ and a vinyl chloride concentration of 1.6 $\mu\text{g}/\text{L}$.

PCE concentrations in sub-slab analytical samples ranged from 79.6 $\mu\text{g}/\text{m}^3$ at the nearby Elks Lodge (1105 Second Ave.) to 2,320 $\mu\text{g}/\text{m}^3$ at the nearby Prairie Home Decorating (1033 Second Ave). The PCE

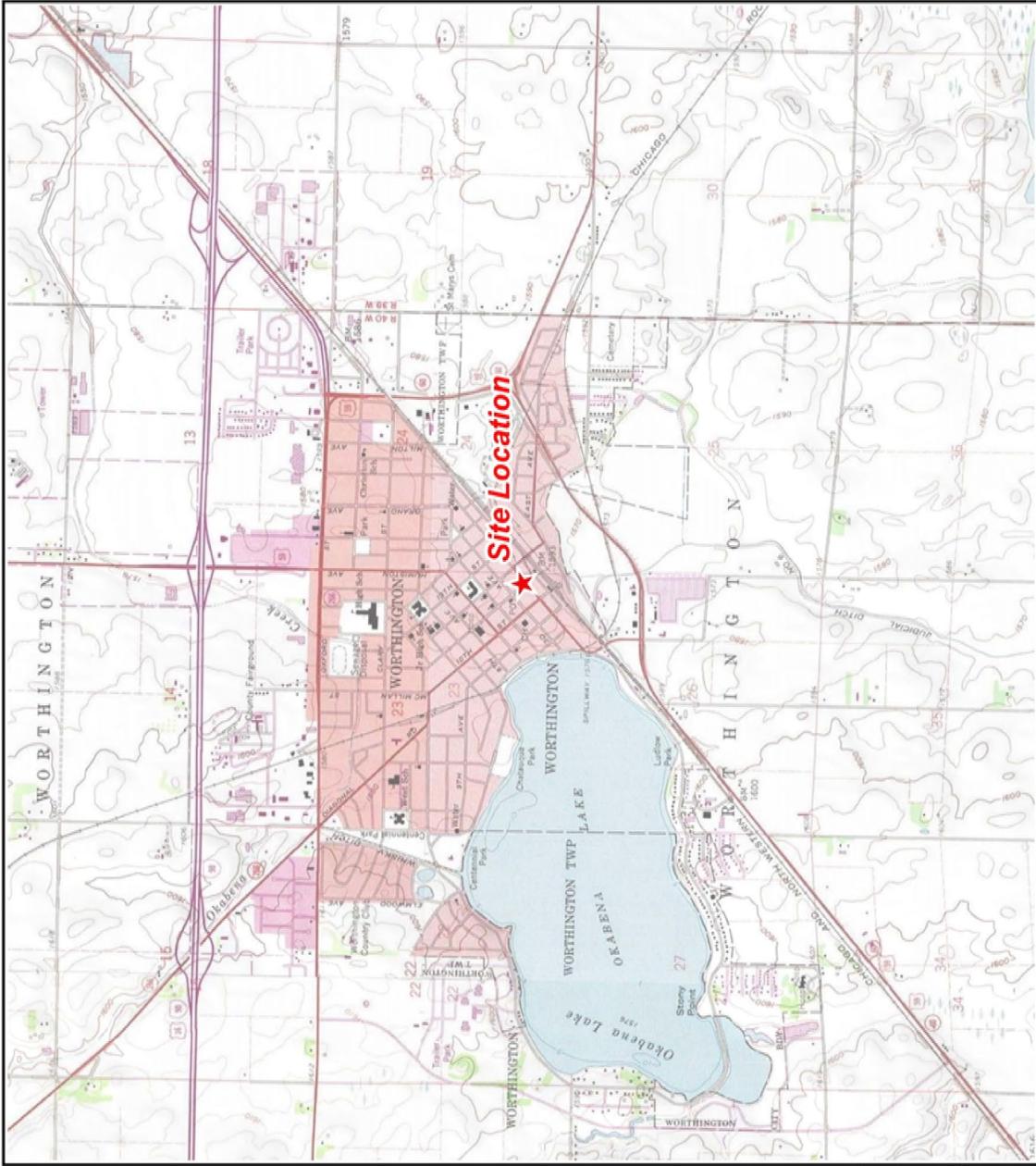


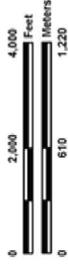
Figure 1

Site Location Map

FORMER EXCLUSIVE CLEANERS
 1101 2nd Avenue
 Worthington, Minnesota



Map Units: Feet
 Coordinate System: NAD 1983 StatePlane Minnesota North FIPS 2000 Feet



★ Site Location

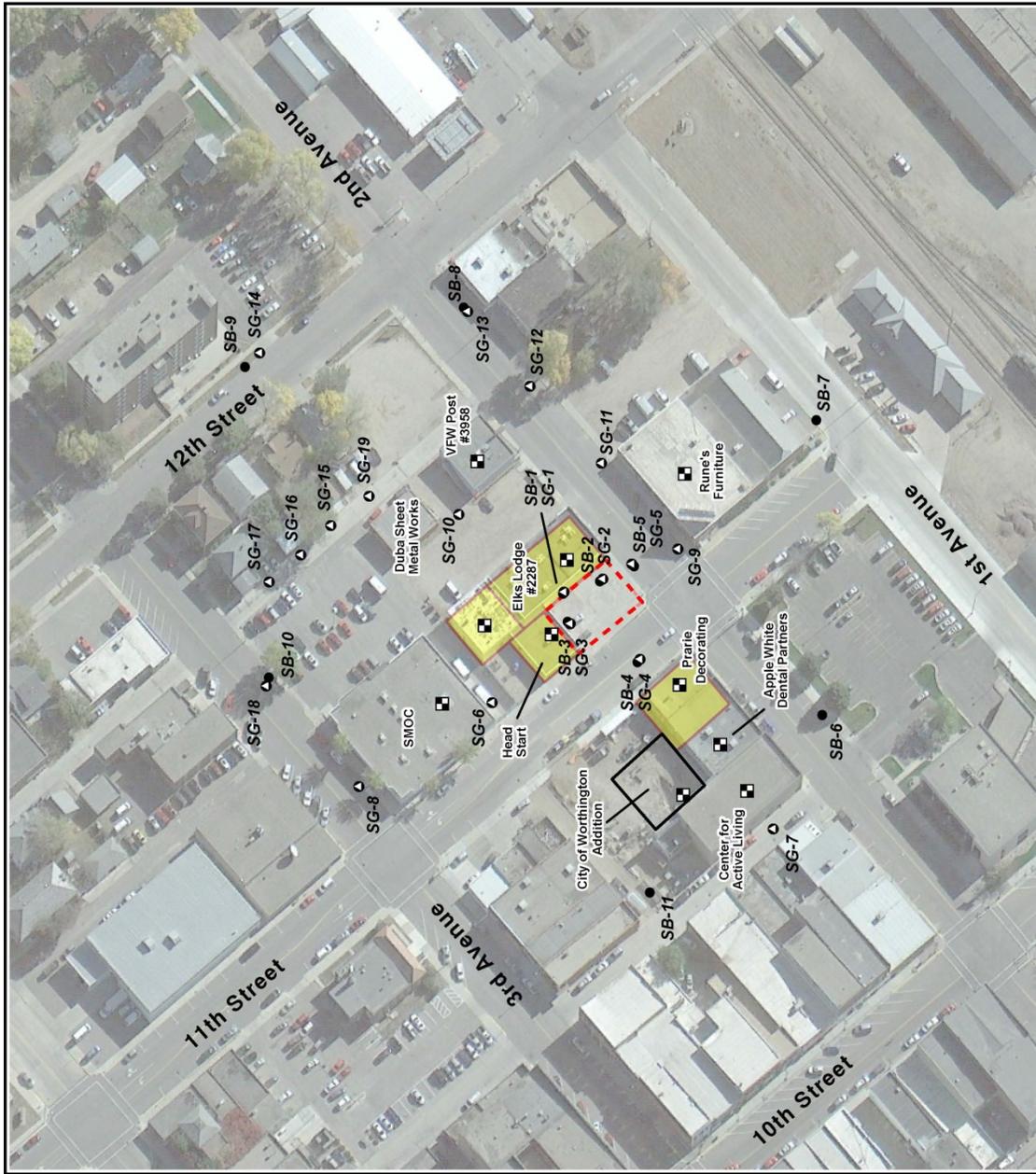
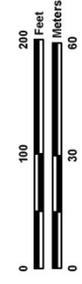


Figure 2
Site Map

FORMER EXCLUSIVE CLEANERS
1101 2nd Avenue
Worthington, Minnesota



Map Units: Feet
Coordinate System: NAD 1983 State Plane Minnesota South FIPS 2003 Feet



- Soil Gas Probe
- Soil Probe
- Sub-Slab Sample/Indoor Air Survey
- Site Location
- Vapor Mitigation System

concentration in the main floor indoor air sample collected from the Elks Lodge was 52.8 $\mu\text{g}/\text{m}^3$, which is greater than the MPCA Residential ISV of 20 $\mu\text{g}/\text{m}^3$.

In July 2012, MPCA Emergency Response program contracted to install vapor mitigation at the adjacent Head Start daycare. The work included sealing the basement off from the first floor, reconfiguring the drain tile, and installing a vapor mitigation system.

Vapor mitigation systems were installed at the Elks Lodge and Prairie Decorating in May 2013.

Recent MPCA investigation and mitigation activity

MPCA Site Assessment contracted to install vapor mitigation systems at four businesses in the vicinity of the site, with construction completed in June 2014: Center for Active Living, 211 11th St.; Apple White Dental Partners, 1027 Second Ave.; Elks Lodge (the slab-on-grade portion of the building), 1105 Second Ave.; and VFW Post #3958, 1117 Second Ave.

In addition, indoor air samples were collected from the basements of the Elks Lodge and Prairie Decorating to verify the indoor air samples that were collected in June 2013, following the installations of the sub-slab depressurization systems.

Human health risks

PCE concentrations exceeding the Residential ISV have been detected in basements adjacent to the site, indicating the pathway is complete for vapor intrusion. Vapor-mitigation systems have been installed at the locations where PCE concentrations exceeded the Residential ISV. However, further investigation should be performed to determine the full extent of the soil gas plume and to determine whether other buildings are at risk for vapor intrusion.

Conclusion

Elevated levels of chlorinated volatile organic compounds have been detected in soil, soil gas, and groundwater in the vicinity of the Exclusive Cleaners site in Worthington. Moreover, vapor intrusion has occurred at the adjacent Head Start building and in other nearby businesses at levels that exceed the MPCA intrusion screening values.

Vapor mitigation systems have been installed in six businesses: Head Start, Prairie Home Decorating, the Elks Lodge (one in the basement and another in the slab-on-grade part of the building), Center for Active Living, Apple White Dental Partners, and VFW Post #3958. Further assessment of vapor-intrusion risks should be performed. In addition, corrective actions could be considered to address the source(s) of soil vapor contamination.

The Exclusive Cleaners Site should be listed to Minnesota's Permanent List of Priorities to perform additional investigation to determine the potential risks to receptors associated with the identified release and to determine any corrective actions, if necessary.

For more information

For more information about the Exclusive Cleaners Site in Worthington, contact:

David Moore, Project Leader
Remediation Division
Minnesota Pollution Control Agency
520 Lafayette Rd. N.
Saint Paul MN 55155-4194
Phone 651-757-2583, email david.moore@state.mn.us