57th and Logan Soil Vapor Study

Hmong American Shopping Center Site #2

Minnesota Pollution Control Agency

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Contents

This fact sheet provides information on the status of the environmental investigation being conducted at the 57th and Logan Redevelopment property in Brooklyn Center. The Minnesota Pollution Control Agency (MPCA) Voluntary Investigation and Cleanup (VIC) Program refers to the property as the Hmong American Shopping Center #2 site (the Site).

The environmental investigations are being conducted by the City of Brooklyn Center (the City) with the oversight of the VIC Program. The VIC Program provides technical assistance to parties who choose to voluntarily conduct environmental investigations and clean-ups.

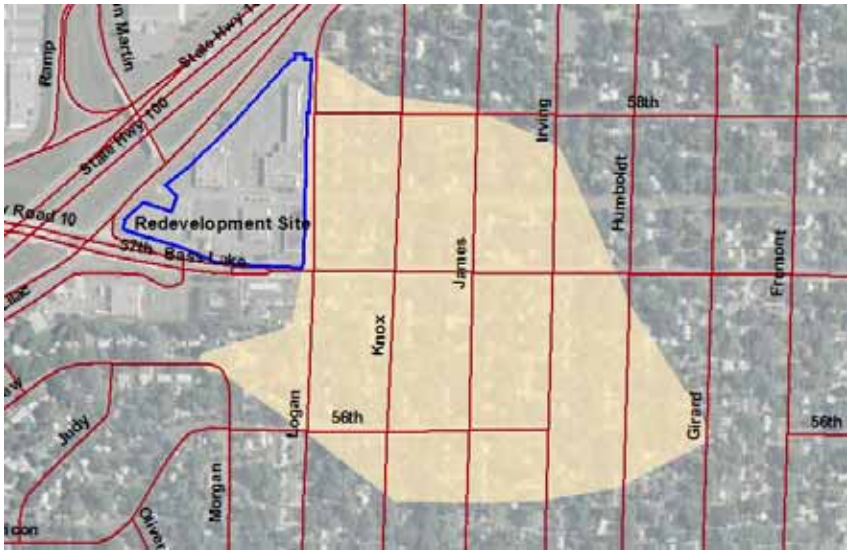

Figure 1: Investigation Area

What has been done at the Site to date?

The Site was historically used for retail, commercial business, a dry cleaner, and gas stations dating back to the 1950's.

The initial environmental investigation was conducted by Hennepin County to identify any environmental issues and to assist the City in assessing the Site for redevelopment. This investigation identified elevated levels of volatile organic compounds (VOCs), primarily the dry cleaning solvent perchloroethylene (PCE) as well as trichloroethylene (TCE) and other related chemicals in the ground water near the former dry cleaner.

The City acquired the Site and entered the VIC Program in July 2005. The City investigations identified ground water contaminated with VOCs in the neighborhood east of the Site at concentrations above the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) for drinking water.

The City also collected four soil gas samples in the area of the highest ground water contamination. These soil gas results also identified VOCs, primarily PCE and TCE, at concentrations above screening levels for indoor air.

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The City hosted a public meeting in October 2006 to present information on the investigation to the neighborhood and to seek permission from homeowners to conduct soil gas sampling and indoor air sampling at their properties. Two property owners allowed soil gas sampling beneath their properties. The results identified PCE at concentrations below the soil gas screening level recommended by Environmental Protection Agency (EPA). Therefore, the soil gas sampling results indicated a low risk for vapor intrusion at these locations. An indoor air sample was also collected at one of the residences. The indoor air sample result was well below the indoor air risk level. This is the only indoor air sample that has been collected to date.

In 2007, 44 additional probes were conducted across the investigation area identified in Figure 1 to determine the full extent of the ground water contamination and the associated soil gas. The results indicate that the soil gas containing PCE and TCE correlated closely with the extent of the ground water contamination.

What are the potential risks posed by the Site?

There is no evidence to date that suggests an imminent health risk to residents. The municipal drinking water supply in the investigation area is not affected by the contaminated ground water as the municipal water supply originates from much deeper, protected water source.

The potential health risk is that VOC vapors that are off-gassing from the ground water will move upwards through the soil and enter homes through cracks or other openings in foundations.

With low levels of vapors, there is usually no odor to warn people that contaminants are in the air. Long term exposure to VOC vapors in indoor air can result in chronic health problems. Both PCE and TCE identified in soil gas at the Site are considered carcinogens. If VOC contaminants resulting from vapor intrusion are identified in indoor air at concentrations above risk levels, the City and/or the MPCA will take steps to eliminate the vapor intrusion.

What are the next steps?

The City is planning to conduct an investigation that will focus on collecting sub-slab soil gas samples from homes/buildings in order to determine which areas of the Site, if any, are at risk due to vapor intrusion of PCE, TCE or other Site chemicals of concern. Sub-slab samples collected from directly beneath a building are a more direct indication of whether subsurface vapors pose a risk than other soil gas samples that may be collected near, but not directly beneath, a building.

The City will be seeking permission from property owners to enter homes and conduct sub-slab sampling. Sub-slab sampling involves drilling a small diameter hole with a drill into the slab of a home or building and installing a sampling port that can be sealed when final sampling is completed. Vapor samples from the installed ports are collected using a special container known as a Summa canister.

The results of the sub-slab investigation will be used to identify which homes/buildings may be at risk from vapor intrusion. If homes/buildings are identified with elevated sub-slab concentrations, the City will contact the property owners to obtain permission to conduct a combined sub-slab and indoor air sample.

How will this information be used to determine which homes are at risk?

The City, the MPCA and the Minnesota Department of Health will evaluate all of the sample results. Indoor air results that exceed the indoor air risk level will be identified as requiring a venting system. Homes that have not been sampled, but fall within areas where risks from vapor intrusion have been identified, will also be offered a venting system. Additional follow-up sampling may be required.

How will the vapor intrusion problem be fixed?

If homes are identified at risk, the City and/or the MPCA will offer to provide a venting system at no cost to the property owner. The venting system recommended is the same as a system used for radon. This system collects vapors from beneath the slab of the home from a PVC pipe installed in a small opening in the slab, which allows the vapors to pass through the PVC pipe vertically through the roof where it is safely vented to the atmosphere. These systems utilize a small fan that is installed in the pipe, usually within the attic space of the home.

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For more information on vapor intrusion:

http://www.health.state.mn.us/divs/eh/hazardous/topics/vaporintrusion.pdf