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Danger below? Schools weigh land risks

By Megan Boldt
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The Stillwater school district had the perfect site for its new Early Childhood Family Center — centrally located in the district and a bargain at $3.2 million, including a building worth $900,000 for free.

Just one problem: An environmental study found toxic contamination on the site. School district officials terminated the deal last month.

Just miles away in Baytown Township, St. Croix Preparatory Academy built a $21 million school in an area known to have water contaminated with trichloroethylene. The Minnesota Pollution Control Agency said the site meets all environmental safety guidelines, but critics have argued for more than two years that students and staff might not be safe down the road as more is known and environmental standards change.

The two decisions highlight a growing debate: When is it appropriate to construct a school building on or near a contaminated site, and how do you handle the real or perceived threats?

Some say it's not worth the risk. Changing health and safety standards could mean that today's safe conditions will be deemed hazardous in 10 or 20 years.

"You should not build schools on contaminated sites unless other sites aren't available," said Lenny Siegel, executive director of the Center for Environmental Oversight in Mountain View, Calif.

Others argue that fear of these sites is sometimes overblown. The sites often offer dirt-cheap land to cash-strapped school districts. And the result can be that

once-hazardous sites are cleaned up and become community assets.

"We know it becomes political and people lose perspective when kids are involved. And I can understand that," said Hans Neve, supervisor of the Minnesota Pollution Control Agency's Voluntary and Investigative Cleanup Program. "But it's a constant struggle for us to explain the realities versus perceptions."

CHECK AND RECHECK

St. Croix Prep opened its facility at the southwestern corner of Washington County roads 14 and 21 in fall 2009.

The site is in the Baytown Special Well Construction Area, which state officials designated in 1987 when they learned trichloroethylene had seeped into groundwater. Hundreds of wells in Baytown Township, West Lakeland Township, Bayport and Lake Elmo have been tested for the chemical solvent widely used for metal degreasing.

The maximum level of TCE allowed in drinking water is 5 parts per billion. A system installed in Bayport's city and private wells is designed to keep the TCE below that level. St. Croix Prep gets its water from the city.

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But drinking the water isn't the only potential danger. TCE can be released into indoor air from vapor intrusion through underground walls and floors, as well as from volatilizationfrom the water supply.

Some argue St. Croix Prep didn't consider vapor intrusion and isn't taking the necessary steps to protect students and staff from it.

"It's time to take responsibility and make sure that site is safe," said Bayport resident David Beck. "Monitor the site. Test the air quality."

But state and federal environmental officials say that, at current TCE levels, vapors are unlikely to seep through the soil into the building. They assess this by using a variety of factors, including the concentration of the chemical in the groundwater, geological makeup of the site and type of building.

Kurt Schroeder, staff hydrogeologist for the Minnesota Pollution Control Agency, said the groundwater contamination would have to be at the water table's surface to pose a threat. It's well below that, he said.

The area of concern for vapor intrusion stretches about a mile east of Hagberg's Market in Lake Elmo, the main source of TCE contamination, said Schroeder. That's about 3 1/2 miles from St. Croix Prep.

St. Croix Prep officials note there are about 600 homes in the TCE plume and two other schools abut the borders. At the school closest to the plume, Andersen Elementary in Bayport, no TCE contamination was found in 2008 tests.

St. Croix Prep had two studies performed on the site by American Engineering Testing Inc. — one before construction in March 2008 and a follow-up in June 2009 after new concerns were raised. The MPCA also issued an opinion in February 2009 that the site was safe after the agency received complaints from an elected official.

"We wanted to make sure we have good, solid information to give to the parents and community before things got out of control," said Mike McGinley, a parent of three students at the school and an environmental engineer.

CHANGING STANDARDS, PROTECTIONS

TCE guidelines could change in the near future, though. The EPA is reviewing drinking standards and has determined that scientific advances allow for stricter regulations for several carcinogenic compounds, including TCE.

Tisha Petteway, press officer for the EPA, said the agency plans to revise TCE standards within the next year based on the findings from a human health assessment. Less than 10 years ago, the EPA lowered TCE standards from 30 parts per billion to 5.

The Center for Environmental Oversight's Siegel has worked with schools across the nation on vapor intrusion. He said many people don't understand the complexities of assessing TCE contamination.

TCE is a chemical that moves. Though a site is clear of TCE at one point doesn't mean that will be the case in the future, Siegel said.

But Siegel said there are protections. A vapor barrier to vent vapors away from the building can be put in during or after construction. And building owners

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should commit to ongoing tests of water and air quality throughout the life of the building.

"I'm not telling people that the site is unsafe," Siegel said. "The evidence so far looks like it is (safe). But y ou need to monitor as long as the contamination is there."

St. Croix Prep put in a barrier, but not a vapor barrier as described by Siegel. School officials said they would continue to monitor the scientific discussions around TCE to see if they should test for air quality.

'EXTRA CAUTION'

When Stillwater school district leaders learned in August that the land for the district's Early Childhood Family Center was contaminated with PCE, they decided to search for a new site.

PCE, formally known as tetrachloroethene, is used in dry cleaning and metal-degreasing operations. It can cause neurological disorders and is classified as a possible human carcinogen.

The site could have been cleaned up. But district officials didn't want to delay the project or put anyone at risk, said Assistant Quperintendent Ray Queener.

"As hard as it was to walk away from this site, there's no level of risk I'm willing to take in building this facility," Queener said.

The South Washington County school district faced a similar situation nearly four years ago when building its third high school.

The district bypassed a 120-acre piece of land on Dale Road because it was about a half-mile from a former 3M Co. landfill. Instead, it built East Ridge High School on an 80-acre site near Bielenberg Sports Center that was more expensive and harder to develop.

Soil samples from the Dale Road site showed only traces of perflourochemicals — not enough to pose health concerns. But district leadersdecided not to build near the site where 3M dumped industrial solvents and chemicals during the 1960s.

"The board and administrators had some concerns about what they could find there someday," said Tom Nelson, who was superintendent at the time. "The ultimate issue with parents is safety.We decided we can't spend that kind of money and constantly be worried."

Nelson said some of the district's top administrators disagreed with the decision. And two of the seven board members voted against it.

Board member Jim Gelbmann said he felt the Dale Road site was a better choice because of its central location near the Woodbury-Cottage Grove border — a move that would soften the north-south rift between the district's communities.

The Dale Road site also got a clean bill of health. Perflourochemicals found in soil samples were in trace amounts, typical for that part of Washington County, Gelbmann said. 3M burned waste from the landfill back in 1968 after the company found out about groundwater contamination, sending the chemicals into the air.

Anyone who has old carpeting in their house probably has higher level of contaminants than the Dale Road site, Gelbmann said.

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"I felt like it was more of a perception issue, rather than a health and safety issue that would endanger students and staff at the district," he said.

Nelson agreed there's always an issue of perception.

"You can tell people that the site had some problems but it's been cleaned," Nelson said. "But people get unnerved when it comes to health and safety. And I think you have to be extra cautious."

FORMER LANDFILL WORKS FOR MAHTOMEDI

The Mahtomedi school district, on the other hand, built athletic fields on top of a former Bellaire landfill in Grant. The district plans to build a new $17.7 million elementary school about 800 feet to the east of the old waste disposal area. The district bought the relatively inexpensive 70-acre site from Waste Management Inc. in 2004 after an outside environmental consultant took soil samples and conducted other tests.

The tests found construction debris and a small amount of petroleum contamination that needed to be removed, said Phil Belden, the school district's supervisor of buildings and grounds. Mahtomedi worked with the Pollution Control Agency to ensure the land was environmentally safe to use before finalizing the purchase.

As part of the agreement, Waste Management sealed off a well and removed a house, maintenance garage and debris, including 540 tons of soil. It also paid $400,000 to remove petroleum and metal contamination and added 2 feet of land cover.

Additional tests for soil, air and water contamination were performed this summer and the property met all MPCA requirements, Belden said.

"We're fully confident this is going to be a safe site, a great site for students and families for years to come," said Superintendent Mark Larson.

The district put in a vapor barrier and other protections.

"We feel the need to guarantee the public that this is safe," Larson said.

The school districtprobably would have spent two to three times as much for other land in the area, Belden said.

"I think people should give the district some credit for picking this site," he said.

Jim Markoe, board chairman at St. Croix Prep, is perplexed by the ongoing criticism and thinks people perceive there's a problem when there isn't.

"There are 500 families that have seen the information and studies and choose to send their kids here," said Markoe, who has three children at the school. "This is a school of choice. Why would we put our children at risk?"

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CHEMICAL PROFILES

TCE (trichloroethylene): A chemical solvent widely used for degreasing metal parts. Some household products — such as correction fluid, paint removers, adhesives and spot removers — may also contain TCE. It is one of the more common man-made chemicals found in the environment. **Risk:**

LINCOLN JOURNAL STAR
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Puzzling question of pollution in arena project

By DEENA WINTER / Lincoln Journal Star | Posted: Thursday, May 6, 2010 12:20 am

Lincoln native John Schmitz began working for the railroad in 1973 as a switchman. He spent plenty of time in the "lower yard" -- an area now targeted by the city for redevelopment into an arena and other private businesses.

He was 19 when he started working on the railroad, and over the course of the next two decades, he saw how heavy rains would leave standing water in the railyard, with oil on top.

He remembers walking on dirt roads at the south end of the railyard near a junk yard that were covered with oil to suppress dust.

"Those roads were black with that oil," he said. "I walked on them. I know."

Recent talk of digging up that railyard and building roads, bridges, parking garages, shops, a hotel and a new arena has him thinking back to those days now more than ever.

The cost to clean up contaminants in the railyard --and a nearby scrap yard and lumber yard -- has become a major campaign issue as the vote nears Tuesday on whether to proceed with financing on the arena project.

It's an issue with which Schmitz is still grappling as he recalls his railroad days.

Schmitz still isn't sure how he'll vote.

"It's a toughie," he says. "I think the city could use a boost. I don't know that I think this is exactly the right answer. I think all the pollution should be cleaned up. I'm not sure I want to pay for it."

However, city officials say the contamination in the development area is typical for a brownfield, an area that can be developed but first must be cleaned up.

Arena proponents say this is an opportunity for the city to clean up a polluted area, using some federal funds, and open it up to development.

The Lincoln Journal Star printing plant expansion, for example, was built on a brownfield.

The debate over whether to build a new arena to replace the half-century-old Pershing Center has focused partly on how much it would cost the city to clean up contaminants in the area it has chosen for the arena.

About half of the initial development area -- 67 of the 130 total acres -- is an active railyard used by three railroads.

Arena opponents say the current property owners, not the city, should clean up the contaminants.

State Department of Environmental Quality officials did not want to endorse the arena project but said their voluntary cleanup program is designed to facilitate the redevelopment of brownfields.

"Obviously, getting the environment cleaned up is a goal of the agency, but that's not to say we are endorsing any specific project," DEQ spokesman Brian McMannus said.

Mike Felix, supervisor for DEQ's remediation section, said the reason the department hasn't ordered the current owners to clean

up the land is that a lot of the contamination probably predates state regulations, so the department wouldn't have the authority to order a cleanup.

But there are environmental issues in the development area that go beyond diesel spills. The development area is in a 100-year floodplain and is home to saline wetlands.

Here's how the city plans to deal with a plethora of environmental issues in the 130 acres west of the Haymarket:

The floodplain

Most of the arena development area is in Salt Creek's 100-year floodplain, which means the area has a 1 percent chance of a 100-year flood in any given year.

About 300 square miles drain into Salt Creek, which is adjacent to the area where the city intends to build, and the Salt Creek floodplain is about one mile wide through the area targeted for development.

Ben Higgins, senior engineer in watershed management for the city Public Works & Utilities Department, said the arena would be built 2 feet above the 500-year floodplain -- not just the 100-year floodplain, as is required of the private sector -- to reduce the risk of flooding.

That would put the arena about 1 foot higher than the downtown post office, Higgins said.

Because a lot of fill dirt will have to be brought in to build up the arena and other buildings, the city will compensate for the loss of flood storage areas by excavating dirt elsewhere to create more places for water to go during heavy rains.

City ordinance allows up to 40 percent of the floodplain to be filled, but the city intends to build the project so there is no net loss of flood storage. In other words, whatever dirt the city adds, it will excavate elsewhere.

But the city was unable to create enough flood storage in the immediate arena area, so officials plan to create more flood storage on the other side of the creek by lowering Oak Lake by 13 inches. The lake stores water pumped from Oak Creek.

In fact, Higgins said the city lowered Oak Lake last year by 13 inches to see if anybody would notice. Higgins said few people have noticed the lake is lower.

Because the city will be excavating and grading within 500 feet of the Salt Creek levees and building a bridge over Salt Creek, that work must be coordinated with the Lower Platte South Natural Resources District and the U.S. Army Corps of Engineers. Higgins said they won't OK the work until the city has final plans.

Extracting diesel from soil

The 67-acre Burlington Northern Santa Fe Railway property is just west of the Haymarket, where trains move in and out of a railyard that has been there since at least the late 1800s.

This is where almost all of the new buildings would be built: the arena, a hotel, offices, stores, condos and parking garages. And because people will be living in and visiting those buildings, by law, environmental contaminants underground must be dealt with.

Railyards are notoriously contaminated, and this one is no different. The property historically contained ice houses, turntables, repair shops and coal and lime yards.

A roundhouse, which is used to switch locomotives from one set of tracks to another using a turntable, once was located on the north side of the property; typically, hazardous materials and petroleum are handled in roundhouses.

An Environmental Protection Agency consultant recently detected elevated levels of lead northwest of the former roundhouse, which city officials plan to cap and convert into a parking lot.

The depot also is a former diesel fueling site, although fuel storage tanks were removed years ago, according to state DEQ records.

Although a diesel spill about the size of a city block is on the BNSF property northwest of Lincoln Station, the EPA testing in March did not target the soil or groundwater associated with the plume because it has been monitored and remediated since the late 1980s, when it was discovered.

BNSF slowly has been extracting diesel since then. More than 11,000 gallons of diesel fuel have been removed so far, according to DEQ records. BNSF uses a recovery well system, and if it continues to do so, it would take an estimated five to seven years to finish. However, the city plans to excavate soil and have the diesel plume cleaned up within six months.

In March, an EPA contractor, working on behalf of the city, did environmental analysis of soil and groundwater on the BNSF property and found all 18 of the subsurface soil samples contained metals, including arsenic, barium, cadmium, chromium, lead, mercury and silver.

All 18 of the samples contained levels of arsenic that exceeded state residential standards, although the average concentration for arsenic in the county is high and so it is believed to be naturally occurring arsenic.

Groundwater contaminants were detected in several samples at elevated concentrations, but Lincoln city ordinance prohibits drilling drinking water wells, so the EPA consultant's report said groundwater exposure presents minimal risk for current and proposed future use.

The report also said the risks to human health and the environment posed by the contaminants should be evaluated based on how the property is now used and would be used if developed.

Arena opponents say the city should have gone one step further and done a Phase 3 environmental study before the election. City officials say they can't do that level of study until they buy the property.

The report also indicated some concern about diesel vapor seeping into areas where people would live, work and visit -- such as the hotel, parking garage, offices and condos -- particularly in elevator shafts.

However, the city plans to remove the diesel and dirty soil and replace it with clean soil before construction.

Lumber yard

The city wouldn't be buying just railroad property for the project.

It would be buying a half-dozen parcels of land, including what is now the Watson-Brickson Lumber Yard.

In the late 1800s, the property was home to a coal gasification site, where coal was converted into natural gas, producing toxic waste that often was dumped on the property of such sites.

Coal gas sites provided most of the fuel for heating, cooking and lighting in cities from 1816 until they were replaced by natural gas in the 1950s and 1960s.

Coal tar often was spilled or buried and the waste often put in unlined pits or sometimes injected underground, contaminating soil and groundwater.

By 1928, the property had been converted into a lumber yard.

A Lincoln contractor, HWS Consulting, did Phase 1 and 2 environmental assessments of this property in 2007 and 2008.

Soil and groundwater samples from the center and southwest portions of the site had volatile organic compounds and polynuclear

aromatic hydrocarbons commonly associated with former manufactured gas plants. Arsenic also was detected in shallow soils at concentrations that exceeded health benchmarks, according to the HWS report.

The lumber yard is slated to be capped and converted into parking.

Scrap yard

Adjacent to the lumber yard, the three-acre Alter Scrap Yard also has soil and groundwater contamination.

The scrap yard is targeted to be converted into green space and a District Energy Corp. power plant.

According to DEQ records, in the late 1800s, the north side of the site was used for bulk oil storage, with tanks of up to 35,000 gallons.

Until 1999, Burlington Northern Railroad owned the site and Neiden Iron and Metal operated a metal recycling facility there for about 50 years. In 1998, before Alter bought the scrap yard from Neiden, an inspection of the site showed elevated concentrations of polychlorinated biphenyl and lead and cadmium at levels that exceeded regulatory limits in the north yard.

About 350 tons of soil containing PCBs were excavated and disposed of. The soil containing lead and cadmium were treated and excavated.

HWS Consulting Group did a Phase 1 environmental site assessment at Alter in 2007 and a limited Phase 2 study in October 2008. During the Phase 2 assessment, four soil borings to a depth of 11 feet and shallow soil samples were collected. PCBs, lead and arsenic were detected in shallow soils.

The EPA consultant's report said PCBs appear to have migrated from Alter's north yard to nearby property. Four surface soil samples collected on the BNSF property adjacent to Alter by the EPA contractor in March contained reportable concentrations of PCBs.

However, the BNSF land would be developed into a road, surface parking and railroad lines.

"Future site use should be evaluated to determine if the detected concentrations of arsenic and PCBs pose a risk to human health and the environment," the recently released EPA consultant's report said.

The city is working to get access to Alter's property so an EPA contractor can do a Phase 2 assessment, but it will not be done before the election.

Union Pacific land

Union Pacific's land along the west side of the development area primarily would be used for green space.

In 2009, HWS did a Phase 1 environmental site assessment and identified a second roundhouse.

The city had planned to test soil and groundwater in 18 locations, but Union Pacific has denied access unless the city buys the land. Locations the city wants to test are near the BNSF diesel plume and near the sites of a former tannery and lead-based paint factory.

Saline wetlands

More than 20 wetlands areas are in the arena development area, including several saline wetlands. These are among the most rare in Nebraska, found only in Lancaster and Saunders counties.

They are the habitat of the endangered Salt Creek tiger beetle, although the beetles have not been found in the proposed arena development area.

City officials say none of the saline wetlands -- which have diminished in size and quality over time -- will be affected by the project; in fact, they may be restored and enhanced.

The wetlands will be protected from development by a 50-foot buffer, which will need to be widened if rare species are found.

Levees

Grading and excavating within 500 feet of the Salt Creek levees must be coordinated with the Lower Platte South NRD and the U.S. Army Corps of Engineers.

Grading for the relocated railroad tracks and parking lot would fall within that radius. The city is working on getting the necessary approval with the NRD.

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Everything Jersey

Test results coming in from Alcatel Lucent vapor intrusion testing

Published: Monday, January 24, 2011, 1:52 PM

By **Tracy Ness/Independent Press**

file photo

NEW PROVIDENCE –Last November homeowners in New Providence and Berkeley Heights were surprised to receive letters from Alcatel-Lucent requesting permission to conduct vapor testing in their homes. The tests would determine if homes primarily along South Street had been impacted by ground water contaminated with the chemical Trichloroethylene or TCE, a known carcinogen. At least one South Street homeowner and Faith Lutheran Church received their results and they were negative.

"The preliminary report shows no signs of TCE in the ground water or air samples. I had asked if they were going to ever return to test and they would only come out to test again if the result was positive," said the homeowner who did not wish to be identified. "I inquired about obtaining updates on the results of the remaining tests and a spokesperson for Alcatel Lucent said they would get back to me. Still I can't help but question the number of cancer cases in the areas tested."

Pastor Jim Krombholz of Faith Lutheran Church said the he was relieved to find out the test results for both the church building and the parsonage were negative after receiving the results in the first week of January. "After we received the letter we let our parishioners know about the testing and answered their questions about the process. There was concern but there was some relief when we found out that the remediation process was similar to that of a positive result for radon," he said. "We were also concerned that it might disrupt our construction, but it did not and it should be complete by the end of April."

According to a fact sheet from 2009, the plume that was discovered in 1996 "extends northeast from the southwest corner of the Alcatel Lucent property to approximately 350 feet south of the intersection of South Street and Candlewood Drive with a maximum width of 1,400 feet along Mountain Avenue." Tests results are still due back from 13 other sites along the TCE plume. Denise Panyik-Dale, Alcatel-Lucent Director, North America Media Relations, said last week, "we still are receiving the soil gas and indoor air sampling testing results and are notifying individual home owners we receive those results. It is premature for us to comment until after we have received all of the results and have communicated those results to the individual home owners. We hope that process will be completed before the end of January."

Letters to the homeowners requesting access to their homes for testing were sent out on November 8 and the tests were conducted in late November/early December. The letter stated that a "vapor intrusion evaluation" was being conducted jointly with Alcatel-Lucent and the DEP and the tests would "collect and analyze sub slab soil, gas and air quality samples ...to assess potential migration of vapor from ground water."

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Outdated standards

A December report said health risks couldn't be accurately gauged because the agency had outdated toxicity values for some of the most common chemicals associated with vapor intrusion. That included trichloroethylene and perchloroethylene — two chemicals detected in Pompton Lakes. The EPA agreed with the findings and is working on revising its standards and procedures.

Those chemicals, along with other volatile organic compounds, easily evaporate in air and can cause a multitude of health problems from dizziness to cancer. Metals like chromium — dangerous levels of which have recently seeped into the basements of at least 13 Garfield homes and businesses — are not considered vapor intrusion because they do not evaporate.

Sources include everything from leaky tanks at the neighborhood service station to chemical spills from the local dry cleaner. But large industrial facilities like the former DuPont munitions factory in Pompton Lakes are becoming more common.

The borough is the site of one of the largest cases of vapor intrusion in the nation. Groundwater contaminated with the solvents PCE and TCE migrated off the DuPont site and under a neighborhood on the north end of town.

In 2008, environmental officials discovered that chemical vapors from the groundwater seeped through soil and cracks in concrete into homeowners' basements. A year later, the state health department found significantly elevated levels of kidney cancer and non-Hodgkin's lymphoma — cancers linked to those solvents — among residents living above the plume.

Contrasting methods

Typically, when vapor intrusion is suspected, workers will remove any solvents such as paint thinners from the basement to get an accurate reading. Air sampling devices are installed for 24 hours. The samples are sent to a laboratory to determine if any vapors are detected and, if so, how much.

In Pompton Lakes, homes are being tested using another method called sub-slab testing, where monitors take readings from under a property. Some say the readings are

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Vapor intrusion's silent threat

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BY SCOTT FALLON
The Record
STAFF WRITER

Click here to view an interactive map of toxic sites and read more about the Toxic Landscape series

In Edgewater, air is being monitored at an office building and day care center sitting over contaminated groundwater that has migrated from a Superfund site next door.

In Fair Lawn, investigators are determining whether toxic volatile organic compounds have made their way into homes and businesses near a 27-year-old Superfund site.

And in an entire neighborhood of Pompton Lakes, residents are being urged to have air venting systems installed in their basements to protect against cancer-causing fumes.

This environmental menace is called vapor intrusion, a toxic stew of gases that rises from groundwater into houses and contaminates indoor air. Scientists have only recently begun to understand its dangers.

As industrial waste migrates from some of North Jersey's more polluted sites to residential areas, vapor intrusion has become a considerable health concern because it can enter the bloodstream at high concentrations more easily than other toxic pathways, like drinking polluted water.

"It's silent and it's overlooked," said Joseph Jacobsen, a geologist whose company, Intex Environmental Group of Pennsylvania, tests for vapor intrusion throughout New Jersey. "Unless you know the history of the area, you don't know if [vapors] are getting into a building."

The science behind detecting, measuring and remediating vapors is still in its infancy, but the concerns are growing, so much so that the federal Environmental Protection Agency was criticized recently by its own inspector general for having obsolete guidelines for dealing with indoor air risks.

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more accurate because other solvents being stored in the house, such as paint thinners, can sometimes disrupt basement monitoring. Others question whether this method really shows whether vapors are entering a house.

"Just because it's under the slab doesn't mean it's coming in," said Blayne Hartman, a national expert on vapor intrusion, who has provided training to regulatory agencies in more than 30 states. "If you measure [underground] and the readings are high, there may not be a leak. The slab may be preventing it from coming in. But when the reading is low, that may be where the leak is coming in. So do you take the high or low value? It's one of our most debated topics."

As of last week, 207 of the 439 Pompton Lakes homes in the plume area have had venting systems installed, and another 80 are in the design and permit process.

If vapors are discovered, an extraction pipe is usually placed underground and an exhaust fan is installed to draw air from the soil and discharge it to the outside. It is similar to the way radon — the cancer-causing gas that occurs naturally from the breakdown of uranium in soil — has been dealt with for years. Such a system would have to be left running until the groundwater is treated – a more costly and difficult process.

"You'll continue to have contamination until the source is gone," Jacobsen said.

Investigators are still determining the extent of vapor intrusion in Edgewater and Fair Lawn.

Growing awareness

The EPA has been monitoring air at 115 River Road, an office building next to the Quanta Resources Superfund site in Edgewater, for years. Dangerous levels have yet to be detected inside the building, which also houses a day care center. But as part of a cleanup proposal, the EPA wants to install a vapor mitigation system and seal the basement.

The EPA is just beginning to investigate possible vapor intrusion in a series of houses and businesses in the western part of Fair Lawn, where a well field has been listed as a Superfund site for more than 25 years. Groundwater contains a toxic mix of

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trichloroethylene, chloroform and other volatile organic compounds. The water is still used for drinking, but is stripped of its contaminants by the town water department before reaching the tap.

"In the [19]80s we were looking at radon," said Paul Johnson, a dean at Arizona State University's engineering school and a national expert on groundwater contamination. "The '90s was the time frame where we thought that vapor intrusion could be a [public health] issue. The last 10 years, people have found that it is an issue."

Staff Writer James M. O'Neill contributed to this article. E-mail: fallon@northjersey.com

Everything Jersey

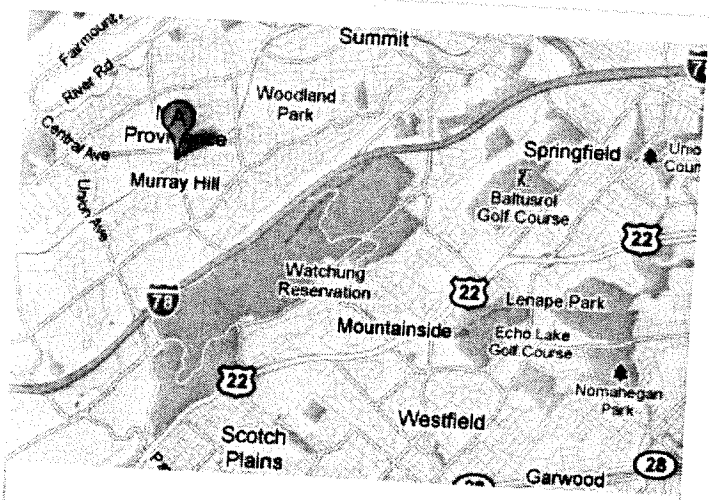
DEP asks Alcatel-Lucent to test some New Providence homes for vapors

Published: Tuesday, November 16, 2010, 4:28 PM

Tracy Ness/Independent Press

TCE plume was discovered in 1996, testing began in 2006

NEW PROVIDENCE — Alcatel-Lucent has been asked by the Department of Environmental Protection to conduct a series of tests to determine if homes along South Street have been impacted by ground water contaminated with the chemical Trichloroethylene or TCE. According to the Agency for Toxic Substances and Disease, TCE is "reasonably anticipated to be a human carcinogen."



Map view of South Street in New Providence, where tests will determine if a potentially dangerous chemical has impacted homes through ground water contamination.

According to DEP spokesperson Lawrence Hajna, "These tests are precautionary and we do not believe the contaminated plume has reached these homes." Hajna said that 13 homes have been selected for the investigation along with a commercial property at the corner of South Street and Mountain Avenue, and Faith Lutheran Church located near the intersection of the two streets.

The tests are being conducted to determine the presence of TCE in the air specifically in homes. "These vapors can be harmful if they get into a structure and accumulate over time," Hajna said. The contaminated plume was discovered back in 1996 and he explained that, "there has been some treatment of the groundwater to neutralize the TCE in the source area between June of 2006 and October of 2009."

Although the existence of the groundwater contamination plume has been known by Alcatel-Lucent and state officials for 14 years, the Independent Press first learned about it last week when the newspaper was contacted by a South Street homeowner who had received a letter seeking permission to test her house. In an attempt to find out more information the Independent Press contacted Len Berkowitz, chairman of the Berkeley Heights Environmental Commission. He said he was not aware of the existence of groundwater contamination originating from the Alcatel-Lucent property which is located in Berkeley Heights. New Providence does not have an active environmental commission. The Independent Press is not aware of the issue ever being discussed publicly by the New Providence Borough Council and a phone call to a councilmember for more information was not returned prior to deadline.

The letter received by the South Street homeowners last week requested access to her home for the testing. The letter stated that a "vapor intrusion evaluation" was being conducted jointly with Alcatel-Lucent and the DEP and requested access to her home to "collect and analyze sub slab soil, gas and air quality samples ...to assess potential migration of vapor from ground water."

The homeowner said she was very concerned about the letter especially after receiving her recent diagnosis for cancer. "I don't know what they waited this long for if they knew there was this plume of discharge heading for homes down the hill," she stated. "Given the health issues that may be associated with TCE and the fact that it has the ability to travel through the soil and emit vapors into residential

dwellings, I would urge members of the town council to take action, providing information on this matter to all residents of the community."

Gary Fisher, an environmental health manager for Alcatel-Lucent, said the plume is emanating from the Alcatel-Lucent property on the south side of Mountain Avenue, and extends north past Mountain Avenue. "The 'in situ chemical oxidation' used to treat the plume went very well," he said. "We have just completed eight quarters of monitoring and have presented the findings to the DEP." Fisher said that the vast majority of the plume is located deep in the bedrock making remediation efforts very difficult and they are evaluating different technologies to continue the work. The plume still has levels that are above the DEP standard of one part per billion.

Prior to this round of testing, 19 homes along Glenside Avenue and Roland Road were tested with one home testing positive. "These homes are closest to the source of the plume and the one with the positive results was up on the hill," Fisher said. "Further down the hill, we had no positive results." He explained that a system was installed in the affected home to "draw the air out from below the foundation and vent it outside of the home." The home was retested over the course of a year and no further positive results were found.

Fisher said letters to homeowners requesting access for testing went out on Nov. 8. "I plan to follow up with the homeowners this week to set up testing and, once completed, we can expect results within two to three weeks," he said.

What is TCE?

According to the Agency for Toxic Substances and Disease Registry, Trichloroethylene (TCE) is a nonflammable, colorless liquid used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers. "TCE dissolves a little in water, but it can remain in ground water for a long time. It also quickly evaporates from surface water, so it is commonly found as a vapor in the air," the description read.

The site narrative also stated that, "the National Toxicology Program (NTP) determined that trichloroethylene is "reasonably anticipated to be a human carcinogen." Some studies with mice and rats have suggested that high levels of trichloroethylene may cause liver, kidney or lung cancer.

Breathing small amounts of TCE may cause headaches, lung irritation, dizziness, poor coordination and difficulty concentrating. Breathing large amounts for long periods may cause nerve, kidney and liver damage. More information can be found at **atsdr.cdc.gov/toxfaqs.**

Note. Independent Press Staff Writer Tracy Ness can be contacted at TNess@njnpublishing.com

Wilson Avenue School

Newark, Essex County

April 27, 2010

- Sampling activities around the school will take place while students are NOT on the school property. No sampling will be conducted while students are at the school for bus pick-up or drop-off.

Vapor Intrusion Investigation

- NJDEP has identified 25-30 homes surrounding the Wilson Avenue School where vapor intrusion sampling should be conducted.
- Vapor Intrusion sampling involves the testing of vapors in the soil beneath the slab of a home to determine if those vapors have any contamination in them that could be entering the home. Indoor air will also be tested as part of this sampling event.
- Sampling is expected to begin the week of May 17, 2010 and will be conducted by NJDEP at no cost to the homeowner. If a problem associated with the Wilson Avenue School is identified, a system will be installed (also at no cost to the homeowner) in the home to prevent any additional vapors from entering the home.

Next Steps

Before the school reopens in the Fall of 2010, NJDEP will make a presentation to the community of all work that has been conducted. A tour of the school to view the work that was conducted will also be provided to any interested parents.

Any concerns or questions about the investigation may be directed to Mindy Mumford of the NJDEP at (800) 253-5647 or (609) 777-1976.

Information will also be made available at:

- www.nj.gov/dep/srp
- The Newark Public Library
  Van Buren Branch
  140 Van Buren Street
  Newark, NJ 07105

In case of emergency call 911 or the DEP hotline at 800-WARN DEP (800-927-6337).

Wilson Avenue School

Newark, Essex County — April 27, 2010

Overview

Gasoline odors and flooding in the Wilson Avenue School were reported in early April to the New Jersey Department of Environmental Protection (NJDEP). A sheen of weathered (old) gasoline was observed by NJDEP emergency responders in the water of the recently flooded basement. Failure of an existing sump pump in the boiler room was determined to be the cause of the flooding. Gasoline appears to be coming into the school with the flood waters. The source of the gasoline at this time is not known.

NJDEP acted to unclogg the failed sump pump, and clean up the flood waters in the basement. An upgraded sump pump system will be installed to prevent flooding from occuring again. NJDEP has also begun an investigation to determine the source of the contaminated ground water. Inspections of surrounding gas stations by NJDEP have not identified any leaking tanks at this time. Sampling of homes surrounding the school will be conducted as well to determine that no homes are being impacted by contaminated ground water.

Wilson School Cleanup Activities

NJDEP's Contractor, Handex, Inc. will conduct all work at the school with NJDEP oversight. Work will include:

- Upgrade of the existing sump pumps in the school (clean out of sumps, increase horsepower, install new pumps).
- Installation of a sub-slab ventilation system around each pump.
- Collection of indoor air samples after the system has been operating to determine the effectiveness of venting the sumps.
- Additional sampling and routine maintenance activities will occur to ensure the vacuum around the sumps is being maintained.

Unknown Source Investigation

Sampling of ground water surrounding the school will be conducted by NJDEP to characterize the shallow ground water in the area and determine from what direction the contaminated ground water may be coming from.

- Approximately 40 ground water samples will be taken from 20 locations around the school.

- A geoprobe will be used to take the samples. A geoprobe is a mobile unit that is used to drill temporary well points at specific locations.

New Jersey Department of Environmental Protection
Site Remediation Program
(609) 984-3081 Office of Community Relations

Former Jerry's Cleaners Site

Borough of Waldwick, Bergen County
PI# 195250

The New Jersey Department of Environmental Protection (NJDEP) has contracted Kleinfelder East, Inc. (Kleinfelder) to perform a Remedial Investigation (RI) of the soil and groundwater at the Former Jerry's Cleaners site (PI: 195250) located at 24 East Prospect Street(Block: 18.01, Lot: 37.07), in the Borough of Waldwick, Bergen County.

Site History

In 1984, tetrachloroethene (PCE) contamination was detected in the Waldwick Borough Well No. 8 located on Dora Avenue at levels exceeding the New Jersey Drinking Water Standard of 1 part per billion (ppb). PCE is a volatile organic chemical (VOC) commonly used as a dry cleaning solvent and degreasing agent. Because the concentration of PCE exceeded 1 ppb, the public well was shut down and subsequently sealed.

NJDEP initiated an investigation to determine the source of the PCE contamination in Waldwick Borough Well No. 8. The former Jerry's Cleaners site, located at 24 East Prospect Street, was identified as a potential source of the PCE contamination in the public well. NJDEP collected ground water samples at the former Jerry's Cleaners site in January 2003 which revealed elevated levels of PCE, trichloroethene (TCE), and cis-1,2-dichloroethene in the ground water. The highest concentrations of PCE, TCE and cis-1,2-dichloroethene detected at the site were 34,117 ppb, 11,000 ppb and 35,000 ppb, respectively. The NJDEP Ground Water Remediation Standards for PCE, TCE and cis-1,2-dichloroethene are 1 ppb, 1 ppb and 70 ppb, respectively.

Remedial Investigation (RI)

NJDEP has partially characterized the extent of soil and ground water contamination at the former Jerry's Cleaners site through previous investigations. The primary objectives of this RI include:

- Confirmation of contaminant source area(s)
- Delineation of the horizontal and vertical extent of soil and ground water impacts at the site and the surrounding properties
- Identification of potential vapor intrusion pathways
- Evaluation of impacts to potential human health and ecological receptors

Kleinfelder, under contract to the NJDEP, will prepare a Remedial

Adobe Acrobat version of the Fact Sheet [pdf 28 kb]

For more information, please contact:

Sana Qureshi
NJDEP, Office of Community Relations
P: 609-984-2038
F: 609-292-4401
E: Sana.Qureshi@dep.state.nj.us

www.nj.gov/dep/srp/community

Investigation Report (RIR) describing site activities and sampling results. NJDEP will review the RIR and upon approval the report will be made available to the public.

Field Activities

In order to completely characterize the nature and extent of the contamination at the site, NJDEP will collect and evaluate environmental samples from the former Jerry's Cleaners site. Field activities will include the installation of soil borings with the collection of soil samples and the construction and sampling of temporary ground water sample points. Based on the initial soil and ground water sampling results, NJDEP will install permanent ground water monitoring wells. The permanent monitoring wells will be sampled at least twice after installation.

All soil and ground water samples will be analyzed and compared to the applicable NJDEP remediation standards.

In addition to the soil and ground water investigation, a receptor evaluation and a baseline ecological evaluation will be conducted in accordance with the Technical Requirements for Site Remediation (N.J.A.C. 7:26E).

Fieldwork is scheduled to commence in the spring of 2010 and is expected to be completed in approximately 18 months.

Vapor Intrusion Assessment

After the extent of groundwater and soil contamination has been delineated, NJDEP will assess the potential for vapor intrusion. Vapor intrusion occurs when fumes from contaminated soil or ground water seep through cracks and holes in foundations or slabs of nearby buildings and accumulate in basements, crawl spaces, or living areas.

Contingent upon the results of the ground water sampling, an assessment of the potential for vapor intrusion into commercial buildings, residential homes and any other building will be conducted. The vapor intrusion investigation will evaluate the indoor air quality at each sampled property and identify potential or actual vapor intrusion pathways, as applicable. Subsurface vapor samples may also be collected adjacent to or beneath the buildings. All samples will be compared to applicable NJDEP screening levels. Pending the results of the initial vapor intrusion investigation, additional residential and commercial properties may also be investigated. All property owners will be notified in advance of sampling activities.

NJDEP will provide a copy of all environmental reports to the Borough of Waldwick upon the request of the municipality.

- For more information on vapor intrusion, please visit: http://nj.gov/dep/srp/guidance/vaporintrusion/indoor_air.htm
- * For frequently asked questions about specific contaminants, please visit: http://www.atsdr.cdc.gov/toxfaq.html

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The Express-Times

Superfund plan proposes connecting 300-plus homes to public water in Franklin, Greenwich townships

Tuesday, April 20, 2010

By BILL WICHERT

The Express-Times

Federal officials propose connecting about 320 homes in Franklin and Greenwich townships to a public water system as part of a plan to address groundwater contamination from a Superfund site.

The U.S. Environmental Protection Agency is seeking public input on its proposed plan for the second of three portions of the Pohatcong Valley Groundwater Contamination Site.

Under the proposed plan, about 10 miles of a new water line would be constructed between existing systems that serve the Washington and Phillipsburg areas. The water supply expansion could be completed in one to two years, officials said.

The proposal would cost nearly $14 million in capital expenses and $77,000 in annual costs. Residents would be responsible for water bills after the connections are made. Private wells would be abandoned.

Public comment on the proposed plan is being accepted until May 17, and a public meeting on the plan is scheduled for 6 p.m. April 29 at the Washington Municipal Building, 100 Belvidere Ave. in the borough.

"It's good for the people," Franklin Township Mayor Mark Blaszka said Monday. "It's just nice that they now have a plan."

Blaszka added, however, that farmers might be opposed to paying for public water, because it would add to their costs. Township residents should be given a choice of whether they want to hook into a public water system, the mayor said.

Efforts were unsuccessful Monday to reach EPA representatives working on the project for comment.

The overall site -- which also includes portions of Washington Borough and Washington Township -- provides drinking water to about 12,000 people. Contaminants found at the site are trichloroethene, or TCE, and tetrachloroethylene, also known as perchloroethylene, or PCE.

Contamination has been traced to a Route 31 factory previously owned by Pechiney Plastics Packaging. Two dry cleaners in Washington -- Modern Valet Service and L& L Econowash Cleaners -- and a fourth source known as Tung-Sol Tubing also have been identified as parties potentially responsible for the pollution, according to the EPA.

For the first section of the site, known as Operable Unit 1, ongoing cleanup activities include removing contaminated groundwater, treating it and returning it to the aquifer.

The plan up for review addresses the 4,200-acre Operable Unit 2. About 100 out of the 204 residential wells tested were determined to have TCE concentrations above state standards. In 2009, state officials installed 23 vapor removal systems to begin mitigating the contamination exceeding state standards.

EPA officials selected the proposed remedy out of five alternatives.

The contaminated groundwater continues to migrate toward the second section of the site. The EPA does not anticipate contamination to fall below state standards for about 67 years.

"The preferred alternative was selected over the other alternatives because it will provide the best overall protection of human health and will eliminate risks to residents from consumption of and contact with contaminated drinking water," the proposed plan reads.

The remedial investigation and feasibility study is currently under way for the third section of the site, called Operable Unit 3.

Reporter Bill Wichert can be reached at 610-258-7171, ext. 3570, or bwichert@express-times.com. Talk about issues in your town at lehighvalleylive.com/forums.

NorthJersey.com

Carcinogen found in 16 Garfield homes

Wednesday, May 19, 2010
Last updated: Wednesday May 19, 2010, 10:15 PM

BY SCOTT FALLON AND ALEX MACINNES
The Record
STAFF WRITERS

Harmful levels of a cancer-causing chemical that has polluted groundwater in a Garfield neighborhood for more than 25 years have been found in the basements of 16 homes, officials said Wednesday.

The findings, which will be discussed at a meeting Thursday night at city hall, have prompted state health officials to study if there is a higher rate of cancer among residents of a neighborhood bordered by Sherman Place, Monroe Street, Van Winkle Avenue and the Passaic River on the city's west side.

"Yes you should be concerned, but I don't think you need to be overly concerned," said Dr. Susan Walsh, a deputy commissioner for the state Department of Health and Senior Services. "Right now we are advising people to use common sense approaches and that starts with limiting access to your basement."

Officials would not say where the 16 homes were located or if they were on the same block, citing privacy concerns. They are among several locations throughout the neighborhood that have been contaminated with chromium over the last three decades including a senior complex and a firehouse that had to close.

The latest contamination, which seeped into basements from polluted groundwater, was found as part of a large-scale study conducted last year by the federal Environmental Protection Agency, which tested dust, water and air samples from 163 homes.

Investigators are concerned that adults and children could accidentally swallow hexavalent chromium found in dust. The chemical was also found in air samples and water from sump pumps, but officials don't consider those a threat.

An EPA spokeswoman said the agency has begun cleaning the basements at the 16 homes and will take measures to try to prevent recontamination.

"I try to take things in stride, but the bottom line is the properties will be cleaned and that's all we hope for," Mayor Frank Calandriello said Wednesday. "Is it distressing for property owners? Absolutely."

The EPA is still studying samples from 90

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more homes. Owners of 35 other homes that have had water seepage have not granted the EPA access to their basements.

The cancer study will look at data collected in the state's cancer registry, which tracks cases of the disease from 1979 to 2007, to see if there is a statistically higher rate in the Garfield neighborhood. A report is due in the fall.

In the meantime, officials are advising residents to:

- Limit basement use.
- Remove shoes before reentering the rest of the house and wipe them down.
- Wash hands after using the basement.
- Frequently wash toys and other items that come in contact with a child's mouth.

Chromium was used in several of the city's industrial facilities including a tannery, a chemical plant and two electroplating companies that were located close to residential neighborhoods.

The contamination dates back to 1983 when 5,460 pounds of chromium leaked from a storage tank at E.C. Electroplating Inc. at 125 Clark St. Only 1,600 pounds were ever recovered.

The state Department of Environmental Protection began monitoring the chromium spill, but in 1985 it agreed it would be prohibitively expensive to continue the cleanup and instead suggested the company monitor the chromium levels beneath its plant. The company failed to do so, according to DEP records.

In 1993, Fire Company 3's building on Willard Street had to be closed after firefighters noticed greenish water seeping from the basement walls. Water samples found about 25 parts-per-million of chromium — much higher than the then-safety standard of 0.1 parts-per-million set by the DEP.

In 2000, county health officials found chromium groundwater contamination at two Palisade Avenue homes. They also found crystallized residue containing very low levels of a less dangerous form of chromium in the basements of four other nearby houses.

In 2002, the DEP required E.C. Electroplating to remediate the area where the chromium spilled. The company said it didn't have enough money for a cleanup. The DEP then

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turned the case over to the EPA.

In 2004, chromium was discovered in basement of the Golden Tower senior apartments on Midland Avenue. The EPA tested two apartments on each floor and found no trace.

One of five dust samples taken from Roosevelt School 7 on Lincoln Place in August 2008 contained low levels of chromium that does not pose a health risk, officials said.

Christine Fuscarino, who lives two doors down from the closed firehouse on Willard Street, said she would like to see some kind of clean up action in town.

"They keep saying they're going to clean it up and they don't do anything," she said. "Just t esting, testing, testing and meetings. If they' re going to clean it up, do it already."

Alicia Riveria said she has been frustrated with the lack of information after investigators took samples from her Willard Street house last year.

"I asked 10 million questions and can't get answer to anything," she said.

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