



Minnesota
Department
of Health

PROTECTING, MAINTAINING AND IMPROVING THE HEALTH OF ALL MINNESOTANS

M E M O R A N D U M

DATE: April 20, 2016

TO: Licensed and Registered Well Contractors
Advisory Council on Wells and Borings

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

PHONE: 651-201-4675

SUBJECT: Notice of Update to Special Well and Boring Construction Area in the Vicinity of the Twin Cities Army Ammunition Plant, Anoka, Hennepin, and Ramsey Counties, Minnesota

The Minnesota Department of Health (MDH) is updating the **Special Well and Boring Construction Area** (SWBCA), for the Twin Cities Army Ammunition Plant (TCAAP), as shown in the attached map (Figure 1). The update adds the land within the original TCAAP facility boundary to the SWBCA.

AUTHORITY

Minnesota Statutes, section 103I.101, subdivision 5, clause 7, 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 and borings within a designated SWBCA, including plan review and approval, water quality monitoring, and other measures to protect public health and prevent degradation of groundwater.

HISTORY AND DESCRIPTION

The MDH has made changes to the boundary of the TCAAP SWBCA. The SWBCA was initially implemented on July 1, 1996, and included the cities of New Brighton, St. Anthony, and portions of Fridley, Mounds View, Arden Hills, Shoreview, Columbia Heights, Minneapolis, Falcon Heights, Lauderdale, and Roseville, but did not include the TCAAP facility. The TCAAP facility was recently re-zoned to accommodate future development, and the SWBCA boundary is being updated to incorporate the TCAAP facility. The current extent of the SWBCA is shown in the attached map.

Groundwater in portions of the designated area has been contaminated with volatile organic compounds (VOCs) from solvents used and disposed at TCAAP in Arden Hills. There are two areas of contamination. The largest area of contamination extends several miles to the south and west of TCAAP, to depths of several hundred feet. Here, portions of the buried sand formation (Hillside Sand Formation) and the Prairie du Chien dolomite and Jordan sandstone bedrock formations have been contaminated with VOCs. A second, smaller area of VOCs contamination exists in the surficial sand and silt deposits (Fridley Formation) to the north and west of TCAAP, to depths of approximately 45 feet.

The unconsolidated hydrogeologic formations to the southwest of TCAAP consist of a discontinuous layer of alluvium and lacustrine deposits (Fridley Formation) over glacial till (Twin Cities Formation) over the Hillside Sand Formation. The combined thickness of these formations ranges from 50 to more than 300 feet. The Fridley and Twin Cities formations to the southwest of TCAAP are not contaminated by TCAAP contaminants; the Hillside Sand Formation is contaminated at the TCAAP facility and to the southwest of TCAAP. The unconsolidated formations immediately southwest of TCAAP are underlain by the contaminated Prairie du Chien and Jordan formations. Further to the south and west, the Platteville limestone, Glenwood shale, and St. Peter sandstone occur above the Prairie du Chien formation. Contamination from the TCAAP facility has not been found in the Platteville, Glenwood, or St. Peter formations.

Efforts to contain and clean up the contamination at the TCAAP facility and to the south of TCAAP have been underway for many years. For example, several wells are being used to contain and extract contaminated groundwater, which is then treated to remove the VOCs. The treated water is then used for the city of New Brighton's municipal water supply. Steps have also been taken to remove from service and permanently seal other water-supply wells which have been contaminated in excess of the MDH's Health Risk Limits (HRLs) and present a public health threat.

The MDH, the Minnesota Pollution Control Agency (MPCA), and the U.S. Army are concerned about the public health effects that could result from the use of water-supply wells in the contaminated aquifers. The MDH and MPCA are also concerned that the construction of new wells or borings or modification of existing wells or borings within the SWBCA may interfere with cleanup efforts, or may cause further spread of the contamination.

BOUNDARIES OF THE SWBCA

The designated SWBCA is bounded on the west by State Highway 65. The south boundary is represented by the Mississippi River and Marshall Avenue. The eastern boundary extends due north from the intersection of Cleveland Avenue and Marshall Avenue to Larpenteur Avenue, then follows Larpenteur Avenue east to Fairview Avenue, then follows Fairview Avenue north to

Lake Johanna Boulevard, then follows Lake Johanna Boulevard east, becoming County Road E, to Lexington Avenue, and then follows Lexington Avenue north to County Road I. The northern boundary extends due west of the intersection of Lexington Avenue and County Road I to Snelling Avenue North, then north on Snelling Avenue North to Lois Drive, then west on Lois Drive to Schutta Road, then west from the intersection of Lois Drive and Schutta Road to Rice Creek, then south on Rice Creek to County Road I, then west on County Road I to State Highway 65. This area includes portions of Anoka, Hennepin, and Ramsey Counties.

REQUIREMENTS OF THE SWBCA

1. All wells and borings regulated by the MDH are subject to the requirements of this SWBCA. Wells include potable water-supply wells, irrigation wells, commercial and industrial water-supply wells, wells for heating and cooling, remedial wells, monitoring wells, and dewatering wells. Borings include environmental bore holes, elevator borings, and bored geothermal heat exchangers.
2. Construction of a new well or boring, or modification of the depth of an existing well or boring, may not take place until after the MDH has reviewed and approved plans for the proposed construction. In addition to the required permit application or notification, the plan must include the following information: street address; well or boring depth; casing type, diameter, and depth; method of construction, including grout materials and grout method; pumping rate; and use.
3. If the proposed construction or reconstruction of a potable water-supply well is approved, the MDH may require that one or more water samples be collected and analyzed for VOCs before the well is grouted and put into service. If contamination is present in excess of the HRLs, the well must be permanently sealed or reconstructed. The New Brighton and St. Anthony municipal water-supply wells, which are treated to remove VOCs, are exempt from this requirement.
4. The permanent sealing of a well or boring completed in or below the Prairie du Chien formation may not take place until after the MDH has reviewed and approved plans for the proposed sealing. In addition to the sealing notification that is required prior to sealing a well, the plan must include the following information: street address; original well or boring depth; current well or boring depth; casing type(s), diameter(s) and depth(s); methods for identifying and sealing any open annular space; methods for identifying and removing any obstructions; and grout material and methods.

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PERSONS TO CONTACT

For additional information regarding this SWBCA, please contact Mr. Edward Schneider of the MDH Well Management Section at 651-201-4586 or *Ed.Schneider@state.mn.us*.

Plans for the construction, modification (including repair), or sealing of wells or borings within the SWBCA must be submitted to:

Mr. 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

Notifications/permit applications for either construction or sealing of wells and borings must still be mailed or faxed to the MDH Central Office at:

Minnesota Department of Health
Well Management Section
P.O. Box 64502
St. Paul, Minnesota 55164-0502
651-201-4599 (Fax)

Plans for well construction and well sealing in the city of Minneapolis may be submitted to:

City of Minneapolis – Public Health Center
250 South Fourth Street
Minneapolis, Minnesota 55415
Attn: Tom Frame
612-673-2635

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

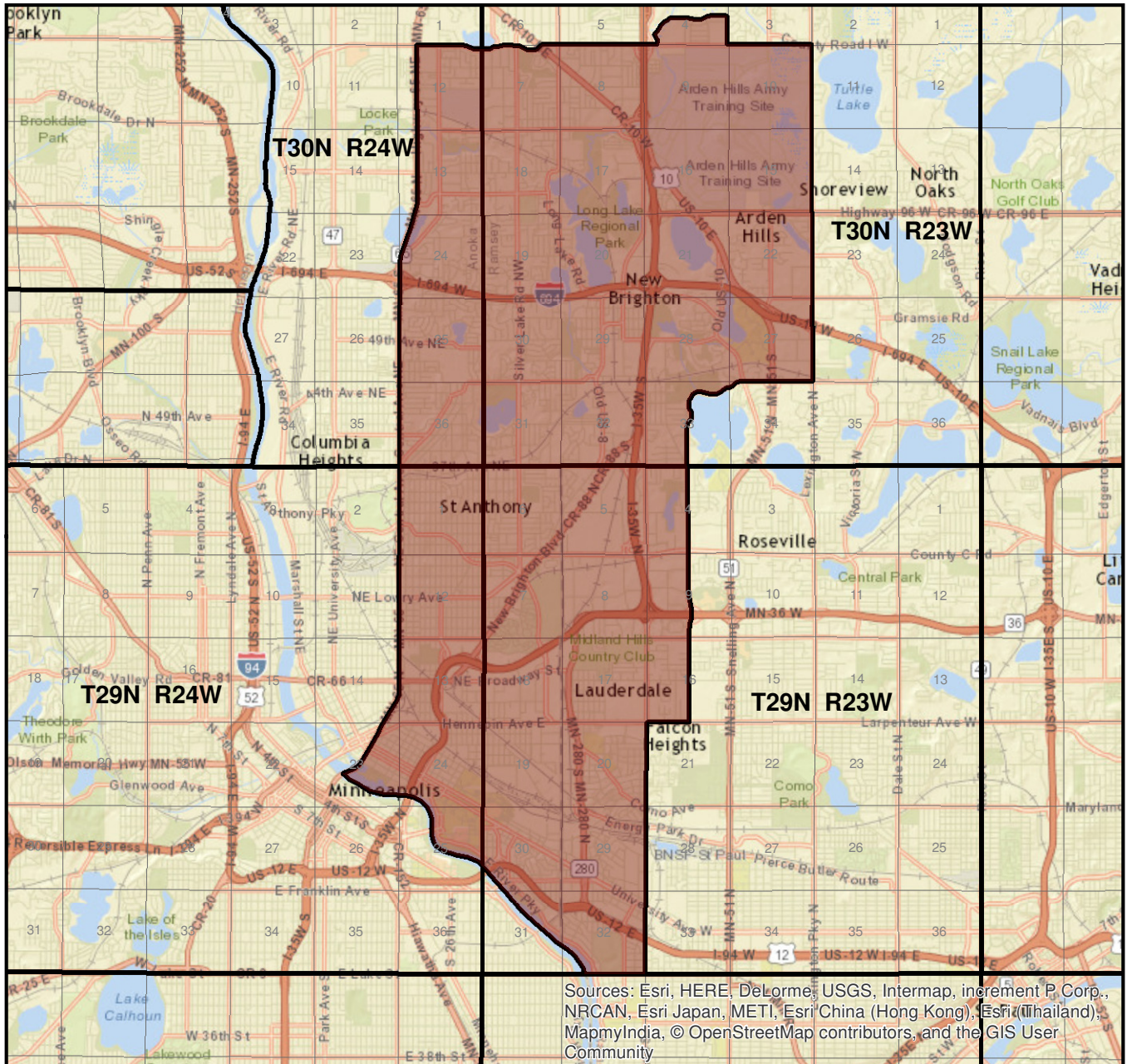
Ms. Amy Hadiaris 651-757-2402 *Amy.Hadiaris@state.mn.us*
Minnesota Pollution Control Agency
Site Remediation and Redevelopment Section
520 Lafayette Road
St. Paul, Minnesota 55155-4194

Tom Barounis 312-353-5577
U.S. EPA, Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Mike Fix 651-268-8670
Department of the Army
Twin Cities Army Ammunition Plant
4761 Hamline Avenue North
Arden Hills, Minnesota 55112-5716

TPH:AMM:mj
Enclosure

Special Well and Boring Construction Areas Twin Cities Army Ammunition Plant (TCAAP)



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