



Protecting, maintaining and improving the health of all Minnesotans

October 11, 2001

Refer to: License Number 27058 (TN2408)

Mr. Joel Sanders, P.E.
Department of the Navy - Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
2155 Eagle Drive
North Charleston, South Carolina 29419-9010

Mr. John Henrich
Bergerson-Caswell, Inc.
5115 Industrial Street
Maple Plain, Minnesota 55359

Dear Mr. Sanders and Mr. Henrich:

Subject: Request for a Variance from Minnesota Rules, Chapter 4725, to Construct 16
Monitoring Wells in the NE ¼ of the NE ¼ of the NW ¼ of Section 27, Township 30
North, Range 24 West, Anoka County, Minnesota

This letter is in response to your request for a variance from Minnesota Rules, Chapter 4725, to construct eight monitoring wells in Anoka County Riverfront Park, located in Fridley, Anoka County. The Anoka County Riverfront Park is located immediately west of the Naval Industrial Reserve Ordnance Plant (NIROP). The 16 new monitoring wells are part of network of 19 monitoring wells to monitor the impact and effectiveness of in-situ bioremediation of groundwater contamination by chlorinated solvents in the park. Three of the wells are also to be used for injection of vegetable oil. Bioremediation is to be accomplished by the injection of vegetable oil into the contaminant plume. Details of the injection proposal, bioremediation mechanisms, and ground water monitoring are included in the "Final Work Plan for Field Application to Enhance In-Situ Bioremediation of Chlorinated Solvents via Vegetable Oil Injection", dated September 19, 2001, and prepared by Parsons Engineering Science, Inc. The injection of vegetable oil into the groundwater using wells and the finalization of contingency measures will be the subject of a separate variance.

Minnesota Rules, part 4725.6650, allows the construction of monitoring wells with flush-threaded, polyvinyl chloride (PVC) casing and screens if the screen intersects the water table, the total depth of the well is 50 feet or less, the monitoring well is completed in consolidated materials, and the PVC casing meets the standards in Schedule 40 as referenced in ASTM 1785-88. Minnesota Rules, part 4725.2750 limits the use of blank screen to not more than 10 feet below the screen.

Information submitted in your variance request and in the Final Work Plan indicates that all 16 monitoring wells will have a screen interval 30-40 feet below land surface, with the top of the screen approximately 4 feet below the water table. The purpose of the deeper screen setting is to

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enable adequate injection of the vegetable oil and proper monitoring of the oil migration and contaminant behavior. In addition, eight of the monitoring wells will have approximate depths of 70 feet. The eight wells will have 30 feet of blank casing below the screen. The purpose of the blank casing in this application is to enable geophysical monitoring and imaging of the vegetable oil plume. The use of PVC casing is warranted because steel casing will interfere with the geophysical techniques to be used. The oil imaging study will be conducted by the United States Geological Survey.

In accordance with Minnesota Rules, Chapter 4725, and based on the information provided, your request for a variance is granted. The variance is granted because of the need for remediation of ground water at the site. Bioremediation is being tested since the proximity of this site to the Mississippi River is problematic for hydraulic controls, such as ground water extraction and treatment. The area of highest ground water contamination within Anoka County Riverfront Park appears to be a stagnation point in the ground water flow regime at the site and is not greatly influenced by the ground water extraction occurring at the NIROP facility. The variance is granted with the following conditions:

1. All necessary monitoring well permits must be obtained from the MDH prior to construction.
2. Please contact Mr. Steve Bennett of the MDH at least 24 hours prior to the beginning of construction of the monitoring wells.
3. The Field Application Results Report, to be prepared by Parsons Engineering Science, Inc., shall be submitted to the MDH within 30 days of completion of the report and approval by the Department of the Navy.

All other requirements of Minnesota Rules, Chapter 4725, shall be in effect.

Alternative measures or conditions attached to a variance have the force of law and effect of applicable rule. If a party violates the alternative measures or conditions attached to the variance, the party is subject to enforcement actions and penalties provided in the applicable law or rule.

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The variance is conditioned upon the applicable acceptance of and compliance with the conditions of the variance. Failure by the applicant to comply with the conditions prescribed in the variance will result in the immediate expiration of the variance.

If you have any questions, please contact Mr. Ed Schneider at (651) 215-0827 or Mr. Bennett at (651) 643-2113.

Sincerely,

A handwritten signature in black ink that reads "Daniel A. Wilson". The signature is written in a cursive style with a large initial 'D'.

Daniel A. Wilson, Manager
Well Management Section
Division of Environmental Health
P.O. Box 64975
St. Paul, Minnesota 55164-0975

DAW:MPC:fal

cc: Mr. Jeff Perry, Anoka County Parks and Recreation
David Douglas, Minnesota Pollution Control Agency
Tom Bloom, U.S. Environmental Protection Agency (Region 5)
Venky Venkatesh, CH2M Hill, Inc.
Daniel Griffiths, Parsons Engineering Science, Inc.