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LETTER DISCUSSING SUBSURFACE UTILITIES REVIEW NWS EARLE NJ
3/29/2000
TETRA TECH



TETRA TECH NUS, INC.

600 Clark Avenue, Suite 3 ■ King of Prussia, PA 19406-1433
(610) 491-9688 ■ FAX (610) 491-9645 ■ www.tetrattech.com

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PHIL - 14021

March 29, 2000

Mr. Brian Helland
Senior Environmental Engineer
Northern Division, Code 1812
Naval Facilities Engineering Command
10 Industrial Highway Mail Stop No. 82
Lester, Pennsylvania 19113

*Copy to:
1813/JR*

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order No. 206

Subject: Subsurface Utilities Review
Buildings R-6/7/12
NWS Earle - Colts Neck, New Jersey

Dear Mr. Helland:

Tetra Tech NUS, Incorporated (TtNUS) conducted a review of available information to identify the occurrence and location of subsurface utilities and building drainage facilities that could impact groundwater flow within the vicinity of Buildings R-1 and R-2. The review was conducted in accordance with TtNUS' recommendations, as indicated in the January 2000, Year 1 Groundwater Monitoring Report for Buildings R-6/7/12. As you may recall, TtNUS suspected the occurrence of an unidentified groundwater discharge within this area.

On March 21, 2000, TtNUS met with facilities engineer David Smith, and plumber Dennis Kruncken of the Facilities Engineering Department, Naval Weapons Station Earle. Mr. Smith provided copies of subsurface utilities and building facilities layout construction drawings. Mr. Kruncken provided verbal description of existing conditions.

Mr. Kruncken indicated that all buildings located within the general vicinity and down-gradient from site R-6/7/12, except R-1, are slab-on-grade type construction. Building R-1 however has a basement that contains a sump pit. Available facility drawings indicate that grade elevation at Building R-1 is approximately 15 feet above mean sea level (MSL), and the basement floor is 9-feet, 4-inches below grade. The sump pit is approximately 2-feet deep. The elevation of the bottom of the sump is therefore expected to be approximately 4 feet above MSL. Mr. Smith indicated that the sump pump is hard-piped to the sanitary sewer collection system.

After the meeting, TtNUS and Mr. Smith visited Building R-1 to observe site conditions. Water was observed in the sump and on the basement floor in Building R-1. TtNUS did not observe evidence of free phase product or vapors.

TtNUS also reviewed subsurface storm-sewer system drawings and identified an 18-inch diameter culvert under Road R-1, in the same approximate vicinity as the suspected groundwater discharge. This culvert carries storm water flow from catch basins located along Road R-1, adjacent to Buildings R-1 and R-2. Based on the facility drawings, this culvert is expected to be between 3 and 4 feet below grade, at elevations between 11 and 12 feet above MSL.

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Based on the groundwater levels measured in a monitoring wells located south and north of Building R-1, the groundwater elevations throughout 1999 ranged between 4 and 9 feet above MSL.

Based on the information obtained and observed during the March 2000 site review, it appears as though the sump in the basement of Building R-1 intercepts groundwater and is therefore likely acting as a groundwater discharge that could convey contaminated groundwater from R-6/7/12. Since the sump's pump is apparently connected to the sanitary sewer, potentially contaminated groundwater is at least being controlled. TtNUS has not considered potential impacts to the sanitary sewer system that may exist as a result of this occurrence. The storm water drainage culvert that exists near Building RI is not expected to have an effect on or intercept groundwater.

TtNUS recommends that future groundwater monitoring at R-6/7/12 include sampling and analysis from the sump in Building R-1. Subsequent reporting should also consider approximate groundwater elevations at the sump location. Depending on the sample results from the sump, further quantification of the flow rate from the sump to the sanitary sewer may also be required.

As always, we appreciate the opportunity to provide technical services to the Navy. Do not hesitate to contact me if you have any additional questions.

Sincerely



Richard J. Gorrell
Project Manager

c: Lawrence Burg, Navy - NWS Earle
John Trepanowski, P.E. TtNUS
Garth Glenn- TtNUS
Russ Turner - TtNUS