

Where? Derry Township Building, Derry Township, Westmoreland County

Soil Scientist Involvement? None

Damages?

Project delays and project re-design fees

Potential structural damage



After encountering a shallow water table, construction of the Township building was delayed while the building was redesigned to remove the basement. Luckily, the construction was started in the winter, and not in the summer or fall when the water table would have been lower, and the problem would not have been known before the building was complete. A Township supervisor said that encountering the shallow groundwater was “unexpected” and that they “didn’t have a crystal ball.”

There is no need for a “crystal ball” to identify shallow groundwater. A professional soil scientist could have identified limitations before commencing construction. A soil scientist can recognize shallow water table soils through review of published mapping and by observing soil characteristics, even at times of the year when the water table is not at its highest.

*Derry Twp. Project Defended, By Dwayne Pickels, TRIBUNE-REVIEW, February 2, 2005
http://www.pittsburghlive.com/x/pittsburghtrib/news/westmoreland/s_299426.html*

A professional soil scientist:

- is trained to understand the uses and limitations of the natural soil.
- conducts focused investigations best suited to site-specific applications.
- is educated and experienced in the interpretation of physical, chemical, and biological properties of soils.
- is a necessary partner for other licensed professionals to rely on to meet the goals of safeguarding life and property.

Where? Pennsbury Township, Chester County

Soil Scientist Involvement? A soil scientist was hired after unqualified contractors recommended an unusable area for a replacement septic system

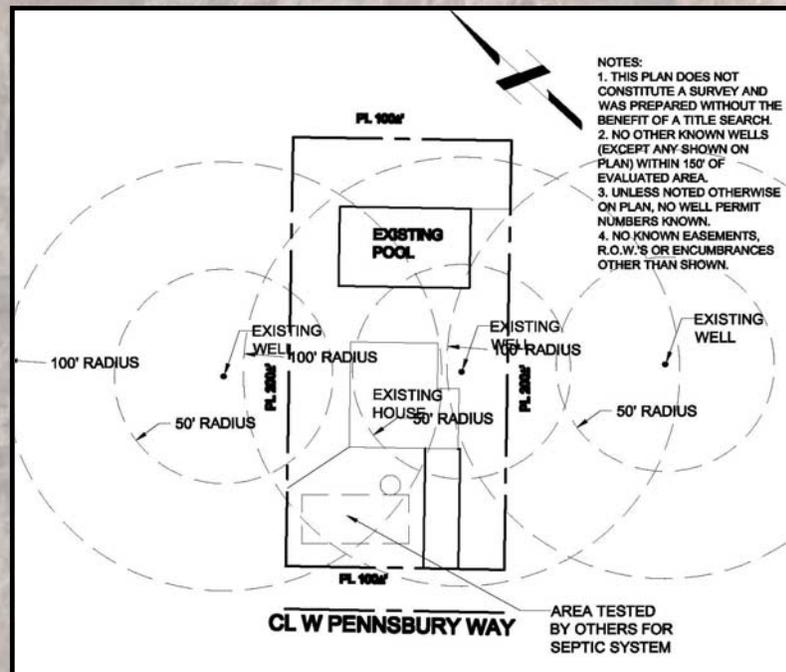
Damages?

\$3800 in fees and services

Loss of home sale

Loss of retirement home purchase

Litigation costs



A homeowner with a failing septic system hired two different contractors to test for a new septic system under the inspection of the local sewage enforcement officer. Both contractors and the sewage enforcement officer failed to check on the location of neighboring wells. After paying out \$3800 in fees and services they still did not have a permit for a septic system and lost the sale of their house and their deposit on their retirement home. The homeowners then hired a soil scientist to investigate possible alternatives. The soil scientist found the location of the neighboring wells and pointed out the problem and found a solution. The homeowners have sued the contractors and, despite winning, have not been able to recoup any of their loses.

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Where? East Nottingham Township, Chester County

Soil Scientist Involvement? Problems arose after the recommendations of a soil scientist were ignored.

Damages?

Septic system failures

Higher homeowner maintenance costs

Potential groundwater contamination



Hopewell Ridge is a residential subdivision constructed in an area with elevated groundwater nitrate levels. Homes are served by on site wells. Soil testing was conducted by a soil scientist, however his recommendations for a configuration of the septic systems were ignored and an unproven type of experimental sewage disposal system was installed on a number of the homes. The selected treatment and disposal option was selected without the involvement of a soil scientist. Both the treatment systems and the absorption areas are failing, creating a public nuisance and health hazard due to elevated nitrate in drinking water supplies.

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Where? Heidler and Sterrettania Roads, Millcreek Township, Erie County

Soil Scientist Involvement? None

Damages?



Loss of property



Recurrent flooding

Threat to steelhead fish population in Walnut Creek from increased stormwater runoff, erosion, and sedimentation.

OVER \$1,000,000 in taxpayer and landowner expense in litigation

Despite the requirements of existing guidance and regulations, the soils of the Heidler Road watershed were not adequately considered during recent land developments. By misinterpreting published soil survey mapping, by not considering other available soil information, by not conducting site-specific soil testing, and by not incorporating localized infiltration of stormwater in new development, runoff has increased in volume and resulted in property damages, litigation, and threats to public safety through increased flooding. There was a failure to identify and take advantage of the existing soil characteristics that could have been used to help mitigate the existing drainage problems without the need to construct an expensive and contentious storm sewer system.

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Where? Paxton Church Road, Susquehanna Township, Dauphin County

Soil Scientist Involvement? None

Damages?

*Recurrent stormwater discharge to neighboring property
Flooding and ponding where none existed before
Loss of use and value of property*



Soil testing for stormwater management for an 800-seat church was completed by an unqualified consultant (a television satellite dish installer). The consultant ignored published mapping data and failed to recognize soil properties indicative of a shallow water table. As a result of this flawed testing, stormwater collected onsite immediately discharges to a culvert which floods a neighboring property every time it rains. Significant, long-term ponding, where none had occurred before, has severely limited the use and value of this adjacent tract.

A professional soil scientist would have completed a review of the published soil mapping. In addition, the existing soil limitations would have been accurately identified and the basins would have been located in a more appropriate location. Property damage could have been avoided, and surface water flows associated with stormwater management could have been kept onsite, as required by current regulatory standards.

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Where? Ringgold Middle School, Union Township, Washington County

Soil Scientist Involvement? None known

Damages?

Ongoing repairs due to expansive soils underlying the school

Displacement and busing of middle school students due to building closure

Future cost of at least \$4.5 million dollars to repair currently closed schools to house displaced middle school students

Possible secession of Union Township from the Ringgold School District



The Ringgold Middle School was built in 1964 on soils prone to expansion. These pyritic soils have caused millions of dollars in damages over the years. In the 1980s, several million dollars were spent to remove the pyritic soils, but the problem persisted. Most recently, the school district spent \$349,000 to repair the roof of the building due to heaving and shifting of the walls of the school. The district is planning to shutter the building and spend additional money to rehabilitate two other, closed buildings to house the middle school students. As a result, Union Township supervisors have begun taking action to secede from the Ringgold School District.

A professional soil scientist working in conjunction with professional engineers, geologists, and architects, can recognize and mitigate the risks associated with construction on shrink-swell soils. An appropriate site-specific field investigation, including representative soil sampling, would have identified the pyritic mineralogy and cost-effective steps could have been taken prior to construction.

Sinkhole near Ringgold school causes concern, Jan. 30, 2012

Sinking feeling at Ringgold school, Jan. 31, 2012

Ringgold lowers cost estimates to reopen closed schools, Feb. 8, 2012

Ringgold: Cost to reopen two schools would be \$4.5 million, Feb. 9, 2012

Ringgold facing threats of secession, Feb. 17, 2012

By Scott Beveridge, OBSERVER-REPORTER, <http://www.observer-reporter.com/>

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