Geothermal Well Systems Threat to Drinking Water

In an effort to continue to protect and preserve the public drinking water supply, Water Authority of Great Neck North officials have recently reaffirmed their longstanding position that the introduction of any type of well system or drilling into the aquifer should not be permitted on the Great Neck Peninsula. This comes in the wake of recent requests by residents of some villages for permits to install Geothermal Well Systems on their properties.

In 1994, at the request of the Authority, municipalities in the water supplier's service area adopted regulations that prohibit persons from drilling, digging or tapping into aquifers or other subsurface sources of water. This legislation has effectively helped mitigate the impact of salt water intrusion on the Authority's drinking water wells and pollutants from further contaminating the groundwater.

Although Geothermal Wells are considered by some to be "green," there are many drawbacks to allowing them on the Peninsula, as the relatively new technology poses many threats to the public drinking water supply. Commonly used is the closed-loop system, which entails drilling bore holes with a series of pipes that are installed into the opening of a well that is connected to a heat exchange system inside building. The pipes are then filled with a heat transfer fluid that is circulated throughout the system, creating a direct conduit for pollution to enter the aquifer. Other concerns include:

- ✓ Boreholes drilled into the earth increase the potential for contamination of the groundwater exponentially. They can also act as a connection between two aquifers or a zone of contamination and an aquifer, which can cause contaminants to flow into uncontaminated areas.
- ✓ Groundwater contamination can lead to significant clean up costs and liability issues for property owners.
- ✓ Wells installed near sources of pollution such as septic tanks, sewer laterals, drywells and underground fuel tanks may allow the pollutants to contaminate the groundwater and endanger public health.
- ✓ It has been proven in other areas that wells effect the temperature of the aquifer and can cause an increase in the overall bacterial counts in the groundwater.
- ✓ Who would be responsible for removing the heat transfer fluid and capping of a well when its useful life has expired? If left unattended, this could cause pollution to reach the aquifer as well as a liability for the property owner.
- ✓ No government agency or regulatory authority in New York State has oversight or control of how these systems are being installed and the quality or type of construction being utilized.

While these are some of the obvious problems that could be caused unintentionally by a property owner trying "go green" by lowering heating costs, an even larger risk of an environmental disaster is imposed by allowing multiple uncontrolled openings in the water source. This goes against every effort by the Authority to secure the only source of drinking water for the Great Neck Peninsula.

Allowing additional drillings into the water supply would create too many unreasonable, unnecessary and unacceptable risks. The Authority asks property owners to consider these points and join in its efforts to protect the drinking water supply.

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