



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

OCT 06 2016

Providence Health & Services
Swedish Medical Center – First Hill Campus
c/o Joel W. Purdy
GeoEngineers Inc.
1101 South Fawcett Avenue, Suite 200
Tacoma, WA 98402

Re: PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION to Drill and Test Wells Proposed under Ground Water Permit Application G1-28826 (Providence Health & Services) and to beneficially use water under certain specific emergency conditions.

Dear Mr. Purdy:

This letter serves as a PRELIMINARY PERMIT to drill and test a well (or wells) as applied for under Ground Water Application G1-28826 and as a TEMPORARY AUTHORIZATION to beneficially use water from such wells in the event of catastrophic emergency as defined herein. This PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION shall become **effective immediately and remain in effect until September 30, 2018.**

Please read this letter carefully. In accordance with RCW 90.03.290, failure to comply with the conditions herein shall result in the cancellation of the PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION and the associated water right application.

This PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION applies to a well (or wells) constructed in pursuit of a new appropriation for emergency water supply under application G1-28826.

Swedish Health Services seeks to construct such wells at the site of their medical facility in the City of Seattle.

The proposed point of withdrawal is to be located in the NW 1/4 of the SE 1/4 of Section 32, Township 25N, Range 4E, W.M., King County.

The Department of Ecology may issue a PRELIMINARY PERMIT under the authority of RCW 90.03.290 and RCW 90.44.060, requiring the applicant to conduct studies, surveys, and



investigations necessary for providing the information needed to fully assess the subject application. A TEMPORARY AUTHORIZATION may be issued under the authority of RCW 90.03.250.

The purpose of this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION is to determine the hydraulic properties of the aquifer that is to be tapped by the applicant's proposed wells and to determine whether approval of the proposed groundwater withdrawal will impair existing water rights or result in impacts to the aquifer that would prove detrimental to the public interest. The aquifer tests conducted under this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION must provide information that can be used to determine the ability of the aquifer to transmit and store water, the timing and magnitude of the effects of pumping on surface water bodies, and the potential for adverse effects on existing wells created by the proposed withdrawal.

Ecology may require additional data collection, beyond the scope of this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION before a decision can be made regarding the associated water right application.

Swedish Health Services is hereby granted a PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION to proceed with drilling of wells in pursuit of water right permit application G1-28826 and to test multiple points of withdrawal if necessary.

This PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION is subject to existing rights and the following conditions:

1. This PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION becomes effective immediately and will remain in effect until September 30, 2018, unless sooner revoked by the Department of Ecology.
2. All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under chapter 18.104 RCW (Washington Water Well Construction Act of 1971) and chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells). In order to facilitate accurate recovery data collection, the system shall incorporate a backflow check-valve(s), where feasible, that will prevent water from flowing back into the well when the pump is shut off. All wells shall be tagged upon completion of drilling and the Unique Well ID shall be recorded on the well log.
3. In accordance with WAC 173-160-171, unless a variance is obtained from Ecology, water wells shall not be located within certain minimum distances of potential sources of contamination. In general wells shall be located at least 100 feet from a sewer, septic tank, privy, or other source of contamination. Wells shall not be located within 1,000 feet of the property boundary of a solid waste landfill. Minimum distances shall also comply with state and local health regulations.
4. An access port(s), as described in the Department of Ecology's Ground Water Bulletin No. 1 (ECY 040-1-3, Rev. 12/90 [copy enclosed]), shall be installed and maintained in all production wells. The access port(s) shall be of sufficient size to accommodate measuring

equipment.

5. Please be aware that the state or county health department may require additional testing prior to the approval of your wells as a potable water supply source. If your project involves a public water system, please check with the appropriate health agency to determine what additional testing is required prior to conducting the test.
6. If the water source(s) authorized under this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION, or under application for groundwater permit G1-28826, are not wholly located upon land owned by the applicant, the applicant shall be responsible for obtaining any permissions required for the construction and use of the source(s). Issuance of this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.
7. Pumping tests conducted under the authority of this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION shall be conducted under the supervision of a qualified Washington State licensed hydrogeologist or engineer. Please notify Ecology seventy-two (72) hours in advance of the date and time when the pumping phase of testing is to begin.
8. Pumped water, produced during aquifer tests, except as provided below or as conditioned in provision number 15, shall not be put to beneficial use before being discharged. The water shall be routed away from the pumping and any observation wells before being discharged so as not to interfere with the monitoring. The applicant should contact Ecology's Water Quality Program and the Washington State Department of Fish and Wildlife regarding any additional regulatory requirements relating to the discharge of testing water.
9. A step pumping test should be performed prior to the constant rate pumping test. The efficiency of the well shall be calculated from the step pumping test if possible.
10. The well shall be tested at a constant pumping rate no less than the maximum design rate at which the well will be used. WRIS Information Bulletin No. 30 (copy enclosed) may be used as a guideline for designing and conducting the pumping test. Depth to water should be measured in feet, using 10ths and 100ths of a foot rather than inches.
 - a. Pumping rates should be measured with a calibrated flow meter or manometer/orifice device that provides a measurement accuracy of +/- 5% or better.
 - b. Pumping shall be conducted for a minimum of twenty-four (24) hours since the aquifer being tested is likely confined based on USGS mapping of the First Hill area (USGS Open File 2005-1252). Ideally, the test should be performed during a period of time predicted to have no precipitation or major changes in ground or surface water levels.
 - c. Baseline water-level monitoring should be completed for at least seven (7) days prior to initiation of testing.
 - d. The frequency of measurements taken during baseline, drawdown and recovery

monitoring must be sufficient to capture the associated groundwater level trends. To the extent possible, water level measurements should be collected with data loggers and pressure transducers.

- e. At the completion of pumping, recovery data shall be collected from all wells until they near pre-pumping static conditions and the water level recovery rate at the pumping well is less than 0.1 foot per hour.
11. When the pumping tests are complete, the data shall be analyzed and all pertinent information compiled into a completion report submitted to the Department of Ecology, Northwest Regional Office. This report shall address/contain the following:
- a. Aquifer transmissivity and hydraulic conductivity.
 - b. Aquifer storage coefficient.
 - c. For each production well, the following information shall be included in the report:
 - i) Description of well construction including the legal description of well location, tax parcel number, approximate well location as measured from a known legal boundary (ex. corner of section, center of section or tax parcel), top of casing elevation, diameter of well, depth of well drilled, depth of screened interval and description of screens, description of the filter pack (if one used), and depth to static water level.
 - ii) A description and analysis of the step pumping rate test including the step duration, the pumping rate for each step, total drawdown measured at the end of each step, and a determination of well efficiency.
 - iii) A description and analysis of the constant rate pumping test including pumping rate, time of the beginning of pumping, duration of pumping, duration of the recovery monitoring, time-drawdown analysis, radius of influence, any flow boundaries identified, calculated time lag and magnitude of surface water body impact related to pumping, interference and impairment analysis for nearby wells, recovery analysis, influence on the water level related to any changes in river stage, lake level, precipitation events, and barometric pressure fluctuations, aquifer properties in the vicinity of the well, and the extrapolated drawdown in the aquifer due to pumping of the well continuously for one hundred twenty (120) days at the rate at which the well is planned to be operated.
 - d. The report shall also include the following:
 - i) A hydrogeological analysis of the source of water for each well drilled which will include an estimate of pumping impacts on surface waters of the Lake Washington Sub-basin of WRIA 8.
12. All data collected pursuant to this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION shall be submitted to Ecology in electronic form (such as a spreadsheet)

in addition to submission of a paper copy signed by the hydrogeologist or engineer in responsible charge.

13. In addition to the above, a completed water well report for each well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of each well.
14. Upon completion of the tests detailed herein, Swedish Health Services may, with Ecology approval, construct necessary infrastructure to connect the well (or wells) to the existing water delivery system. Backflow prevention devices must be installed to prevent water from any wells entering Seattle Public Utilities water mains.
15. Subsequent to the completion of the tests detailed herein and during the pendency of the investigation for a new water right under permit application G1-28826, Swedish Health Services may in the event of a catastrophic disaster which renders unusable existing potable water sources and/or fire flow of the Swedish Health Services water supply system, utilize the well (or wells) associated with this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION as an emergency source(s) subject to the following conditions:
 - a. A declaration of emergency has been issued by the Governor of the State of Washington, or finding made by the local (government) Incident Response Commander or other authorized local official(s) that emergency conditions have so damaged or compromised existing water supplies and/or related facilities, as well as access to and use of emergency interties (if existing), that public health and safety are at risk, and thereby warrant the use of the emergency water source(s).
 - b. The Department of Ecology Northwest Regional Office is informed of the situation as soon as is practicable.
 - c. When the water supply emergency no longer exists, use of emergency water sources should be immediately terminated and the Department of Ecology and Department of Health so notified.
 - d. In the event of a water supply emergency continuing beyond a 90-day period, Swedish Health Services must obtain additional authorization from the Department of Ecology. Ecology will review and respond to such a request for additional authorization in a timely manner.
 - e. Use of the well (or wells) under such conditions does not relieve the Swedish Health Services of its regulatory obligations under the Washington State Department of Health and other agencies governing public water supplies.
 - f. Emergency water usage under this section does not extend to water shortages caused by drought conditions, or to emergency conditions that may be effectively relieved through use of emergency water interties.
 - g. Nothing in this section is intended to restrict access to water sources in emergency situations where loss of life or property is imminent.

16. All expenses, risks, and liabilities incurred during well testing shall be borne by the applicant. If senior water right holders, including surface water bodies and wells exempt from permitting under RCW 90.44.050, are adversely affected during any portion of the aquifer test, the test shall be immediately terminated.

This PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION grants the right to use the well (or wells) for drilling and testing purposes. Any other water use from the subject well(s), except under the conditions specified above, is prohibited until such time as specific approval has been granted through issuance of a water right permit. Approval of a water right permit will not be considered until such time as the above conditions have been met.

The granting of this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION shall not be construed, by inference or otherwise, that subject application will ultimately be approved. **If the applicant fails to comply with the terms of this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION, it, and the associated water right application, shall be canceled.**

You have a right to appeal this action to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this document. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do the following within 30 days of the date of receipt of this document:

- File your appeal and a copy of this document with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this document on Ecology in paper form - by mail or in person. (See addresses below.) Email is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk P.O. Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board Environmental Hearings Office 1111 Israel Road SW, Suite 301 Tumwater, WA 98501	Pollution Control Hearings Board P.O. Box 40903 Olympia, WA 98504-0903

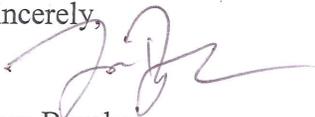
For additional information visit the Environmental Hearings Office
Website: <http://www.eho.wa.gov>

Swedish Medical Center – First Hill Campus
Preliminary Permit for G1-28826
Page 7

*To find laws and agency rules visit the Washington State Legislature Website:
<http://www1.leg.wa.gov/CodeReviser>*

Should you have any questions regarding this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION please contact Doug Wood at (425) 649-7077.

Sincerely,



Tom Buroker
Section Supervisor
Water Resources

Enclosures: WRIS Information Bulletin 30
Groundwater Bulletin No. 1

By Certified Mail: 9171 9690 0935 0136 9560 87

I certify that I mailed this PRELIMINARY PERMIT and TEMPORARY AUTHORIZATION or an identical copy thereof, postage prepaid, to the addressee this 6th day of October 2016. Michelle [Signature] (Signature)