

June 14, 2005
Kleinfelder Project No: 50431

Mr. Bill Dunning
PACLAND
606 Columbia Street N.W., Suite 106
Olympia, WA 98501

**SUBJECT: Groundwater Elevations and Gradient
Proposed Commercial Site
East of Littlerock Road S.W.
Tumwater, Washington**

Dear Mr. Dunning:

During February 2005, Kleinfelder installed five shallow groundwater monitoring wells at the above-referenced site to assess background water quality and to periodically assess shallow groundwater depths and gradient flow information. It is our understanding that an individual currently residing within the "Glenwood" subdivision, located approximately 0.5 mile southwest of the property, has inquired as to the potential for the development of this property to impact drinking water wells located within the Glenwood subdivision. We also understand that you would like some information regarding the approximate separation between shallow groundwater depth and the bottom of the proposed stormwater infiltration facilities to be constructed at the site.

Below we have addressed these two issues and have also enclosed a table summarizing shallow groundwater depth measurements obtained from the on-site monitoring wells during March, April, and June 2005. Additionally, we have also attached figures displaying groundwater depth elevations and gradient information obtained during the March, April, and June monitoring events. Groundwater depth elevations and gradient information obtained during the March 2005 sampling event was included in our March 16, 2005 Supplemental Environmental Investigation report previously submitted to PACLAND.

Information concerning the depths of the proposed stormwater infiltration facilities was obtained from the December 7, 2004 Grading and Drainage plans submitted to us by PACLAND (see attached).

Groundwater Gradient

Groundwater elevation measurements obtained during March, April, and June 2005 (see attached Figures) indicate that shallow groundwater at the site generally flows in a northeasterly direction. The groundwater gradient is quite flat and varies from approximately 0.0035 to 0.0055 feet per foot. Based on our measurements, it appears that the Glenwood subdivision is located up-gradient to the site's direction of shallow groundwater flow.

Depth to Groundwater

Based upon groundwater depth measurements obtained at the site during March, April, and June 2005 (see Table 1 attached), depth to groundwater ranges between a high of 13.5 feet to a low of 22.9 feet below the ground surface. The corresponding groundwater elevations at the site range between 160.74 feet to 164.76 feet above mean sea level (MSL). According to PACLAND's December 7, 2004 Grading and Drainage plans, the proposed infiltration facilities to be constructed at the site will be excavated to depth elevations ranging between 169.5 and 170.0 feet MSL. Therefore, based upon PACLAND's Grading and Drainage plans, the approximate separation distance between the groundwater table located at the site and the bottom of the proposed infiltration facilities should range between approximately 4.7 and 9.3 feet.

We will continue to collect groundwater depth and gradient data over the next two fiscal quarters and will provide an updated report at that time.

LIMITATIONS

Information contained in this document is based on subsurface exploration to a depth of approximately 25 feet below the ground surface and the installation of 5 wells in the shallow water table aquifer, our initial groundwater data collected at the site, conversations with Mr. Bill Dunning of PACLAND, our experience with similar projects, and on our limited understanding of PACLAND's proposed design and construction plans for the site. This document was prepared for PACLAND and their development team and is not intended to be a detailed assessment of the groundwater conditions at the subject site.

Kleinfelder offers a range of investigative and engineering services to suit the needs of our clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help you understand and better manage your risks. Since such detailed services involve greater expense, we ask our clients to participate in identifying the level of service, which will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further.

Land use, site conditions (both on-site and off-site) and other factors will change over time. Since site activities and regulations beyond our control could change at any time after the completion of this report, our observations, findings and opinions can be considered valid only as of the date of the site visit. No warranty, either expressed or implied is made.

CLOSING

We appreciate this opportunity to provide our services to you. Should you require additional information or have any questions regarding this report, please feel free to contact us at (425) 562-4200, or John Mancini (Kleinfelder's Senior Client Service Manager to PACLAND) at (801) 261-3336.

Sincerely,

KLEINFELDER, INC.

Ted W. Sykes
Project Manager

Kevin G. Lakey, PE, LHG
Environmental Services Manager

Attachments: Table 1 – Depth to Water Measurements

Figure 1 – April 8, 2005 Groundwater Elevations and Gradient

Figure 2 – June 8, 2005 Groundwater Elevations and Gradient

Figure 3 – March 3 and March 10, 2005 Groundwater Elevations and Gradient

PACLAND's December 7, 2004 Grading and Drainage Plans