



Associated Earth Sciences, Inc.



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1 OF 3

February 10, 2005
Project No. KE03047A

Mr. Coson
c/o Mike Dy
12246 59th Avenue South
Seattle, Washington 98178

Subject: Comment Response
Coson Residence
7709 West Mercer Way
Mercer Island, Washington

City of Mercer Island Permit Application No. 0203-066

Dear Mr. Coson:

As requested, Associated Earth Sciences, Inc. (AESI) has prepared this comment response letter to address issues raised by the City of Mercer Island in a letter dated January 28, 2005. Listed below are the responses to the geotechnical-related correction items. The numbering of the listed items corresponds to the number sequence in the January 28, 2005 letter.

Item #1

Per our conversations with Mr. Alan Foltz of Waterfront Construction, Inc. and the owner's representative Mr. Mike Dy, the deck will not be built (due to cost issues) and is not part of this revision.

Item #2

AMEC Earth & Environmental, Inc. (AMEC) completed a slope stability assessment and segmental block wall design report for this site dated January 14, 2002. The report was prepared in response to a slide that occurred on the western (rear) side of the existing home. It was reported that the slide occurred in the spring of 2001 as the result of a broken water line. The January 2002 report states that the owner wanted a terraced backyard and thus, the AMEC report focus was on a tiered wall system.

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AMEC completed slope stability analyses that evaluated the site under the current conditions (post-slide without any repair work) and under the proposed conditions (a three-wall terraced backyard). Table 2 on page 9 of the AMEC report provides a summary of the safety factors associated with static conditions. As summarized in this table, there would be no improvement to the static factor of safety with the proposed walls (1.17 factor of safety). The AMEC report states that the factor of safety under seismic conditions is less than 1.0 in all analyzed scenarios (indicating incipient failure). Further, the AMEC report states (page 8) that "while a higher static and seismic factor of safety would be desirable, the construction cost to achieve this is very high in relation to the value of the property and the end use of the backyard area."

The concrete facing units for the tiered walls proposed by AMEC were to be supported on a pipe-pile-supported grade beam. This is generally not considered advisable due to the potential differential settlement between the concrete facing units and the geogrid-reinforced soil mass. The reinforced soil mass is an integral part of the wall system. Differential settlement between the two elements (soil reinforcement and concrete facing) could result in a wall that does not perform as intended.

Multiple walls on a site do not increase the stability over that achieved by a single wall. In fact, it is generally recommended that tiered systems be avoided due to surcharge loading effects.

Similar to the walls proposed by AMEC, the Geoweb® wall proposed by AESI (letter dated June 23, 2003) and constructed by Waterfront Construction in the spring of 2004 is not designed to significantly improve the global stability of the property. The Geoweb® wall will stabilize the landscape area and help to prevent additional erosion and sediment transport from the yard into Lake Washington. This Geoweb® wall should provide the same level of site stability as the tiered system proposed by AMEC.

Since the work was permitted based on AMEC's January 14, 2002 report and AESI's recommended Geoweb® wall would provide a similar factor of safety for slope stability, it is our opinion that the revision to the permit using the Geoweb® system is not materially different from the originally permitted wall.

Item #3

The re-landscaping in the rear (west) side of the property was completed to mediate a slide that occurred as the result of a broken water line. The remediation work has been designed so that the risk to the lot and adjacent properties has been mitigated. The Geoweb® wall was not designed or intended to stabilize the hillside or provide global stability for the home on the property. The Geoweb® wall was constructed to remediate the landscape area and prevent further erosion and sediment transport into Lake Washington.

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Item #4

The site has been re-landscaped by the Highridge Corporation including erosion control netting, bark mulch, and ground cover plantings. The site is ready for final inspection.

Item #5

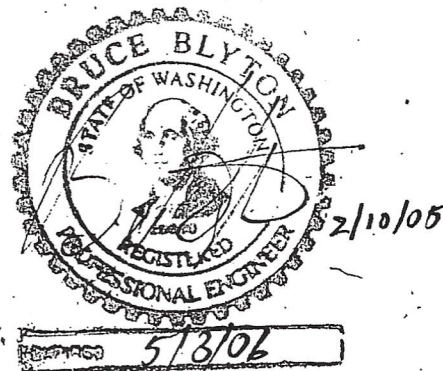
A copy of the sewer easement is attached. To our knowledge, the sewer line was approximately located on the original permit drawings by AMEC in the vicinity below (west of) the Geoweb® wall. While the original permitted AMEC wall was shown located over the sewer line (with pipe piling driven immediately next to the line) the Geoweb® wall is located farther east away from this location. The Geoweb® wall replaced the timber wall that was destroyed by the slide and does not encroach closer to the sewer line.

Item #6

The tieback rods installed for the Geoweb® wall were galvanized per Sheet 1 prepared by AESI. As noted on the plans, the timber wall was constructed as a facing for the Geoweb® wall. It is not a structural element. The anchor rods were installed solely to provide lateral support for the non-structural timber veneer. The Geoweb® wall is a stable, gravity wall that is not relying upon the timber wall or the anchor rods.

If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



Melissa A. Magnuson, P.E.,
Project Engineer

Bruce L. Blyton, P.E.,
Principal Engineer

Attachment: Sewer Easement Agreement

cc: Alan Foltz, Waterfront Construction, Inc., 205 NE Northlake Way, Ste 230, Seattle, WA 98105

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