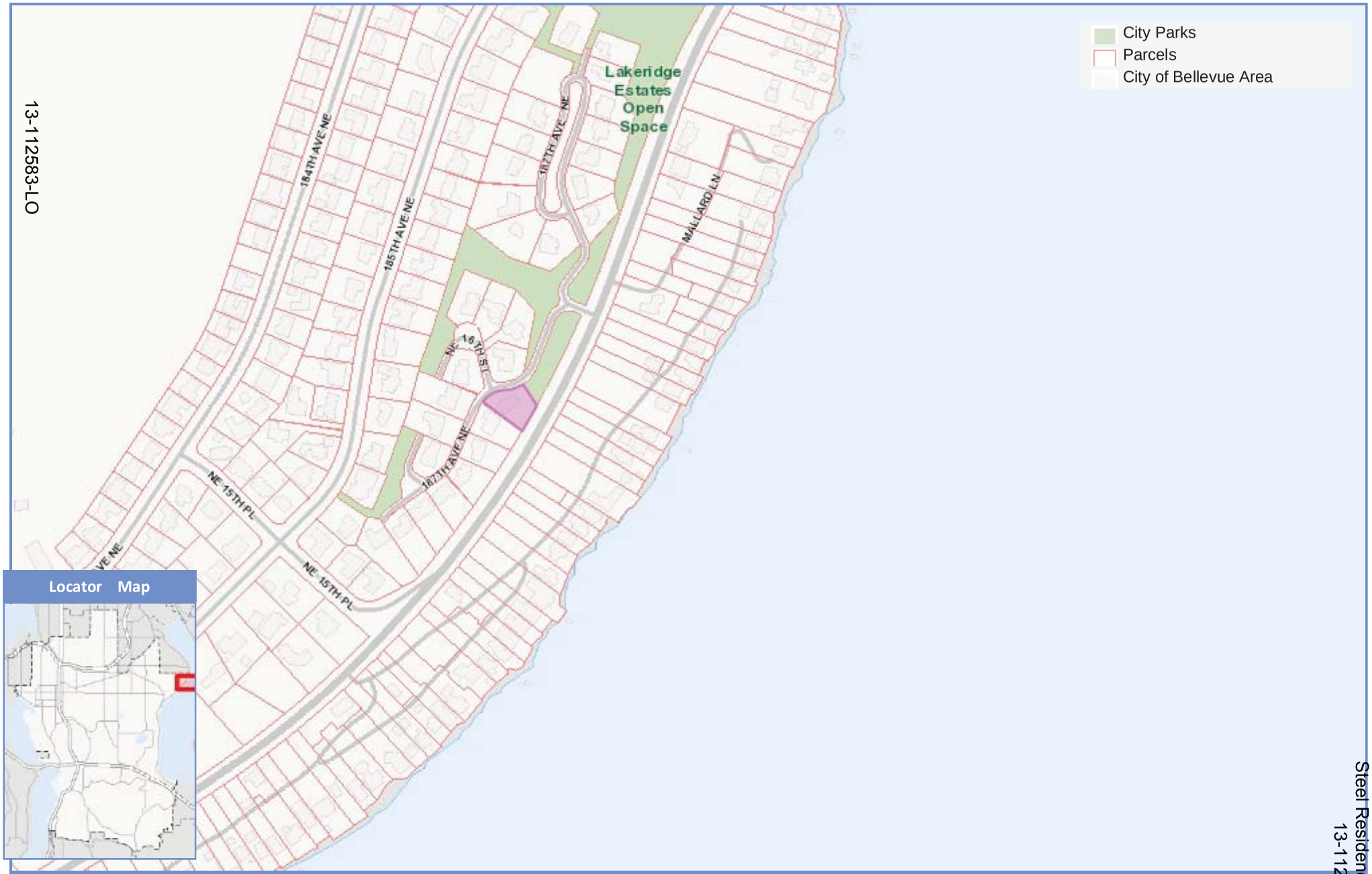
13-112583-LO



13-112583-LO Steel

0 383 766

Scale 1: 4,598 Feet

Steel Residence Deck
13-112583-LO

Map Generated on: 05/01/2013

The City of Bellevue does not guarantee that the information on this map is accurate or complete. This data is provided on an "as is" basis and disclaims all warranties.

GEO Group Northwest, Inc.
Geotechnical Engineers, Geologists
& Environmental Scientists

March 25, 2013 G-2571

Mr. Darrin Mock
H Macke Construction, LLC
21100 – 88th Place W.
Edmonds, Washington 98026

Subject: Geotechnical Engineering Study Report Addendum
1432 – 187th Avenue NE, Bellevue, Washington

Dear Mr. Mock:

GEO Group Northwest, Inc., has completed an update of its previous geotechnical engineering study report for the above-subject property in Bellevue, Washington. This addendum letter presents the results from a new site reconnaissance, review of a recent topographic survey of the property, and review of construction plans for a proposed wood deck at the property.

SITE RECONNAISSANCE

On August 12, 2010, Mr. Keith Johnson, Project Geologist from our firm, performed a reconnaissance of the site to update our knowledge of the site conditions. We observed that the soil conditions on the site were essentially similar to those that were present during our 2006 geotechnical engineering study. The concrete pads from the former wood deck that was located along the southern part of the east side of the house are still present. A small wood deck (about 4 feet by 10 feet in size) is still present along the north end of the east side of the house. The layout of the primary features on the site is illustrated in Plate 1 – Site Plan.

A steep east-facing slope about 50 feet in height is located on the eastern part of the site to the east of the existing house. The slope has an overall inclination of approximately 75 to 80 percent grade based on the elevation data provided on the site plan. Visually, however, the slope appears

13240 NE 20th Street, Suite 10 • Bellevue, Washington 98005
Phone 425/649-8757 • Fax 425/649-8758

to be relatively less steep on its upper to middle portion (which is on the site property), and appears relatively more steep on its lower portion (in the public right-of-way).

The top of the slope exhibits a visually distinct break in slope and is coincident with the edge of the rear yard. The distance between the house and the top of the steep slope ranges from approximately 27 feet at the south end of the house to approximately 4 feet at the north end (as measured from the northeast corner of the house foundation). We observed no cracks or other signs of distress to the concrete perimeter foundation of the house on its east or north sides.

We observed no visual evidence of landslides or other slope failures on the steep slope to the west of the building during our reconnaissance. No water seepage or vegetation typically associated with seepage areas was observed on the slope or along its base.

REVIEW OF CONSTRUCTION PLANS FOR NEW DECK

We reviewed the site plan and construction plans for the proposed deck to be built on the east side of the house. We understand the deck will have a southern part that has dimensions of 10 feet by 27 feet, and a northern part that will have dimensions of 4 feet by 27 feet. The existing deck at the northeast corner of the house will be replaced by the new deck. A set of stairs will be located alongside the deck for access to the yard. These features are illustrated in Plate 1 – Site Plan.

The northern edge of the proposed deck will be as little as a few feet from the top of the steep slope, similar to the existing deck. The distance between the deck and the top of the slope however, will gradually increase toward the south. The deck also will not encroach onto the sewer easement that runs near the top of the slope.

CONCLUSIONS

In our opinion, the steep slope on the site is stable in its existing condition, because it consists of dense glacial till and shows no indication of past movement. This slope has a low potential for instability provided that it is not substantially altered by grading or is permanently exposed by removal of the vegetation cover.

In our previous geotechnical engineering report, we had recommended that foundations for a proposed new residence could consist of conventional shallow footings, except within 10 feet of the top of the slope, where we recommended the use of small-diameter pipe piles. For the proposed new deck addition to the existing house, however, it is our opinion that the proposed deck can be located as proposed near the top of the steep slope, provided that the columns are supported on conventional spread footings constructed directly on undisturbed dense native glacial till soils. Our conclusion is based on the presence of stable site conditions, the presence of dense glacial till soils near the ground surface, the absence of visible indications of past settlement of the nearby house foundation, and the proposed construction being a wood deck rather than an addition of interior living space to the existing house. It is our opinion that construction of the proposed deck with this type of support will not result in increased risk to the stability of the site, including the steep slope area, or to the stability of the existing house.

RECOMMENDATIONS

Conventional Concrete Footings

The deck can be supported on conventional column footings that are constructed directly on undisturbed dense native glacial till soils. The prepared footing subgrade can be assigned an allowable bearing capacity of 2,000 pounds per square foot. We recommend that the column footings have a minimum lateral dimension of 18 inches and have a minimum depth of 18 inches below adjacent pre-existing grade. Estimated post-construction settlement for these footings is ¼ - inch or less. Lateral forces can be resisted by using lateral bracing for the deck support posts, or by connecting the deck to the frame of the house, or both.

Earthwork

To maintain the existing stable conditions on the property, we recommend that grading or clearing work for the deck be kept to the minimum amount necessary; we anticipate that essentially no grading work should be required other than shallow digging for the concrete footings and for the concrete landing at the bottom of the stairs. No grading or clearing should be performed within the steep slope area. Soils that are disturbed during construction should be re-stabilized at the end of the project to prevent subsequent erosion or instability to the slope.

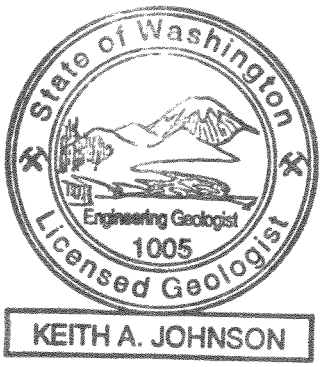
CLOSING

Please contact us if you have any questions regarding this letter.

Sincerely,

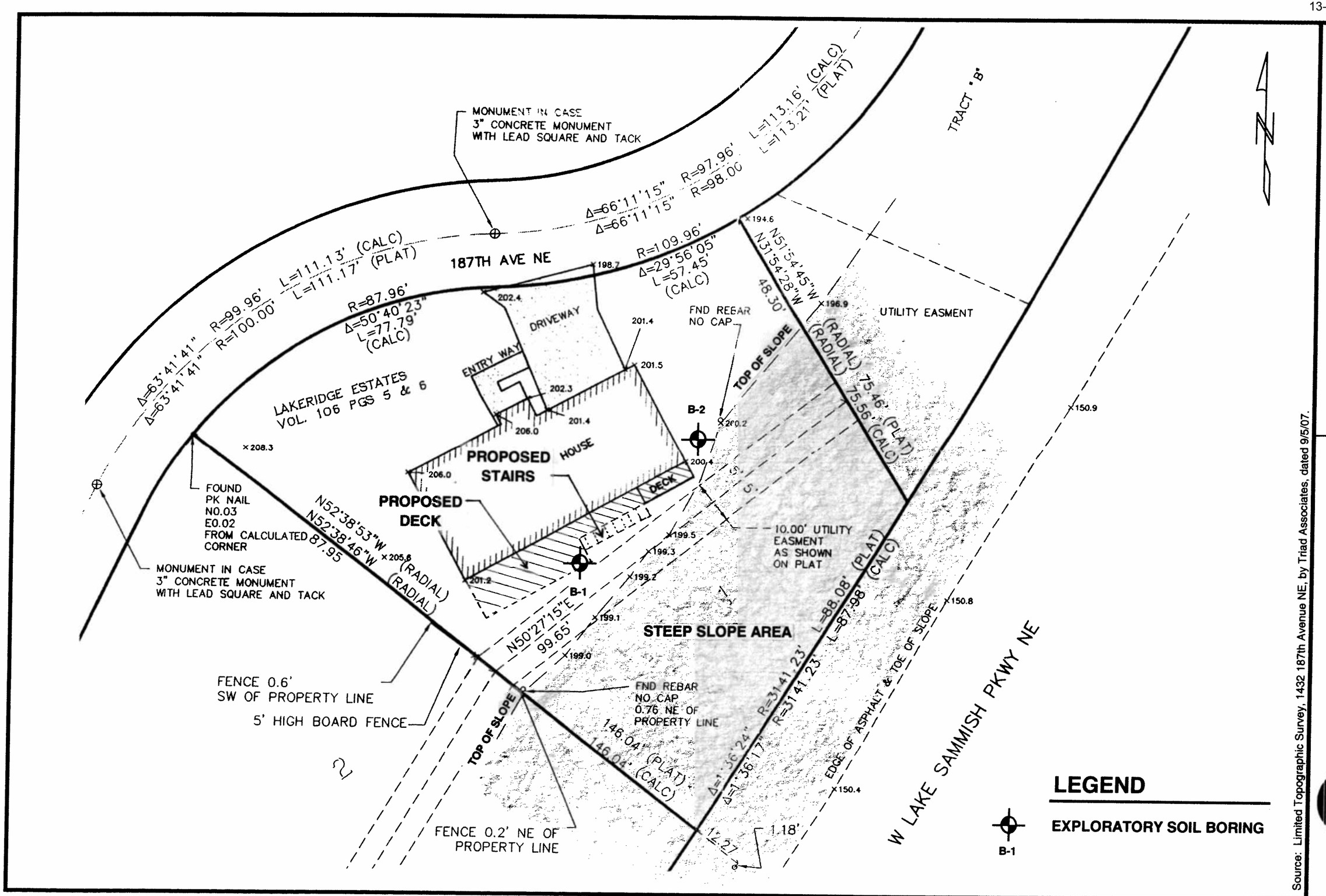
GEO GROUP NORTHWEST, INC.

Keith Johnson
Project Geologist



William Chang, P.E.
Principal Engineer

Enclosure: Plate 1 – Site Plan



Source: Limited Topographic Survey, 1432 187th Avenue NE, by Triad Associates, dated 9/5/07.

SITE PLAN

STEEL RESIDENCE
1432 - 187TH AVENUE NE
BELLEVUE, WASHINGTON

GEO Group Northwest, Inc.
Geotechnical Engineers, Geologists, & Environmental Scientists

SCALE	DRAWN BY	CHECKED BY	DATE	PROJECT NO.	PLATE
1" = 20'	KJ	WC	3/19/2013	G-2571	1