

RMI ASSOCIATES LLC

Geotechnical Consultants

824 E. Utsalady Road
Camano Island, WA 98282
Vox: (360) 629-4711
Fax: (360) 629-9056

April 26, 2010

Innis Arden Club, Inc.
C/o Dr. Rick Leary
Reserves Chair
P.O. Box 60038
Richmond Beach, WA 98160

Geotechnical Review Letter
Tree Removal
Blue Heron Reserve H
Shoreline, Washington
RMI File No. 2702G

Dear Dr. Leary:

Reserve H surrounds 1423 NW 186th St. to the east and south. We met with you and Mr. Fosmire on February 4, 2010 to review the locations of some trees on the Reserve which you wish to remove. We agreed that additional surveying of contours was needed but took some measurements of slopes at some of the locations of the trees to determine if there were any geotechnical problems with the slopes on which they grow.

The City of Shoreline classifies a tree as “significant” if it is equal to or greater than 8” at breast height (for a conifer) or equal to or greater than 12” (for a deciduous tree). The Shoreline Municipal Code states as follows:

20.80.030 Exemptions

F. Activities occurring in areas which may be considered small steep slopes (areas of 40 percent slope or greater with a vertical elevation change up to, but not greater than 20 feet), such as berms, retaining walls, excavations, excavations and small natural slopes,

and activities on steep slopes created through prior legal grading activity may be exempted based on City review of a soils report prepared by a qualified geologist or geotechnical engineer which demonstrates that no adverse impact will result from the exemption;

James C. Yount et al of the U.S. Geological Survey mapped advance outwash deposits at this location in 1993 in the Geological Map of Surficial Deposits in the Seattle 30' by 60' Quadrangle, Washington. These are deposits laid down by streams flowing from the Vashon Glacier as it advanced. They were subsequently over-ridden by the glacier and are very dense.

A table is attached with notes regarding the trees which the Club wishes to remove as they are blocking views. Although a number of these trees are “significant” with respect to the City’s criteria for thickness at breast height and although a number are on slopes of greater than 40% none are on slopes greater than 20 feet. They all qualify for removal under the Exemptions in the Municipal Code based on measurements and calculations.

Removal of the trees can be accomplished without harm to slope stability or erosion provided they are done as described below.

Recommendations:

- Trees will be removed by hand after they are cut. No heavy machinery will be allowed on sloping portions of the Reserve.
- Cut sections greater than 3” in diameter and 3’ in length will be removed. Wood chips generated from the cutting will be spread to cover any slope areas disturbed during tree removal to provide erosion protection for the exposed soil until native vegetation or replanting is established.
- Replacement trees will be planted per City Code. The Department of Ecology’s web site is a source of information on species suitable for slopes that will not grow into protected view sheds.

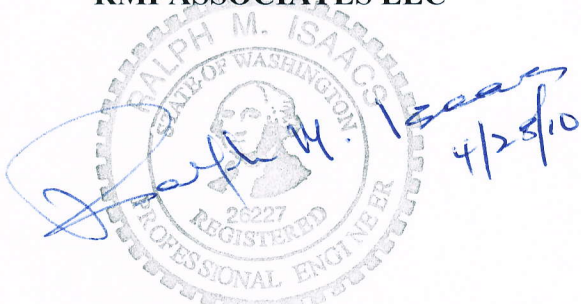
Use of This Report

This report is the property of **RMI ASSOCIATES LLC** and was prepared for the Innis Arden Club, Inc. and their agents. Copies of this letter should be provided to your contractors for use on this project.

We appreciate the opportunity to be of service to you. If there are any questions concerning this letter or if we can provide additional services, please call.

Sincerely,

RMI ASSOCIATES LLC



Ralph M. Isaacs, Ph. D., PE

Principal

Attachment: Table

Reserve H

Tree #	Type	Approx. Diam	Slope by meas	Slope from sur	Height of slope
			%	%	(feet)
7342	madrone	18"			14
7359	fir	14"			3.5
7358	fir	8"			2.5
7355	fir	16"			5
7352	maple	14"			3
7344	cottonwood	14"			11
7353	maple	10"			4
7351	alder	8"			1
7409	fir	16"			2
7413	maple- twin	6"			2
7410	maple- twin	6"			4
7411	maple- twin	8"			3
7421	alder	10"			1.5
7422	alder	8"			1.5
7368	alder	12"			2
7367	alder	12"			1.5
7369	alder- twin	10"			1.5
7415	alder	12"			4
7416	alder- twin	14"			3
7366	cherry	10"			1.5
7362	alder	12"			9
7365	cherry	6"			1.5

7363 alder-group of 3	8"		46	6
7364 alder	14"		43	1.5
7429 willow(group of 8)	8"		100	2
7431 willow (twin)	10"		50	2.5
7430 willow- twin	12"		50	1.5
7360 fir	18"		71	15
7361 alder	14"		65	11
7335 willow- group of 6	10"		70	7
7475 fir	34"	27	36	8
7294 madrone- twin	10'		100	2
7295 hemlock	14"	55	55	2
7296 madrone	14"		22	1
7297 madrone	8"		25	2
7298 maple	8"		50	1
7299 maple- twin	8"		11	2
7300 madrone	10"		13	2
7301 maple	14"	16	16	5
7302 maple	10"		7	2
7303 fir	16"	16	16	5
7304 fir	14"	16	16	5
7305 fir	14"	16	16	6
7306 fir	16"	16	16	5
7307 fir	10"	16	16	8
7308 fir- twin	18"/12"	16	16	8
7309 fir	10"	16	16	9

7370 cherry	6"	10	2
7414 maple- twin	8"	26	2
7417 alder	10"	10	2
7418 cherry	8"	10	2
7343 cedar	6"	63	10
7345 madrone	10"	44	12
7352 fir	8"	53	4
7354 maple- twin	8"	80	4
7356 madrone	12"	55	6