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ATTACHMENT 4
PSB07-00001

TREE PLAN III
AT

CEDAR PARK
11215 NE 132ND STREET
KIRKLAND, WA 98034

May 3, 2007

PREPARED FOR:

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ASSIGNMENT

Brain Darrow, Principal with The Blue Line Group, contracted with Gilles Consulting to evaluate the trees at 11215 NE 132nd Street in Kirkland, Washington. The property is being considered for development and the City of Kirkland requires this Tree Plan III as part of the permit review process.

EXECUTIVE SUMMARY

- 144 Trees were evaluated:
  - 20 trees are presumed to be off the property:
  - There are 13 trees east of the east property line.
    - They are #'s 508, 509, 513, 514, 516, 518, 520, 523, 525, 527, 543, 544, and 548.
  - There are 2 trees south of the south property line.
    - They are #'s 587 and 588.
  - There are 5 trees west of the west property line.
    - They are #'s 637, 638, 639, 640, & 641.
  - 8 trees are in the proposed rights-of-way for NE 132nd Street and 112th Avenue NE:
  - They are #'s 501, 502, 503, 504, 505, 506, 507, & 677.
  - 116 trees were evaluated on the subject property:
  - **Significance:**
    - 93 trees on the subject property are > than 6" DBH and *Significant.*
    - 23 trees on the subject property are < than 6" DBH and are *Non-Significant.*
  - **Viability:**
    - 35 trees are *Non-Viable* due to poor health, poor structure, lack of wind firmness, or a combination of these factors.
    - 81 trees have the health, structure, and wind firmness to withstand the stresses of construction if site development requirements allow.
  - **Tree Credits:**
    - The 81 trees on the subject property that are both *Viable and Significant* plus the 22 *Non-Significant* but *Viable* trees total 267 Tree Credits

METHODOLOGY

To evaluate the trees and to prepare the report, I drew upon my 25+ years of experience in the field of arboriculture and my formal education in natural resources management, dendrology, forest ecology, plant identification, and plant physiology. I also followed the protocol of the International Society of Arboriculture (ISA) for Visual Tree Assessment (VTA) that includes looking at the overall health of the trees as well as the site

conditions. This is a scientifically based process to look at the entire site, surrounding land and soil, as well as a complete look at the trees themselves.

In examining each tree, I looked at such factors as: size, vigor, canopy and foliage condition, density of needles, injury, insect activity, root damage and root collar health, crown health, evidence of disease-causing bacteria, fungi or virus, dead wood and hanging limbs. While no one can predict with absolute certainty which trees will or will not fail, we can, by using this scientific process, assess which trees are most likely to fail and take appropriate action to minimize injury and damage.

Tree Tags

The trees were tagged and numbered 501 through 644. The tags are made of shiny aluminum approximately one inch by three inches in size and are attached to the tree with staples and a one foot strip of brightly colored survey tape. The tags were placed as high as possible to minimize their removal and were generally placed on the backsides of the trees as inconspicuously as possible. Please refer to *Attachment 1, Site Plan* for an orientation to the site and the approximate location of the trees.

Missing Trees

If one or more trees were not included on the survey, they were labeled with the next number in the sequence and then indicated their approximate location on the included site plan. However, these trees will need to be surveyed to determine their exact location in relation to site improvements and their retainability.

OBSERVATIONS

The subject property is located in Kirkland, Washington on NE 132nd Street just west of Interstate 405. The property is essentially flat and currently occupied by a church and school building, a house, a trailer, some out buildings, a driveway, and parking lot. The trees are primarily located in groups:

- A row along the east and west property lines
- An old fruit orchard in the northwest corner of the property,
- A row of Fir in proposed lots 10 and 12, and,
- A group of trees in proposed lot 11.

In an effort to present the information and conclusions for each tree in a manner that is clear and easy to understand, I have included a detailed spreadsheet, *Attachment 2, Tree Inventory/Condition Spreadsheet*. The descriptions on the spreadsheet were left brief in order to include as much pertinent information as possible and to make the report manageable. A detailed description of the terms used in the spreadsheet and in this report can be found in *Attachment 3, Glossary*. A brief review of these terms and descriptions will enable the reader to rapidly move through the spreadsheet and better understand the information.

Additional Testing
Since the evaluation of the trees was obvious and straight forward, no additional testing was performed at this time.

DISCUSSION
In total, 144 trees were evaluated.

Trees on Adjacent Properties
There are 20 trees off the subject property with canopies that over hang the subject property. They can be adequately protected with tree protection fencing as noted in the tree protection measures section below. They will likely not suffer and long-term negative impact from development on the subject property. The off property trees include:

- Trees east of the east property line:
  - #'s 508, 509, 513, 514, 516, 518, 520, 523, 525, 529, 543, 544, 548.
- Trees south of the south property line:
  - #'s 587 & 588.
- Trees west of the west property line:
  - #'s 637, 638, 639, 640, and 641.

Trees on Proposed Rights-of-Way
There are 8 trees currently on the subject property that will be lost to road construction:

- Trees # 501, 502, 503, 504, 505, 506, 507, and 644 are currently located on the subject property. However, they is located on property that is proposed to be dedicated to the City and developed as public rights-of-way where NE 132nd Street is proposed for expansion and where the proposed 112th Avenue NE is to be built.
  - If the property is developed as proposed these trees will need to be removed for the roadway.

Trees on the Subject Property
The remaining 116 trees are on the subject property. The majority of the trees near the east and west property lines have the potential to be retained. However, the trees along the east property line have been severely pruned for overhead utility lines. Although many of these trees were given a current health rating of fair, they may not be good candidates for retention. They do not appear to have long-term energy stores that will sustain them through the stresses of construction. It may be worth removal and replacement of these trees with species appropriate to be located underneath over head power lines.

The straight row of trees, #'s 562 to 572, are located near the edge of the pan-handle access tracts for lots 10 and 11 at the end of the 112th Avenue NE cul-de-sac. Their exact

location in relation to the driveways and the amount of construction required to meet City access standards will determine if any or all of this row of trees can be retained.

There are two groups of trees in proposed lot 11:

- #'s 573 to 582 appear to be right in the potential building envelope. It may be very difficult to retain these depending upon the size and layout of the proposed house.
- #'s 583 to 586 are in the southwest corner of proposed lot 11. These have a higher potential to be retained.

529: Near the east property line in proposed lots 20 and 21 is a row of 9 old apple trees. They are in severe decline and are senescent. They have such advanced rot and are in such poor condition that we did not include them in the report other than with a group number and note that they are not worthy of retention.

Trees #'s 606 to 620 and #'s 624 to 630 are two groups of young Giant Sequoia trees planted in a row approximately 5 feet east of the west property line. They are all healthy and viable. They average in size from 5 to 13 feet tall with 7 to 10 feet being the average. Their diameters range from 3 to 6 inches in diameter at four inches above the ground level. They are all worthy of retention and represent a great value to the property and will rapidly fill in to provide screening to and from the adjacent properties to the west. They have each been given a tree credit rating of 0.5 for each tree.

Minimum Tree Density Calculations

The City of Kirkland's Tree Code now requires that each lot have a minimum density of at least 30 tree credits per acre. The density may consist of existing trees, supplemental trees or a combination of existing and supplemental trees. The tree credits are calculated, as indicated below, by dividing the size of the individual lot by the square footage in an acre and multiplying by 30: lot area in square feet / 43,560 square feet x 30 (rounded to the nearest whole #) = the number of tree credits required for each lot.

In this case the property is approximately 317.41 feet wide by 628.94 for an approximate area of 199,631.85 square feet. Therefore:

173,413 / 43,560 x 30 = 119.4 or 120 minimum tree credits

The 81 trees on the subject property that are both *Viable and Significant* plus the 22 *Non-Significant* but *Viable* trees total 267 Tree Credits.

Please refer to Chapter 95, Tree Management and Required Landscaping, Section 95.35.5 and Table 95.35.1 of the Kirkland Municipal Code to see how tree credits are assigned and for more information.

Tree Protection Measures

In order for trees to survive the stresses placed upon them in the construction process, tree protection must be planned in advance of equipment arrival on site. If tree protection is not planned integral with the design and layout of the project, the trees will suffer needlessly and possibly die. With proper preparation, often costing little or nothing extra to the project budget, trees can survive and thrive after construction. This is critical for tree survival because damage prevention is the single most effective treatment for trees on construction sites. Once trees are damaged, the treatment options available are limited.

The minimum Tree Protection Measures in *Attachment 4, Tree Protection Measures* are on three separate sheets that can be copied and introduced into all relevant documents such as site plans, permit applications and conditions of approval, and bid documents so that everyone involved is aware of the requirements. These Tree Protection Measures are intended to be generic in nature. They will need to be adjusted to the specific circumstances of your site that takes into account the location of improvements and the locations of the trees.

WAIVER OF LIABILITY

There are many conditions affecting a tree's health and stability, which may be present and cannot be ascertained, such as, root rot, previous or unexposed construction damage, internal cracks, stem rot and more which may be hidden. Changes in circumstances and conditions can also cause a rapid deterioration of a tree's health and stability. Adverse weather conditions can dramatically affect the health and safety of a tree in a very short amount of time. While I have used every reasonable means to examine these trees, this evaluation represents my opinion of the tree health at this point in time. These findings do not guarantee future safety nor are they predictions of future events.

The tree evaluation consists of an external visual inspection of an individual tree's root flare, trunk, and canopy from the ground only unless otherwise specified. The inspection may also consist of taking trunk or root soundings for sound comparisons to aid the evaluator in determining the possible extent of decay within a tree. Soundings are only an aid to the evaluation process and do not replace the use of other more sophisticated diagnostic tools for determining the extent of decay within a tree.

As conditions change, it is the responsibility of the property owners to schedule additional site visits by the necessary professionals to ensure that the long-term success of the project is ensured. It is the responsibility of the property owner to obtain all required permits from city, county, state, or federal agencies. It is the responsibility of the property owner to comply with all applicable laws, regulations, and permit conditions. If there is a homeowners association, it is the responsibility of the property owner to comply with all Codes, Covenants, and Restrictions (CC&R's) that apply to tree pruning and tree removal.

This tree evaluation is to be used to inform and guide the client in the management of their trees. This in no way implies that the evaluator is responsible for performing recommended actions or using other methods or tools to further determine the extent of internal tree problems without written authorization from the client. Furthermore, the evaluator in no way holds that the opinions and recommendations are the only actions required to insure that the tree will not fail. A second opinion is recommended. The client shall hold the evaluator harmless for any and all injuries or damages incurred if the evaluator's recommendations are not followed or for acts of nature beyond the evaluator's reasonable expectations, such as severe winds, excessive rains, heavy snow loads, etc.

This report and all attachments, enclosures, and references, are confidential and are for the use of the client concerned. They may not be reproduced, used in any way, or disseminated in any form without the prior consent of the client concerned and Gilles Consulting.

Thank you for calling Gilles Consulting for your arboricultural needs.

Sincerely,

Brian K. Gilles, Consulting Arborist
ISA Certified Arborist # PN-0260
ASCA Registered Consulting Arborist # RCA-418A
PNW-ISA Certified Tree Risk Assessor #148

ATTACHMENTS

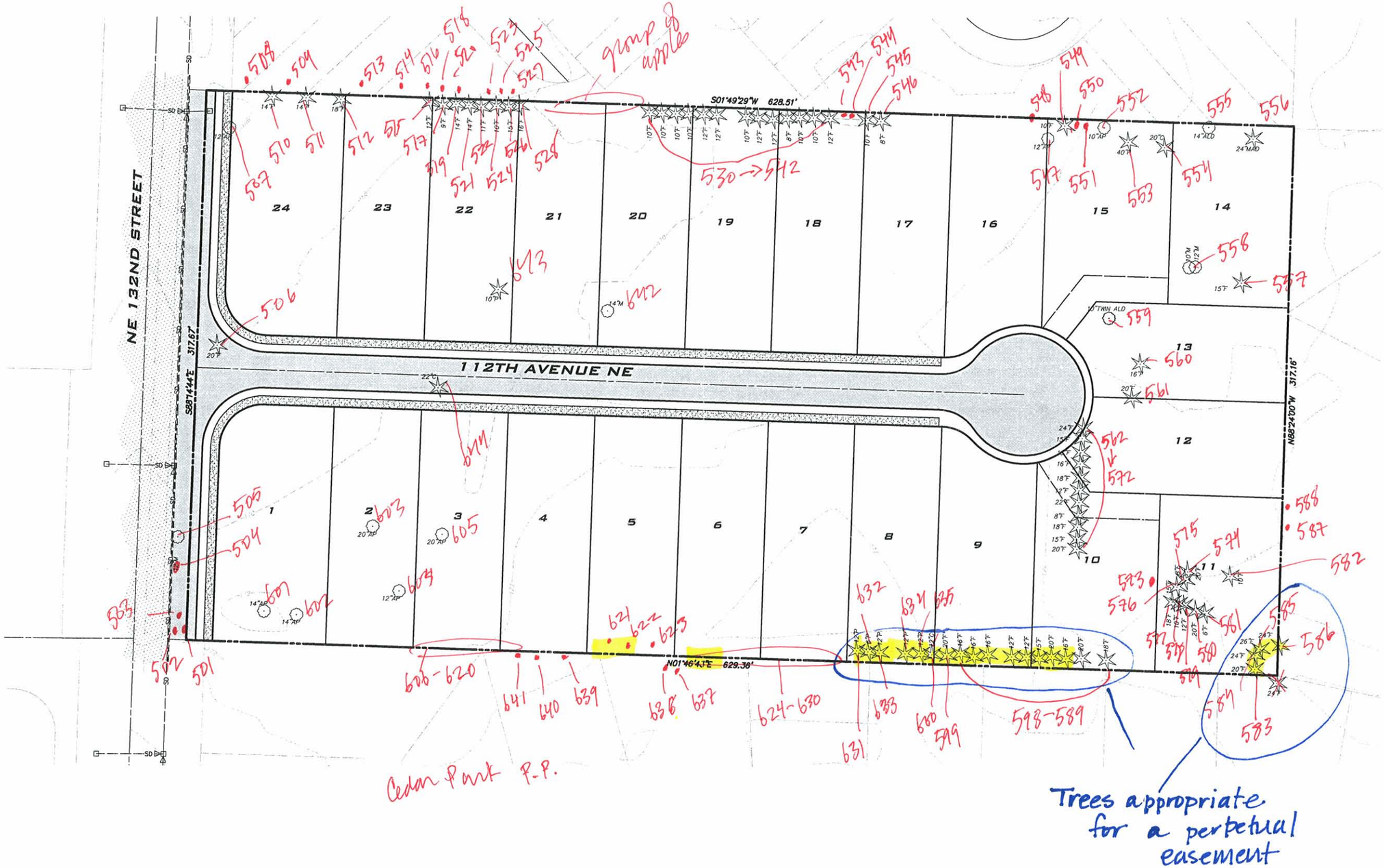
ATTACHMENT 1 - SITE PLAN

ATTACHMENT 2 - TREE INVENTORY/CONDITIONS SPREADSHEET

ATTACHMENT 3 - GLOSSARY

ATTACHMENT 4 - TREE PROTECTION MEASURES

ATTACHMENT 5 - REFERENCES


NORTH
NE 132ND STREET
112TH AVENUE NE
S01°49'29"W 628.51'
N01°46'41"E 629.38'
S88°14'44"E 317.67'
N88°24'00"W 317.16'
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
group of apples
530 → 512
Cedar Park P.P.
Trees appropriate for a perpetual easement