

## CHAPTER 54 – NRH BUSINESS DISTRICT (NRHBD) ZONES

## 54.02 User Guide.

The charts in KZC [54.06](#) contain the basic zoning regulations that apply in the NRHBD 1A zone of the City. Use these charts by reading down the left hand column entitled Use. Once you locate the use in which you are interested, read across to find the regulations that apply to that use.

## Section 54.04


**Section 54.04 – GENERAL REGULATIONS**

The following regulations apply to all uses in this zone unless otherwise noted:

1. Refer to Chapter [1](#) KZC to determine what other provisions of this code may apply to the subject property.
2. In cases where the height of a structure is specified in number of stories, the following applies:
  - a. Height measured at the midpoint of the frontage of the subject property on the abutting right-of-way. If the site abuts more than one right-of-way, the applicant may select the right-of-way from which to measure.
  - b. The following heights per story are allowed:
    - i. Ground floor retail; ground floor restaurant and tavern; ground floor entertainment/cultural and/or recreational facility shall be a minimum of 13 feet in height and a maximum of 15 feet.
    - ii. Office; private club or lodge; church; school; day-care center; public utility, government facility, or community facility; public park, ground floor hotel or motel; retail above the ground floor shall be a maximum of 13 feet.
    - iii. Residential; hotel or motel above the ground floor shall be a maximum of 10 feet.
  - c. To determine the allowed height of a structure, determine the number of stories allowed in the use zone charts and apply the allowed height per story specified in subsection (2)(b) of this section. For example, if three stories are allowed and the proposed use is ground floor retail with two stories of residential above, the allowed height would be 35 feet.
  - d. Height shall be measured above the point of measurement (e.g., above average building elevation, or above right-of-way) as specified in the particular use zone charts. For purposes of measuring building height above the abutting right (s)-of-way, alleys shall be excluded.
  - e. In addition to the height exceptions established by KZC [115.60](#), the following exceptions to height regulations in NRHBD zones are established:
    - i. Decorative parapets may exceed the height limit by a maximum of four feet; provided, that the average height of the parapet around the perimeter of the structure shall not exceed two feet.
    - ii. For structures with a peaked roof, the peak may extend eight feet above the height limit if the slope of the roof is equal or greater than four feet vertical to 12 feet horizontal.
3. The minimum required front yard is 10 feet, unless otherwise prescribed in the use zone chart. Ground floor canopies and similar entry features may encroach into the front yard; provided, the total horizontal dimension of such elements may not exceed 25 percent of the length of the structure. No parking may encroach into the required 10-foot front yard.
4. A pedestrian connection should be developed to link Slater Avenue NE with NE 116th Street.

[link to Section 54.06 table](#)

This page of the Kirkland Zoning Code is current through Ordinance 4238, passed March 2, 2010.

Disclaimer: The City Clerk's Office has the official version of the Kirkland Zoning Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: <http://www.ci.kirkland.wa.us/>  
City Telephone: (425) 587-3190  
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**DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS**

| Section 54.06 | USE<br>↓<br>REGULATIONS<br>↑                        | Required Review Process | MINIMUMS       |                              |                  |      | MAXIMUMS     |  | Landscape Category (See Ch. 95) | Sign Category (See Ch. 100) | Required Parking Spaces (See Ch. 105)  | Special Regulations (See also General Regulations)   |
|---------------|---|-------------------------|----------------|------------------------------|------------------|------|--------------|--|---------------------------------|-----------------------------|--|--|
|               |   |                         | Lot Size       | REQUIRED YARDS (See Ch. 115) |                  |      | Lot Coverage | Height of Structure                    |                                 |                             |  |  |
|               |   |                         |                | Front                        | Side             | Rear |              |  |                                 |                             |  |  |
| .010          | Office Use<br>See Spec. Regs. 1 and 2.              | D.R., Chapter 142 KZC.  | None           | 10'                          | 0'               | 0'   | 80%          | 2 stories above abutting right-of-way. | B                               | D                           | If a medical, dental, or veterinary office, then 1 per each 200 square feet of gross floor area. Otherwise, 1 per 300 square feet of gross floor area. | <ol style="list-style-type: none"> <li>Ancillary assembly and manufacture of goods on the premises of this use are permitted only if:                             <ol style="list-style-type: none"> <li>The assembled or manufactured goods are subordinate to and are dependent upon this use.</li> <li>The outward appearance and impacts of this use with ancillary assembly or manufacturing must be no different from other office uses.</li> </ol> </li> <li>The following regulations apply to veterinary offices only:                             <ol style="list-style-type: none"> <li>May only treat small animals on the subject property.</li> <li>Outside runs and other outside facilities for the animals are not permitted.</li> <li>Site must be designed so that noise from this use will not be audible off the subject property. A certification to this effect, signed by an Acoustical Engineer, must be submitted with the development permit application.</li> <li>A veterinary office is not permitted if the subject property contains dwelling units.</li> </ol> </li> </ol> |
| .020          | Vehicle Service Station<br>See Spec. Regs. 1 and 2. |                         | 22,500 sq. ft. | 40'                          | 15' on each side | 15'  |              |  | A                               | E                           | See KZC 105.25.  | <ol style="list-style-type: none"> <li>This use is permitted only if the subject property abuts NE 116th Street.</li> <li>May not be more than two vehicle service stations at an intersection.</li> <li>Gas pump islands must be setback at least 20 feet from all property lines. Canopies and covers over gas pump islands may not be closer than 10 feet to any property line. See KZC 115.105, Outdoor Use, Activity and Storage, for further regulations.</li> </ol>   |
| .030          | Restaurant or Tavern                                |                         | None           | 10'                          | 0'               | 0'   |              |  | B                               | D                           | 1 for each 100 sq. ft. of gross floor area.  | <ol style="list-style-type: none"> <li>Drive-in or drive-through facilities are prohibited.</li> </ol>   |
| .050          | Hotel or Motel                                      |                         |                |                              |                  |      |              | 4 stories above abutting right-of-way. |                                 |                             | 1 per each room. See Spec. Reg. 2.   | <ol style="list-style-type: none"> <li>May include ancillary meeting and convention facilities.</li> <li>Excludes parking requirements for ancillary meeting and convention facilities. Additional parking requirement for these ancillary uses shall be determined on a case-by-case basis.</li> </ol>  |

Section 54.06

Zone  
NRH1A

USE ZONE CHART

**DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS**

| Section 54.06 | USE<br>↓<br>REGULATIONS<br>↑   | Required Review Process | MINIMUMS |                              |      | MAXIMUMS |              | Landscape Category (See Ch. 95)        | Sign Category (See Ch. 100) | Required Parking Spaces (See Ch. 105) | Special Regulations (See also General Regulations)            |   |
|---------------|--|-------------------------|----------|------------------------------|------|----------|--------------|--|-----------------------------|---------------------------------------|---|---|
|               |  |                         | Lot Size | REQUIRED YARDS (See Ch. 115) |      |          | Lot Coverage |  |                             |                                       |   | Height of Structure   |
|               |  |                         |          | Front                        | Side | Rear     |              |  |                             |                                       |   |   |
| .060          | Any retail establishment, other than those specifically listed in this zone and prohibited by Spec. Reg. 1, selling goods and providing services including banking and other financial services. See Spec. Reg. 2. | D.R., Chapter 142 KZC.  | None     | 10'                          | 0'   | 0'       | 80%          | 2 stories above abutting right-of-way. | B                           | D                                     | 1 per each 300 square feet of gross floor area.               | 1. The following uses and activities are prohibited: <ol style="list-style-type: none"> <li>The sale, service, and/or rental of motor vehicles, sailboats, motor boats, and recreational trailers; provided, that motorcycle sales, service, or rental is permitted if conducted indoors.</li> <li>Retail establishments providing storage services unless accessory to another permitted use;</li> <li>Storage and operation of heavy equipment except normal delivery vehicles associated with retail uses.</li> <li>Outdoor storage of bulk commodities, except in the following circumstances:                             <ol style="list-style-type: none"> <li>If the square footage of the storage area is less than 20 percent of the retail structure; or</li> <li>If the commodities represent growing stock in connection with horticultural nurseries, whether the stock is in open ground, pots, or containers.</li> </ol> </li> </ol> 2. This use may not exceed 60,000 sq. ft. of gross floor area.   |
| .070          | Automotive Service Center See Spec. Regs. 1, 2, 3, 5 and 6.  |                         |          |                              |      |          |              |  | A                           |                                       | 1 per each 250 sq. ft. of gross floor area. See Spec. Reg. 4. | 1. This use specifically excludes new or used vehicle or boat sales or rentals, and any vehicle or boat body work.<br>2. This use may not exceed 60,000 sq. ft. of gross floor area.<br>3. No openings (i.e., doors, windows which open, etc.) shall be permitted in any facade of the building adjoining a residential use. Windows are permitted if they are triple-paned and unable to be opened.<br>4. Ten percent of the required parking spaces on-site must have a minimum dimension of 10 feet wide by 30 feet long for motor home/travel trailer use.<br>5. Storage of used parts and tires must be conducted entirely within an enclosed structure. See also KZC 115.105 for additional regulations.<br>6. Site must be designed so noise from this use adjoining to any residential use complies with the standards set forth in WAC 173-60-040(1) for a Class B source property and a Class A receiving property. A certification to this effect, stamped by an Acoustical Engineer, must be submitted with the development permit application. |
| .080          | Private Lodge or Club  |                         |          |                              |      |          |              |  | C                           |                                       | 1 per each 300 square feet of gross floor area.               |   |

(Revised 4/07)



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| Section 54.06 | USE<br>↓<br>REGULATIONS<br>↑                              | Required Review Process | MINIMUMS |   |                         | MAXIMUMS                |  | Landscape Category (See Ch. 95)                          | Sign Category (See Ch. 100) | Required Parking Spaces (See Ch. 105) | Special Regulations (See also General Regulations)   |   |
|---------------|---|-------------------------|----------|---|-------------------------|-------------------------|--|--|-----------------------------|---------------------------------------|--|---|
|               |   |                         | Lot Size | REQUIRED YARDS (See Ch. 115)                  |                         |                         | Lot Coverage                           |  |                             |                                       |  | Height of Structure   |
|               |   |                         |          | Front   | Side                    | Rear                    |  |  |                             |                                       |  |   |
| .090          | Stacked Dwelling Unit<br>See Spec. Regs. 1 and 2.         | D.R., Chapter 142 KZC.  | None     | Same as regulations for the ground floor use. |                         |                         | 5 stories above abutting right-of-way. | Same as regulations for the ground floor use.            | A                           | See KZC 105.25.                       | <ol style="list-style-type: none"> <li>This use may not be located on the ground floor of a structure.</li> <li>Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use.</li> </ol> |   |
| .100          | Church<br>See Spec. Reg. 1                                |                         |          | 10'   | 0'                      | 0'                      | 80%                                    | 30' above average building elevation.                    | C                           | B                                     | 1 for every four people based on maximum occupancy load of any area of worship. See Spec. Reg. 2.  | <ol style="list-style-type: none"> <li>May include accessory living facilities for staff persons.</li> <li>No parking is required for day-care or school ancillary to this use.</li> </ol>  |
| .110          | School or Day-Care Center<br>See Spec. Regs. 2, 5, and 7. |                         |          | 10'<br>See Spec. Reg. 3.                      | 0'<br>See Spec. Reg. 3. | 0'<br>See Spec. Reg. 3. |  | 2 stories above abutting right-of-way. See Spec. Reg. 1. | D                           |                                       | See KZC 105.25. See Spec. Regs. 4 and 6.   | <ol style="list-style-type: none"> <li>A six-foot-high fence is required only along the property lines adjacent to the outside play areas.</li> <li>Hours of operation may be limited to reduce impacts on nearby residential uses.</li> <li>Structured play areas must be setback from all property lines as follows:                             <ol style="list-style-type: none"> <li>Twenty feet if this use can accommodate 50 or more students or children;</li> <li>10 feet if this use can accommodate 13 to 49 students or children;</li> <li>Otherwise, five feet.</li> </ol> </li> <li>An on-site passenger loading area must be provided. The City shall determine the appropriate size of the loading areas on a case-by-case basis, depending on the number of attendees and the extent of the abutting right-of-way improvements. Carpooling, staggered loading/unloading time, right-of-way improvements or other means may be required to reduce traffic impacts on nearby residential uses.</li> <li>May include accessory living facilities for staff persons.</li> <li>The location of parking and passenger loading areas shall be designed to reduce impacts on nearby residential uses.</li> <li>These uses are subject to the requirements established by the Department of Social and Health Services (WAC Title 388).</li> </ol> |

Section 54.06

Zone  
NRH1A

USE ZONE CHART

**DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS**

| Section 54.06 | USE<br>↓<br>REGULATIONS<br>↑                                 | Required Review Process   | MINIMUMS |   |                         | MAXIMUMS                |              | Landscape Category (See Ch. 95)                             | Sign Category (See Ch. 100) | Required Parking Spaces (See Ch. 105) | Special Regulations (See also General Regulations) |   |  |
|---------------|--|---|----------|---|-------------------------|-------------------------|--------------|---|-----------------------------|---------------------------------------|--|---|--|
|               |  |   | Lot Size | REQUIRED YARDS (See Ch. 115)                  |                         |                         | Lot Coverage |   |                             |                                       |  | Height of Structure   |  |
|               |  |   |          | Front   | Side                    | Rear                    |              |   |                             |                                       |  |   |  |
| .120          | Mini-School or Mini-Day-Care<br>See Spec. Regs. 2, 6, and 7. | D.R., Chapter 142 KZC.  | None     | 10'<br>See Spec. Reg. 3.                      | 0'<br>See Spec. Reg. 3. | 0'<br>See Spec. Reg. 3. | 80%          | 2 stories above abutting right-of-way.<br>See Spec. Reg. 1. | D                           | B                                     | See KZC 105.25. See Spec. Regs. 4 and 5.           | <ol style="list-style-type: none"> <li>A six-foot-high fence is required only along the property lines adjacent to the outside play area.</li> <li>Hours of operation may be limited to reduce impacts on nearby residential uses.</li> <li>Structured play areas must be setback from all property lines by at least five feet.</li> <li>An on-site passenger loading area may be required depending on the number of attendees and the extent of the abutting right-of-way improvements.</li> <li>The location of parking and passenger loading areas shall be designed to reduce impacts on nearby residential uses.</li> <li>May include accessory living facilities for staff persons.</li> <li>These uses are subject to the requirements established by the Department of Social and Health Services (WAC Title 388).</li> </ol> |  |
| .130          | Assisted Living Facility<br>See Spec. Regs. 1 and 2.         | D.R., Chapter 142 KZC.  | None     | Same as regulations for the ground floor use. |                         |                         | 80%          | 5 stories above abutting right-of-way.                      | B                           | A                                     | 1 per assisted living unit.                        | <ol style="list-style-type: none"> <li>This use may be located on the street level floor of a building only if there is a commercial space extending a minimum of 30 feet of the building depth between this use and the abutting right-of-way. The Planning Director may approve a reduction to the depth requirement for the commercial space if the applicant demonstrates that the proposed configuration of the commercial use provides an adequate dimension for a viable retail tenant and provides equivalent or superior visual interest and potential foot traffic as would compliance with the required dimension.</li> <li>Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use.</li> </ol>   |  |
| .140          | Convalescent Center or Nursing Home                          |   |          | 10'   | 0'                      | 0'                      |              | 2 stories above abutting right-of-way.                      | C                           | B                                     | 1 for each bed.                                    | See KZC 105.25.   | <ol style="list-style-type: none"> <li>Landscape Category A or B may be required depending on the type of use on the subject property and the impacts associated with this use.</li> </ol> |
| .150          | Public Utility   |   |          | A   |                         |                         |              |   |                             |                                       |  |   |  |
| .160          | Government Facility or Community Facility                    | C<br>See Spec. Reg. 1.  |          |   |                         |                         |              |   |                             |                                       |  |   |  |
| .170          | Public Park  | Development standards will be determined on a case-by-case basis. See Chapter 49 KZC for required review process. |          |   |                         |                         |              |   |                             |                                       |  |   |  |

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**Gilles Consulting**

— Brian K. Gilles —

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**ARBORICULTURAL REPORT  
RE-EVALUATION OF TREES  
AT**

**THE TOTEM LAKE APARTMENTS SITE  
At NE 115<sup>th</sup> Street & 124<sup>th</sup> Avenue NE  
KIRKLAND, WA 98033**

**February 10, 2011**

**PREPARED FOR:**

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Aaron Hollingbery  
9720 NE 120<sup>th</sup> Place  
Kirkland, WA 98034**

**PREPARED BY:**

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**EXECUTIVE SUMMARY**

| <b>Tree Locations:</b> |                         | <b>Evaluation of Subject Property Trees:</b> |                         |                   |                         |
|------------------------|-------------------------|--|-------------------------|-------------------|-------------------------|
| 1                      | Right-of-Way Tree       |  |                         |                   |                         |
| 11                     | Off Property Trees      | <b>Significance:</b>                         |                         | <b>Viability:</b> |                         |
| 119                    | Subject Property Trees  | 115  | Significant             | 68                | Viable                  |
| <b>131</b>             | <b>Total # of Trees</b> | 4  | Non-Significant         | 51                | Non-Viable              |
|                        |                         | <b>119</b>                                   | <b>Total # of Trees</b> | 119               | <b>Total # of Trees</b> |

**ASSIGNMENT**

Kim Faust of CamWest Development, LLC contacted Gilles Consulting to discuss doing a re-evaluation of the trees at the Totem Lake Apartments site property at the intersection of NE 116<sup>th</sup> Street, 124<sup>th</sup> Avenue NE, and Slater Road. Gilles Consulting had performed a report for the trees on the property in March of 2006. Ms. Faust requested that Gilles Consulting provide a proposal for Totem Lake Apartments site Properties ó MSPT IV, LLC, to return to the site and re-evaluate the trees based upon the last 4.5 years of growth and the new Kirkland tree ordinance governing trees and development. The request was to produce this report. The information from this report can be used to develop the *Tree Plan II* as required by the City of Kirkland.

**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 Assessment (VA) 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.

### Tree Tags

The changes in the Kirkland Code required a substantial increase in the amount of field work. In 2001 the Code allowed for the dismissal of Red Alder, Black Cottonwood, and Bitter Cherry trees from the development discussion. The new ordinance changed the definition of *Significant Tree* to any tree greater than 6 inches. The old ordinance rated *Significant Trees* as conifer trees over 8 inches and deciduous trees over 12 inches. These changes meant many more trees on the property required evaluation and documentation.

To keep the trees straight they were tagged and numbered 821 through 951, and 1375, and, 1378 through 1385. The tags are made of shiny aluminum approximately one inch by three inches in size and are attached to the tree with staples. The tags were placed as high as possible to minimize their removal. The tags were randomly placed on the trunks on the side most accessible given the density of Himalayan Blackberries. Please refer to *Attachment 1, Site Plan* for an orientation to the site and the approximate location of the trees.

### Additional Testing

The trees presented symptoms or signs that were readily discernable and easy to interpret. Therefore, no additional tests were performed during this site visit.

## **OBSERVATIONS**

The property is located in the corner of inside NE 116<sup>th</sup> Avenue, 124<sup>th</sup> Avenue NE, and NE 115<sup>th</sup> at Slater Road in Kirkland, Washington. The property is bisected by the old Slater Road. The area between Slater Road and 124<sup>th</sup> Avenue NE is relatively flat. There is a sharp drop in elevation from the vacated Slater Road to the west where the 76 gas station/store are located on flat ground. There is a retaining wall along the west property line.

The property appears to be typical of forests that were once developed or logged and then allowed to grow naturally back to forest. The composition of species is typical of lowland Puget Sound forests. Species include:

#### Trees:

- Big Leaf Maple
- Western Red Cedar
- Douglas Fir
- Black Cottonwood
- Red Alder
- Bitter Cherry
- Cascara

Arboricultural Report, Re-Evaluation of Trees  
At the Totem Lake Apartments Site at the Intersection of  
NE 115<sup>th</sup> St, 124<sup>th</sup> Ave NE, & Slater Ave, Kirkland, WA  
Gilles Consulting  
February 10, 2011  
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Shrubs:

- Oregon Grape
- Salal
- Sword fern
- Indian Plum
- Red Elderberry
- Thimbleberry

Invasive species include

- Himalayan Blackberries
- English Ivy
- Plantains
- Dandelions
- Clover
- Honeysuckle



Photo # 1: Looking west from NE 115<sup>th</sup>

# 938

# 934

English Laurel Shrub

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.



Photo # 2: Looking northwest from NE 115<sup>th</sup> Street onto the Vacated Slater Road

# 947

The 76 gas station and store



Photo # 3: #s 822 & 821

Vacated Slater Road

## DISCUSSION

Many of the native deciduous trees are in very poor condition and are not candidates for retention due to poor health, poor structure, lack of wind firmness, or a combination of these factors. They will continue to decline and die if left on their own. Construction will accelerate the decline process. They should be removed for safety.

### Right-of-Way Trees

There is only one right-of-way tree. It is # 938. It is located on the Slater Avenue shoulder near the south end of the property next to the driveway to the old 2-story wood house that was torn down several years ago.

The tree is in Fair condition now but is in rapid decline. The tree was growing for decades in a harsh roadside environment. The construction of the new office building just south of the tree and demolition of the old 2-story house has stressed the tree. The outward symptoms of the lower trunk indicate that the tree could be suffering from root rot and base rot. Before any effort is made to retain this tree I recommend that the tree be tested with a Resistograph to determine the extent of internal decay.

### Trees on Adjacent Properties

There are 11 trees on the adjacent property to the west. They are growing in a root-bound planter strip between the base of a retaining wall along the west property line and the curb of the driving/access roadway on the adjacent property. They are all in Fair to Good condition. They can all be retained with minimal impact from construction with the Tree Protection Measures outlined below.

### Trees on the Subject Property

There are 119 trees on the subject property; 115 of them are *Significant* due to their size. However, 51 of them are *Non-Viable* due to poor health, poor structure, lack of wind firmness, or a combination of these factors.

Of more importance is the species composition. Bitter Cherry, Black Cottonwood, Big Leaf Maple, and Red Alder make up 80% of the species on the subject property. These trees are known as primary cultivator species with relatively short life spans, poor immune systems, and an inability to tolerate construction stress. They are not good candidates for retention.

### A Note About Black Cottonwood Trees

There are 13 Black Cottonwood trees on the property. Many are both *Significant* and *Viable*. However, this species is known to have a short life span and often breaks apart when it gets large. The results can be devastating. This species is known as a primary cultivator by forest ecologists. They fill the ecological niche of colonizing moist areas after disturbance such as forest fire, logging, or construction. The Black Cottonwood's natural history is to grow fast and large, reproduce profusely; then to die rapidly. They have a short lifespan compared to other trees—sixty to eighty years is considered an average lifespan for Black Cottonwood trees. Also, because so much energy is placed into rapid growth and reproduction, these trees tend to be more brittle and have inadequate immune response systems.

This results in Black Cottonwood trees being prone to failure in adverse weather conditions, being susceptible to several kinds of root disease, and even losing large limbs on hot summer days when little or no wind is present. Once disturbed, Black Cottonwood trees are highly susceptible to root disease and insect infestations. It is common for Black Cottonwood trees to rapidly become hazards after construction activity.

Although I have included "Limits of Disturbance" recommendations in this report for them, it is my strong recommendation that all of the large Black Cottonwood trees be removed during the site development work. They are not good candidates for retention due to their massive growth potential and their propensity to fail.

## CONCLUSIONS

- Right-of-Way Trees:
  - # 938 is the only right-of-way tree.
  - It is in rapid decline. It has symptoms that may indicate center rot, base rot, and root rot.
  - Before any effort is made to retain this tree I strongly recommend it be tested with a Resistograph to determine if internal decay exists; and if it does, to what extent it exists. If the decay is in an advanced stage it will change the health rating of the tree from Fair to Poor and the recommendation will change from retention to removal.
- Trees on Adjacent Properties:
  - There are 11 trees just west of the west property line.
  - They all are in Fair to Good condition.
  - They all should be easily retained with the *Tree Protection Measures* outlined below.
- Trees on the Subject Property:
  - There are 119 trees on the subject property.
  - Significance:
    - 115 are *Significant*
    - 4 are *Non-Significant*
  - Viability:
    - 68 are *Viable*
    - 51 are *Non-Viable*.

### 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

Arboricultural Report, Re-Evaluation of Trees  
At the Totem Lake Apartments Site at the Intersection of  
NE 115<sup>th</sup> St, 124<sup>th</sup> Ave NE, & Slater Ave, Kirkland, WA  
Gilles Consulting  
February 10, 2011  
Page 10 of 30

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-0260A  
ASCA Registered Consulting Arborist # RCA-418  
PNW-ISA Certified Tree Risk Assessor #148

# ATTACHMENTS

|  |    |
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# PORTION OF THE N.W. 1/4 OF SEC. 33 TWN. 26 N., RNG 5 E., WM CITY OF KIRKLAND, WASHINGTON

**LEGAL DESCRIPTION**

LOTS 2 AND 3, CITY OF KIRKLAND ALTERATION OF LOT LINE NO. LL-98-83, RECORDED UNDER RECORDING NUMBER 9811249010, BEING A PORTION OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON; EXCEPT THE EAST 8 FEET CONVEYED TO THE CITY OF KIRKLAND BY DEED RECORDED UNDER RECORDING NUMBER 20040115000414;

TOGETHER WITH THAT PORTION OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTH QUARTER CORNER OF SAID SECTION 33;

THENCE NORTH 88°36'29" WEST ALONG THE NORTH LINE THEREOF, 384.64 FEET;  
THENCE SOUTH 00°51'09" WEST PARALLEL WITH THE NORTH-SOUTH CENTERLINE OF SAID SECTION 33, 311.51 FEET, MORE OR LESS, TO THE SOUTH LINE OF THE NORTH 311.5 FEET OF SAID SUBDIVISION AND THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 78.00 FEET AND THE TRUE POINT OF BEGINNING;  
THENCE SOUTHWESTERLY ALONG SAID CURVE AN ARC DISTANCE OF 73.67 FEET THROUGH A CENTRAL ANGLE OF 54°06'55" TO A POINT OF TANGENCY;  
THENCE SOUTH 54°58'04" WEST 112.00 FEET, MORE OR LESS, TO THE NORTH LINE OF LOT 1 IN SHORT PLAT NUMBER 778140, ACCORDING TO SHORT PLAT RECORDED UNDER KING COUNTY RECORDING NUMBER 7912100778;  
THENCE SOUTH 88°36'29" EAST ALONG SAID NORTH LINE, 159.02 FEET TO THE WESTERLY LINE OF SLATER AVENUE NORTHEAST;  
THENCE NORTHEASTERLY ALONG SAID WESTERLY MARGIN, 138.48 FEET, MORE OR LESS, TO THE SOUTH LINE OF THE NORTH 311.5 FEET OF SAID SUBDIVISION;  
THENCE NORTH 88°36'29" WEST ALONG SAID SOUTH LINE, 84.70 FEET TO THE TRUE POINT OF BEGINNING;

(ALSO KNOWN AS LOT 2 OF UNRECORDED KING COUNTY LOT LINE ADJUSTMENT NUMBER 982059);

TOGETHER WITH AN UNDIVIDED INTEREST IN THAT PORTION OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTH QUARTER CORNER OF SAID SECTION 33;  
THENCE NORTH 88°36'29" WEST ALONG THE NORTH LINE THEREOF, 384.64 FEET;  
THENCE SOUTH 0°51'09" WEST PARALLEL WITH THE NORTH-SOUTH CENTERLINE OF SAID SECTION 33, 60.00 FEET TO THE TRUE POINT OF BEGINNING;  
THENCE CONTINUE SOUTH 0°51'09" WEST 251.51 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 78.00 FEET;  
THENCE ALONG SAID CURVE AN ARC DISTANCE OF 73.67 FEET THROUGH A CENTRAL ANGLE OF 54°06'55" TO A POINT OF TANGENCY;  
THENCE SOUTH 54°58'04" WEST 112.00 FEET;  
THENCE SOUTH 0°51'09" WEST 136.00 FEET;  
THENCE NORTH 88°36'29" WEST 43.00 FEET;  
THENCE NORTH 0°51'09" EAST 135.60 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 43.00 FEET;  
THENCE ALONG SAID CURVE AN ARC DISTANCE OF 40.61 FEET THROUGH A CENTRAL ANGLE OF 54°06'55" TO A POINT OF TANGENCY;  
THENCE NORTH 54°58'04" EAST 112.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 35.00 FEET;  
THENCE ALONG SAID CURVE AN ARC DISTANCE OF 33.06 FEET THROUGH A CENTRAL ANGLE OF 54°06'55" TO A POINT OF TANGENCY;  
THENCE NORTH 0°51'09" EAST 251.91 FEET TO THE SOUTHERLY MARGIN OF THAT ADDITIONAL RIGHT-OF-WAY CONVEYED TO THE STATE OF WASHINGTON FOR STATE ROAD 405;  
THENCE SOUTH 88°36'29" EAST 43.00 FEET TO THE TRUE POINT OF BEGINNING;

(ALSO KNOWN AS "NEW LOT 1", CITY OF KIRKLAND ALTERATION OF LOT LINE NO. LL-00-68, AS RECORDED UNDER RECORDING NUMBER 20020314002030);

AND TOGETHER WITH EASEMENTS AS PROVIDED FOR IN DOCUMENT RECORDED JANUARY 19, 1984 UNDER RECORDING NUMBER 8401190381.

**NOTE:** THIS BOUNDARY/TOPOGRAPHY SURVEY IS BASED ON A SURVEY PERFORMED BY DOWL ENGINEERS, BAIMA & HOLMBERG, INC. SUPPLEMENTED THE DOWL SURVEY WITH ADDITIONAL FIELD SURVEY AND BOUNDARY VERIFICATION.

**REFERENCES**

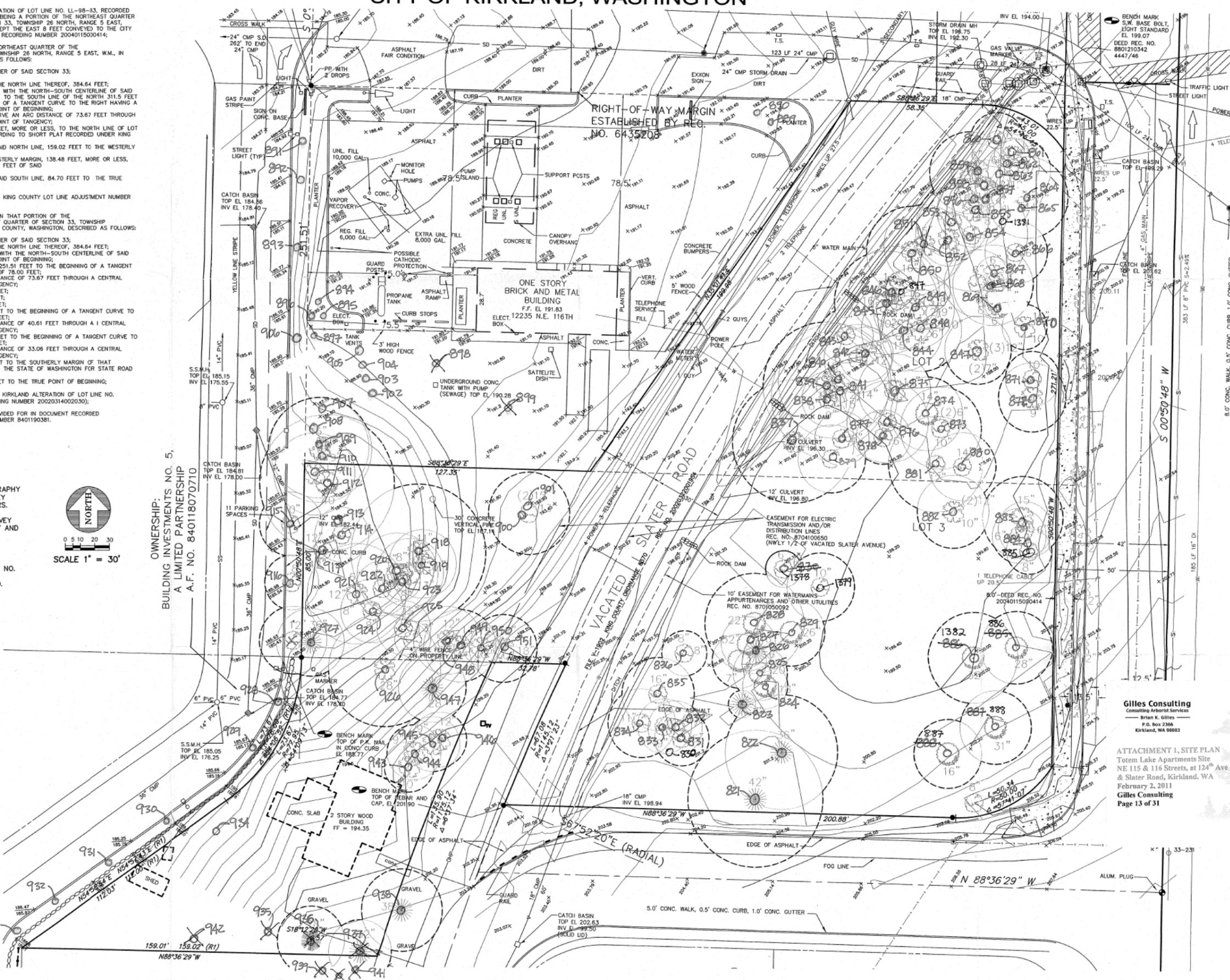
R1 - ALTERATION OF LOT LINE NO. LL-00-68  
REC. NO. 20020314002030.



**OWNERSHIP:**  
 BUILDING INVESTMENTS NO. 5,  
 A LIMITED PARTNERSHIP  
 A.F. NO. 840118070710

**TREE LEGEND**

- MAPLE TREE
- ALDER TREE
- FIR TREE
- COTTONWOOD TREE
- CEDAR TREE
- DRIPLINE



**Gilles Consulting**  
 Consulting Arborist Services  
 Brian K. Gilles  
 P.O. Box 2366  
 Kirkland, WA 98083

ATTACHMENT 1, SITE PLAN  
 Totem Lake Apartments Site  
 NE 115 & 116 Streets, at 124th Ave NE  
 & Slater Road, Kirkland, WA  
 February 2, 2011  
 Gilles Consulting  
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|                                      |  |  |  |  |                      |                    |                   |                      |
|--------------------------------------|--|--|--|--|----------------------|--------------------|-------------------|----------------------|
|                                      |  |  |  |  |                      |                    |                   |                      |
|                                      | <b>Baima &amp; Holmberg Inc.</b><br>ENGINEERS & SURVEYORS<br>100 FRONT STREET SOUTH ISSAQUAH WASHINGTON 98027<br>(425) 392-0250 FAX (425) 391-3055 |  |  | DESIGNED BY<br>T.J.R.                    | CHECKED BY<br>J.E.F. | DRAWN BY<br>J.E.F. | TUR               | REV. NO.<br>11/20/06 |
| PREPARED BY<br>Baima & Holmberg Inc. | PROJECT<br>124TH/116TH MIXED USE   |  |  | SHEET CONTENT<br>BOUNDARY/TOPOGRAPHY MAP |                      | DATE<br>06/20/06   | JOB NO.<br>75-156 |                      |
| OWNER<br>BUILDING INVESTMENTS NO. 5  | DWG NO.<br>75-156  |  |  | SHEET<br>1 OF 1                          |                      | DATE<br>06/20/06   | JOB NO.<br>75-156 |                      |

ABBREVIATED LEGEND-SEE GLOSSARY IN REPORT ATTACHMENTS FOR GREATER DETAIL

|    |  |     |  |
|----|--|-----|--|
| #1 | <b>Property:</b> Whether the tree is on or off the Subject Property, or a Right-of-Way tree.   | #8  | <b>Limits of Disturbance:</b> The boundary between the area of minimum protection around a tree and the allowable site disturbance.  |
| #2 | <b>Tree #:</b> The unique tag number of each tree.   | #9  | <b>LCR: Live Crown Ratio:</b> - the amount of live canopy expressed as a % of the entire tree height   |
| #3 | <b>Species:</b><br>BCh/Pe Bitter Cherry, <i>Prunus emarginata</i><br>BCw/Pt Black Cottonwood, <i>Populus trichocarpa</i><br>BlM/Am Big Leaf Maple, <i>Acer macrophyllum</i><br>Ch/Psp Cherry, <i>Prunus sp.</i><br>DF/Pm Douglas Fir, <i>Pseudotsuga menziesii</i><br>PDW/Cn Pacific Dog Wood, <i>Cornus nuttallii</i> | #10 | <b>Symmetry:</b> General shape of canopy and weight distribution of the tree around the trunk.   |
| #4 | <b>2011 DBH:</b> Trunk diameter @ 4.5' above the average ground level.   | #11 | <b>Foliage:</b> General description of foliage density that indicates tree health and vigor.   |
| #5 | <b>2006 DBH:</b> Trunk diameter @ 4.5' above average ground level.   | #12 | <b>Crown Condition:</b> The most important external indication of tree health and vigor.   |
| #6 | <b>Tree Credit:</b> This is based upon Table 95.35.1, Page 12, Chapter 95 of the Kirkland Municipal Code.  | #13 | <b>Trunk:</b> Description of trunk condition or abnormalities if any.  |
| #7 | <b>Drip Line:</b> The radius, the distance from the trunk to the furthest branch tips.   | #14 | <b>Root Collar:</b> The base of the tree where the trunk flares into the roots--deformities or problems are noted here.  |
|    |  | #15 | <b>Roots:</b> Root problems are noted here.  |
|    |  | #16 | <b>Comments:</b> Additional observations about the tree's condition.   |
|    |  | #17 | <b>Significance:</b> A significant tree is at least 6-in diameter measured at 4.5' above the average ground level.   |
|    |  | #18 | <b>Current Health Rating:</b> A description of general health ranging from dead, dying, hazard, poor, suppressed, fair, good, very good, to excellent.   |
|    |  | #19 | <b>Viability:</b> A significant tree that is in good health with a low risk of failure due to structural defects, is relatively wind firm if isolated or remains as part of a grove, and is a species that is suitable for its location. |
|    |  | #20 | <b>Recommendation:</b> This is an estimate of whether or not the tree is of sufficient health, vigor, and structure to consider retaining.   |

| 1                | 2      | 3       | 4        | 5           | 6           | 7         | 8-- LIMITS OF DISTURBANCE |              |       |       | 9   | 10         | 11      | 12              | 13                                      | 14                           | 15                | 16  | 17                | 18                         | 19             | 20  |
|------------------|--------|---------|----------|-------------|-------------|-----------|---------------------------|--------------|-------|-------|-----|------------|---------|-----------------|---|------------------------------|-------------------|---|-------------------|----------------------------|----------------|---|
| PROPERTY         | TREE # | SPECIES | DBH 2011 | DBH 2006    | TREE CREDIT | DRIP LINE | North                     | South        | East  | West  | LCR | SYMMETRY   | FOLIAGE | CROWN CONDITION | TRUNK                                   | ROOT COLLAR                  | ROOTS             | COMMENTS  | SIGNIFICANCE 2011 | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION                                    |
| Subject Property | 821    | DF/Pm   | 48.1"    | 43.8"       | 20.0        | 48.0'     | 22.0'                     | 22.0'        | 22.0' | 22.0' | 90% | Gen. Sym.  | Dense   | Healthy         | Straight                                | NAD                          | Restricted        | Early Bark Beetle Infestation, 15' North of edge of asphalt road. Survey tag # 1024   | Significant       | Very Good                  | Viable         | Potential to retain with tree protection measures |
| Subject Property | 822    | DF/Pm   | 36.7"    | 34.5"       | 14.0        | 46.0'     | 20.0'                     | to prop line | 20.0' | 20.0' | 80% | Min. Asym. | Dense   | Healthy         | Kinked @ 36'                            | NAD                          | -                 | Hangars, Early bark beetle infestation. Survey tag # 1025   | Significant       | Very Good                  | Viable         | Potential to retain with tree protection measures |
| Subject Property | 823    | DF/Pm   | 9.1"     | 7.1"        | 1.0         | 18.0'     | 8.0'                      | 8.0'         | 8.0'  | 8.0'  | 85% | Gen. Sym.  | Average | Average         | Straight                                | Partially Exposed            | Surface North     | -   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 824    | BCw/Pt  | 21.4"    | 18.4"       | 6.0         | 30.0'     | 14.0'                     | 14.0'        | 14.0' | 14.0' | 85% | Maj. Asym. | Dense   | Healthy         | Leans NE                                | Partially Exposed            | -                 | Old cinder block retaining wall on North side.  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 825    | BCw/Pt  | 21.2"    | 19.6"       | 6.0         | 30.0'     | 14.0'                     | 14.0'        | 14.0' | 14.0' | 70% | Min. Asym. | Dense   | Healthy         | Slight Bow South                        | Partially Exposed            | Surface South     | -   | Significant       | Good                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 826    | DF/Pm   | 9.0"     | 6.9"        | 1.0         | 20.0'     | 10.0'                     | 10.0'        | 10.0' | 10.0' | 75% | Min. Asym. | Average | Average         | Slight Bow SE                           | Exposed                      | surface           | Early bark beetle infestation   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 827    | BCw/Pt  | 18.8"    | 16.9"       | 5.0         | 22.0'     | 8.0'                      | 8.0'         | 8.0'  | 8.0'  | 65% | Min. Asym. | Dense   | Healthy         | Slightly Serpentine, Leans West         | Partially Exposed            | Surface all sides | -   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 828    | BCw/Pt  | 40.0"    | 34.0"       | 15.0        | 42.0'     | 18.0'                     | 18.0'        | 18.0' | 18.0' | 70% | Maj. Asym. | Dense   | Healthy         | Forked @ 4.5', Included Bark to base    | Internal Structural Weakness | -                 | Sap flow from fork.   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 829    | BCw/Pt  | 28.9"    | 26.7"       | 10.0        | 46.0'     | 20.0'                     | 20.0'        | 20.0' | 20.0' | 85% | Gen. Sym.  | Dense   | Healthy         | Leans North                             | Partially Exposed            | -                 | -   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 830    | BCh/Pe  | n/a      | 6.3" & 5.2" | 0.0         | N/A       | N/A                       | N/A          | N/A   | N/A   | 60% | Maj. Asym. | Average | Average         | Leans SW, Center Rot                    | Partially failed, Base rot   | Partially Failed  | Open wound on NE side @ 5' with rot column to base. Gummosis, Armillaria mycelium   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 831    | BCh/Pe  | 6.5"     | 6.1"        | 0.0         | N/A       | N/A                       | N/A          | N/A   | N/A   | 15% | Maj. Asym. | Thin    | Dying           | Center Rot                              | Base Rot                     | -                 | Kinked @ 8'. Open wounds on north side @ 3', 5' & 8'  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 832    | BCh/Pe  | 13.0"    | 16.0"       | 2.0         | 34.0'     | 14.0'                     | 14.0'        | 14.0' | 14.0' | 30% | Min. Asym. | Average | Average         | Forked @ 6', Included bark down to base | Partially failed             | -                 | Leans NW, Center trunk is dead, 2006 trunk diameters = 8.2", 8.0", & 6.1". 2011 trunk diameters are 8.4, 7.1, & 6.9 inches = single trunk of 13.0 inches. | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 833    | BCh/Pe  | 10.4"    | 9.1"        | 1.0         | 22.0'     | 10.0'                     | 10.0'        | 10.0' | 10.0' | 30% | Min. Asym. | Average | Healthy         | Leans West                              | NAD                          | -                 | Dead branches in lower canopy   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 834    | BCh/Pe  | 11.7"    | 10.8"       | 1.0         | 28.0'     | 12.0'                     | 12.0'        | 12.0' | 12.0' | 80% | Min. Asym. | Average | Average         | Leans West                              | NAD                          | -                 | Dead branches in lower canopy   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 835    | BCh/Pe  | 12.6"    | 16.0"       | 2.0         | 30.0'     | 12.0'                     | 12.0'        | 12.0' | 12.0' | 75% | Min. Asym. | Average | Average         | Forked @ 3', Included bark down 12'     | Partially Exposed            | -                 | Leans West, trunk diameters are 11.6" & 7.6" = tree of 16"  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |

| 1                | 2      | 3       | 4        | 5            | 6           | 7         | 8-- LIMITS OF DISTURBANCE |       |       |       | 9   | 10         | 11      | 12              | 13  | 14                                   | 15            | 16   | 17                | 18                         | 19             | 20  |
|------------------|--------|---------|----------|--------------|-------------|-----------|---------------------------|-------|-------|-------|-----|------------|---------|-----------------|---|--------------------------------------|---------------|--|-------------------|----------------------------|----------------|---|
| PROPERTY         | TREE # | SPECIES | DBH 2011 | DBH 2006     | TREE CREDIT | DRIP LINE | North                     | South | East  | West  | LCR | SYMMETRY   | FOLIAGE | CROWN CONDITION | TRUNK   | ROOT COLLAR                          | ROOTS         | COMMENTS   | SIGNIFICANCE 2011 | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION                                    |
| Subject Property | 836    | BCh/Pe  | 10.1"    | 10.0"        | 1.0         | 22.0'     | N/A                       | N/A   | N/A   | N/A   | 80% | Min. Asym. | Average | Average         | Forked @ 5', Center rot                               | Base Rot                             | -             | Included Bark down 18" below fork, Honeysuckle up 100%, trunk diameters are 6.5" & 6.2" = tree of 10". Clematis up 90%.  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 837    | BLM/Am  | 23.9"    | 21.2"        | 7.0         | 52.0'     | 24.0'                     | 24.0' | 24.0' | 22.0' | 70% | Min. Asym. | Dense   | Healthy         | Forked @ 6' & 16', Leans South                        | NAD                                  | Surface       | 12' East of old ditch. Survey tag # 1047. Dead branches in canopy. 2011 trunk diameters = 22.9 & 6.9 inches = single trunk of 23.9 inches.   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 838    | BCh/Pe  | 11.0"    | 8.1" & 7.4"  | 1.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 35% | Maj. Asym. | Dense   | Healthy         | Forked @ 12", Included bark down to base, Leans South | Base Rot                             | -             | Trunk fused 2.5' above fork, Open wound on north side @ 4' with rot column to base. 2011 trunk diameters are 8.2 & 7.4 inches = single trunk of 11.0 inches.   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 839    | BLM/Am  | 28.5"    | 38.0"        | 10.0        | 56.0'     | 25.0'                     | 25.0' | 25.0' | 25.0' | 65% | Gen. Sym.  | Dense   | Healthy         | Forked @ 1' & 3', Included Bark down to base          | NAD                                  | Surface North | 2006 DBH: 14.0", 14.3", 14.0", & 11.3" = 38" diameter tree. Survey tag # 1048. 2011 trunk diameters are 14.9, 15.1, 12.0, & 14.7 inches = single trunk of 28.5 inches.                                   | Significant       | Good                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 840    | BLM/Am  | 15.6"    | 14.4"        | 3.0         | 32.0'     | 14.0'                     | 14.0' | 14.0' | 14.0' | 85% | Maj. Asym. | Dense   | Healthy         | Forked @ 7', Leans West                               | NAD                                  | -             |  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 841    | BLM/Am  | 18.7"    | 17.8"        | 5.0         | 43.0'     | 18.0'                     | 18.0' | 18.0' | 18.0' | 60% | Maj. Asym. | Dense   | Healthy         | Slight Lean North, Serpentine                         | NAD                                  | -             | Dead branches in canopy.   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 842    | BLM/Am  | n/a      | 9.8" & 7.8"  | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 40% | Min. Asym. | Average | Average         | Forked @ 18", Rot column to base                      | Base Rot                             | -             | Center rot. Center rot. Base rot.  | Significant       | Dying                      | Non-viable     | Remove  |
| Subject Property | 843    | Ch/Psp. | 7.3"     | 6.6"         | 1.0         | 20.0'     | 10.0'                     | 10.0' | 10.0' | 10.0' | 80% | Maj. Asym. | Average | Suppressed      | Leans West  | Partially Exposed                    | Surface       |  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 844    | BLM/Am  | 17.5"    | 13.6" & 9.4" | 4.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 50% | Min. Asym. | Average | Average         | Center Rot  | Exposed, Base rot                    | Surface NW    | Forked @ 3.5' with included bark down to base. Dead branches in canopy. Survey tag # 1052. 2011 trunk diameters are 9.7 & 14.6 inches = single trunk of 17.5 inches.                                     | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 845    | BLM/Am  | 13.5"    | 14.0"        | 2.0         | 28.0'     | 12.0'                     | 12.0' | 12.0' | 12.0' | 60% | Maj. Asym. | Dense   | Healthy         | Leans West  | NAD                                  | -             | Calloused wound on north side from base up 2'  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 846    | BLM/Am  | 18.8"    | 17.5"        | 5.0         | 36.0'     | 16.0'                     | 16.0' | 16.0' | 16.0' | 80% | Maj. Asym. | Dense   | Healthy         | Slight Lean North                                     | NAD                                  | -             | Base of Tree #847 is 12" away<br>Forked @ base, Base is 12" from Tree #846, 7" fork has center rot & carpenter ant infestation. 2011 trunk diameters are 7.7 & 7.8 inches = single trunk of 11.0 inches. | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 847    | BLM/Am  | 11.0"    | 6.8" & 7.5"  | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 50% | Min. Asym. | Average | Average         | Serpentine  | Partially Exposed                    | Surface East  |  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 848    | BLM/Am  |          | clump of 6   | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 20% | Maj. Asym. | Thin    | Weak            | Serpentine  | Base Rot                             | -             | Stump sprouts, Hypoxia, Carpenter ant infestation, Dead branches in canopy, DBH: 6.6", 7.2", 6.4", 8.4", 8.4", & 8.6". Forked at base. Stump sprouts. Hypoxylon.   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 849    | BLM/Am  |          | clump of 5   | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 20% | Maj. Asym. | Average | Weak            | Center Rot  | Base Rot, Partially failed, Base rot | Surface       | Stump sprouts, Hypoxia, Carpenter ant infestation, Dead branches in canopy, DBH: 9.8", 7.7", 6.3", 9.5", & 3.5". Center rot. Base rot.   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 850    | BLM/Am  |          | 13.9"        | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 40% | Min. Asym. | Dense   | Healthy         | Bowed West  | Partially failed, Base rot           | -             | Calloused wound on East side from base up 3'. Center rot, Base rot.  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 851    | BLM/Am  |          | 13.4"        | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 45% | Min. Asym. | Dense   | Healthy         | Leans NW  | Suspended                            | -             | Rotten scaffold branch with Hypoxia @ 4', Rot column to base   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 852    | BLM/Am  |          | 7.6" & 4.5"  | 1.0         | 30        | N/A                       | N/A   | N/A   | N/A   | 50% | Min. Asym. | Average | Average         |   | Exposed                              | -             | Harp tree, not wind firm   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 853    | BCh/Pe  |          | 5.8"         | 0.5         | N/A       | N/A                       | N/A   | N/A   | N/A   | 80% | Min. Asym. | Average | Average         | Leans NW  | Exposed                              | Surface South | not wind firm  | Not Significant   | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 854    | BCh/Pe  |          | 8.4" & 5.0"  | 1.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 75% | Min. Asym. | Average | Average         | Center Rot  | Base Rot                             | -             | Forked @ base  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |

| 1                | 2      | 3       | 4        | 5                         | 6           | 7         | 8-- LIMITS OF DISTURBANCE |       |       |       | 9   | 10         | 11      | 12              | 13                       | 14                         | 15    | 16   | 17                | 18                         | 19             | 20  |
|------------------|--------|---------|----------|---------------------------|-------------|-----------|---------------------------|-------|-------|-------|-----|------------|---------|-----------------|--------------------------|----------------------------|-------|--|-------------------|----------------------------|----------------|---|
| PROPERTY         | TREE # | SPECIES | DBH 2011 | DBH 2006                  | TREE CREDIT | DRIP LINE | North                     | South | East  | West  | LCR | SYMMETRY   | FOLIAGE | CROWN CONDITION | TRUNK                    | ROOT COLLAR                | ROOTS | COMMENTS   | SIGNIFICANCE 2011 | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION                                    |
| Subject Property | 855    | BLM/Am  | 10.4"    | 8.7" & 4.3"               | 1.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 50% | Maj. Asym. | Thin    | Weak            | Center Rot               | Base Rot                   | -     | Forked @ 3.5' with included bark down 18', Open wound on North side at 2.5' with rot column down to base, Carpenter ant infestation. 2011 trunk diameters are 9.4 & 4.4 inches single trunk of 10.4 inches | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 856    | BLM/Am  | 6.9"     | clump of 4                | 0.0         | 28        | N/A                       | N/A   | N/A   | N/A   | 40% | Min. Asym. | Average | Average         | Center Rot               | Base Rot                   | -     | Forked @ base, Calloused crack from base up 4.5', Dead branches in canopy, DBH: 6.4", 5.7", 4.2", & 6.8". Center rot. Base rot. Sheer plane fracture from base up 4 feet.                                  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 857    | BLM/Am  |          | clump of 6                | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 50% | Maj. Asym. | Average | Average         | Center Rot               | Base Rot                   | -     | 2 small trunks dead, Advanced carpenter ant infestation, DBH: 10.4", 4.7", 8.9", 10.9", 9.4", & 5.7". Center rot. Base rot.  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 858    | BLM/Am  | 13.1"    | 11.7"                     | 2.0         | 40.0'     | 18.0'                     | 18.0' | 18.0' | 18.0' | 70% | Maj. Asym. | Dense   | Healthy         | Leans NW                 | Partially Exposed          | -     |  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 859    | BLM/Am  |          | 7.0", 4.7", & 6.6"        | 0.0         | 18        | N/A                       | N/A   | N/A   | N/A   | 10% | Maj. Asym. | Sparse  | Dying           | Center Rot               | Base Rot                   | -     | Carpenter Ant Infestation. Hypoxylon. Bark sloughing.  | Significant       | Dying                      | Non-viable     | Remove  |
| Subject Property | 860    | Ch/Psp. | 5.5"     | 5.4"                      | 0.5         | 22.0'     | 10.0'                     | 10.0' | 10.0' | 10.0' | 65% | Min. Asym. | Thin    | Average         | NAD                      | Partially Exposed          | -     | 4' East of ditch   | Not Significant   | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 861    | PDW/Cn  | 9.4"     | 11.0"                     | 1.0         | 20.0'     | 10.0'                     | 10.0' | 10.0' | 10.0' | 70% | Min. Asym. | Thin    | Average         | Leans North, Serpentine  | NAD                        | -     | Open Wound on South side from base up 2.5', trunk diameters are 5.5", 4.7". 2011 trunk diameters are 6.1, 5.0 & 5.1 inches = single trunk tree of 9.4 inches.  | Significant       | Very Good                  | Viable         | Potential to retain with tree protection measures |
| Subject Property | 862    | Ch/Psp. | 7.5"     | 7.4"                      | 1.0         | 18        | N/A                       | N/A   | N/A   | N/A   | 10% | Maj. Asym. | Sparse  | Weak            | Leans NE                 | NAD                        | -     |  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property | 863    | BLM/Am  |          | 6.9", 6.5", & 5.0"        | 0.0         | 20        | N/A                       | N/A   | N/A   | N/A   | 50% | Maj. Asym. | Sparse  | Dying           | Slightly Serpentine      |                            | -     | Center trunk is dead, Forked @ 18" with included bark down to base. Center rot. Base rot. Carpenter ant infestation.   | Significant       | Dying                      | Non-viable     | Remove  |
| Subject Property | 864    | BCh/Pe  |          | 5.2" & 3.0"               | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 70% | Maj. Asym. | Sparse  | Weak            | Leans North, Center rot  | Partially failed, Base rot | -     | Forked @ 3', Gummosis on bark and trunk  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 865    | BLM/Am  |          | 10.4", 10.3", & 10.2"     | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 60% | Min. Asym. | Average | Average         | Center Rot               | Base Rot                   | -     | Stump sprouts  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 866    | BLM/Am  |          | 6.9", 6.3", & 5.6"        | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 35% | Min. Asym. | Average | Healthy         | Leans South              | Base Rot                   | -     | Carpenter ant infestation, Forked @ base   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 867    | BLM/Am  |          | 5.5", 4.2", & 3.5"        | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 40% | Min. Asym. | Average | Average         | Center Rot               | Base Rot                   | -     | Carpenter ant infestation, Forked @ base   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 868    | BLM/Am  |          | 10.0" & 9.6"              | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 35% | Maj. Asym. | Thin    | Weak            | Center Rot               | Base Rot                   | -     | Forked @ 3.5'. Dead branches in canopy   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 869    | BCh/Pe  |          | 9.8"                      | 0.0         | 16        | N/A                       | N/A   | N/A   | N/A   | 15% | Min. Asym. | Thin    | Weak            | Leans West               | Partially Exposed          | -     | Dead Branches in Canopy  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 870    | BLM/Am  |          | 8.2"                      | 0.0         | 20        | N/A                       | N/A   | N/A   | N/A   | 30% | Maj. Asym. | Average | Weak            | Serpentine               | Possible base rot          | -     | Forked @ 16', Dead branches in canopy, Kinked @ 1' & 5'  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 871    | BLM/Am  |          | clump of 5                | 0.0         | 30        | N/A                       | N/A   | N/A   | N/A   | 35% | Min. Asym. | Average | Average         | Typical, Center rot      | Base Rot                   | -     | Stump sprouts, Dead branches in canopy, DBH: 11.3", 11.2", 5.5", 11.2", 7.6"   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 872    | BCh/Pe  |          | 10.1" & 7.2"              | 0.0         | 30        | N/A                       | N/A   | N/A   | N/A   | 50% | Min. Asym. | Thin    | Weak            | Leans East, Center rot   | Base Rot                   | -     | Forked @ base, Survey tag # 1070.  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 873    | BCh/Pe  |          | 7.2"                      | 0.0         | 30        | N/A                       | N/A   | N/A   | N/A   | 50% | Min. Asym. | Thin    | Weak            | Center rot               | Base Rot                   | -     |  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 874    | BLM/Am  |          | 5.4"                      | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 15% | Maj. Asym. | Thin    | Suppressed      | Serpentine               | NAD                        | -     |  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 875    | BLM/Am  |          | 13.3", 9.6", 6.2", & 5.5" | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 20% | Maj. Asym. | Thin    | Weak            | Leans West, Center rot   | Base Rot                   | -     | Advanced carpenter ant infestation, Stump sprouts  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 876    | Ch/Psp. |          | 13.1"                     | 0.0         | 35.0'     | 16.0'                     | 16.0' | 16.0' | 16.0' | 30% | Min. Asym. | Average | Average         | Leans South              | Partially Exposed          | -     | Dead Branches in Canopy  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 877    | BCh/Pe  |          | 7.5"                      | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 40% | Maj. Asym. | Average | Average         | Leans South              | Partially failed           | -     | not wind firm  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 878    | BCh/Pe  |          | 4.5", 4.6", & 5.6"        | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 50% | Maj. Asym. | Average | Average         | Leans SW, Serpentine     | NAD                        | -     | Forked @ base, Dead branches in canopy, not wind firm  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 879    | BCh/Pe  |          | 10.0"                     | 0.0         | 18.0'     | N/A                       | N/A   | N/A   | N/A   | 60% | Maj. Asym. | Average | Average         | Leans SW, Serpentine     | Partially failed           | -     | Forked @ base, not wind firm   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property | 880    | BCh/Pe  |          | 6.6"                      | 0.0         | 16.0'     | N/A                       | N/A   | N/A   | N/A   | 40% | Min. Asym. | Average | Average         | Regenerating, Serpentine | Partially failed           | -     | Forked @ kink @ 3', not wind firm<br>Open wound on West side from base up 3' with Fungal Mycelium, Dead branches in canopy, Carpenter ant infestation. Survey tag # 1013.                                  | Significant       | Poor                       | Non-viable     | Remove  |

| 1                 | 2      | 3        | 4          | 5                    | 6           | 7         | 8-- LIMITS OF DISTURBANCE |       |       |       | 9   | 10         | 11      | 12                   | 13                   | 14                | 15                       | 16   | 17                | 18                         | 19             | 20  |
|-------------------|--------|----------|------------|----------------------|-------------|-----------|---------------------------|-------|-------|-------|-----|------------|---------|----------------------|----------------------|-------------------|--------------------------|--|-------------------|----------------------------|----------------|---|
| PROPERTY          | TREE # | SPECIES  | DBH 2011   | DBH 2006             | TREE CREDIT | DRIP LINE | North                     | South | East  | West  | LCR | SYMMETRY   | FOLIAGE | CROWN CONDITION      | TRUNK                | ROOT COLLAR       | ROOTS                    | COMMENTS   | SIGNIFICANCE 2011 | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION  |
| Subject Property  | 881    | BCh/Pe   |            | 11.8"                | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 50% | Maj. Asym. | Thin    | Dying                | Leans SW, Serpentine | Partially failed  | -                        | Dead branches in canopy  | Significant       | Poor                       | Non-viable     | Remove<br>Potential to retain with tree protection measures |
| Subject Property  | 882    | BLM/Am   | 20.0"      | 11.6", 11.1", & 9.6" | 5.0         | 42'       | N/A                       | N/A   | N/A   | N/A   | 65% | Gen. Sym.  | Dense   | Healthy              | Straight             | NAD               | -                        | Partially failed at base--3 trunks, Not Wind Firm. Survey tag # 1-14.  | Significant       | Fair                       | Viable         |   |
| Subject Property  | 883    | BCh/Pe   |            | 6.9"                 | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 40% | Maj. Asym. | Average | Average              | Leans SW, Serpentine | NAD               | fill on 30% of CRZ       | dead branches in canopy, not wind firm   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property  | 884    | BCh/Pe   |            | 6.6"                 | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 40% | Maj. Asym. | Average | Average              | leans west           | partial failure   | Fill on 35% of root zone | dead branches on canopy, not wind firm   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property  | 885    | BCw/Pt   |            | 30.1"                | 0.0         | 50.0'     | N/A                       | N/A   | N/A   | N/A   | 90% | Min. Asym. | Average | Average              | Straight             | exposed           | Fill on 35% of root zone | dead branches in canopy, not wind firm   | Significant       | Poor                       | Non-viable     | Remove<br>Potential to retain with tree protection measures |
| Subject Property  | 886    | BCw/Pt   | 31.6"      | 30.5"                | 11.0        | 50.0'     | 20.0'                     | 20.0' | 20.0' | 20.0' | 85% | Gen. Sym.  | Average | Average              | Straight             | exposed           | Fill on 35% of root zone | sap sucker activity  | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 887    | BCw/Pt   | 31.8"      | 30.8"                | 11.0        | 56'       | N/A                       | N/A   | N/A   | N/A   | 80% | Gen. Sym.  | Dense   | Healthy              | Straight             | Partially Exposed | -                        |  | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 888    | BCw/Pt   | 17.4"      | 14.7"                | 4.0         | 40.0'     | 18.0'                     | 18.0' | 18.0' | 18.0' | 80% | Min. Asym. | Dense   | Healthy              | slight lean south    | NAD               | -                        |  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 889    | JRP/Pd   | 12.4"      | 12.1"                | 2.0         | 20.0'     | 13.5'                     | 6.0'  | 8.0'  | 12.0' | 60% | Min. Asym. | Dense   | Regenerating-Healthy | leans west           | NAD               | surface, restricted      | growing in planter bed, curb is 6' to the south, 8' to the east, and 13.5' to the north, sap sucker activity, Off Property   | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 890    | VM/Ac    | Clump of 7 | 12.0"                | 1.0         | 20.0'     | 12.0'                     | 6.0'  | 12.0' | 12.0' | 85% | Min. Asym. | Dense   | Healthy              | Typical              | fork at base      | Restricted               | growing in planter bed next to 889--curb is 6' to the south, 8' to the east, and 13.5' to the north Clump of 10 trunks from 2.6 to 4.7" in diameter, Off Property                                | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West | 891    | RM/Ar    | 15.7"      | 12.8"                | 3.0         | 26.0'     | N/A                       | N/A   | N/A   | N/A   | 75% | Gen. Sym.  | Dense   | Healthy              | Straight             | NAD               | Restricted               | OFF PROPERTY, curb is 2' west of base, fork at 7 feet, 9 feet east to light pole and 14 feet to curb, Off Property   | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West | 892    | PB/Bp    | 6.6"       | 2.6" & 3.3"          | 1.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 60% | Maj. Asym. | Average | Average              | Forked @ base        | NAD               | Restricted               | Not wind firm. 2011 two trunks of 4.7 and 4.6 inches = single trunk of 6.6"  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West | 893    | RM/Ar    | 12.5"      | 10.9"                | 2.0         | 26.0'     | N/A                       | N/A   | N/A   | N/A   | 50% | Gen. Sym.  | Average | Average              |                      | NAD               | Restricted               | OFF PROPERTY, fork at 7 feet, northwest trunk removed, 9 feet east to light pole and 14 feet east to curb, Off Property  | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 894    | PM/Am    | 12.4"      | 12                   | 2.0         | 22.0'     | N/A                       | N/A   | N/A   | N/A   | 85% | Maj. Asym. | Dense   | Healthy              | L-N, Forked @ base   | NAD               | Restricted               | Diameters in 2011 are 9.0 & 9.6 inches = single trunk of 12.4 inches. Some Fusarium in canopy, 3.5 feet east to curb and 12 feet west to retaining wall, base is adjacent to # 985, Off Property | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 895    | SP/PS    | 10.6"      | 10.0"                | 1.0         | 24.0'     | N/A                       | N/A   | N/A   | N/A   | 50% | Min. Asym. | Average | Average              | Serpentine, L-S      | NAD               | Restricted               | trunk is fused with # 987 at 25 feet, base is adjacent to 894, callused wound east side base up 4 feet, Off Property   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 896    | SP/PS    | 15.9"      | 12.6"                | 3.0         | 26.0'     | N/A                       | N/A   | N/A   | N/A   | 75% | Min. Asym. | Average | Average              | Serpentine, L-S      | NAD               | Restricted               | early Bark Beetle infestation, sap sucker activity, curb is 9 feet to the northeast, rock retaining wall is 10 west, Off Property  | Significant       | Good                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 897    | SP/PS    | 11.8"      | 11.5"                | 1.0         | 22.0'     | N/A                       | N/A   | N/A   | N/A   | 60% | Maj. Asym. | Thin    | Weak                 | Serpentine, L-W      | NAD               | Restricted               | callused wound south side at 6 to 10 feet, of fused trunk to 985 at 25 feet, curb is 5 feet north and the retaining wall is 14 feet to the west., Off Property                                   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 898    | BLM/Am   | 0.0"       | 0.0                  |             |           |                           |       |       |       |     |            |         |                      |                      |                   |                          | Tree was apparently removed as part of the propane tank and gravel parking expansion.  |                   | n/a                        | Non-viable     |   |
| Subject Property  | 899    | BLM/Am   | 0.0"       | 0.0                  |             |           |                           |       |       |       |     |            |         |                      |                      |                   |                          | Tree was apparently removed as part of the propane tank and gravel parking expansion.  |                   | n/a                        | Non-viable     |   |
| Subject Property  | 900    | FrCh/Psp | 22.6"      | 14.5"                | 7.0         | 22.0'     | N/A                       | N/A   | N/A   | N/A   | 65% | Min. Asym. | Average | Weak                 | Serpentine           | NAD               | -                        | dead branches in canopy, root collar is 6 inches from # 901, Off Property, Survey tag # 1046.  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 901    | FrCh/Psp | 16.1"      | 20.3"                | 4.0         | 28.0'     | N/A                       | N/A   | N/A   | N/A   | 80% | Maj. Asym. | Average | Average              | Leans-E              | NAD               | -                        | dead branches in canopy root collar is 6 inches from # 900, fork at 6 feet   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property  | 902    | BLM/Am   | n/a        | 13.8"                | 0.0         | N/A       | N/A                       | N/A   | N/A   | N/A   | 70% | Maj. Asym. | Average | Broken Out           | Center Rot           | Base Rot          | -                        | rot pocket in trunk  | Significant       | Poor                       | Non-viable     | Remove  |

| 1                 | 2      | 3        | 4        | 5                 | 6           | 7         | 8-- LIMITS OF DISTURBANCE |                  |       |         | 9   | 10         | 11             | 12                        | 13  | 14                | 15                       | 16  | 17                | 18                         | 19             | 20  |
|-------------------|--------|----------|----------|-------------------|-------------|-----------|---------------------------|------------------|-------|---------|-----|------------|----------------|---------------------------|---|-------------------|--------------------------|---|-------------------|----------------------------|----------------|---|
| PROPERTY          | TREE # | SPECIES  | DBH 2011 | DBH 2006          | TREE CREDIT | DRIP LINE | North                     | South            | East  | West    | LCR | SYMMETRY   | FOLIAGE        | CROWN CONDITION           | TRUNK   | ROOT COLLAR       | ROOTS                    | COMMENTS  | SIGNIFICANCE 2011 | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION                                    |
| Subject Property  | 903    | BLM/Am   | 17.0"    | 16.4"             | 4.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 50% | Min. Asym. | Average        | Broken Out                | Center Rot                                      | Base Rot          | -                        | fork at 16 feet with vertical crack 3.5 feet below the fork with sap flow   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 904    | FrCh/Psp | n/a      | 7.4"              | 0.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 10% | Maj. Asym. | Thin           | Dying                     | Leans-NE  | NAD               | -                        |   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property  | 905    | BLM/Am   | 13.5"    | 12.5", 11.8"      | 2.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 10% | Min. Asym. |                | Dying, Dense              | Serpentine                                      | NAD               | -                        | southwest trunk is dead and rotten with Carpenter Ant infestation, north trunk has base rot   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Off Property West | 906    | RM/Ar    | 7.1"     | 6.4"              | 1.0         | N/A       | N/A                       | N/A              | N/A   | N/A     |     | Min. Asym. | Average        | Pruned, Regenerating-Fair | Center Rot                                      | NAD               | -                        | open wound base up 5 feet, center rot Carpenter Ant Infestation   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 907    | BLM/Am   | 14.1"    | Clump of 4        | 3.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 50% | Min. Asym. | Average, Dense | Average, Dense            | Center Rot                                      | Partially exposed | -                        | 2006 trunk diameters are: 10.1, 6.6, 9.2, 4.3.. Base rot. Fork at 1 foot. 2011 trunk diameters are 10.5, 4.5, 5.2, & 6.5 inches = single trunk of 14.1 inches.  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 908    | BLM/Am   | 17.4"    | 16.1"             | 4.0         | 28.0'     | N/A                       | N/A              | N/A   | N/A     | 75% | Maj. Asym. | Dense          | Healthy                   | Serpentine                                      | NAD               | -                        | fork at 16 feet with included bark down 2 feet, 10 feet west to retaining wall. Off Property  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 909    | BLM/Am   | n/a      | Clump of 6        | 0.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 40% | Min. Asym. | Dense          | Healthy                   | Center Rot Forked @ 12", Leans East, Center rot | Base Rot          | Restricted               | 2011 trunk diameters are 1.7 & 5.4 = single trunk of 12.0 inches.   | Significant       | Poor                       | Non-viable     | Potential to retain with tree protection measures |
| Subject Property  | 910    | BLM/Am   | 12.0"    | 9.5", 4.6"        | 1.0         | N/A       | N/A                       | to property line | N/A   | N/A     | 50% | Maj. Asym. | Average        | Average                   | Forked @ 18", Included bark down bark           | Base Rot          | Restricted               | 2011 trunk diameters are 1.7 & 5.4 = single trunk of 12.0 inches.   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 911    | BLM/Am   | 13.9"    | 16.0"             | 2.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 45% | Maj. Asym. | Thin           | Average                   | Base Rot  | Restricted        | -                        | center rot, open wound east side from fork to base, 2006 trunk diameters are: 6.8", 4.6", 6.1", & 6.2" = a tree of 16". 2011 trunk diameters are 7.3, 5.6, 7.1, & 7.6 inches = single trunk of 13.9 inches. | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 912    | BCw/Pt   | 43.2"    | 40.0"             | 17.0        | 56.0'     | 24.0'                     | 24.0'            | 24.0' | 20.0'   | 45% | Gen. Sym.  | Dense          | Healthy                   | Typical   | NAD               | Restricted               | 20 feet east of parking lot curb  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 913    | BCh/Pe   | 7.1"     | 6.7"              | 1.0         | 22.0'     | 10.0'                     | 10.0'            | 10.0' | 10.0'   | 35% | Min. Asym. | Average        | Average                   | Typical, Kinked @ 6', Serpentine                | NAD               | -                        | bacterial infections in branch collars, 3 feet of brush and fill and trash over root collar   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 914    | RA/Ar    | 18.7"    | 20.0"             | 5.0         | 34.0'     | 12.0'                     | 12.0'            | 12.0' | 12.0'   | 70% | Min. Asym. | Average        | Average                   | Forked @ Base, slight lean to SW                | NAD               | -                        | 2006 trunk diameters are 10.2", 6.2", & 11.0". 2011 trunk diameters are 12.1, 6.8, & 12.5 inches = single trunk of 18.7 inches.   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Off Property West | 915    | RM/Ar    | 12.1"    | 9.5"              | 2.0         | 22.0'     | 10.0'                     | 10.0'            | 10.0' | to curb | 60% | Maj. Asym. | Average        | Average                   | Typical   | NAD               | Restricted               | 3 feet east of parking lot curb   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Off Property West | 916    | RM/Ar    | 10.3"    | 9.4"              | 1.0         | 16.0'     | 10.0'                     | 10.0'            | 10.0' | to curb | 55% | Maj. Asym. | Average        | Average                   | Typical   | NAD               | Restricted               | 3 feet east of parking lot curb   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 917    | BLM/Am   | 17.7"    | 11.9", 9.0", 6.4" | 4.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 60% | Gen. Sym.  | Average        | Average                   | Center Rot                                      | Goons, Base Rot   | Restricted               | ivy up 30 feet. 2011 trunk diameters are 12.5, 10.4, & 7.1 inches = single trunk of 17.7 inches.  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 918    | BLM/Am   | 9.9"     | 11.2"             | 0.0         | 26.0'     | 12.0'                     | 12.0'            | 12.0' | 12.0'   | 60% | Maj. Asym. | Average        | Average                   | Leans W   | NAD               | Fill on 50% of root zone | dead branches in canopy   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property  | 919    | BLM/Am   | n/a      | 7.8"              | 0.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 70% | Min. Asym. | Average        | Average                   | Forked @ 16' with rot column, Serpentine        | Possible base rot | Fill on 50% of root zone | center rot  | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property  | 920    | BCh/Pe   | 16.3"    | 15.4"             | 4.0         | 24.0'     | 10.0'                     | 10.0'            | 10.0' | 10.0'   | 45% | Min. Asym. | Average        | Average                   | Typical   | NAD               | Fill on 50% of root zone | dead branches in canopy, adjacent to # 921. Survey tag # 1045.  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures |
| Subject Property  | 921    | BLM/Am   | n/a      | 12.5"             | 0.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 60% | Min. Asym. | Healthy        | Average                   | Center Rot                                      | Base Rot          | Fill on 50% of root zone | open wound north side 2' to 4.5' with rot   | Significant       | Poor                       | Non-viable     | Remove  |
| Subject Property  | 922    | BLM/Am   | n/a      | 8.0"              | 0.0         | N/A       | N/A                       | N/A              | N/A   | N/A     | 25% | Min. Asym. | Average        | Average                   | Forked @ 20', with Rot Column to 12'            | Base Rot          | Fill on 50% of root zone | center rot  | Significant       | Dying                      | Non-viable     | Remove  |

| 1                   | 2      | 3       | 4        | 5        | 6           | 7         | 8-- LIMITS OF DISTURBANCE     |              |                 |                          | 9   | 10         | 11      | 12                    | 13                                    | 14                | 15                       | 16  | 17                | 18                         | 19             | 20  |
|---------------------|--------|---------|----------|----------|-------------|-----------|-------------------------------|--------------|-----------------|--------------------------|-----|------------|---------|-----------------------|---------------------------------------|-------------------|--------------------------|---|-------------------|----------------------------|----------------|---|
| PROPERTY            | TREE # | SPECIES | DBH 2011 | DBH 2006 | TREE CREDIT | DRIP LINE | North                         | South        | East            | West                     | LCR | SYMMETRY   | FOLIAGE | CROWN CONDITION       | TRUNK                                 | ROOT COLLAR       | ROOTS                    | COMMENTS  | SIGNIFICANCE 2011 | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION  |
| Subject Property    | 923    | BCh/Pe  | n/a      | 8.0"     | 0.0         | N/A       | N/A                           | N/A          | N/A             | N/A                      | 35% | Maj. Asym. | Thin    | Straight              | Leans W, Serpentine                   | Base Rot          | Fill on 50% of root zone | center rot, not wind firm   | Significant       | Dead                       | Non-viable     | Remove  |
| Subject Property    | 924    | BCh/Pe  | n/a      | 7.6"     | 0.0         | 14.0'     | 6.0'                          | 6.0'         | 6.0'            | 6.0'                     | 30% | Min. Asym. | Average | Straight              | Leans North                           | Exposed           | -                        |   | Significant       | Poor                       | Non-viable     | Remove<br>Potential to retain with tree protection measures |
| Subject Property    | 925    | BCh/Pe  | 17.7"    | 15.6"    | 4.0         | 26.0'     | 10.0'                         | 10.0'        | 10.0'           | 10.0'                    | 70% | Min. Asym. | Average | Average               | Leans North                           | Partially exposed | Fill on 35% of root zone | sap sucker activity   | Significant       | Fair                       | Viable         |   |
| Subject Property    | 926    | BCw/Pt  | n/a      | est. 36" | 0.0         | N/A       | N/A                           | N/A          | N/A             | N/A                      | 20% | Maj. Asym. | Sparse  | Dying                 | Forked @ 12'                          | Base Rot          | -                        | Ivy 3 inches in diameter growing up tree, advanced Carpenter Ant infestation, tree is mostly dead   | Significant       | Dying                      | Non-viable     | Remove<br>Potential to retain with tree protection measures |
| Subject Property    | 927    | DF/Pm   | 33.6"    | 38.0"    | 12.0        | 44.0'     | 20.0'                         | 20.0'        | 20.0'           | to curb                  | 25% | Gen. Sym.  | Dense   | Regenerating, Healthy | Straight                              | Ivy               | Restricted               | growing 12 feet east of parking lot curb, early Bark Beetle infestation, Ivy up 85% of tree. Survey tag # 1041.                                   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West   | 928    | RM/Ar   | 8.8"     | 9.4"     | 1.0         | 60        | N/A                           | N/A          | N/A             | N/A                      | 35% | Gen. Sym.  | Average | Average               | Forked @ 6' with Rot Column to base   | Base Rot          | Restricted               | open wound west side base up 6 feet, curb is 2 feet west and rock retaining wall is 2 feet east   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West   | 929    | RM/Ar   | 8.7"     | 77.0"    | 1.0         | 16        | N/A                           | N/A          | N/A             | N/A                      | 60% | Gen. Sym.  | Average | Average               | Forked @ 6' with Rot Column to base   | Base Rot          | Restricted               | curb is 2 feet west and rock retaining wall is 2 feet east, open wound southwest side base up 5 feet  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West   | 930    | RM/Ar   | 8.8"     | 7.9"     | 1.0         | 12        | N/A                           | N/A          | N/A             | N/A                      | 60% | Gen. Sym.  | Average | Average               | Forked @ 5.5' with Rot Column to base | Base Rot          | Restricted               | curb is 2 feet west and rock retaining wall is 2 feet east, open wound southwest side base up 5 feet  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West   | 931    | RM/Ar   | 6.3"     | 5.8"     | 1.0         | 10.0'     | 10' NE and SW and to the curb |              |                 |                          | 60% | Gen. Sym.  | Average | Average               | Forked @ 6'                           | NAD               | Restricted               | curb is 2 feet west and rock retaining wall is 2 feet east, callused wound southwest side 2 feet to 4 feet  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Off Property West   | 932    | RM/Ar   | 8.8"     | 8.0"     | 1.0         | 10.0'     | 10' NE and SW and to the curb |              |                 |                          | 60% | Gen. Sym.  | Average | Average               | Forked @ 6', included bark to 1'      | NAD               | Restricted               | curb is 2 feet west and rock retaining wall is 2 feet east, callused wound east side at 5.5 feet  | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property    | 933    | RM/Ar   | 9.6"     | 8.6"     | 1.0         | 14.0'     | 10' NE and SW and to the curb |              |                 |                          | 60% | Gen. Sym.  | Average | Average               | Forked @ 5.5', included bark to 1'    | NAD               | Restricted               | curb is 2 feet west and rock retaining wall is 2 feet east, open wound south side at 4.5 feet   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property    | 934    | DF/Pm   | 39.8"    | 35.3"    | 15.0        | 46.0'     | 20.0'                         | 20.0'        | 20.0'           | to top of retaining wall | 90% | Gen. Sym.  | Dense   | Healthy               | Kinked @ 34'                          | NAD               | Restricted               | Ivy up 24 feet, growing 18 feet southeast of 4 foot rock retaining wall   | Significant       | Very Good                  | Viable         |   |
| Subject Property    | 935    | DF/Pm   | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Removed                    | Non-viable     | Eliminate from site plan                                    |
| Subject Property    | 936    | WRC/TP  | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Removed                    | Non-viable     | Eliminate from site plan                                    |
| Subject Property    | 937    | DF/Pm   | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Removed                    | Non-viable     | Eliminate from site plan                                    |
| Right-of-Way Slater | 938    | DF/Pm   | 39.9"    | 39.6"    | 15.0        | 40.0'     | 18.0'                         | to prop line | to edge of road | 18.0'                    | 80% | Min. Asym. | Dense   | Regenerating, Average | Forked @ 60'                          | lowed at base     | Restricted               | open wound west side 2 feet to 5 feet with sap flow, ice storm damage, in gravel parking area near road, wire and metal embedded in base of trunk | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property    | 939    | WRC/TP  | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Removed                    | Non-viable     | Eliminate from site plan                                    |
| Subject Property    | 940    | DF/Pm   | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Fair                       | Viable         | Eliminate from site plan                                    |
| Subject Property    | 941    | WRC/TP  | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Fair                       | Viable         | Eliminate from site plan                                    |
| Subject Property    | 942    | BLM/Am  | 0.0"     |          | 0.0         |           |                               |              |                 |                          |     |            |         |                       |                                       |                   |                          | Removed in prior construction +/-or demolition  |                   | Fair                       | Viable         | Eliminate from site plan                                    |
| Subject Property    | 943    | BLM/Am  | 12.7"    | 10.7"    | 2.0         | 36.0'     | 14.0'                         | 8.0'         | to edge of road | 14.0'                    | 75% | Min. Asym. | Dense   | Healthy               |                                       | Bowed at base     |                          | 8 feet north of house   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property    | 944    | BLM/Am  | 11.0"    | 9.4"     | 1.0         | 36.0'     | 14.0'                         | 12.0'        | to edge of road | 14.0'                    | 70% | Min. Asym. | Dense   | Healthy               |                                       | NAD               |                          | fork at 12 feet   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |
| Subject Property    | 945    | BLM/Am  | 11.1"    | 9.6"     | 1.0         | 36.0'     | 14.0'                         | 14.0'        | to edge of road | 14.0'                    | 80% | Maj. Asym. | Dense   | Healthy               | Slight lean SW                        | Bowed at base     |                          |   | Significant       | Fair                       | Viable         | Potential to retain with tree protection measures           |

| 1                | 2      | 3       | 4        | 5           | 6  | 7         | 8 -- LIMITS OF DISTURBANCE |       |                 |       |     | 9          | 10      | 11                   | 12                           | 13                       | 14                       | 15  | 16   | 17                         | 18             | 19  | 20  |  |  |  |  |
|------------------|--------|---------|----------|-------------|--|-----------|----------------------------|-------|-----------------|-------|-----|------------|---------|----------------------|------------------------------|--------------------------|--------------------------|---|--|----------------------------|----------------|---|---|--|--|--|--|
| PROPERTY         | TREE # | SPECIES | DBH 2011 | DBH 2006    | TREE CREDIT                              | DRIP LINE | North                      | South | East            | West  | LCR | SYMMETRY   | FOLIAGE | CROWN CONDITION      | TRUNK                        | ROOT COLLAR              | ROOTS                    | COMMENTS  | SIGNIFICANCE 2011  | CURRENT HEALTH RATING 2011 | VIABILITY 2011 | RECOMMENDATION                                    |   |  |  |  |  |
| Subject Property | 946    | BLM/Am  | 13.2"    | 11.1"       | 2.0                                      | 36.0'     | 14.0'                      | 14.0' | to edge of road | 14.0' | 80% | Min. Asym. | Dense   | Healthy              | Slight lean NE               | Bowed at base            | -                        |   | Significant  | Fair                       | Viable         | Potential to retain with tree protection measures |   |  |  |  |  |
| Subject Property | 947    | DF/Pm   | 29.4"    | 28.6"       | 10.0                                     | 34.0'     | 14.0'                      | 14.0' | to edge of road | 14.0' | 85% | Min. Asym. | Dense   | Average              | Straight                     | NAD                      |                          | bark beetle infestation, dead branches in canopy on north side. Survey tag # 107. | Significant  | Good                       | Viable         | Potential to retain with tree protection measures |   |  |  |  |  |
| Subject Property | 948    | BLM/Am  | n/a      | 6.0"        | 0.0                                      | N/A       | N/A                        | N/A   | N/A             | N/A   | 10% | Maj. Asym. |         | Center Rot           | Base Rot                     | Fill on 50% of root zone |                          | carpenter ant infestation   | Significant  | Dying                      | Non-viable     | Remove  |   |  |  |  |  |
| Subject Property | 949    | BLM/Am  | 16.8"    | 13.4"       | 4.0                                      | N/A       | N/A                        | N/A   | N/A             | N/A   | 10% | Min. Asym. | Thin    | Weak                 | Center Rot                   | Base Rot                 |                          | ivy up 50 feet  | Significant  | Fair                       | Viable         | Potential to retain with tree protection measures |   |  |  |  |  |
| Subject Property | 950    | BLM/Am  | n/a      | 12.0"       | 0.0                                      | 30        | N/A                        | N/A   | N/A             | N/A   | 60% | Gen. Sym.  |         | Straight, Center rot | Base Rot                     | Fill on 50% of root zone |                          | fork at 22 feet, ivy up 20 feet. Survey tag # 1037                                | Significant  | Poor                       | Non-viable     | Remove  |   |  |  |  |  |
| Subject Property | 951    | BLM/Am  | 22.1"    | 16.8", 8.2" | 7.0                                      | 20        | N/A                        | N/A   | N/A             | N/A   | 80% |            | Dense   | Healthy              | Center Rot                   | Base Rot                 | Fill on 50% of root zone |   | ivy up 30 feet, fork at base stump sprouts. 2011 trunk diameters are 12.5 & 18.2 inches = single trunk of 22.1 inches. | Significant                | Fair           | Viable  | Potential to retain with tree protection measures |  |  |  |  |
| Subject Property | 1375   | BCw/Pt  | 8.3"     |             | 0.0                                      | 10        | n/a                        | n/a   | n/a             | n/a   | 75  | Maj. Asym. | ABS/ASE | Average              | Leans SW                     | NAD                      | NAD                      |   | Kinked at 10 feet with rot pockets.  | Significant                | Poor           | Non-viable  | Remove  |  |  |  |  |
| Subject Property | 1378   | BCh/Pe  | 11.2"    |             | 1.0                                      | 12        |                            |       |                 |       | 65  | Gen. Sym.  | ABS/ASE | Average              | Forked at 3.5'. Leans north. | NAD                      | NAD                      |   | Trunk diameters are 8.8 & 7.0 inches = single trunk of   | Significant                | Fair           | Viable  | Potential to retain with tree protection measures |  |  |  |  |
| Subject Property | 1379   | BCh/Pe  | 10.4"    |             | 1.0                                      | 14        |                            |       |                 |       | 65  | Gen. Sym.  | ABS/ASE | Average              | Serpentine, leans NW         | NAD                      | NAD                      |   |  | Significant                | Fair           | Viable  | Potential to retain with tree protection measures |  |  |  |  |
| Subject Property | 1380   | BCh/Pe  | 14.8"    |             | 0.0                                      | 12        | n/a                        | n/a   | n/a             | n/a   | 60  | Maj. Asym. | PBS/PSE | Weak                 | Forked at base. Center rot   | Base Rot                 | Probable root rot        |   | Open wound on south side from base up 3.5 feet with decay.   | Significant                | Poor           | Non-viable  | Remove  |  |  |  |  |
| Subject Property | 1381   | BCh/Pe  | 8.0"     |             | 1.0                                      | 14        |                            |       |                 |       | 65  | Min. Asym. | ABS/ASE | Average              | Forked at base, typical      | NAD                      | NAD                      |   | Trunk diameters are 6.1 & 5.2 inches = single trunk of   | Significant                | Fair           | Viable  | Potential to retain with tree protection measures |  |  |  |  |
| Subject Property | 1382   | BCw/Pt  | 32.7"    |             | 0.0                                      | n/a       | n/a                        | n/a   | n/a             | n/a   | 0   | n/a        | none    | Dead                 | n/a                          | n/a                      | n/a                      |   |  | Significant                | Dead           | Non-viable  | Remove  |  |  |  |  |
| Subject Property | 1383   | SG/Ls   | 5.3"     |             |  | 6         | 6                          | 6     | 6               | 6     | 60  | Gen. sym.  | ABS/ASE | Healthy              | Typical Bowed & leans SW     | NAD                      | Restricted               |   | growing in small planter bed between shoulder and the coffee stand in the parking lot.                                 | Not Significant            | Very Good      | Viable  | Potential to retain with tree protection measures |  |  |  |  |
| Subject Property | 1384   | BCh/Pe  | 5.4      |             |  | 6         | n/a                        | n/a   | n/a             | n/a   | 45  | Maj. Asym. | PBS/PSE | Broken Out           |                              |                          |                          |   |  | Not Significant            | Poor           | Non-viable  | Remove  |  |  |  |  |
| Subject Property | 1385   | BCh/Pe  | 6.2      |             |  | 8         | 8                          | 8     | 8               | 8     | 60  | Min. Asym. | ABS/ASE | Average              | Serpentine                   | NAD                      |                          |   |  | Significant                | Fair           | Viable  | Potential to retain with tree protection measures |  |  |  |  |
|                  |        |         |          |             | <b>322.0 Total Existing Tree Credits</b> |           |                            |       |                 |       |     |            |         |                      |                              |                          |                          |   |  |                            |                |   |   |  |  |  |  |

| SUMMARY                |                        |  |                              |
|------------------------|------------------------|--|------------------------------|
| <b>Tree Locations:</b> |                        | <b>Evaluation of Subject Property Trees:</b> |                              |
| 1                      | Right-of-Way Trees     |  |                              |
| 11                     | Off Property Trees     |  |                              |
| 119                    | Subject Property Trees |  |                              |
| 131                    | Total # of Trees       | <b>Significance:</b>                         | <b>Viability:</b>            |
|                        |                        | 115: Significant                             | 68: Viable                   |
|                        |                        | 4: Non-Significant                           | 51: Non-Viable               |
|                        |                        | <b>119: Total # of Trees</b>                 | <b>119: Total # of Trees</b> |

## ATTACHMENT 3 - GLOSSARY

### Terms Used in This Report, on the Tree Condition / Inventory Spreadsheet, and Their Significance

In an effort to clearly present the information for each tree in a manner that facilitates the reader's ability to understand the conclusions I have drawn for each tree, I have collected the information in a spreadsheet format. This spreadsheet was developed by Gilles Consulting based upon the *Tree Risk Assessment in Urban Areas and the Urban/Rural Interface* course manual and the *Tree Risk Assessment Form*, both sponsored by the Pacific Northwest Chapter of the International Society of Arboriculture, and the *Hazard Tree Evaluation Form* from the book, *The Evaluation of Hazard Trees in Urban Areas*, by Matheny and Clarke. The descriptions were left brief on the spreadsheet in an effort to include as much pertinent information as possible, to make the report manageable, and to avoid boring the reader with infinite levels of detail. However, a review of these terms and descriptions will allow the reader to rapidly move through the report and understand the information.

- 1) **PROPERTY** – Whether the tree is on or off the Subject Property, or a Right-of-Way tree.
- 2) **TREE LOCATION** – Relative placement of the tree.
- 3) **TREE #** – the unique tag number of each tree.
- 4) **SPECIES** – this describes the species of each tree with both most readily accepted common name and the officially accepted scientific name.
- 5) **DBH** – Diameter Breast Height. This is the standard measurement of trees taken at 4.5 feet above the average ground level of the tree base.
  - i) Occasionally it is not practical to measure a tree at 4.5 feet above the ground. The most representative area of the trunk near 4.5 feet is then measured and noted on the spreadsheet. For instance, a tree that forks at 4.5 feet can have an unusually large swelling at that point. The measurement is taken below the swelling and noted as, "28.4" at 36"
  - ii) Trees with multiple stems are listed as a "clump of x," with x being the number of trunks in the clump. Measurements may be given as an average of all the trunks, or individual measurements for each trunk may be listed.
    - (1) Every effort is made to distinguish between a single tree with multiple stems and several trees growing close together at the bases.
- 6) **TREE CREDIT** – Tree Credit based on Trunk Diameter
- 7) **DRIP LINE** – the radius, the distance from the trunk to the furthest branch tips.
- 8) **LIMITS OF DISTURBANCE** – the boundary between the area of minimum protection around a tree and the allowable site disturbance as determined by a qualified professional.

- 9) **% LCR** Percentage of Live Crown Ratio. The relative proportion of green crown to overall tree height. This is an important indication of a tree's health. If a tree has a high percentage of Live Crown Ratio, it is likely producing enough photosynthetic activity to support the tree. If a tree has less than 30 to 40% LCR it can create a shortage of needed energy and can indicate poor health and vigor.
- 10) **SYMMETRY** is the description of the form of the canopy. That is, the balance or overall shape of the canopy and crown. This is the place I list any major defects in the tree shape - does the tree have all its foliage on one side or in one unusual area. Symmetry can be important if there are additional defects in the tree such as rot pockets, cracks, loose roots, weak crown etc. Symmetry is generally categorized as Generally Symmetrical, Minor Asymmetry or Major Asymmetry:
- i) **Gen. Sym.** Generally Symmetrical. The canopy/foliage is generally even on all sides with spacing of scaffold branches typical for the species, both vertically and radially.
  - ii) **Min. Asym.** Minor Asymmetry. The canopy/foliage has a slightly irregular shape with more weight on one side but appears to be no problem for the tree.
  - iii) **Maj. Asym.** Major Asymmetry. The canopy/foliage has a highly irregular shape for the species with the majority of the weight on one side of the tree. This can have a significant impact on the tree's stability, health and hazard potential - especially if other defects are noted such as cracks, rot, root defects.
- 11) **FOLIAGE/BRANCH** describes the foliage of the tree in relation to a perfect specimen of that particular species. First the branch growth and foliage density is described, and then any signs or symptoms of stress and/or disease are noted. The condition of the foliage, or the branches and buds for deciduous trees in the dormant season, are important indications of a tree's health and vigor.
- i) For Deciduous trees in the dormant season:
    - (1) The structure of the tree is visible,
    - (2) The quantity and quality of buds indicates health, and is described as good bud set, average bud set, or poor bud set. These are abbreviated in the spreadsheet as: gbs, abs, or pbs.
    - (3) The amount of annual shoot elongation is visible and is another major indication of tree health and vigor. This is described as:
      - a) Excellent, Good, Average, or Short Shoot Elongation. These are abbreviated in the spreadsheet as ESE, GSE, ASE, OR SSE.
  - ii) For evergreen trees year round and deciduous trees in leaf, the color and density of the foliage indicates if the tree is healthy or stressed, or if an insect infestation, a bacterial, fungal, or viral infection is present. Foliage is categorized on a scale from:
    - (1) **Dense** extremely thick foliage, an indication of healthy vigorous growth,
    - (2) **Good** thick foliage, thicker than average for the species,

- (3) Normal/Average thick foliage, average for the species, an indication of healthy growth,
  - (4) Thin or Thinning needles and leaves becoming less dense so that sunlight readily passes through; an indication that the tree is under serious stress that could impact the long-term survivability and safety of the tree,
  - (5) Sparse few leaves or needles on the twigs, an indication that the tree is under extreme stress and could indicate the future death of the tree
  - (6) Necrosis the presence of dead twigs and branchlets. This is another significant indication of tree health. A few dead twigs and branches are reasonably typical in most trees of size. However, if there are dead twigs and branchlets all over a certain portion of the tree, or all over the tree, these are indications of stress or attack that can have an impact on the tree's long-term health.
  - (7) Hangers a term to describe a large branch or limb that has broken off but is still hanging up in the tree. These can be particularly dangerous in adverse weather conditions.
- 12) **CROWN CONDITION** the crown is uppermost portion of the tree, generally considered the top 10 to 20% of the canopy or that part of the canopy above the main trunk in deciduous trees and above the secondary bark in evergreen trees.
- i) The condition of the tree's crown is a reflection of the overall health and vigor of the entire tree. The crown is one of the first places a tree will demonstrate stress and pathogenic attack such as root rot.
  - ii) If the **Crown Condition** is healthy and strong, this is a good sign. If the crown condition is weak, broken out, or shows other signs of decline, it is an indication that the tree is under stress. It is such an important indication of health and vigor that this is the first place a trained forester or arborist looks to begin the evaluation of a tree. Current research reveals that, by the time trees with root rot show significant signs of decline in the crown, fully 50% or more of the roots have already rotted away. **Crown Condition** can be described as:
    - (1) Healthy Crown exceptional growth for the species.
    - (2) Average Crown typical for the species.
    - (3) Weak Crown thin spindly growth with thin or sparse needles.
    - (4) Flagging Crown describes a tree crown that is weak and unable to grow straight up.
    - (5) Dying Crown describes obvious decline that is nearing death.
    - (6) Dead Crown the crown has died due to pathological or physical injury. The tree is considered to have significant stress and/or weakness if the crown is dead.
    - (7) Broken out a formerly weak crown condition that has been broken off by adverse weather conditions or other mechanical means.

- (8) Regenerated or Regenerating formerly broken out crowns that are now growing back, Regenerating crowns may appear healthy, average, or weak and indicate current health of the tree.
- (9) Suppressed a term used to describe poor condition of an entire tree or just the crown. Suppressed crowns are those that are entirely below the general level of the canopy of surrounding trees which receive no direct sunlight. They are generally in poor health and vigor. Suppressed trees are generally trees that are smaller and growing in the shade of larger trees around them. They generally have thin or sparse needles, weak or missing crowns, and are prone to insect attack as well as bacterial and fungal infections.
- 13) **TRUNK** this is the area to note any defects that can have an impact on the tree's stability or hazard potential. Typical things noted are:
- i) FORKED bifurcation of branches or trunks that often occur at a narrow angle.
  - ii) INCLUDED BARK a pattern of development at branch or trunk junctions where bark is turned inward rather than pushed out. This can be a serious structural defect in a tree that can and often does lead to failure of one or more of the branches or trunks especially during severe adverse weather conditions.
  - iii) EPICORMIC GROWTH this is generally seen as dense thick growth near the trunk of a tree. Although this looks like a healthy condition, it is in fact the opposite. Trees with Epicormic Growth have used their reserve stores of energy in a last ditch effort to produce enough additional photosynthetic surface area to produce more sugars, starches and carbohydrates to support the continued growth of the tree. Generally speaking, when conifers in the Pacific Northwest exhibit heavy amounts of Epicormic Growth, they are not producing enough food to support their current mass and are already in serious decline.
  - iv) INTERNAL STRUCTURAL WEAKNESS a physical characteristic of the tree trunk, such as a **kink, crack, rot pocket, or rot column** that predisposes the tree trunk to failure at the point of greatest weakness.
  - v) BOWED a gradual curve of the trunk. This can indicate an Internal Structural Weakness or an overall weak tree. It can also indicate slow movement of soils or historic damage of the tree that has been corrected by the curved growth.
  - vi) KINKED a sharp angle in the tree trunk that indicates that the normal growth pattern is disrupted. Generally this means that the internal fibers and annual rings are weaker than straight trunks and prone to failure, especially in adverse weather conditions.
  - vii) GROUND FLOWER an area of deformed bark near the base of a tree trunk that indicates long-term root rot.

- 14) **ROOT COLLAR**— this is the area where the trunk enters the soil and the buttress roots flare out away from the trunk into the soil. It is here that signs of rot, decay, insect infestation, or fungal or bacterial infection are noted. **NAD** stands for **No Apparent Defects**.
- 15) **ROOTS**— any abnormalities such as girdling roots, roots that wrap around the tree itself that strangle the cambium layer and kill the tree, are noted here.
- 16) **COMMENTS**— this is the area to note any additional information that would not fit in the previous boxes or attributes about the tree that have bearing on the health and structure of the tree.
- 17) **SIGNIFICANCE**— a “significant” tree is at least 6” in diameter measured at 4.5’ above the average ground level.
- 18) **CURRENT HEALTH RATING**— a description of general health ranging from dead, dying, poor, senescent, suppressed, fair, good, very good, to excellent.
- 19) **VIABILITY**— a significant tree that is in good health with a low risk of failure due to structural defects, is relatively wind firm if isolated or remains as part of a grove, and is a species that is suitable for its location.
- (1) Please note that many trees may be listed as “Non-Viable” due to poor health, poor structure, or the tree may be below the size threshold for a “Viable Tree.” However, it is worth examining the Non-Viable Trees to determine if any or all of them can be left on the property. They can add significant benefit to the landscape and contribute to wildlife habitat.
- 20) **RECOMMENDATION**— this is an estimate of whether or not the tree is of sufficient health, vigor, and structure that it is worth retaining. Specific recommendations for each tree are included in this column. They may include anything from pruning dead wood, mulching, aerating, injecting tree-based fertilizer into the root system, shortening into a habitat tree or wildlife snag, or to completely removing the tree.
- i) **Monitor:** “Monitor” is a specific recommendation that the tree be re-evaluated on a routine basis to determine if there are any significant changes in health or structural stability. “Monitor annually” (or bi-annually, tri-annually, etc.) means the tree should be looked at once every year (or every 2 or 3 years, etc.) This yearly monitoring can be a quick look at the trees to see if there are any significant changes. Significant changes such as storm damage, loss of crown, partial failure of one or more roots, etc. require that a full evaluation be done of the tree at that time.
  - ii) **Potential to retain with tree protection measures:** means that the tree appears to have the internal resources, the health and vigor, structural stability, and the wind firmness to be able to withstand the stresses of construction if development requirements and construction requirements allow.
  - iii) **Habitat or Remove:** means that the tree has a high potential to fail and cause either personal injury or property damage— in other words the tree has been

declared a hazard tree and should be dealt with prior to the next large storm. If it is at all possible the recommendation is to leave some of the trunk standing for wildlife habitat and some of the trunk on the ground as a nurse log. The height of the standing habitat tree depends upon the size of the tree, the condition of the tree, and the distance to a probable target. It should be short enough so that when it does fail years in the future it will not cause personal injury or property damage. Nurse logs can be laid horizontally across the slope to aid with erosion control and to provide microenvironments for new plantings. The nurse logs meaning to be steak to prevent their movement and potential harm to people. If for some reason this is not possible that should be removed for safety.

**NOTE: TREES WITH THE SAME DESCRIPTION AND DIFFERENT RATINGS:**

Two trees may have the same descriptions in the matrix boxes, one may be marked "Significant," while another may be marked "Non-Significant." The difference is in the degree of the description— early necrosis versus advanced necrosis for instance. Again, these descriptions were left brief in an effort to include as much pertinent information as possible, to make the report manageable, and, not to bore the reader with infinite levels of detail.

## **ATTACHMENT 4 - 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 will 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 following minimum Tree Protection Measures are included on three separate sheets so that they 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.

## **TREE PROTECTION MEASURES:**

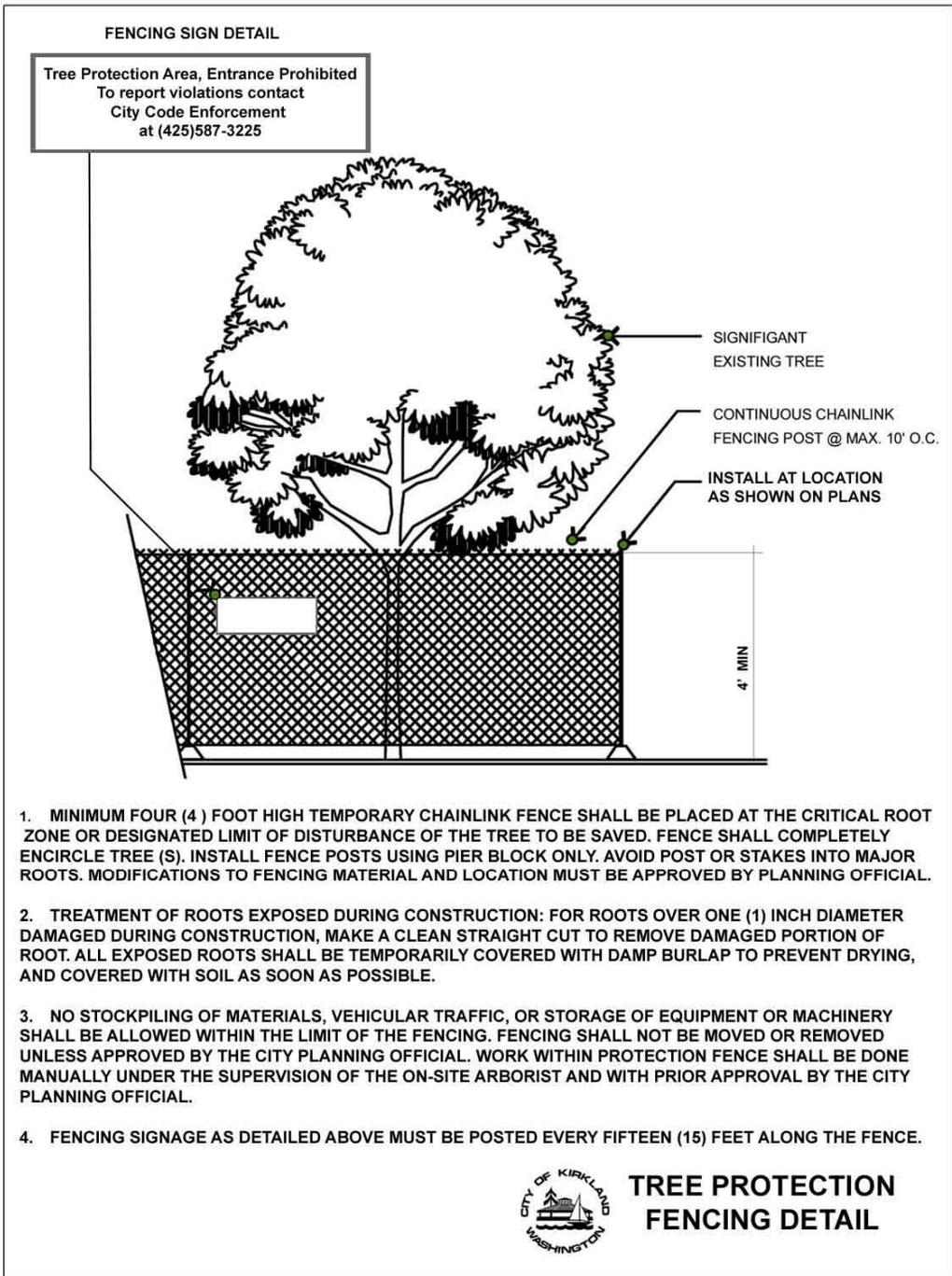
1. Tree Protection Fences will need to be placed around each tree or group of trees to be retained.
  - a. Tree Protection Fences are to be placed according to the attached drawing and as noted in the attached Tree Inventory/Conditions Spreadsheet, Column 6 - Limits of Disturbance.
  - b. Tree Protection Fences must be inspected prior to the beginning of any construction work/activities.
  - c. Nothing must be parked or stored within the Tree Protection Fences— no equipment, vehicles, soil, debris, or construction supplies of any sorts.
2. Cement trucks must not be allowed to deposit waste or wash out materials from their trucks within the Tree Protection Fences.
3. The Tree Protection Fences need to be clearly marked with the following or similar text in four inch or larger letters:

### **TREE PROTECTION AREA, ENTRANCE PROHIBITED**

**To report violations contact  
City Code Enforcement at  
425-587-3225**

4. The area within the Tree Protection Fencing must be covered with wood chips, hog fuel, or similar materials to a depth of 8 to 10 inches. The materials should be placed prior to beginning construction and remain until the Tree Protection Fencing is taken down.
5. When excavation occurs near trees that are scheduled for retention, the following procedure must be followed to protect the long term survivability of the tree:
  - a. An International Society of Arboriculture, (ISA) Certified Arborist must be working with all equipment operators.
    - i. The Certified Arborist should be outfitted with a shovel, hand pruners, a pair of loppers, a handsaw, and a power saw (a chainsaw is recommended).
  - b. The hoe must be placed to remove the material directly away from the trunk as opposed to cutting across the roots.
    - i. Combing is the gradual excavation of the ground cover plants and soil in depths that only extend as deep as the tines of the hoe.
  - c. When any roots of one inch diameter or greater, of the tree to be retained, is struck by the equipment, the Certified Arborist should stop the equipment operator.

- d. The Certified Arborist should then excavate around the tree root by hand/shovel and cleanly cut the tree root.
    - i. The Certified Arborist should then instruct the equipment operator to continue.
6. Putting Utilities Under the Root Zone:
- a. Boring under the root systems of trees (and other vegetation) shall be done under the supervision of an ISA Certified Arborist. This is to be accomplished by excavating a limited trench or pit on each side of the critical root zone of the tree and then hand digging or pushing the pipe through the soil under the tree. The closest pit walls shall be a minimum of 7 feet from the center of the tree and shall be sufficient depth to lay the pipe at the grade as shown on the plan and profile.
  - b. Tunneling under the roots of trees shall be done under the supervision of an ISA Certified Arborist in an open trench by carefully excavating and hand digging around areas where large roots are exposed. No roots 1 inch in diameter or larger shall be cut.
  - c. The contractor shall verify the vertical and horizontal location of existing utilities to avoid conflicts and maintain minimum clearances; adjustment shall be made to the grade of the new utility as required.
7. Watering:
- a. The trees will require significant watering throughout the summer and early fall in order to survive long-term. An easy and economical watering can be done using soaker hoses placed three feet from the trunk of the tree and spiraled around the tree. One 75-foot soaker hose per tree is adequate. It is best to place the soakers using landscape staples, (available from HD Fowler in Bellevue for pennies apiece) then cover the area with two to three inches composted materials. The composted material will act as a mulch to minimize evaporation and will also stimulate the microbial activity of the soil which is another benefit to the health of the tree.
  - b. Water the tree to a depth of 18 to 20 inches. I recommended leaving the water on the soaker hoses for six to eight hours and then digging down to determine how deep your water is penetrating. Then adjust accordingly. It may take a good two days of watering to reach the proper depth.
  - c. Once the water reaches the proper depth, turn off the hoses for four weeks and then water again. Water more often when temperatures increase every three weeks when temperatures exceed 80 degrees and every two weeks when temperatures exceed 90 degrees. This drying out of the soil in between watering is important to prevent soil pathogens from attacking the trees.



## ATTACHMENT 5 - REFERENCES

1. Arno, Stephen F. and Hammerly, Ramona P. *Northwest Trees*. Anniversary Ed. Seattle, Washington: The Mountaineer Books, 2007.
2. Brockman, C. Frank, *Trees of North America, A Guide to Field Identification*. New York: Golden Press, 1979.
3. Harris, Richard W. et al. *Arboriculture, Integrated Management of Landscape Trees, Shrubs, and Vines*. 4<sup>th</sup> ed. Upper Saddle River: Prentice Hall, 2004.
4. Matheny, Nelda P. and Clark, James R. *Trees & Development, A Technical Guide to Preservation of Trees During Land Development*. Savoy: The International Society of Arboriculture Press, 1998.
5. Mattheck, Claus and Breloer, Helge. *The Body Language of Trees, A Handbook for Failure Analysis*. London: HMSO, 1994.
6. Pacific Northwest Chapter-ISA. *Tree Risk Assessment in Urban Areas and the Urban/Rural Interface*. Course Manual. Release 1.4. PNW-ISA: Silverton, Oregon, 2010.
7. Watson, Gary W., and Neely, Dan, eds. *Trees & Building Sites*. Savoy: The International Society of Arboriculture Press, 1995.