ATTACHMENT 11

Gilles Consulting
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ADDENDUM TO THE
ARBORICULTURAL REPORT
RE-EVALUATION OF TREES
AT

THE TOTEM LAKE APARTMENTS SITE
At NE 115th Street & 124th Avenue NE
KIRKLAND, WA 98033

February 10, 2011 Original Report
April 7, 2011 Addendum

PREPARED FOR:
MSPT IV LLC
Aaron Hollingbery
9720 NE 120th Place
Kirkland, WA 98034

PREPARED BY:
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ASSIGNMENT

Kim Faust of CamWest Development, LLC contacted Gilles Consulting to discuss comments received from the City of Kirkland Planning Department about the design of the new structure and the impacts on the trees. She asked me to review the design and respond to the two questions in the correspondence from the City.

DESIGN OBSERVATIONS

The property is located in the corner of inside NE 116th Avenue, 124th Avenue NE, and NE 115th at Slater Road in Kirkland, Washington. The property is bisected by the old Slater Road. The area between Slater Road and 124th 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 proposed design has a structure, parking lots, sidewalks, landscape areas filling the majority of the property east of the old Slater Road and extending to the west property line in the south while leaving the northwest quarter of the property, (approximately) unaltered.

CITY'S REQUEST

Jon Regala, Senior Planner for the City of Kirkland asked the following questions:
"Also, the report did not address the criteria in KZC 95.30.4.c in regards to:

1. Significant trees potentially impacted by proposed development activity as determined by the Planning Official *(basically trees that could be affected by building and construction activities-Jon)*
2. Proposed removal of trees with a high retention value in required landscape areas)"

<u>Responses</u>

When my original report was complete, dated February 10, 2011, the design for the building and associated infrastructure improvements had not yet been completed. On Thursday, March 31, 2011 I met with Ms. Faust at the CamWest offices in Kirkland to review the plan. We discussed the layout of the design and how the trees will or will not be impacted. My responses are as follows:

Kirkland Zoning Code Chapter 95.30.4.c is quoted as follows:

> c. An arborist report containing the following:
>
> 1) A complete description of each tree's health, condition, and viability;

- This is included in Attachment 2, Tree Inventory / Condition Spreadsheet of the original report and is included below for the trees in question.

2) A description of the method(s) used to determine the limits of disturbance (i.e., critical root zone, root plate diameter, or a case-by-case basis description for individual trees);

- This was done on a tree by tree basis depending upon the location of the tree in relation to existing site improvements, the size and species of the tree, and the topography of the site.

3) Any special instructions specifically outlining any work proposed within the limits of the disturbance protection area (i.e., hand-digging, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare);

- These are included in the original report in Attachment 4, Tree Protection Measures, Section 5 of Page 27 of 30 of the February 10, 2011 report. Specific excavation instructions are repeated here:
- 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:
    - An International Society of Arboriculture, (ISA) Certified Arborist must be working with all equipment operators.
        - The Certified Arborist should be outfitted with a shovel, hand pruners, a pair of loppers, a handsaw, and a power saw (a "sawsall" is recommended).
    - The hoe must be placed to "comb" the material directly away from the trunk as opposed to cutting across the roots.
        - 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.
    - 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.
    - The Certified Arborist should then excavate around the tree root by hand/shovel and cleanly cut the tree root.
        - The Certified Arborist should then instruct the equipment operator to continue.

- CamWest is proposing to retain the 2 remaining conifers in the southwest property corner. They are #'s 934, and 938.
    - # 934 is a 39.8-inch Douglas Fir in Very Good condition. It should be able to be retained with all of the *Tree Protection Measures* in the February 10, 2011 report.
    - # 938 is a 39.9-inch Douglas Fir right up along Slater Road. It is in Fair condition.
        - The base of the tree is very near the edge of the gravel shoulder. The construction of the parking lot will be within the dripline of the tree but only by a few feet.
        - If the Tree Protection Measures are followed the tree should tolerate the incursion fine and suffer no long-term problems.
        - Specific tree protection measures that must be followed include:
            1. Tree protection fencing place prior to any construction work commencing.
            2. Cover the area within the tree protection fence with 10 to 12 inches of wood chips.
            3. Follow the section 5 excavation techniques listed above and on Page 27 of 30 of the February 10, 2011 report and repeated above.

4) For trees not viable for retention, a description of the reason(s) for removal based on poor health, high risk of failure due to structure, defects, unavoidable isolation (wind firmness), or unsuitability of species, etc., and for which no reasonable alternative action is possible must be given (pruning, cabling, etc.);

- This is included in Attachment 2, Tree Inventory / Condition Spreadsheet of the original report and copied below.
- Note, all trees that are rated as either Dead, Dying, or Poor Condition are subsequently rated as *Non-Viable.* More detail is given also in the February 10, 2011 report *Attachment 3, Glossary*. The glossary explains the arboricultural terms used in *Attachment 2, Tree Inventory / Condition Spreadsheet* and explains why trees are rated as being *Non-Viable.* It is repeated below for convenience.

5) Describe the impact of necessary tree removal to the remaining trees, including those in a grove or on adjacent properties;

- There are two landscape areas where CamWest is proposing to remove trees. They are the landscape zone along 124th Avenue NE between the back of the sidewalk and the side of the building; and the landscape area along the west property line between the west property line and the western edge of the parking lot.

- Trees Along 124th Avenue NE:

  - The trees in this area include #'s 865, 870, 883, 885, and 886.

  - #'S 865, 870, 883, and 885 are Big Leaf Maples and Bitter Cherry trees that are in Poor Condition. They are *Non-Viable.*

    - *They should be removed for safety.*

  - # 866 is a 31.6-inch Black Cottonwood. It is in Good Condition but will not tolerate the loss of roots required for the construction—it would not be wind firm if retained. In addition, it is reaching an age where it will start dropping large limbs naturally.

    - The tree should be removed for safety.

- Trees Along the West Property Line

  - Trees include #'s 910, 911, 912, and 927. All four are in Fair Condition.

  - However, the topography of the area will require the installation of some sort of retaining wall. These four trees will not survive long-term from the impacts of the construction of the retaining wall and parking lot.

- Trees on Adjacent Properties:

  - There is a row of street trees west of the west property line.

  - They are located below a retaining wall and behind the curb of the drive lane used to access The Brown Bag Café, Sheri's Restaurant, and the motel.

  - Given the topography it is unlikely that this row of trees will be impacted. As noted in the February 10, 2011 report, the Tree Protection Fence and the Temporary

Erosion/Sedimentation Control (TESC) fencing near the west property line will adequately protect this row of trees.

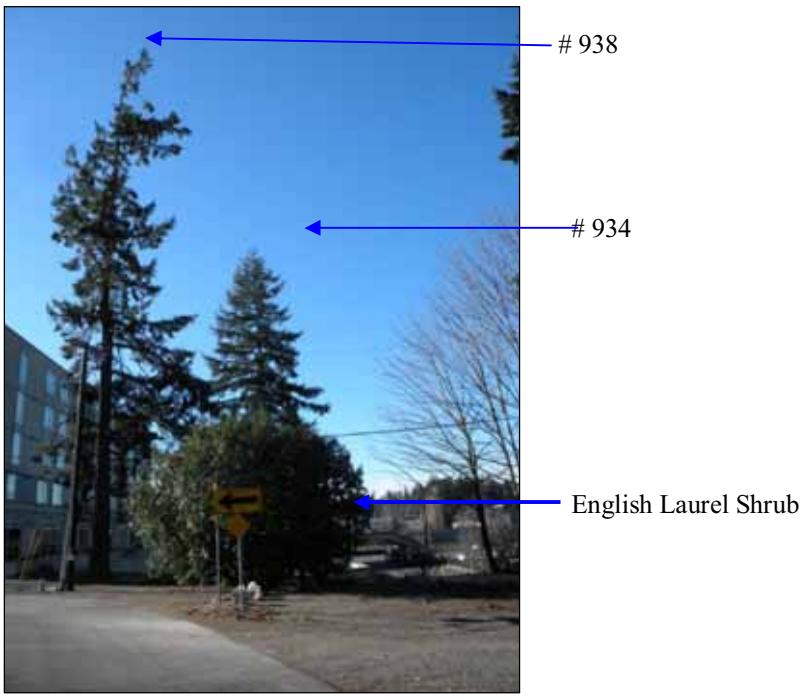
6) For development applications, a discussion of timing and installation of tree protection measures that must include fencing and be in accordance with the tree protection standards as outlined in KZC 95.34; and

- Tree Protection Measures should be installed and inspected prior to the commencement of construction—prior to mobilization on site of any equipment, vehicles, or supplies.

7) The suggested location and species of supplemental trees to be used when required. The report shall include planting and maintenance specifications pursuant to KZC 95.50 and 95.51.

- I believe this has been covered in the Landscape Plan sheets.

Photo # 1: Looking west from NE 115th



WAIVER OF LIABILITY

There are many conditions affecting a tree's health and stability, which may be present and cannot be ascertained, such as, root rot, previous or unexposed construction damage, internal cracks, stem rot and more which may be hidden. Changes in circumstances and

conditions can also cause a rapid deterioration of a tree's health and stability. Adverse weather conditions can dramatically affect the health and safety of a tree in a very short amount of time. While I have used every reasonable means to examine these trees, this evaluation represents my opinion of the tree health at this point in time. These findings do not guarantee future safety nor are they predictions of future events.

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

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

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

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

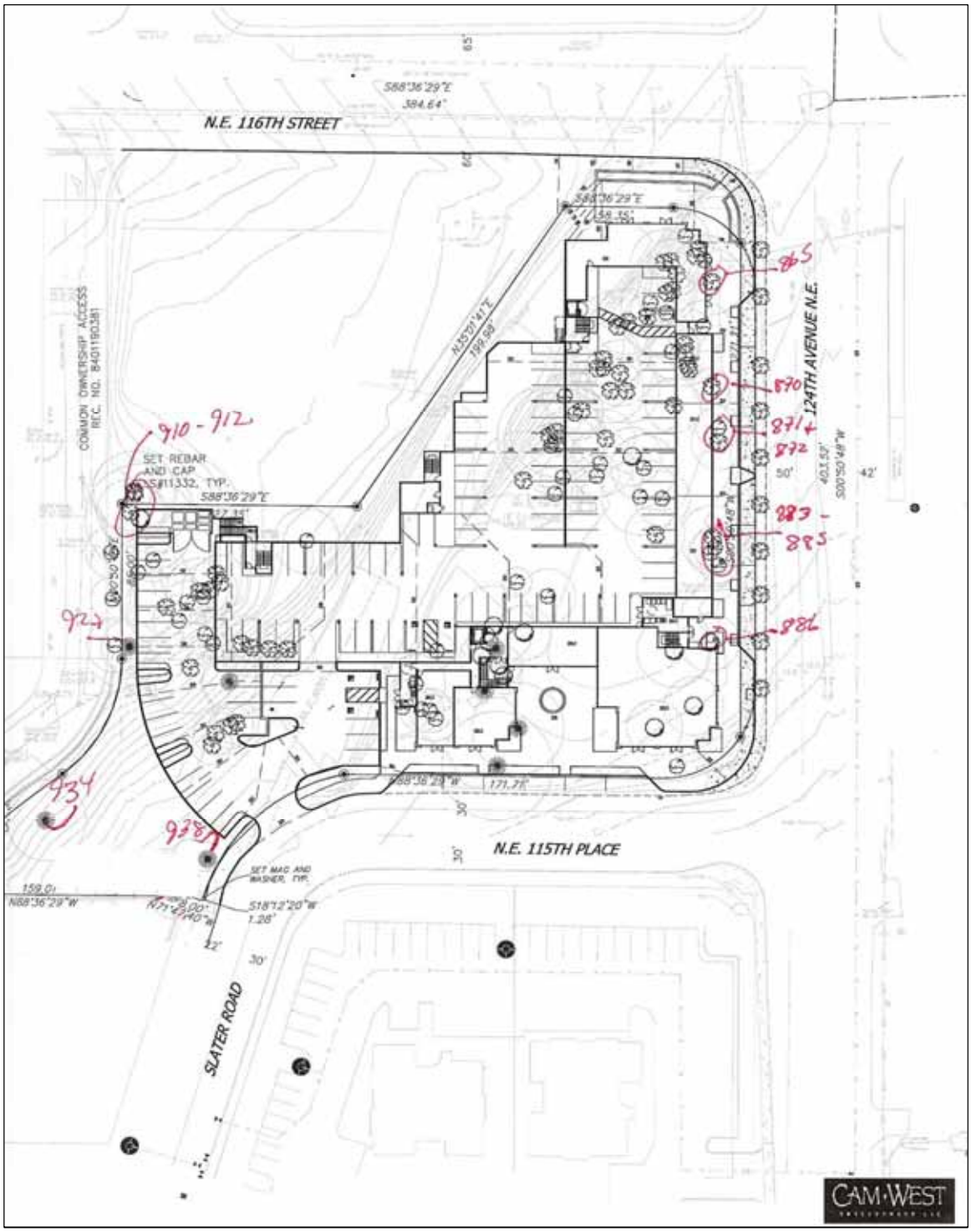
Thank you for calling Gilles Consulting for your arboricultural needs.

Sincerely,

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

ATTACHMENTS

ATTACHMENT 1 - SITE PLAN



ATTACHMENT 2 - TREE INVENTORY/CONDITIONS SPREADSHEET

ABBREVIATED LEGEND--SEE GLOSSARY IN REPORT ATTACHMENTS FOR GREATER DETAIL

#1 ***Property:*** Whether the tree is on or off the Subject Property, or a Right-of-Way tree.
#2 ***Tree #:*** The unique tag number of each tree.
#3 ***Species:***

BCh/Pe	Bitter Cherry, *Prunus emarginata*
BCw/Pt	Black Cottonwood, *Populus trichocarpa*
BLM/Am	Big Leaf Maple, *Acer macrophyllum*
Ch/Psp.	Cherry, *Prunus sp.*
DF/Pm	Douglas Fir, *Pseudotsuga menziezii*
PDW/Cn	Pacific Dog Wood, *Comus nuttallii*

#4 **2011 DBH:** Trunk diameter at 4.5' above the average ground level.
#5 ***2006 DBH:*** Trunk diameter @ 4.5' above average ground level.
#6 ***Tree Credit:*** This is based upon Table 95.35.1, Page 12, Chapter 95 of the Kirkland Municipal Code.
#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.
#9 ***LCR:*** *Live Crown Ratio* - the amount of live canopy expressed as a % of the entire tree height
#10 ***Symmetry:*** General shape of canopy and weight distribution of the tree around the trunk.
#11 ***Foliage:*** General description of foliage density that indicates tree health and vigor.
#12 ***Crown Condition:*** The most important external indication of tree health and vigor.
#13 ***Trunk:*** Description of trunk condition or abnormalities if any.
#14 ***Root Collar:*** The base of the tree where the trunk flares into the roots--deformities or problems are noted here.
#15 ***Roots:*** Root problems are noted here.
#16 ***Comments:*** Additional observations about the tree's condition.
#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, hazard, poor, 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.
#20 ***Recommendation:*** 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	18	
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	SIGNIFICANCE 2006	CURRENT HEALTH RATING 2006	VIABILITY 2006
East Landscape Area	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	Significant	Poor	Non-Viable
East Landscape Area	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	Significant	Poor	Non-Viable
East Landscape Area	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	Significant	Poor	Non-Viable
East Landscape Area	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	Significant	Poor	Non-Viable
East Landscape Area	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	Significant	Fair	Non-Viable
East Landscape Area	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	Significant	Poor	Non-Viable
East Landscape Area	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	Significant	Good	Non-Viable
East Landscape Area	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	Significant	Fair	Viable
West Landscape Area	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 @ 12", Leans East, Center rot	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	Significant	Poor	Non-Viable
West Landscape Area	911	BLM/Am	13.9"	16.0"	2.0	N/A	N/A	N/A	N/A	N/A	45%	Maj. Asym.	Thin	Average	Forked @ 18", Included bark down bark	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	Significant	Poor	Non-Viable
West Landscape Area	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	Significant	Excellent	Viable
West Landscape	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 #	Significant	Fair	Viable	Potential to retain with tree	Significant	Fair	Viable
SW prop corner	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', Straight	NAD	Restricted	Ivy up 24 feet, growing 18 feet southeast of 4 foot rock retaining wall	Significant	Very Good	Viable	Potential to retain with tree protection measures	Significant	Good	Viable
SW prop corner	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'	owed at bas	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	Significant	Fair	Viable

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**—Where the tree is on the Subject Property.
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 **N**o **A**pparent **D**efects.

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 "sawsall" is recommended).
    b. The hoe must be placed to "comb" 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.

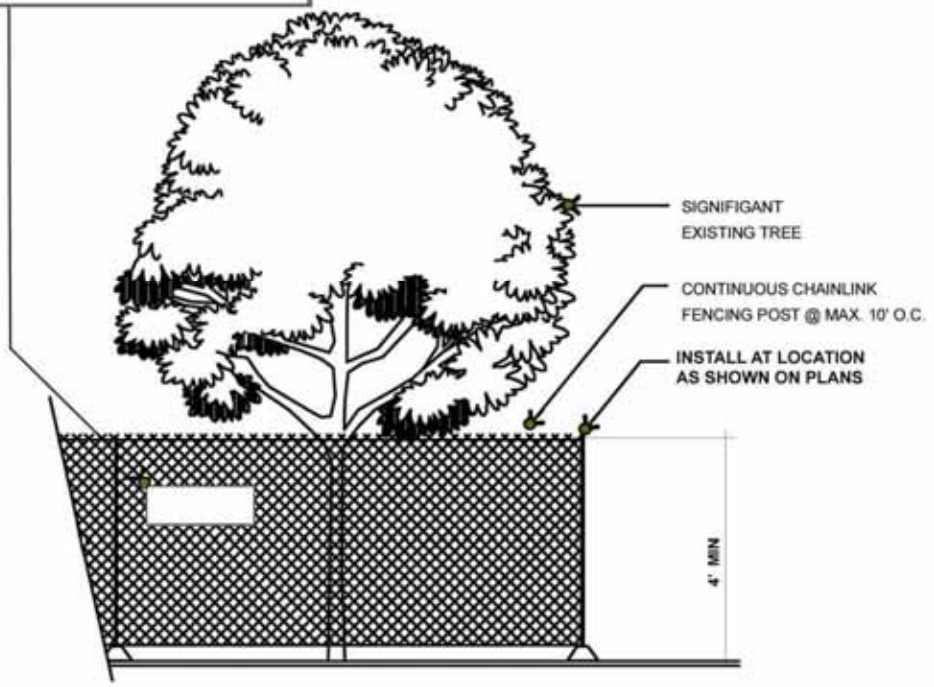
d. The Certified Arborist should then excavate around the tree root by hand/shovel and cleanly cut the tree root.
    i. The Certified Arborist should then instruct the equipment operator to continue.

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 composed 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.

FENCING SIGN DETAIL

Tree Protection Area, Entrance Prohibited
To report violations contact
City Code Enforcement
at (425)587-3225



1. MINIMUM FOUR (4) FOOT HIGH TEMPORARY CHAINLINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE (S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.

2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.

4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE.

CITY OF KIRKLAND WASHINGTON

TREE PROTECTION FENCING DETAIL

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*. 4th 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.

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.ci.kirkland.wa.us

MEMORANDUM

To: Jon Regala, Senior Planner

From: Deb Powers, Urban Forester

Date: July 12, 2011

Subject: Urban Forester Review / ZON11-00026

The Tree Retention Plan for ZON11-00026 has been reviewed and approved. Per Kirkland Zoning Code (KZC) Chapter 95, Tree Retention Standards for commercial properties apply to significant trees potentially impacted by the proposed improvements. For commercial properties, High Retention Value trees are assessed as those trees located within required landscape areas, setbacks and buffers.

The majority of the site's significant trees are located outside required landscape areas or within the footprint of proposed improvements, which precludes them from the City's tree retention standards for commercial properties. In addition, although the trees on this site have been functioning as wildlife habitat, most of the predominantly alder, cottonwood or bitter cherry trees are dead or declining and are not good candidates for retention. Of the 68 viable significant trees related to the subject property, two trees have been identified for retention, Trees #934 and 938. Tree #934 is a High Retention value tree, being windfirm and in good condition. Tree #934, which is located in the right-of-way, is in fair condition, which is typically not a good candidate for retention considering the potential impacts of construction. It is assessed as a Moderate retention value tree, to be retained if feasible.

The applicant's arborist has outlined adequate tree retention measures in the arborist report and the applicant is showing sufficient tree protection fence on the submitted plan set. However, the proposed grading shown on Sheet C3 indicates a grade cut of twelve inches within the limits of disturbance for Tree #934. Both trees are shown with a pedestrian path or sidewalk within their limits of disturbance in the Landscape Plan; therefore subsequent development permit applications shall include special instructions *on the site plan* specifying how to minimize these impacts on retained Trees #934 and 938.

Public Works frontage improvements regarding street trees and landscaping requirements per KZC 95.40 will apply.

Let me know if you have any questions regarding this review.

DESIGN GUIDELINES FOR PEDESTRIAN ORIENTED BUSINESS DISTRICTS
NORTH ROSE HILL BUSINESS DISTRICT
SUMMARY OF DESIGN GUIDELINES

The *Design Guidelines for Pedestrian Oriented Business Districts* describes the North Rose Hill Neighborhood Business District as an area for increased residential capacity with limited commercial uses. The design guidelines and regulations created with the 2003 North Rose Hill Neighborhood Plan update were intended to further the following goals and policies:

- Ensure that public improvements and private development contribute to neighborhood quality and identity in the Business District through:
    - Establishment of building and site design standards
    - Utilization of the design review process
    - Location and sharing of parking lots
    - Utilization of high quality materials, public art, bicycle and pedestrian amenities, directional signs on all arterials, and other measures for public buildings and public infrastructure, such as streets and parks
- Provide transitions between commercial and residential uses in the neighborhood
- Provide streetscape improvements that contribute to a sense of neighborhood identity and enhanced visual quality

Since the focus of the North Rose Hill Business District was not to support destination retail businesses, the *Design Guidelines for Pedestrian Oriented Business Districts* states that following guidelines are not applicable to this business district:

- Sidewalk Width – Movement Zone
- Sidewalk Width – Curb Zone
- Sidewalk Width – The Storefront Activity Zone
- Pedestrian Coverings
- Pedestrian-Friendly Building Fronts
- Upper-Story Activities Overlooking the Street

In addition to the standard guidelines contained in the Design Guidelines for Pedestrian-Oriented Business Districts the following information summarizes some of the key guidelines or regulations which apply specifically to the project or project area.

A. <u>Gateway at corner of NE 116th Street/124th Ave NE</u>

1. *Guideline: Use public art and private efforts to establish gateway features that strengthen the character and identity of the neighborhood. Use landscaping, signs, structures or other features that identify the neighborhood.*

   At the southwest corner of NE 116th Street and 124th Avenue NE a neighborhood gateway feature such as open space or plaza with signage should be integrated with a pedestrian connection linking Slater and NE 116th Street. In the alternative, a corner land mark consisting of a combination of open space and architectural building design features should be provided to identify the business district.

B. Scale

Because of the size of the buildings, techniques should be incorporated into the building design to help achieve architectural scale. Suggested techniques would include, but not be limited to upper story setbacks, vertical modulation of the building façade, vertical modulation of the roofline, use of varied roof forms and balconies.

1. *Guideline: Varied window treatments should be encouraged. Ground floor uses should have large windows that showcase storefront displays to increase pedestrian interest. Architectural detailing at all window jambs, sills, and heads should be emphasized.*
2. *Guideline: Architectural building elements such as arcades, balconies, bay windows, roof decks, trellises, landscaping, awnings, cornices, friezes, art concepts, and courtyards should be encouraged.*
3. *Guideline: Vertical building modulation should be used to add variety and to make large buildings appear to be an aggregation of smaller buildings.*
4. *Guideline: Horizontal building modulation may be used to reduce the perceived mass of a building and to provide continuity at the ground level of large building complexes.*
5. *Guideline: Buildings should be designed to architecturally enhance building corners.*

   The design guidelines note that special attention should be paid to both the design and detailing of new buildings on corner sites. There are two key corner opportunities at this site (NE 116th Street/124th Ave NE and 124th Ave NE and NE 115th Place).

C. Street Trees

Guideline: Feature a diverse planting of street trees that take into account width of landscape strip, location of overhead utility lines, and maintenance requirements.

Some preliminary ideas for a street tree planting plan are:

NE 116th Street: Add street trees that will buffer the pedestrian corridor from traffic while providing some visual access to adjacent businesses. (Quercus rubra (red oak), Tilia cordata 'Greenspire' (littleleaf linden), Zelkova serrata 'Village Green' for example).

124th Avenue NE: Choose street trees that will buffer the pedestrian but still allow some visual access to adjoining businesses (Carpinus japonicus (Japanese hornbeam), Cercidiphyllum japonicum (Katsura), Fraxinus pennsylvanica 'Summit' (Summit ash) for example).

D. Location of Parking

Guideline: Screening and landscaping should be required where parking is adjacent to sidewalks in order to improve visual qualities and reduce clutter.

CAM·WEST
DEVELOPMENT INC

June 9, 2011

Mr. Jon Regala
Senior Planner
City of Kirkland
123 5th Avenue
Kirkland, WA 98033-6819

RE: DRB Conceptual Design Conference – CamWest Response
Totem Station Apartments

Dear Mr. Regala,

We hereby submit our responses to the DRB Conceptual Design Conference comments. Our responses have been inserted into the DRB summary you provided dated March 15, 2011 on the following pages. These comments are consistent with our May 23, 2011 submittal documents.

Thank you for your consideration of these applications. Please feel free to contact me if additional information is required.

Sincerely,

Aaron Hollingbery

9720 NE 120th Pl
Suite 100
Kirkland, WA
98034

425-825-1955
Fax 425-825-1565
camwest.com

CamWest June 9, 2011 Response
-Responses Inserted below-

March 15, 2011

Aaron Hollingbery
CamWest Development LLC
9720 NE 120th Place, Suite 100
Kirkland, WA 98034

SENT VIA EMAIL – NO HARD COPY TO FOLLOW

RE: TOTEM LAKE APARTMENTS - CONCEPTUAL DESIGN CONFERENCE
File No. CDC11-00001

Dear Mr. Hollingbery:

Thank you and your team for your contributions at the March 7, 2011 Design Review Board (DRB) meeting. At this meeting, the DRB held the Conceptual Design Conference for the proposed mixed-use building located at the southwest corner of NE 116th Street and 124th Avenue NE. The proposed development consists of a 4-story mixed-use building containing ground floor commercial/retail space and upper story apartment units.

I wanted to take this opportunity to summarize the key points that the DRB discussed at the meeting, as well as their general recommendations for the project as it proceeds to the Design Response Conference. I've also provided several staff comments/recommendations in italics throughout the letter.

Discussion Issues:

A. Scale

The DRB discussed the need for the building design to include vertical and horizontal modulation to reduce the perceived mass and relative height of the structure. In particular, the DRB noted the south and east façades as key vantage points of the project, where building scale should be carefully studied relative to the potential for neighboring redevelopment and existing contextual scale.

Along the east façade, the DRB noted that modulation should be used to break up the long façade of the building. Detailed information regarding the grade change along this facade was requested by the DRB as a potential solution to breaking up the facade. The DRB noted that they would not support creating a vehicular access point to 124th Avenue NE as a means to break up the building mass at the east facade.

On a broader note, the DRB asked that the applicant demonstrate how the project responds to the design guidelines outlined in the staff memorandum. The referenced design guidelines are listed below.

1. *Varied window treatments should be encouraged. Ground floor uses should have large windows that showcase storefront displays to increase pedestrian interest. Architectural detailing at all window jambs, sills, and heads should be emphasized.*

2. *Architectural building elements such as arcades, balconies, bay windows, roof decks, trellises, landscaping, awnings, cornices, friezes, art concepts, and courtyards should be encouraged.*

3. *Vertical building modulation should be used to add variety and to make large buildings appear to be an aggregation of smaller buildings.*

4. *Horizontal building modulation may be used to reduce the perceived mass of a building and to provide continuity at the ground level of large building complexes.*

Response: The proposed pedestrian-scale environment has been designed to respect views, create visual interest and identify public amenities. This activates the pedestrian streetscape by using varied window treatments and large storefronts facing all street frontages to invite the public to the commercial tenants. A variety of building elements have been incorporated into the design including a pedestrian plaza, first floor canopies, second floor garden terrace, apartment balconies, and a combination of both flat and pitched roof lines.

The design creates essentially two buildings of four stories in height separated by the second floor garden terrace. Three towers located along the street frontages extend to five stories in height. A combination of variation of exterior materials, wall modulation, balconies and varied roof lines are also used.

The design of the structure carefully considered how the structure and site development will be viewed from the street and adjacent properties. Visual weight of the building is minimized by surface articulation, use of vertical and horizontal alignment of windows, materials, and color. Variation of both texture and color of the materials has been carefully crafted to assist in altering the perceived mass. Modulation of the building has a reoccurrence of architectural elements that establishes a rhythm with repetition of materials, reveals, windows, and shapes that establish a horizontal modulation of mass reduction.

B. Gateway/Corner Design

The DRB encouraged the applicant to further refine the design of the two key corners on the subject property - NE 116th Street & 124th Ave NE and NE 115th Place & 124th Ave NE. The corners function as key vantages of the site. The *Design Guidelines* contain the following guideline addressing the gateway identified at the northeast corner of the subject property:

> *Use public art and private efforts to establish gateway features that strengthen the character and identity of the neighborhood. Use landscaping, signs, structures or other features that identify the neighborhood.*
>
> *At the southwest corner of NE 116th Street and 124th Avenue NE a neighborhood gateway feature such as open space or plaza with signage should be integrated with a pedestrian connection linking Slater and NE 116th Street. In the alternative, a corner land mark consisting of a combination of open space and architectural building design features should be provided to identify the business district.*

Based on the above design guideline, the DRB asked that the applicant to put additional thought into the design of this gateway corner since it is a prominent corner of the site and is located at a major intersection of the City.

The discussion section in the Design Guidelines also notes that street corners provide special opportunities for visual punctuation and an enhanced pedestrian environment. Buildings on corner sites should incorporate architectural design elements that create

visual interest for the pedestrian and provide a sense of human proportion and scale. The *Design Guidelines* also contains the following guideline addressing building corners:

Buildings should be designed to architecturally enhance building corners.

While the DRB supported the approach for a retail component at the southeast corner of the subject property, the DRB expressed concern in regards to visual access from 124th Avenue NE to the plaza located west of the proposed retail component.

Response: The design addresses these criteria by creating a 5-story tower element at the corner of NE 116th Street and 124th Avenue NE to act as a gateway to the North Rose Hill Neighborhood. The gateway is designed to create a transitional core oriented toward pedestrian connections and transportation access. At this location, the prominent 5-story tower becomes unified with the raised pedestrian plaza and specimen accent trees to form a distinct landmark that defines the northern entrance to the district. The second 5-story tower is proposed at the corner of NE 116th Street and 124th Avenue NE to anchor the southern corner Together these two towers act to bookend the frontage on 124th Avenue NE.

The commercial space on NE 115th Place has been located to frame the outdoor plaza as to a protected space with a southern exposure to establish the important relationship between light and form. The landscape planters and seat walls at the southern edge of the plaza will identify the significant role of the plaza.

C. Site Planning

The DRB briefly discussed the location of the proposed surface parking lot at the southwest portion of the property. The design guideline and zoning regulation addressing this issue are listed below.

Guideline: Minimize the number of driveways by restricting curb cuts and by encouraging property and business owners to combine parking lot entrances and coordinate parking areas. Encourage side and rear yard parking areas by restricting parking in front yards. Require extensive screening where there is front yard parking.

Regulation. KZC Section 105.58.2 - In the NRHBD, parking lots shall not be located between the street and the building unless no other feasible alternative exists on the subject property.

The DRB was generally supportive of the proposed location of the southwest surface parking lot but wanted to see additional information regarding topography, retaining walls, and landscaping especially in regards to the surface lot west of the proposed building.

In terms of the zoning regulation, staff recommends that the applicant provide additional analysis for review at the Design Response Conference which shows that there is no other feasible alternative for locating the surface parking. For example, there appears to be room for surface parking in the northern portion of the subject property and therefore this alternative should be explored. If there is no feasible alternative as determined by the DRB, extensive screening should be required per the design guideline.

Because the applicant is also pursuing a PUD, compliance with the regulation will be reviewed by the Hearing Examiner and a final decision made by the City Council.

The DRB also requested that the applicant provide site plan information in regards to the location of trash/dumpsters and other back of house items. The DRB was expressed concern regarding the visual impact of these items.

Response: *Additional information on the topography, retaining walls, landscaping, and location of back of house items has been provided with the submittal of May 23, 2011.*

The proposed parking lot location will meet the intent of KZC 105.58.2. As proposed the building will be located to front directly on NE 116th St, 124th Ave NE and NE 115th Place. The building is served by a parking garage within the structure providing 84 parking stalls and a parking lot to the west and south of the building which provides an additional 29 parking stalls. The design minimizes the amount of parking lot located between the building and the street.

There are three locations on the site where a parking lot could potentially be located and not be between the building and the street: (i) behind the building along the west property line, (ii behind the building along the northwest property line and (iii) south of the currently proposed parking lot location.

Parking is feasible along the west property line behind the building and the design utilizes the area for a significant portion of the proposed parking lot.

Along the northwest property line the parking garage has been extended to within approximately 10' of the parcel boundary. Between the building and the northwest property line flow through bio-retention planters are proposed. The planters will be located here due to this being a low point of the site and to provide landscape screening along this building façade. Adding additional parking at this location is not feasible.

The area to the south of the parking lot is proposed as a landscaped open space specifically designed and maintained for pedestrian use that provides a valuable amenity This area will be highlighted with formal landscape, ornamental plantings, hardscape, and outdoor furnishings that work together to contrast this special area. The proposed open space is consistent with the "Urban Forest" concept developed for the Totem Station site during the City's review of the Luna Sol project to the south. This is not a feasible location for adding additional parking given the planned open space, significant existing topography, and existing trees proposed to be saved.

D. Pedestrian Connections

The DRB was open to having the required pedestrian pathway on the western portion of the site 'dead end' at the west property line adjoining the neighboring access tract or at the north property line adjacent to the gas station. Redevelopment of the adjoining parcels would extend the pedestrian connection to NE 116th Street. The DRB wanted the applicant to provide details of the pedestrian experience along the pathway that addresses proposed materials, landscaping, requirements for ADA accessibility (if applicable), and other amenities.

NE 116th Street and 124th Avenue NE property frontages have been designated as major pedestrian pathways. As a result, the pedestrian-oriented elements are of particular concern along these frontages. As the project progresses to the Design Response Conference, the building design along these street frontages should address the *Design Guidelines* in regards to pedestrian-oriented elements.

Response: *The design proposes a pedestrian pathway connection from Slater Avenue to NE 116th Street. The pathway is proposed to begin at the intersection of Slater Road and NE 115th Place and proceed west, through the proposed urban forest, to the neighboring property to the west. The trail would be extended to NE 116th Street along the existing access tract on the neighboring property. This alignment allows for a gradual change in elevation as the pedestrian pathway crosses the Totem Station property. The offsite portion of the pathway would be constructed by the others when those properties redevelop*

The portion of the pedestrian pathway crossing the Totem Station project would be built of concrete and include steps to accommodate the change in grade. The pathway would cross

through the landscaped "Urban Forest", include small seating nodes with benches and serve as a connection for building tenants to an off-leash dog park. Further detail is provided on sheet L1.0 of the landscaping plans

NE 116th Street and 124th Avenue NE frontages create a pedestrian-oriented streetscape. Architectural lighting will concentrate on the three fundamental aspects of illumination, which are aesthetic appeal, ergonomic aspect and energy efficiency.

Pedestrian connections will transition with the use of architectural concrete walls, steps and hand rails that lead to retail entrances and a raised pedestrian plaza on the north side of the building. These connections will incorporate amenities such as seating areas, landscaping, weather protection and pedestrian scale lighting.

Blank walls are minimized and broken up by the use of extensive floor to ceiling glass at the first floor and landscaping techniques such as climbing vines. The sidewalk will be 8' in width and include street trees, pedestrian scale street lights and planter strips behind the walk. Low level building mounted lighting is proposed along the entrances to the building. The northern pedestrian plaza open space, street level landscape planters and the architecture of the corner tower element of the building will work together to create a gateway feature.

E. Open Space and Landscaping

The DRB indicated that they will be looking for landscaping to help mitigate building massing and enhance the pedestrian experience along the project frontages. The gateway was also identified as an opportunity to incorporate landscaping to soften and enhance the visual quality of this key corner.

In terms of tree retention, the DRB commented briefly on tree retention and asked that a complete Tree Retention Plan be submitted with the Design Response Conference. *Tree Retention Plan review time is limited. Therefore staff recommends that the applicant submit the Tree Retention Plan as soon as possible. This will allow the City's Urban Forester to conduct a review of the Tree Retention Plan as part of the staff memo prior to the Design Response Conference.*

The DRB also encouraged the applicant to look for opportunities to enhance the open space as experienced within the site, with emphasis on the plaza and upper story terrace. The *Design Guidelines* contain the following guideline addressing the visual quality of landscapes:

> *The placement and amount of landscaping for new and existing development should be mandated through design standards. Special consideration should be given to the purpose and context of the proposed landscaping. The pedestrian/auto landscape requires strong plantings of a structural nature to act as buffers or screens. The pedestrian landscape should emphasize the subtle characteristics of the plant materials. The building landscape should use landscaping that complements the building's favorable qualities and screens its faults.*

In DRB's discussion of the plaza, they expressed the need for transparency of retail for visibility from 124th Avenue NE and the need for solar access relative to the height of surrounding building forms. The DRB also asked that the applicant explore design options in order to maintain views to the 'urban forest' from the plaza and to also allow for solar access to the plaza from the west. The *Design Guidelines* contain the following guideline addressing the pedestrian-oriented plazas:

> *Successful pedestrian-oriented plazas are generally located in sunny areas along a well-traveled pedestrian route. Plazas must provide plenty of sitting areas and amenities and give people a sense of enclosure and safety.*

Response: *An updated tree retention plan has been provided.*

A landscaping plan has been prepared by Weisman Design Group and included in the Design Response Submittal. The design focuses on the plaza areas, upper garden terrace as well as screening of the parking lot and northeast side of the building and emphasizing the gateway feature at the corner of NE 116th St and 124th Avenue NE.

The project design team has intentionally placed the southern pedestrian plaza to maximize solar exposure As well, the second floor garden terrace has been aligned to benefit from mid-day sun.

While the plaza is visually connected with the street to the south, the adjacent sidewalk and the adjacent retail spaces, the surrounding building elements provide a sense of protection and comfort. The plaza includes planters that will frame and soften the structure, enhance the quality of the environment and create identity, seat walls that are compatible with the architecture and integral elements of the landscape, flexible seating areas and movable planters. Trees and landscaping will be incorporated to soften the visual impact of the hard surfaces such as building walls and pedestrian walkways.

F. Items required for Design Response Conference

The DRB clarified that items submitted for the Design Response Conference should not consist of fully designed drawings/plans. The DRB envisioned providing additional direction before the applicant finalizes a final set of drawings/plans and that a follow-up meeting will be necessary. Therefore, in addition to the items outlined in the application form for the Design Response Conference, the DRB noted the need for the following items to be submitted for review:

1. Contextual site plan identifying the proposed development, property line, curb cuts, and street trees - expanded to show neighboring development to the north, south, east, and west. The site plan should also show future right-of-way improvements/dimensions along NE 116th Street and 124th Avenue NE and location of trash/dumpsters and other back-of-house items.
2. Perspective rendering depicting the building as viewed from a pedestrian perspective from the following vantages: NE 116th Street (both east and west directions), 124th AVE NE (both north and south direction), NE 115th Place (both east and west directions). Renderings should show existing significant trees proposed to be retained.
3. Computer simulation, model, or 3-D rendering depicting the building as viewed at the corner of NE 116th Street/124th Ave NE and 124th Ave NE and NE 115th Place.
4. Elevation drawings for all four facades of the building with accurate topography.
5. Building/site section along NE 116th Street, 124th Ave, and NE 115th Place that also shows development across the street. Section drawings should include future right-of-way improvements and dimensions.
6. Preliminary landscape plan.
7. Tree retention plan.
8. Preliminary plans depicting proposed materials, colors, and details, including samples of materials and colors. In terms of forms and materials, the Board indicated a preference that the building begin to establish an urban form for the area rather than presenting a suburban apartment design solution.
9. A parking demand and utilization study prepared by a licensed transportation engineer or other qualified professional which analyzes the actual parking demand on existing uses similar to the proposed use. The scope of the study shall be

proposed by the transportation engineer and approved by the City traffic engineer. The study shall provide at least two days of data for morning, afternoon and evening hours, or as otherwise approved or required by the City traffic engineer. Please have your transportation engineer contact Thang Nguyen, the City's traffic engineer, at (425) 587-3869 to work out the details for the parking study.

Staff recommends that this item be submitted as soon as possible. This will allow for preliminary staff review to be included in the staff memo for the Design Response Conference.

Response: These items were included in the May 23, 2011 submittal.

When further refining the proposal and responding to the DRB's comments, please be sure to review *Design Guidelines for Pedestrian-Oriented Business Districts.* This document can be accessed at the Planning and Community Development Department page on the City's website, which can be reached at www.ci.kirkland.wa.us.

If you have any additional questions, please feel free to contact me at jregala@ci.kirkland.a.us or at (425) 587-3255.

Please feel free to contact me to schedule a meeting to discuss the next steps in this process.

Sincerely,

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

Jon Regala
Senior Planner

Cc Via Email: Design Review Board Members
Jeff Bates
File No. CDC11-00001

NE 116TH STREET AND 124TH AVENUE NE

NE 116TH STREET LOOKING SOUTHEAST

NE 115TH PLACE AND 124TH AVENUE NE - DUSK

Parking

This section addresses the project's parking supply requirements based on the City of Kirkland Municipal Code and consideration of shared parking. Because the commercial tenants are not specifically identified at this time a conservative land use estimate of 50 percent shopping center use, 30 percent general office use, and 20 café restaurant use was assumed, which is consistent with that assumed for the traffic portion of this study.

The project would provide 113 on-site parking stalls with 84 in the building garage and 29 on the surface lot. In addition, the developer has voluntarily agreed to construct six (6) on-street parallel spaces on NE 115th Place and ten (10) spaces on 124th Avenue NE along the project frontage, which would support the commercial uses. Effectively, 129 spaces will be created and available for use by occupants of the proposed project. This parking would be 100 percent shared for all uses with no reserved parking for residents and no gates during business hours. Shared parking is specifically allowed under KZC 105.45. Kirkland's code allows two or more uses to share parking if the number of parking spaces provided is equal to the greatest number of required spaces for uses operating at the same time. In addition, the characteristic of shared parking supports the City's overall goals of supporting and encouraging sustainable developments because it enables parking to take a lesser footprint on a given project development, creating opportunity for more surface area allocated to uses that add value to the community and project. The developer is requesting a modification under KZC 105.103.3.d. to allow the proposed on-street parking to count towards the parking supply for the project. This, like the shared parking component of the project, is consistent with sustainable parking practices because it results in the formal construction of fewer on-site parking spaces. In addition, the on street parking will not result in an adverse impact to the transportation system, or the neighborhood in which it is proposed.

The City of Kirkland parking code was used to determine parking requirements for the commercial uses. One space is required per 300 square feet for retail and office use in the NRH1A zone. One space is required per 100 square feet for restaurant use. Parking requirements for stacked residential dwelling units are not specified for this zone. KZC 102.25 provides that where parking space requirements are not specified, the Planning Official is to establish the parking requirement on a case-by-case basis based upon the actual parking demand of existing uses similar to the proposed use.

The City has addressed multi-family residential parking standards in the context of potential zoning code changes as set out in the memorandum from Jon Regala to the Planning Commission dated September 16, 2010 (See Appendix F for pertinent parts of the memorandum). The memorandum notes that in zones where a parking requirement is specified, the minimum multi-family parking requirement is 1.7 parking stalls per residential unit and that the City may require up to an additional 0.5 parking stalls per unit for guest parking. The memorandum also notes that the KZC allows for a reduction in the number of stalls by providing a parking study and that since the mid-1990s seven multi-family projects in the Central Business District (CBD) and others located in mixed use zones (e.g. Juanita Business District, Market Street Corridor and North Rose Hill Business District) requested and received approval to reduce the number of required parking stalls. A spreadsheet attached to the memorandum shows that the City approved reductions ranging from 1.03 to 1.15 stalls per bedroom, including guest parking. The spreadsheet also shows actual parking stalls provided per bedroom for all constructed projects ranging from 0.88 to 1.33, with the majority at or below 1.0 stall per bedroom.

The City also conducted parking counts for several condominium projects in the CBD that averaged 1.1 stalls per bedroom and found that this rate did not result in a deficiency of on-site residential parking. The counts provided information for guest parking, on-site parking and on-street parking. The September 2010 memorandum concludes:

- *Based on this information, staff recommends reducing the multi-family parking standard in certain zones from 1.7 stalls per unit to 1 stall per bedroom since the City has been consistently approving this reduced rated. Units that have two or more bedrooms would be capped at 2 parking stalls and guest parking would be required at 0.1 stalls per bedroom with a minimum 2 guest parking stalls per development.*

- *Parking modifications would still be available for developments that wish to utilize shared parking to further reduce the number of required parking stalls.*

Not mentioned in the memorandum is the CamWest mixed use building in Juanita, which houses 15 stacked residential units (nine two-bedroom and six one-bedroom) and 9,563 square-feet of office. All parking is shared and the project is not gated during business hours. At the time the building was permitted there were two alternative development scenarios for the 15 residential units (ten one-bedroom/five two-bedroom and ten two-bedroom/five one-bedroom). A parking study was conducted and found similar residential uses had a parking demand of 0.77 stalls per bedroom based on three comparable apartment developments (see Appendix F). The City approved a parking reduction from the code required 71 stalls to 49 stalls based on the parking modification study submitted in 1996 (Appendix F).

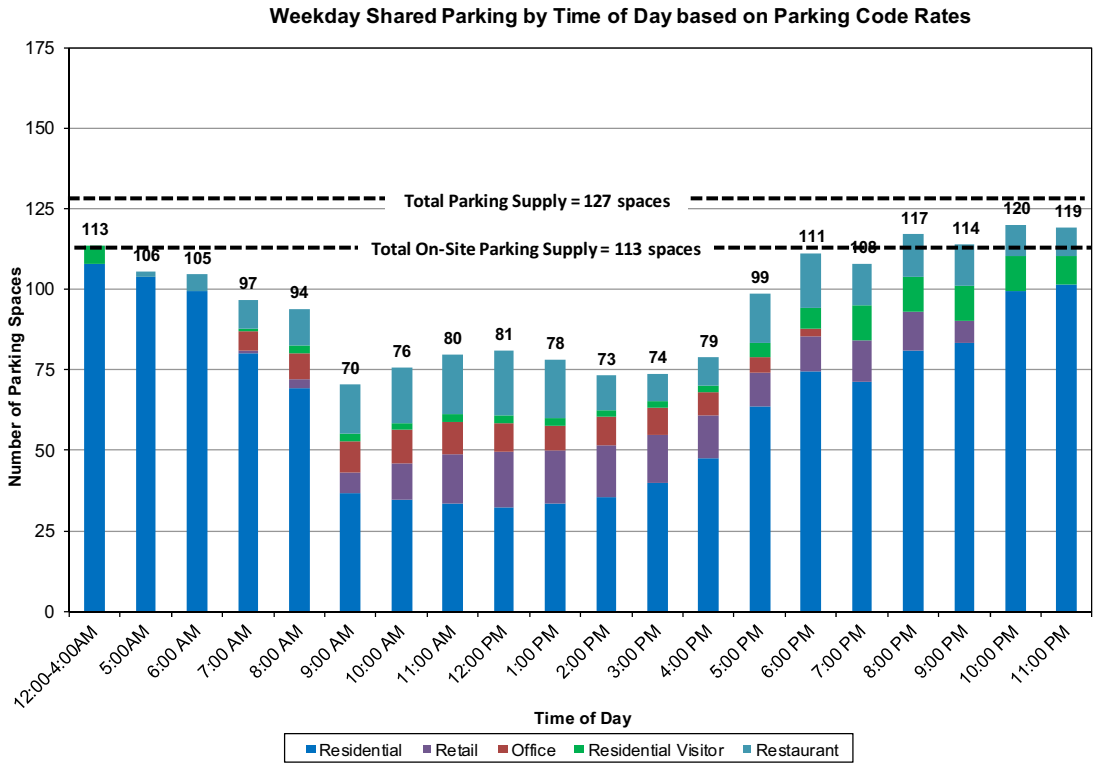
The project's proposed parking for the residential use at 1.1 stalls per bedroom, including guest parking, is consistent with the recent data collected and evaluated by the City as well as the City's approval for the developer's mixed use building.

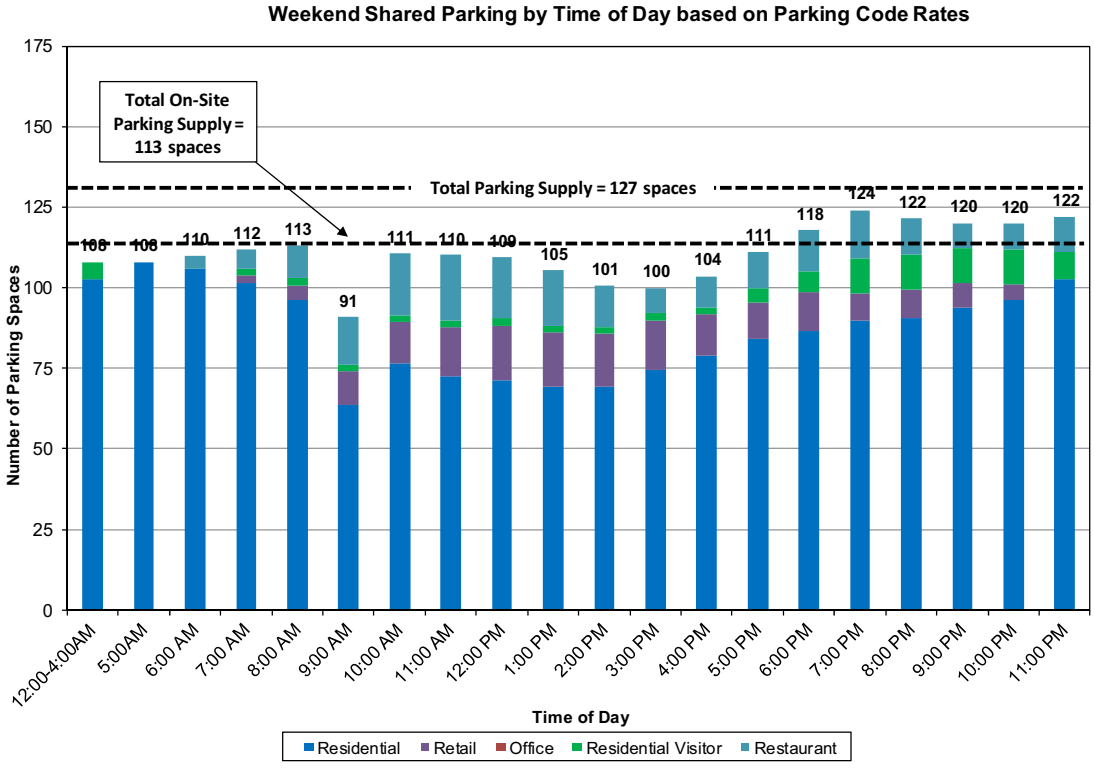
Time of Day Shared Parking Characteristics

Since parking will be shared, a time-of-day shared parking curve was determined for each use to provide the City with an understanding of how the proposed shared parking would work. Time-of-day parking characteristics were taken from ITE *Parking Generation*, 4th Edition for low/mid-rise apartment land use (#221), shopping center (#820), general office (#701), and high turnover (sit-down) restaurant (#932). Apartment land use does not have time-of-day information for the period between 9:00 a.m. and 3:00 p.m.; therefore, the rental townhouse (#224) land use was used since it is a similar use. For the residential use, ITE does not provide a time-of-day curve for visitors; therefore, the data provided in the Urban Land Institute's *Shared Parking*, 2nd Edition was used.

The graphs below provide a summary of the estimated shared parking by time of day for weekdays and weekends. Detailed calculations are provided in Appendix G. As shown on the graphs, a maximum supply of 120 spaces is recommended on the weekdays and 124 spaces on the weekends. With shared parking, the proposed parking supply is reasonable and can accommodate the maximum supply recommended on both weekdays and weekends through use of both on-site and on-street parking supply. A minimum parking supply can be understood by examining a less conservative land use scenario such as the transportation concurrency project description that contemplated 108 residential units, 7,247 square-feet of retail, and 3,106 square-feet of office. Shared parking calculations for the concurrency land use show a parking supply of 113 spaces recommended on weekdays and 115 spaces on weekends (see Appendix G).

This evaluation is conservative and does not take into consideration the use of alternative modes of transportation, internal trips that would occur with residents using the retail or other commercial uses, and examines a conservative land use estimate. The impact of these considerations would reduce the overall parking demand and resulting parking supply needs for the site.


Weekday Shared Parking by Time of Day based on Parking Code Rates
Total Parking Supply = 127 spaces
Total On-Site Parking Supply = 113 spaces
Number of Parking Spaces
Time of Day
Residential
Retail
Office
Residential Visitor
Restaurant


Weekend Shared Parking by Time of Day based on Parking Code Rates
Total On-Site Parking Supply = 113 spaces
Total Parking Supply = 127 spaces
Number of Parking Spaces
Time of Day
Residential
Retail
Office
Residential Visitor
Restaurant

Appendix F: Parking References

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425 587 3225
www.ci.kirkland.wa.us

MEMORANDUM

To: Planning Commission

From: Jon Regala, Senior Planner
Joan Lieberman-Brill, AICP, Senior Planner
Paul Stewart, AICP, Deputy Planning Director
Eric Shields, AICP, Planning Director

Date: September 16, 2010

Subject: 2010 MISCELLANEOUS ZONING/MUNICIPAL CODE AMENDMENTS – PHASE II STUDY SESSION
FILE ZON10-00013.

I. RECOMMENDATION

Conduct a study session on the proposed Kirkland Zoning Code (KZC) and Municipal Code (KMC) amendments and provide feedback to staff on whether additional information and/or staff response is needed for the public hearing.

II. BACKGROUND

A joint study session with the Houghton Community Council (HCC) was held on August 12, 2010 regarding Phase II of the 2010 Miscellaneous Zoning Code Amendment project. At the study session, staff presented a comprehensive list of code amendments being reviewed. The staff report for the meeting can be found online at this web address listed by the August 12th date:

http://www.ci.kirkland.wa.us/depart/Planning/Planning_Commission.htm

During the meeting, the Planning Commission and HCC deliberated only on the items where additional information and/or clarification were needed. Amendments not discussed, signaled the Planning Commission's and HCC's agreement with staff's recommendations. To simplify things, these items are not being re-presented in this memo in order to focus on topics where direction is still needed. At the public hearing, all of the proposed code changes, including draft KZC code language, will be included in the staff memo. For reference, all of the proposed code changes are listed in Attachment 1.

Also, several of the items reviewed at the last study session are being removed from this project and are being deferred to a future Comprehensive Plan update. This includes the amendments to potentially allow schools and dance, music, and martial arts studios in light industrial zones. It was determined that a more in-depth review of the light industrial zones is needed. This would likely occur as part of the Comprehensive Plan update in 2012-2014 and will involve revisiting the previous industrial lands study, gathering data on vacancy trends, and considering the industrial zones on an area wide basis. These tasks are beyond the scope of this KZC amendment project.

continuous weather protection, outdoor dining, transparency of windows and interactive window displays, entertainment and diverse architectural elements.

General Guideline - Varied window treatments should be encouraged. Ground floor uses should have large windows that showcase storefront displays to increase pedestrian interest. Architectural detailing at all window jambs, sills, and heads should be emphasized.

Since signs are placed in windows usually without a sign permit and that there is need to ensure compliance with design regulations in most design districts, staff is recommending that a certain amount of window signage should be allowed without review by staff.

KZC Section 100.115 contains additional regulations for a variety of "temporary/special signs" (see Attachment 14). These include real estate signs, temporary commercial signs, and private traffic directional signs. A sign permit is not required for many of these sign types unless required by the Department of Building and Fire Services in order to erect or move a sign or alter the structural components of an existing sign.

Staff recommends that windows signs be added to the list in KZC Section 100.115 - Temporary/Special Signs subject to the following regulations:

Type of Sign	Maximum Number of Signs	Maximum Sign Area	Permitted Location	Permitted Duration of Display
Window Sign	No maximum	20% of window area	Subject property	No limitation

Attachment 15 contains information on how other City's regulate window signs.

Does the Planning Commission agree with staff's recommendation? Is additional information needed by the Planning Commission before making a recommendation on this topic?

VI. Major Policy Changes

A. Reduce Multi-Family Parking Standard in the CBD *

The KZC requires a minimum 1.7 parking stalls per residential unit. The City may also require up to an additional 0.5 parking stalls per unit for guest parking depending on availability of guest parking onsite. These standards may be reduced by an applicant if it can be shown by a parking study that the proposed number of spaces is sufficient to fully serve the use. The parking study is required to be prepared by a licensed transportation engineer or other qualified professional and may be based on nationally accepted Transportation Demand Management (TDM) measures. Staff's decision is based on the recommendation of the City traffic engineer's review of the applicant's parking study.

In the CBD, seven multi-family residential projects have applied for and received approval to reduce the number of required parking stalls since 1994. A chart has been prepared to provide background parking information regarding these projects (see Attachment 16). The City has granted similar modifications in other mixed use zones (e.g. – Juanita Business District, Market Street Corridor and North Rose Hill Business District) where similar provisions exists for shops, services, and transportation options.

Also, in April and July 2006, the Public Works Department conducted parking counts for several condominium developments in the CBD for projects that average 1.11 stalls per bedroom (see Attachment 17). The counts provide occupancy information on guest parking, on-site parking, and on-street parking stalls and shows that a one parking stall/bedroom rate does not result in a deficiency of onsite residential parking during the peak residential parking times of 10:00 p.m. to 6:00 a.m.

Based on this information, staff recommends reducing the multi-family parking standard in certain zones from 1.7 stalls per unit to 1 stall per bedroom since the City has been consistently approving this reduced rate. Units that have two or more bedrooms would be capped at 2 parking stalls and guest parking would be required at 0.1 stalls per bedroom with a minimum 2 guest parking stalls per development.

Parking modifications would still be available for developments that wish to utilize shared parking to further reduce the number of required parking stalls. In this case, additional parking information would need to be submitted for review by the City's Transportation Engineer.

Staff has the following comments and questions for the Planning Commission:

- Does the Planning Commission agree with reduced parking rates proposed by staff: 1 stall per bedroom with maximum 2 stalls per unit and 0.1 stalls per bedroom for guest parking with a minimum 2 guest parking stalls per development?

- Staff met with the Parking Advisory Board (PAB) on July 8, 2010 regarding this topic. In general, the PAB supports the proposal but had concerns about how parking would be managed. The PAB requested that staff draft a two tiered approach, where the current parking rate is the standard requirement and that the reduced parking rate can be used if there are restrictions on allocating parking stalls to residential units. The PAB believes that a reduced parking rate is supported by the sharing of parking stalls. Parking is most efficient when stalls are not assigned to particular residential units since it allows for all parking stalls to be utilized at all times. Once stalls are assigned or additional stalls sold to particular units, these parking stalls have the potential to remain vacant and underutilized.

  Realistically speaking however, there is an expectation from condominium owners that stalls should be allowed to be purchased and/or reserved to accommodate vehicles that they own. Therefore, the PAB suggests that at the most, only one parking stall should be assigned per unit and that the remainder of the parking stalls should be available to other residential tenants and/or guests. However enforcement of this would be difficult. Staff would not want to be in the position of "stepping into" disputes regarding assigned parking spaces within condo or homeowner's associations.

The parking data in Attachment 16 and 17 suggests that there isn't a problem with how residential developments are managing on-site parking. The projects for which the parking counts were gathered (Attachment 17) have an approximate parking rate of 1 stall per bedroom. The parking counts in Attachment 17 show low guest parking occupancy and minimal on-street parking during the peak residential parking time for residential projects. The City has not been involved in managing parking for these projects.

- Attachment 16 lists several projects where parking modifications have been approved in the North Rose Hill and Juanita Business Districts. Only one of the projects has been completed but is not yet fully occupied (Luna Sol). The other two projects have not yet broken ground and it is uncertain if they will be built. Therefore, staff recommends delaying extending the reduced parking rates to the other business districts until more case studies and actual parking counts are conducted to warrant such a change.

  Does the Planning Commission agree with this approach?

B. Reduce Residential Noise Standards for Outdoor Mechanical Equipment

The City has adopted the State's noise standards and therefore regulates noise based on the regulations found in WAC Chapter 173-60. The City also has a general public nuisance regulation as it relates to noise. Both regulations can be found in KZC Section 115.95 below:

115.95 Noise Regulations

1. *Maximum Environmental Noise Levels*

   a. *State Standard Adopted – The City of Kirkland adopts by reference the maximum environmental noise levels established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173- 60 WAC.*

   b. *Watercraft Noise Performance Standards – The City of Kirkland adopts by reference the Watercraft Noise Performance Standards established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173- 70 WAC.*

   c. *Availability – These regulations are available for inspection and copying in the Planning Department during regular business hours.*

2. *Noise – Public Nuisance – Any noise which injures, endangers the comfort, repose, health or safety of persons; or in any way renders persons insecure in life, or in the use of property, is a violation of this code. The operation of power equipment, including but not limited to leaf blowers, shall be deemed a public nuisance if such operation occurs during the following hours: before 8:00 a.m. or after 8:00 p.m. Monday through Friday, or before 9:00 a.m. or after 6:00 p.m. Saturday, Sunday, or the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.*

CENTRAL BUSINESS DISTRICT - PARKING SPREADSHEET

(HIGHLIGHTED ROWS INDICATE PROJECTS WITH APPROVED PARKING REDUCTION)

Project	Year Complete	Residential Units	No. of Bedrooms	Code Required Residential Parking [5]	Commercial Square Footage (gfa)	Base Code Requirements: Commercial (1/350 or 300 s.f. depending on zone)	TOTAL Required by Code	Parking Provided TOTAL [4]	Provided - Base Required	Residential Parking Provided	Residential Parking Rate: stalls/unit [2]	Guest Parking Rate/unit	Residential Parking @ 1 stall/bedroom	City Approved Rate: Stalls/ Bedroom [2]	Actual Residential Parking Provided: Stalls / Bedroom [4]
Plaza on State Condominiums [3]	1996	81	117	138	2,852	9	147	165	18	156	1.93	0.23	117	n/a	1.33
Watermark Apartments	1997	60	103	102	0	0	102	106	4	106	1.77	0.07	103	n/a	1.03
Park Avenue Condominiums	1997	38	76	65	0	0	65	84	19	84	2.21	0.51	76	n/a	1.11
602 5th Street Condominiums	1997	14	28	24	0	0	24	31	7	31	2.21	0.51	28	n/a	1.11
Tiara De Lago Condominiums [3]	1998	13	26	23	2,360	7	30	30	0	23	1.77	0.07	26	n/a	0.88
Chaffee Condominiums	1998	12	24	21	0	0	21	25	4	25	2.08	0.38	24	n/a	1.04
6th Avenue Condominiums	1998	22	44	38	0	0	38	49	11	49	2.23	0.53	44	n/a	1.11
Brezza Condominiums	1999	75	124	128	0	0	128	148	20	148	1.97	0.27	124	n/a	1.19
Tera Apartments [3]	1999	161	208	274	7,000	20	294	226	-68	206	1.28	?	208	?	0.99
Portsmith Condominiums	1999	153	263	261	0	0	261	276	15	276	1.80	0.10	263	n/a	1.05
220 1st Street Apartments [1]	2000	48	79	82	0	0	82	85	3	85	1.77	0.07	79	n/a	1.08
Soho Condominiums	2001	58	86	99	0	0	99	89	-10	89	1.53	?	86	?	1.03
West Water Apartments [1, 3]	2002	64	91	109	11,900	34	143	118	-25	84	1.31	?	91	?	0.92
Kirkland Central Condominiums [3]	2006	110	142	187	9,168	27	214	176	-38	149	1.35	0.05	142	1.05	1.05
Boulevard Condominiums [3]	2006	119	149	203	8,869	26	229	179	-50	153	1.29	0.03	149	1.03	1.03
128 State Condominiums	2007	124	158	211	0	0	211	168	-43	168	1.35	0.06	158	1.06	1.06
Bank of America/Merrill Gardens [3]	2010	66	80	113	12,368	36	149	137	-12	101	1.53	0.15	80	1.15	1.26
OTHER BUSINESS DISTRICTS															
Luna Sol - North Rose Hill Business District [3]	2010	52	60	89	9,888	33	122	94	-28	57	1.10	0.15	60	1.15	0.95
Mastro - North Rose Hill Business District	n/a	54	52	92	64,725	216	308	302	-6	86	1.59	0.10	52	1.10	1.65
Waterbrook - Juanita Business District	n/a	84	96	143	10,688	36	179	156	-23	119	1.42	0.10	96	1.10	1.24

Notes:

1) 220 1st Street and West Water Apartments have a shared parking agreement for approximately 6 stalls
2) Totals include guest parking. Actual # of designated stalls and management of those stalls should be determined through site surveys
3) Residential projects with commercial use have shared parking opportunities, particularly for guest parking. Actual utilization/management should be determined through site surveys.
4) Actual rate per bedroom may be lower or higher than approved rate due to shared parking opportunities or surplus stalls were provided
5) Guest parking not included. See *Guest Parking Rate* column. The City may require guest parking spaces in excess of the required parking spaces, up to a maximum additional 0.5 stall per dwelling unit, if there is inadequate guest parking on the subject property.

CONDO PARKING COUNT - APRIL 27, 2006 - APPROXIMATELY 5:00 A.M. START AND OVER A PERIOD OF SEVERAL HOURS

.

LOCATION	Guest Parking			Tenant Parking			ALL	On-Street	
	# Spaces	# OCCUP.	Occupancy	# Spaces	# OCCUP.	Occupancy	Occupancy	# OCCUP.	Occupancy
TIARA DE LAGO	0			29				0	
WATERVIEW	6	0	0	82	57	69.5%	64.8%	3	
								3	
								7	
BREZZA	20	5	25.0%	127	88	69.3%	63.3%		
								7	
PORTSMITH	13	5	38.5%	260	181	69.6%	68.1%		
								8	
PLAZA	11	3	27.3%	146	108	74.0%	70.7%	1	
								2	
TOTAL	50	13	26.0%	615	434	70.6%	67.2%	31	

CONDO PARKING COUNT - JULY 27, 2006 - APPROXIMATELY 5:00 A.M. START AND OVER A PERIOD OF SEVERAL HOURS

LOCATION	Guest Parking			Tenant Parking			ALL	On-Street	
	# Spaces	# OCCUP.	Occupancy	# Spaces	# OCCUP.	Occupancy	Occupancy	# OCCUP.	Occupancy
TIARA DE LAGO	0			28	22	78.6%		3	
WATERVIEW	6	0	0	82	51	62.2%	58.0%	5	
BREZZA	20	3	15.0%	127	92	72.4%	64.6%	3	
PORTSMITH	13	11	84.6%	260	163	62.7%	63.7%	7	
PLAZA	11	7	63.6%	146	90	61.6%	61.8%		
TOTAL	50		0.0%	643	418	65.0%	60.3%	15	

ATTACHMENT 15

William Popp Associates

Transportation Engineers/Planners

(206) 454-6692
FAX (206) 454-0187

PARKING MODIFICATION STUDY

for

CAM-WEST MIXED USE BUILDING

December 14, 1995

First Interstate Center · Suite 314 · 225 108th Ave NE · Bellevue, WA · 98004

CAM-WEST MIXED USE BUILDING

Parking Modification Study

Introduction

Cam-West Development Company is proposing the construction of a mixed use building located on the north side of NE 120th Place between 97th Avenue NE and 98th Avenue NE in the Juanita area of the City of Kirkland. The original proposal consists of 9,563 square feet of office space and 15 apartment units. Of the 15 units, 10 are one bedroom and 5 are two bedroom. Pending the outcome of this study, Cam-West may opt to modify the apartment component to include 10 two-bedroom units and 5 one-bedroom units. A vicinity map and site plan are presented in Figure 1 and 2 respectively.

Based on this proposal, the Kirkland City Code requires the applicant provide a total of 71 stalls. However, the site as configured, has space for only 49 stalls or 22 stalls less than required by the city. To accommodate such situation, the code allows the Planning Official to modify the parking requirements under Section 105.103.3b which states:

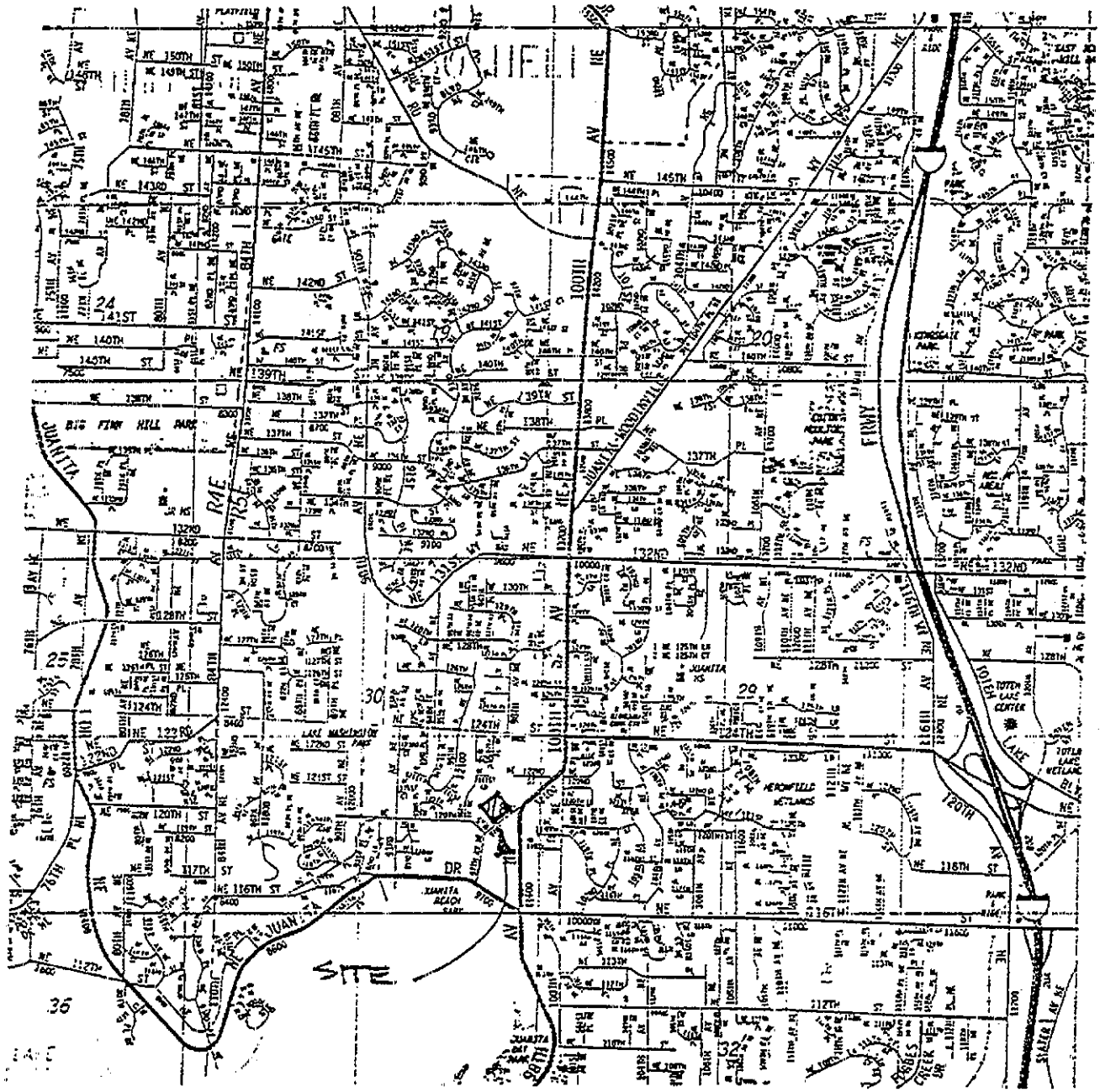
> ". . . a decrease in the required number of spaces maybe granted if the number of spaces purposed is documented by an adequate and thorough parking study to be sufficient to fully serve the use."

The purpose of this report is to document our analysis and findings in regards to observed parking demand for office and apartment uses similar to the proposed use and compare that demand to proposed supply under a mixed use scenario.

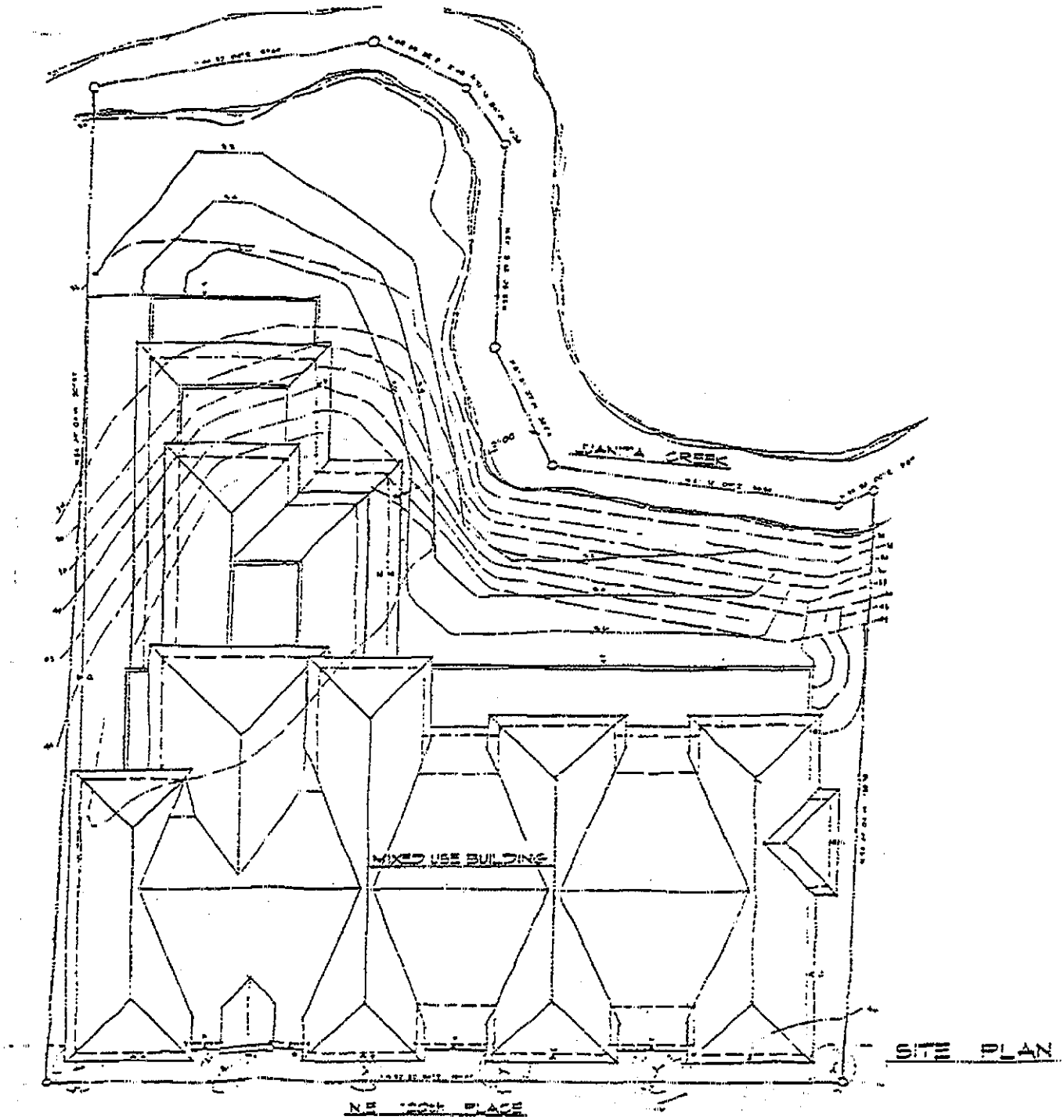
Parking Study

Process

To address this issue, William Popp Associates selected three apartment complexes and an office building for an analysis of peak parking demand. The three apartment buildings are located in the immediate vicinity of the site. Since Cam-West will occupy 5000 square feet of the proposed 9,563 square foot office building and anticipates a similar use to occupy the remainder, the parking study for the office portion was conducted at Cam-West's office in Bellevue. A summary of the facilities studied is presented in Table 1.



WILLIAM POPP ASSOCIATES	VICINITY MAP Figure 1	CAM-WEST



WILLIAM POPP ASSOCIATES	SITE PLAN Figure 2	CAM-WEST

Table 1
Parking Study

Land Use	Office		Apartment			
	sq.ft.	No. of stalls	one bdrm	two bdrm	three bdrm	No. of stalls
Cam-West Office 924 Bellevue Way	3,750	12	n/a	n/a	n/a	n/a
North Park Apartment 9520 NE 120th Street	n/a	n/a	60	33	0	136
Beachwood Apartment 11915 93rd Ave NE	n/a	n/a	0	12	4	23
Parkside Apartment 9333 NE 120th St	n/a	n/a	8	8	0	32

= 1.03 per
= 0.69
= 1.33

68 + 104 + 18 = 186
191 ≈ 1.03

The parking studies were conducted at times when the occupancy for each use was expected to peak. According to the Institute of Transportation Engineers, peak occupancy for apartment complexes occurs between 10 PM and 12 midnight and 5 AM to 6 AM and for office uses between 9:00 AM and 3:00 PM. Parking surveys were conducted at the three existing apartment complexes between 10:00 PM and 11:00 PM on November 14 and November 15, 1995. A parking survey of the existing office building was conducted between 9:00 AM and 3:00 PM on November 13 and November 14, 1995.

Findings

The results of the studies are presented in Table 2.

Table 2
Parking Study Results

Apartment Complex	Units	Bedrooms	Demand	Demand Per Unit	Demand Per Bedroom
North Park Apartments	93	126	103	1.11	0.82
Parkside	16	24	22	1.38	0.92
Beachwood	16	36	18	1.13	0.50
All Complexes	125	186	143	1.14	0.77

Office Complex	Area (sq.ft.)	No. of Stalls	No. of Employees	Peak Parking Demand (stalls)	Demand Stalls/ksf
Cam-West Office Building	3,750	12	12	7.5	2.0

As shown in Table 2, the parking demand for the apartment complex ranged from 1.11 to 1.38 stalls per unit for the three complexes with an average of 1.14. When the number of bedrooms is taken into consideration, parking demand ranged from 0.50 to 0.92 stalls per bedroom with an average of 0.77.

For the office building, the average peak parking demand was 7.5 stalls over the two day period. This yields an average peak parking demand of 2.0 stalls per 1,000 gross square feet of office building.

Application to Cam-West Proposal

City of Kirkland Code Requirements

The proposed mixed use building is comprised of 9,563 square feet of office and 15 apartment units. The Kirkland code requires 3.3 stalls per 1000 gross square feet of office and 1.7 stalls per apartment unit plus additional stalls equal to 50 percent of the stalls required under the 1.7 calculation to accommodate guest parking. Based on these rates, the proposed Cam-West mixed use building has a code requirement of 71 stalls or 39 stalls for the apartments (15 x 1.7 = 26 + 50% x 26 = 13 = 39) plus 32 office stalls (3.3 stalls x 9,563/1000 = 32). A summary of this calculation is presented in Table 3.

Study Findings

Based on the average rates calculated from the parking surveys, the proposed project should provide approximately 34 stalls for the original proposal (10 one-bedroom and 5 two-bedroom apartment units) and 43 stalls for the alternative proposal (10 two-bedroom and 5 one-bedroom apartment units). This was calculated using a rate of 2.0 stalls per 1000 gsf for office (9.563 ksf x 2.0 = 19) and 0.77 stalls per bedroom for apartment (20 bedrooms x 0.77 = 15 and 30 bedrooms x 0.77 = 24).

To develop a worse case scenario, the highest rate per bedroom based on the survey results (0.92 stalls per bedroom from Parkside) and the city code requirement of 3.3 stalls per 1000 were applied to generate a need for 53 stalls for the original proposal and 60 stalls for the alternative. This scenario however, assumes the office peak and the apartment peak parking stall occupancies occur at the same time. As stated previously, apartment peak stall demand occurs during the late evening whereas, the office peak occurs during the middle of the day.

National Studies

The Institute of Transportation Engineers has published a document entitled *Parking Generation* which summarizes national studies of parking stall occupancy for various uses. Based on studies for apartment complexes, the average peak parking demand on a weekday was 1.04 stalls per unit. Applying this rate to the Cam-West proposal would yield a requirement of 16 stalls for the apartment portion of the complex under either proposal.

In regards to the office portion, the average peak parking demand on a weekday is 2.79 stalls per 1000 gsf. In the case of the Cam-West proposal, a total of 27 stalls is required to meet the office parking demand.

Using the ITE rates, the Cam-West proposal would require a total of 43 stalls if the peak demand occurred at the same time. Again, most of the demand for office parking stalls typically occurs between 8 AM and 6 PM with virtually no demand during the evening and weekends whereas the peak demand for apartments occurs between 10 PM and 12 midnight. As such, it appears that office stalls could be used by the apartment complex for guest parking during hours of peak demand when office parking demand is low.

Conclusions and Recommendations

A summary of our findings is presented in Table 3

Table 3
Parking Stall Requirements

Land Use	Code Requirement		ITE Data		Local Survey	
	Proposal	Alt	Proposal	Alt	Proposal	Alt
Apartment 15 units/20 bedrooms	39	39	16	16	15	23
Office 9,563 sq ft	32	32	27	27	19	19
Total	71	71	43	43	34	42

As shown in Table 3, the Kirkland code requires 71 stalls, ITE data suggests a supply of 43 stalls and the local studies, using average rates, would require 34 stalls for the original proposal and 42 for the alternative. Applying the highest rate per bedroom generated form the survey and code required stalls for office yields a peak demand of 53 stalls for the original proposal and 60 for the alternative. However, all of these scenarios are based on office and apartment peak demand occurring at the same time. This is not the case as office peak demand occurs during business hours whereas apartments peak during evenings and weekends when office demand is insignificant. As such, during peak periods the apartment demand for guest stalls could be accommodated in the office spaces.

Based on the foregoing, the 49 stalls proposed by Cam-West should be more than adequate to meet the expected parking demand for the 20 bedroom or 30 bedroom design alternatives.

Appendix G: Shared Parking Calculations

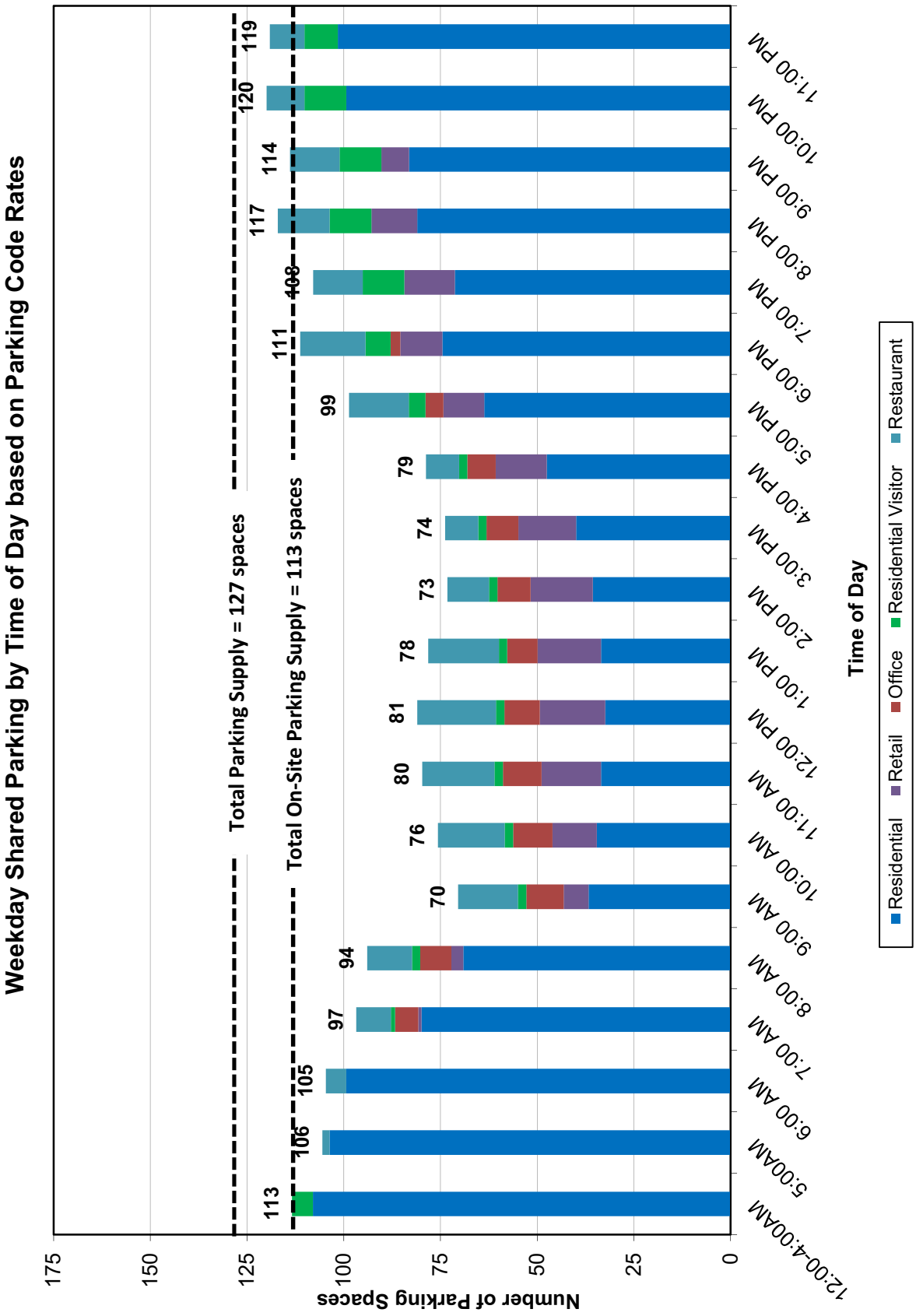
Weekday Shared Parking Estimate

Land Use	**Retail**		**Residential**		**Residential Visitor**		**Office**		**Restaurant**		**Shared Parking by Hour**
Proposed Land Use Size	5.083		108		108		3.050		2.033		
Units	/ksf GFA		/dwelling units		/ksf GFA		/ksf GFA		/ksf GFA		
Rate[1]	3.33		1.00		0.10		3.33		10.00		
	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	
12:00-4:00AM	-	-	100%	108	50%	5	-	-	-	-	113
5:00AM	-	-	96%	104	-	-	-	-	9%	2	106
6:00 AM	-	-	92%	99	-	-	-	-	26%	5	105
7:00 AM	5%	1	74%	80	10%	1	59%	6	44%	9	97
8:00 AM	18%	3	64%	69	20%	2	79%	8	57%	12	94
9:00 AM	38%	6	34%	37	20%	2	95%	10	76%	15	70
10:00 AM	68%	12	32%	35	20%	2	100%	10	85%	17	76
11:00 AM	91%	15	31%	33	20%	2	98%	10	92%	19	80
12:00 PM	100%	17	30%	32	20%	2	90%	9	100%	20	81
1:00 PM	97%	16	31%	33	20%	2	77%	8	90%	18	78
2:00 PM	95%	16	33%	36	20%	2	84%	9	53%	11	73
3:00 PM	88%	15	37%	40	20%	2	81%	8	42%	9	74
4:00 PM	78%	13	44%	48	20%	2	72%	7	42%	9	79
5:00 PM	62%	11	59%	64	40%	4	46%	5	76%	15	99
6:00 PM	64%	11	69%	75	60%	6	25%	3	83%	17	111
7:00 PM	77%	13	66%	71	100%	11	0%	0	63%	13	108
8:00 PM	70%	12	75%	81	100%	11	0%	0	66%	13	117
9:00 PM	42%	7	77%	83	100%	11	0%	0	63%	13	114
10:00 PM	-	-	92%	99	100%	11	0%	0	48%	10	120
11:00 PM	-	-	94%	102	80%	9	0%	0	44%	9	119
Maximum		17		108		11		10		20	**120**

Notes:

1. Parking rates based on the City of Krikland requirements and a parking ratio of 1.10 spaces per unit for residential.
2. Hourly time of day parking demand percent based on ITE *Parking Generation* , 4th Edition for all uses except the residential visitors where ULI's *Shared Parking, 2nd* Edition was used.

ATTACHMENT 15


Weekday Shared Parking by Time of Day based on Parking Code Rates
Total Parking Supply = 127 spaces
Total On-Site Parking Supply = 113 spaces
Number of Parking Spaces
Time of Day
Residential
Retail
Office
Residential Visitor
Restaurant
12:00-4:00AM
5:00AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
113
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97
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99
111
108
117
114
120
119

Weekend Shared Parking Estimate

Land Use	Retail		Residential		Residential Visitor		Office		Restaurant		Shared Parking by Hour
Proposed Land Use Size	5.083		108		108		3.050		2.033		
Units	/ksf GFA		/dwelling units		/ksf GFA		/ksf GFA		/ksf GFA		
Rate[1]	3.33		1.00		0.10		3.33		10.00		
	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	
12:00-4:00AM	-	-	95%	103	50%	5	0%	0	0%	0	108
5:00AM	-	-	100%	108	-	-	0%	0	0%	0	108
6:00 AM	-	-	98%	106	-	-	0%	0	20%	4	110
7:00 AM	13%	2	94%	102	20%	2	0%	0	30%	6	112
8:00 AM	27%	5	89%	96	20%	2	0%	0	51%	10	113
9:00 AM	60%	10	59%	64	20%	2	0%	0	73%	15	91
10:00 AM	75%	13	71%	77	20%	2	0%	0	94%	19	111
11:00 AM	90%	15	67%	72	20%	2	0%	0	100%	20	110
12:00 PM	100%	17	66%	71	20%	2	0%	0	93%	19	109
1:00 PM	100%	17	64%	69	20%	2	0%	0	84%	17	105
2:00 PM	98%	17	64%	69	20%	2	0%	0	63%	13	101
3:00 PM	91%	15	69%	75	20%	2	0%	0	39%	8	100
4:00 PM	76%	13	73%	79	20%	2	0%	0	48%	10	104
5:00 PM	67%	11	78%	84	40%	4	0%	0	55%	11	111
6:00 PM	72%	12	80%	86	60%	6	0%	0	63%	13	118
7:00 PM	51%	9	83%	90	100%	11	0%	0	74%	15	124
8:00 PM	52%	9	84%	91	100%	11	0%	0	55%	11	122
9:00 PM	44%	7	87%	94	100%	11	0%	0	39%	8	120
10:00 PM	29%	5	89%	96	100%	11	0%	0	40%	8	120
11:00 PM	0%	0	95%	103	80%	9	0%	0	53%	11	122
Maximum		17		108		11		0		20	**124**

Notes:

1. Parking rates based on the City of Krikland requirements and a parking ratio of 1.10 spaces per unit for residential.
2. Hourly time of day parking demand percent based on ITE *Parking Generation* , 4th Edition for all uses except the residential visitors where ULI's *Shared Parking, 2nd* Edition was used.

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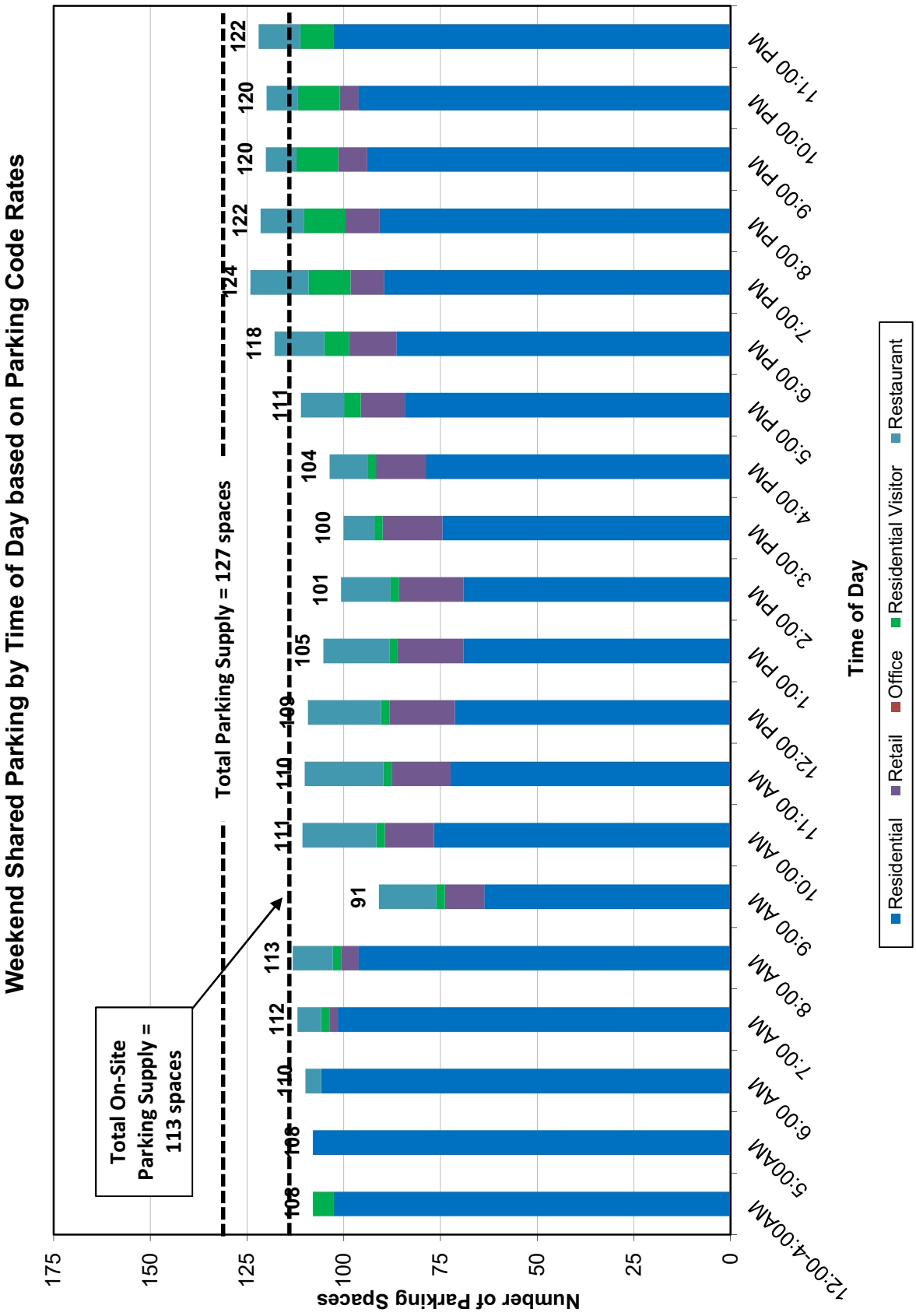
Weekend Shared Parking by Time of Day based on Parking Code Rates
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Total Parking Supply = 127 spaces
Number of Parking Spaces
Time of Day
Residential
Retail
Office
Residential Visitor
Restaurant
12:00-4:00AM
5:00AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
0
25
50
75
100
125
150
175
108
108
110
112
113
111
91
111
110
109
105
101
100
104
111
118
124
122
120
120
122

Weekday Shared Parking Estimates (Transportaiton Concurrency Land Use)

Land Use	Retail		Residential		Office		Residential Visitor		Shared Parking by Hour
Proposed Land Use Size	7.247		108		3.106		108		
Units	/ksf GFA		/dwelling units		/ksf GFA		/dwelling units		
Rate[1]	3.33		1.00		3.33		0.10		
	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	hourly parkinng stall demand (%)[2]	hourly supply utilized (# of stalls)	
12:00-4:00AM	-	-	100%	108	-	-	50%	5	113
5:00AM	-	-	96%	104	-	-	-	-	104
6:00 AM	-	-	92%	99	-	-	-	-	99
7:00 AM	5%	1	74%	80	59%	6	10%	1	88
8:00 AM	18%	4	64%	69	79%	8	20%	2	84
9:00 AM	38%	9	34%	37	95%	10	20%	2	58
10:00 AM	68%	16	32%	35	100%	10	20%	2	63
11:00 AM	91%	22	31%	33	98%	10	20%	2	68
12:00 PM	100%	24	30%	32	90%	9	20%	2	68
1:00 PM	97%	23	31%	33	77%	8	20%	2	67
2:00 PM	95%	23	33%	36	84%	9	20%	2	69
3:00 PM	88%	21	37%	40	81%	8	20%	2	72
4:00 PM	78%	19	44%	48	72%	7	20%	2	76
5:00 PM	62%	15	59%	64	46%	5	40%	4	88
6:00 PM	64%	15	69%	75	25%	3	60%	6	99
7:00 PM	77%	19	66%	71	-	-	100%	11	101
8:00 PM	70%	17	75%	81	-	-	100%	11	109
9:00 PM	42%	10	77%	83	-	-	100%	11	104
10:00 PM		0	92%	99	-	-	100%	11	110
11:00 PM		0	94%	102	-	-	80%	9	110
Maximum		24		108		10		11	**113**

Notes:

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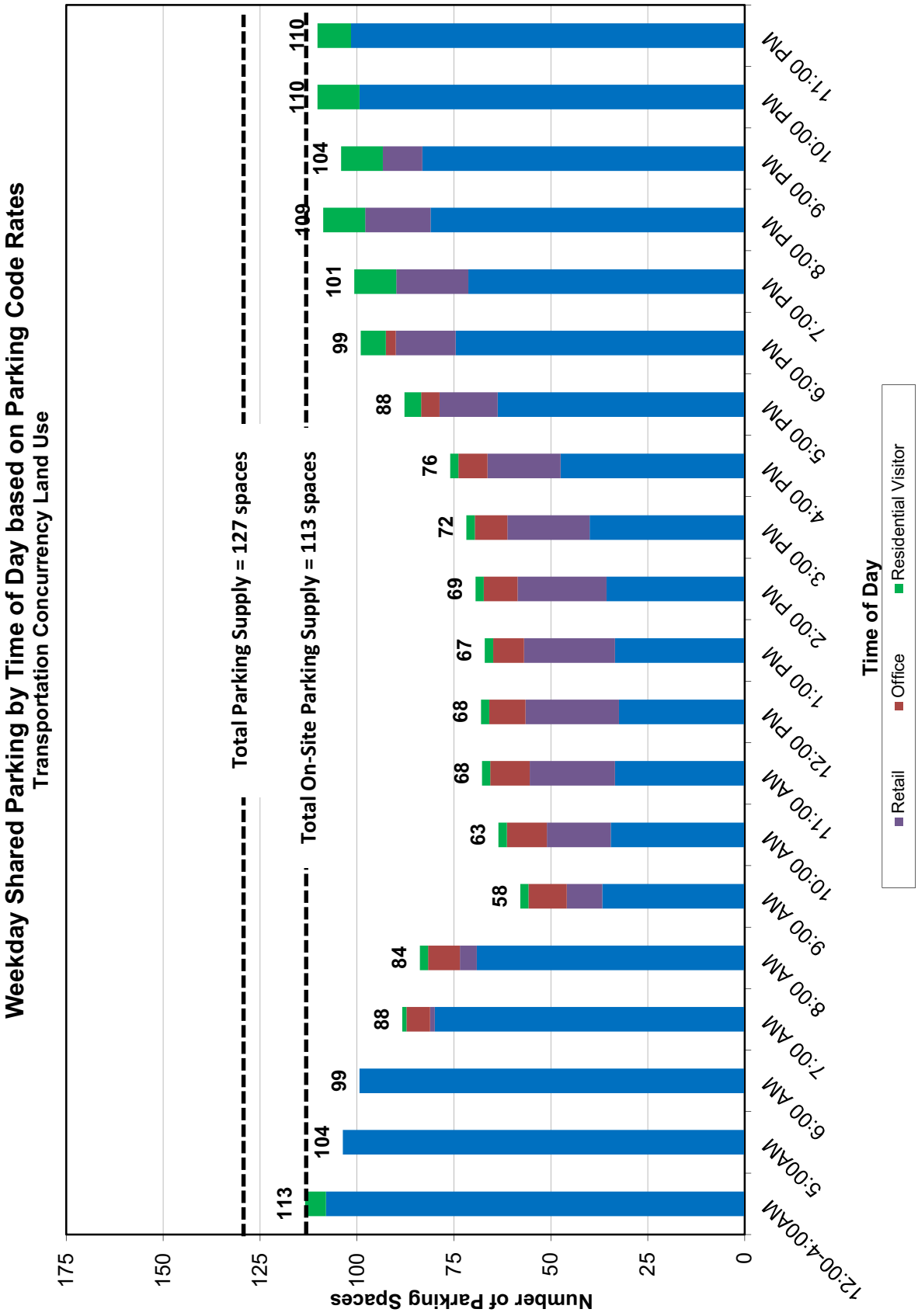
Weekday Shared Parking by Time of Day based on Parking Code Rates
Transportation Concurrency Land Use
Total Parking Supply = 127 spaces
Total On-Site Parking Supply = 113 spaces
Number of Parking Spaces
Time of Day
Retail
Office
Residential Visitor
0
25
50
75
100
125
150
175
12:00-4:00AM
5:00AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
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72
76
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99
101
109
104
110
110

Weekend Shared Parking Estimates (Transportaiton Concurrency Land Use)

Land Use	Retail		Residential		Office		Residential Visitor		Shared Parking by Hour
Proposed Land Use Size	7.247		108		3.106		108		
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Rate[1]	3.33		1.00		3.33		0.10		
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12:00-4:00AM	-	-	95%	103	-	-	50%	5	108
5:00AM	-	-	100%	108	-	-	-	-	108
6:00 AM	-	-	98%	106	0%	0	-	-	106
7:00 AM	13%	3	94%	102	0%	0	20%	2	107
8:00 AM	27%	7	89%	96	0%	0	20%	2	105
9:00 AM	60%	14	59%	64	0%	0	20%	2	80
10:00 AM	75%	18	71%	77	0%	0	20%	2	97
11:00 AM	90%	22	67%	72	0%	0	20%	2	96
12:00 PM	100%	24	66%	71	0%	0	20%	2	98
1:00 PM	100%	24	64%	69	0%	0	20%	2	95
2:00 PM	98%	24	64%	69	0%	0	20%	2	95
3:00 PM	91%	22	69%	75	0%	0	20%	2	99
4:00 PM	76%	18	73%	79	0%	0	20%	2	99
5:00 PM	67%	16	78%	84	0%	0	40%	4	105
6:00 PM	72%	17	80%	86	0%	0	60%	6	110
7:00 PM	51%	12	83%	90	-	-	100%	11	113
8:00 PM	52%	13	84%	91	-	-	100%	11	114
9:00 PM	44%	11	87%	94	-	-	100%	11	115
10:00 PM	29%	7	89%	96	-	-	100%	11	114
11:00 PM	-	-	95%	103	-	-	80%	9	111
Maximum		24		108		0		11	**115**

Notes:

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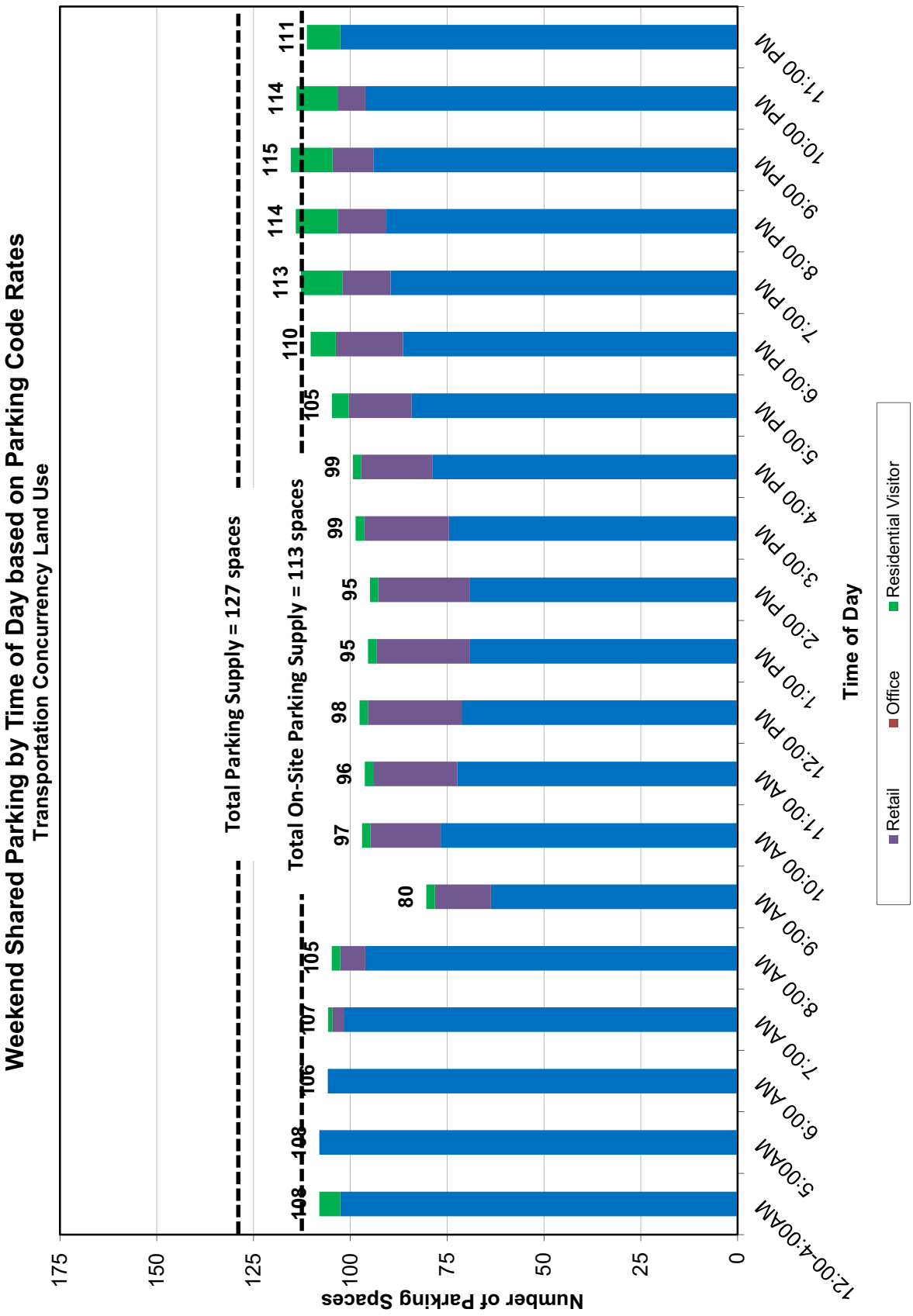
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Number of Parking Spaces
Time of Day
Retail
Office
Residential Visitor
0
25
50
75
100
125
150
175
12:00-4:00AM
5:00AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
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