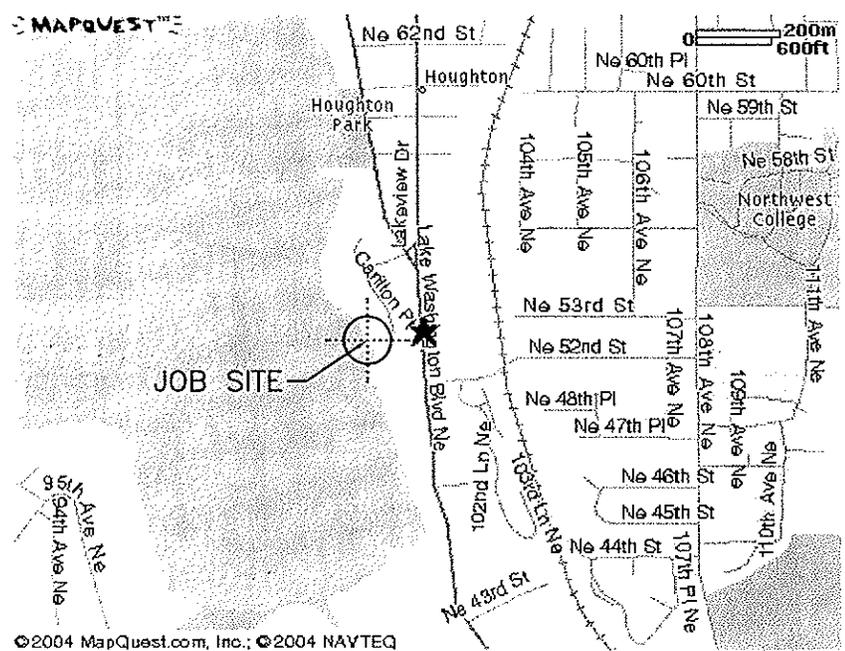


RECEIVED

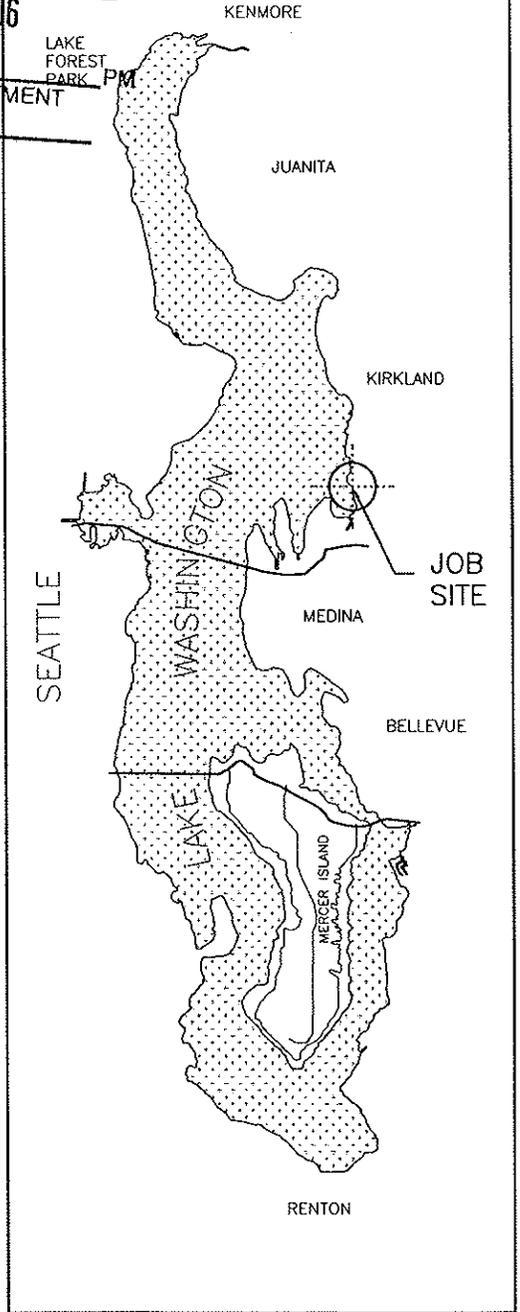
JAN 20 2006

PROJECT DESIGNED BY:
Waterfront Construction Inc.
 205 NE NORTHLAKE WAY, Suite 230
 SEATTLE, WA. 98105 (206) 548-9800

AM
 PLANNING DEPARTMENT
 BY _____



VICINITY MAP/NO SCALE



AREA MAP/Scale: 1" = 3miles

LEGAL DESCRIPTION

1/4 SEC: NW 17-25N-05E
 TAXLOT #: 172505 9130

172505 9130 SOUTH HALF OF S HALF OF GOVT LOT 2 IN NW QTR STR 17-25-05 & OF 2ND CLASS SHORE LANDS ADJ LESS THE FOLLOWING DESCRIBED PARCEL: COMM AT INTERSECTION OF NORTH LINE SD SOUTH HALF OF SOUTH HALF & WLY MGN OF LAKE WASHINGTON BLVD NE TH ALG SD MGN S 03-09-47 E 75 FT TO TPOB TH CONTG ALG SD MGN S 03-09-47 E 220.32 FT TH N88-52-05 W 135 FT TH N 43-51-02 W 75.46 FT TH N 01-08-58 E 166.38 FT TO SOUTH LINE OF TRACT DEEDED TO G.A. & E.M. DAHLSTROM BY DEED REC NO 2980236 TH ALG SD SOUTH LINE S 88-51-02 E 171.79 FT TO TPOB & LESS PORTION SOUTH HALF OF SOUTH HALF LYING NORTHERLY OF SOUTH LINE SD DAHLSTROM TRACT-- AKA LOT 2 CITY OF KIRKLAND ALTERATION OF LOT LINE NO LL-97-57 REC NO 9707160998

LAT: 47°-39'-15"
 LONG: 122°-12'-21"

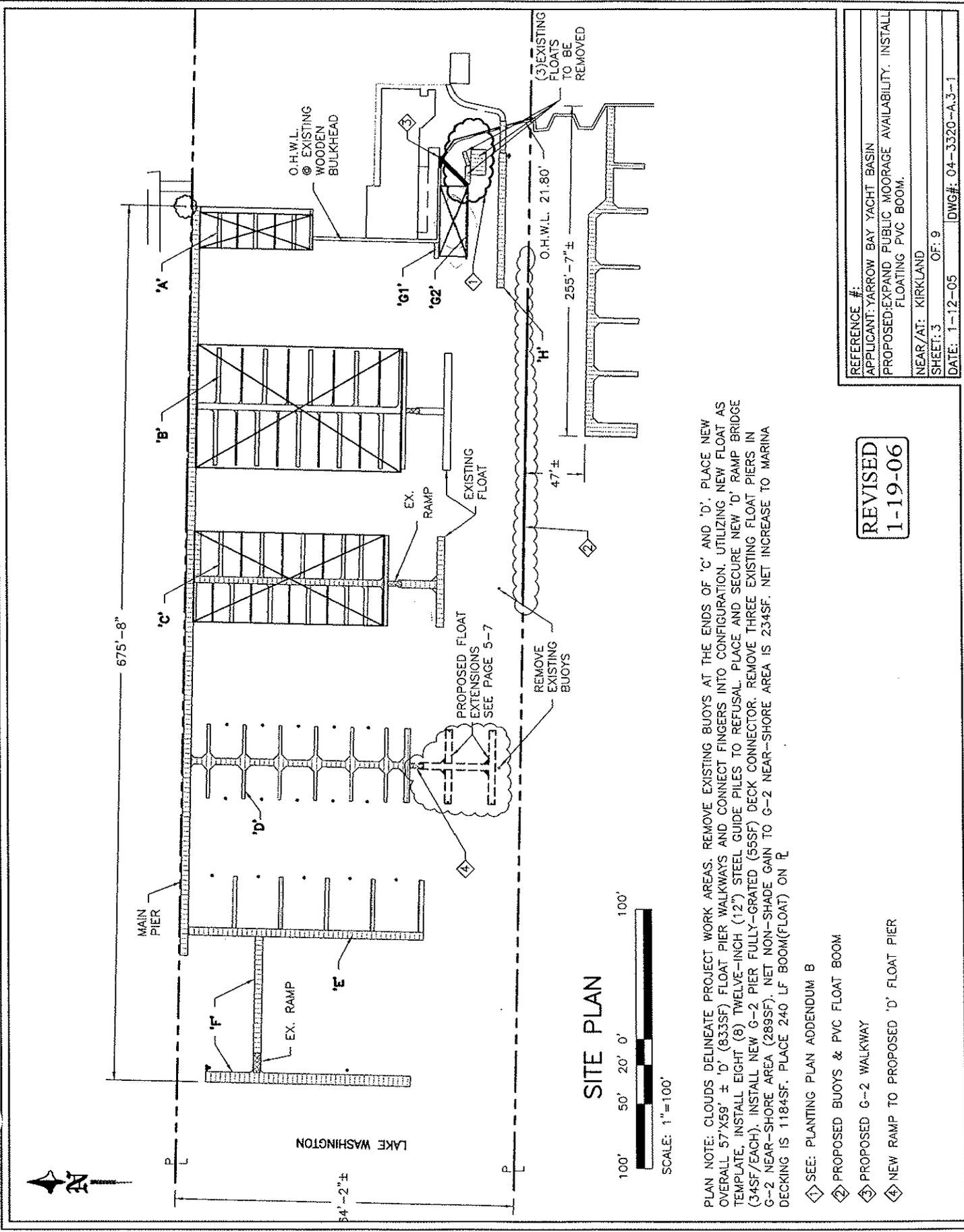
REVISED
 1-19-06



PURPOSE: EXPAND 1 FLOATING PIER. INSTALL A WALKWAY. REMOVE EXISTING FLOATS.
DATUM: C.O.E. 0.0' EST 1919
ADJACENT OWNERS:
① CARILLON PROPERTIES W. BLVD. 5245 LAKE WASHINGTON BLVD NE
② BREAKWATER CONDOMINIUMS 4823 LAKE WASHINGTON BLVD NE

PROJECT NAME: YARROW BAY
REFERENCE #:
SITE LOCATION ADDRESS: 5001 LAKE WASHINGTON BLVD NE KIRKLAND, WA. 98033
DWG#: 04-3320-A-1-1

PROPOSED: EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.
IN: LAKE WASHINGTON
NEAR: KIRKLAND
COUNTY: KING STATE: WA
APPL BY: YARROW BAY YACHT BASIN
SHEET: 15 1-19-06 DATE: 12-05



PLAN NOTE: CLOUDS DELINEATE PROJECT WORK AREAS. REMOVE EXISTING BUOYS AT THE ENDS OF 'C' AND 'D'. PLACE NEW OVERALL 57'X59' ± 'D' (833SF) FLOAT PIER WALKWAYS AND CONNECT FINGERS INTO CONFIGURATION. UTILIZING NEW FLOAT AS TEMPLATE, INSTALL EIGHT (8) TWELVE-INCH (12") STEEL GUIDE PILES TO REFUSAL. PLACE AND SECURE NEW 'D' RAMP BRIDGE (345F/EACH). INSTALL NEW G-2 PIER FULLY-GRATED (555F) DECK CONNECTOR. REMOVE THREE EXISTING FLOAT PIERS IN G-2 NEAR-SHORE AREA (289SF). NET NON-SHORE GAIN TO G-2 NEAR-SHORE AREA IS 234SF. NET INCREASE TO MARINA DECKING IS 1184SF. PLACE 240 LF BOOM(FLOAT) ON R

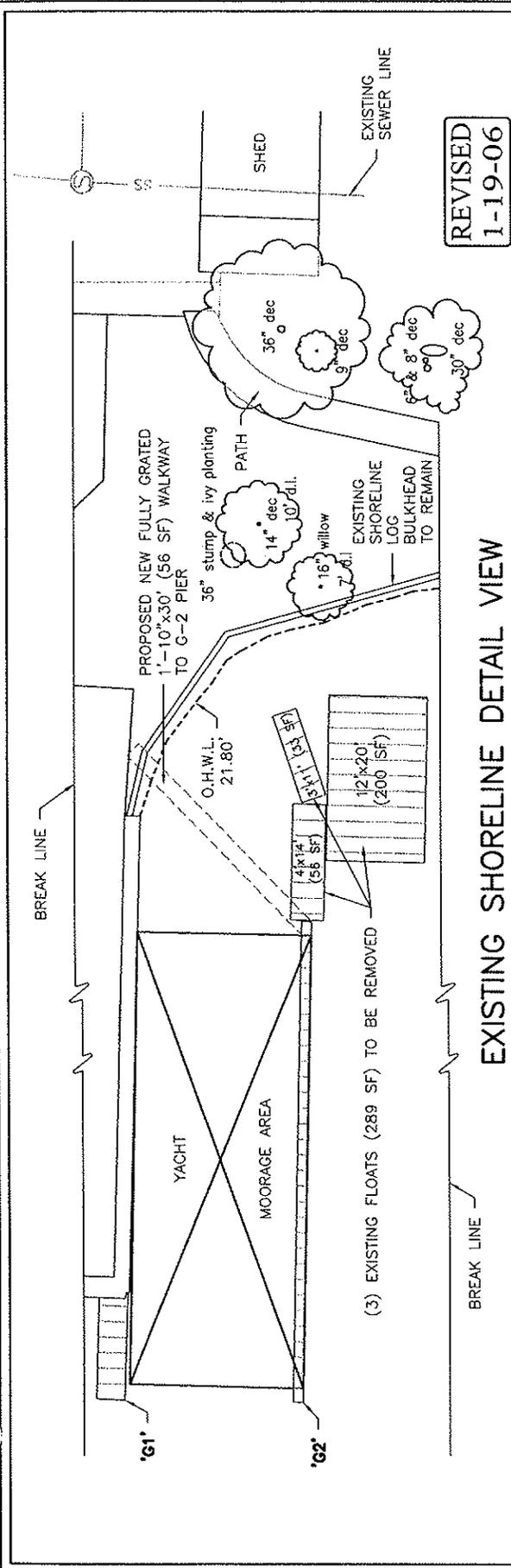
- ① SEE: PLANTING PLAN ADDENDUM B
- ② PROPOSED BUOYS & PVC FLOAT BOOM
- ③ PROPOSED G-2 WALKWAY
- ④ NEW RAMP TO PROPOSED 'D' FLOAT PIER

SITE PLAN

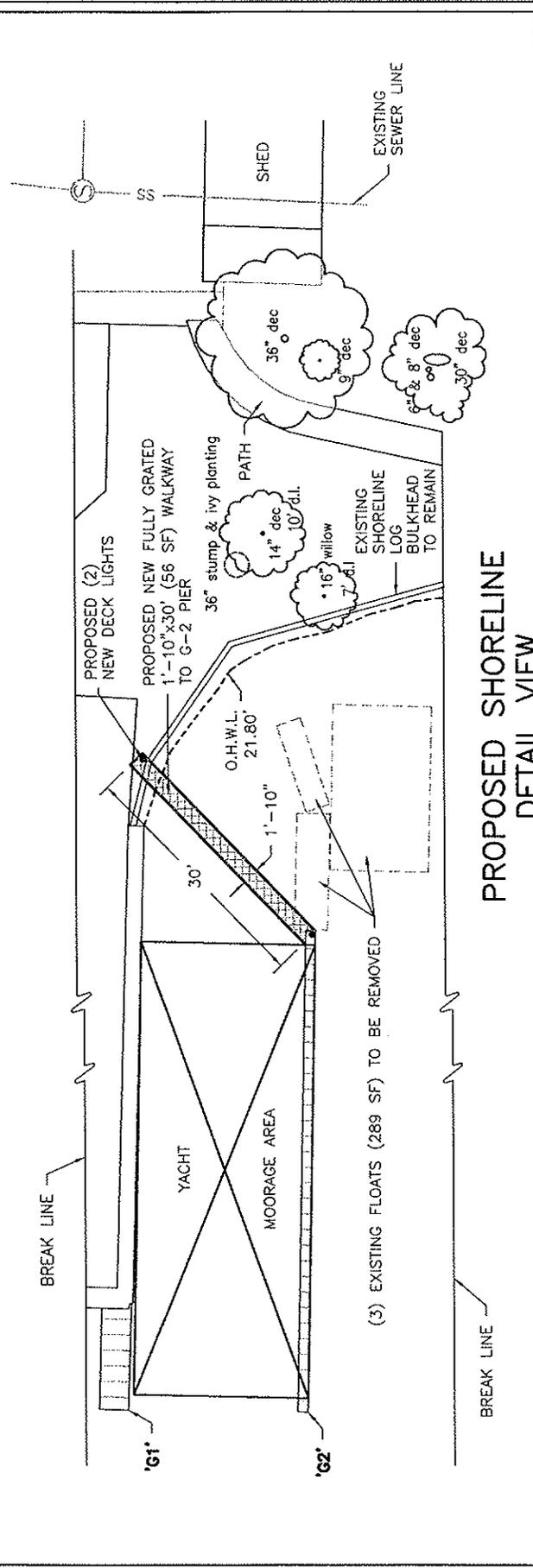


REVISED
1-19-06

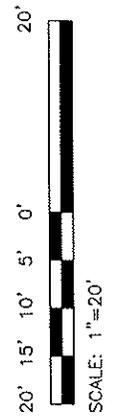
REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.
NEAR/AT:	KIRKLAND
SHEET:	3 OF: 9
DATE:	1-12-05 DWG#: 04-3320-A.3-1



EXISTING SHORELINE DETAIL VIEW
SCALE: 1"=20'

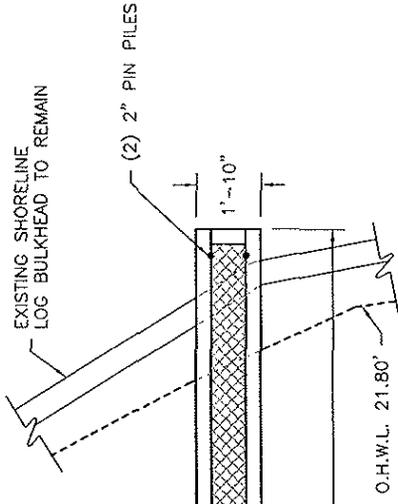


PROPOSED SHORELINE DETAIL VIEW
SCALE: 1"=20'

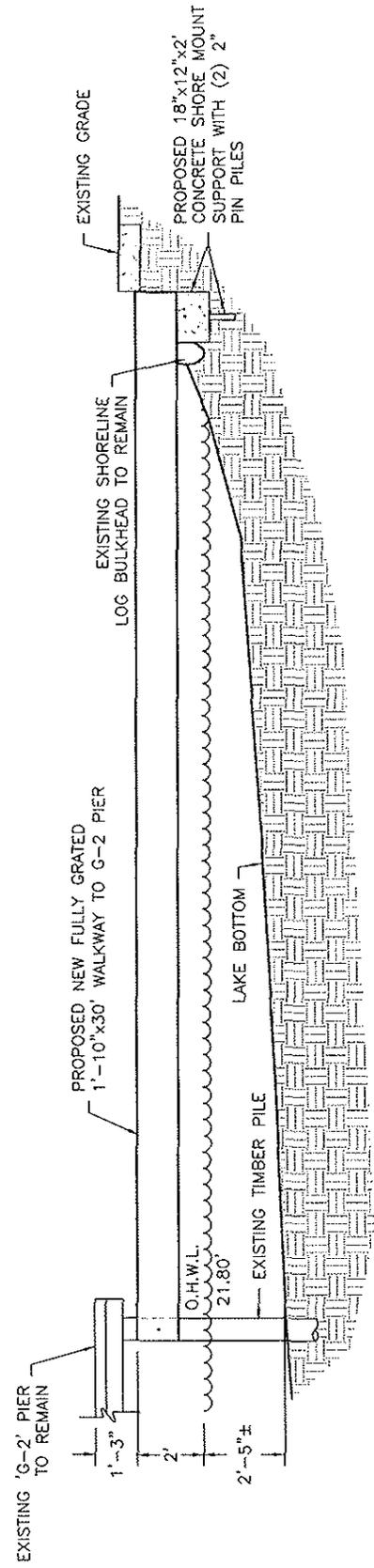


REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	EXPAND PUBLIC MOORAGE AVAILABILITY; INSTALL FLOATING PVC BOOM.
NEAR/AT:	KIRKLAND
SHEET:	4 OF 9
DATE:	1-12-05
DWG#:	04-3320-A-4-1

NOTE: REMOVE THREE FLOATS (3'x11', 4'x14', AND 12'x20' = 329 SF OVERALL) MOORED AT SHORELINE. INSTALL AND SECURE NEW FULLY GRATED 1'x10'x30' WALKWAY TO G-2 PIER. (56 SF)



DETAIL VIEW



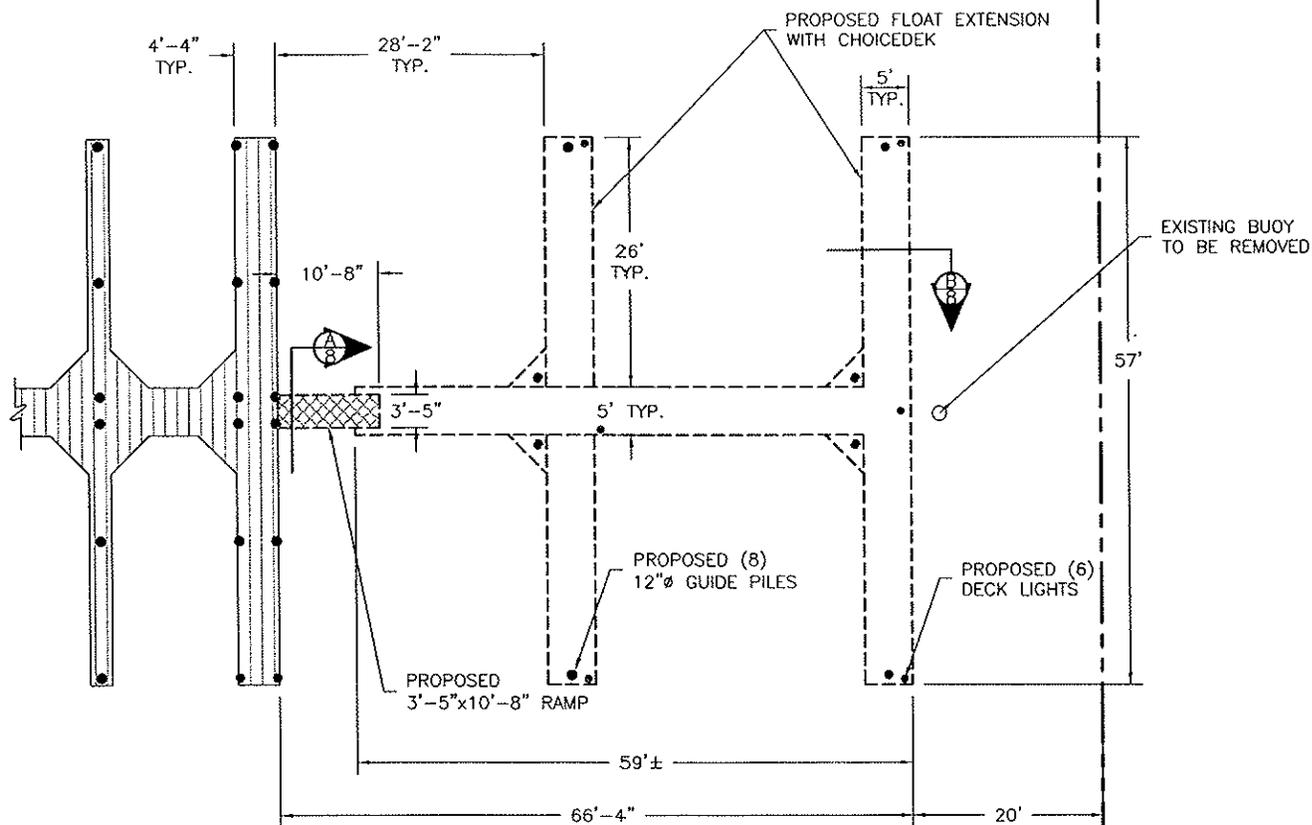
ELEVATION VIEW



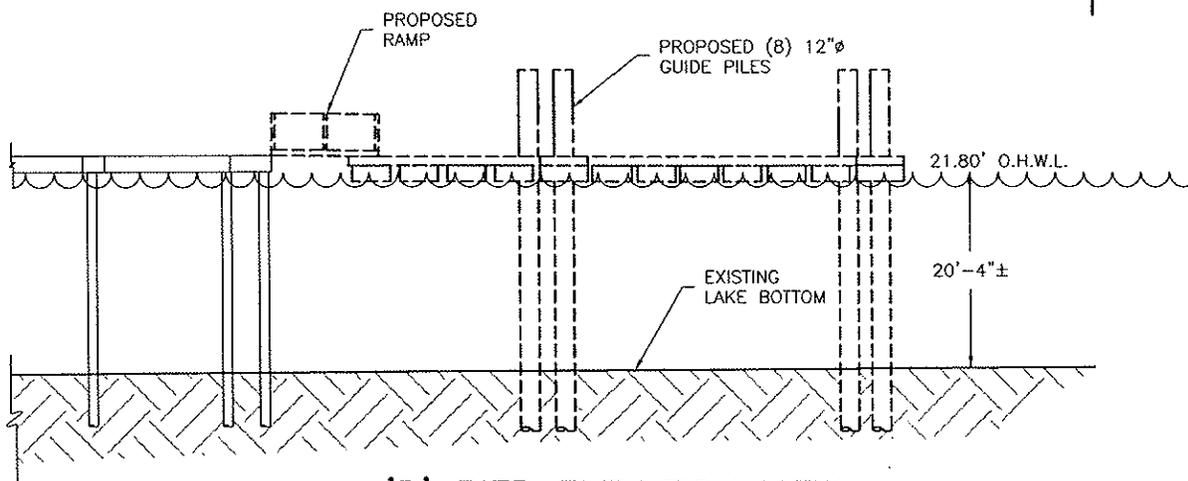
REVISED
1-19-06

REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.
NEAR/AT:	KIRKLAND
SHEET:	5 OF 9
DATE:	1-12-05
DWG#:	04-3320-A.5-1

NOTE: INSTALL TWO (2) SHORELINE PINS. FORM AND CONSTRUCT NEW 12"x18"x24" CONCRETE SHOREMOUNT. INSTALL AND SECURE NEW FULLY GRATED 1'-10"x30' WALKWAY TO SHORE MOUNT AND EXISTING G-2 TIMBER PILE. (55 SF)



'D' PIER DETAIL VIEW
SCALE: 1"=20'



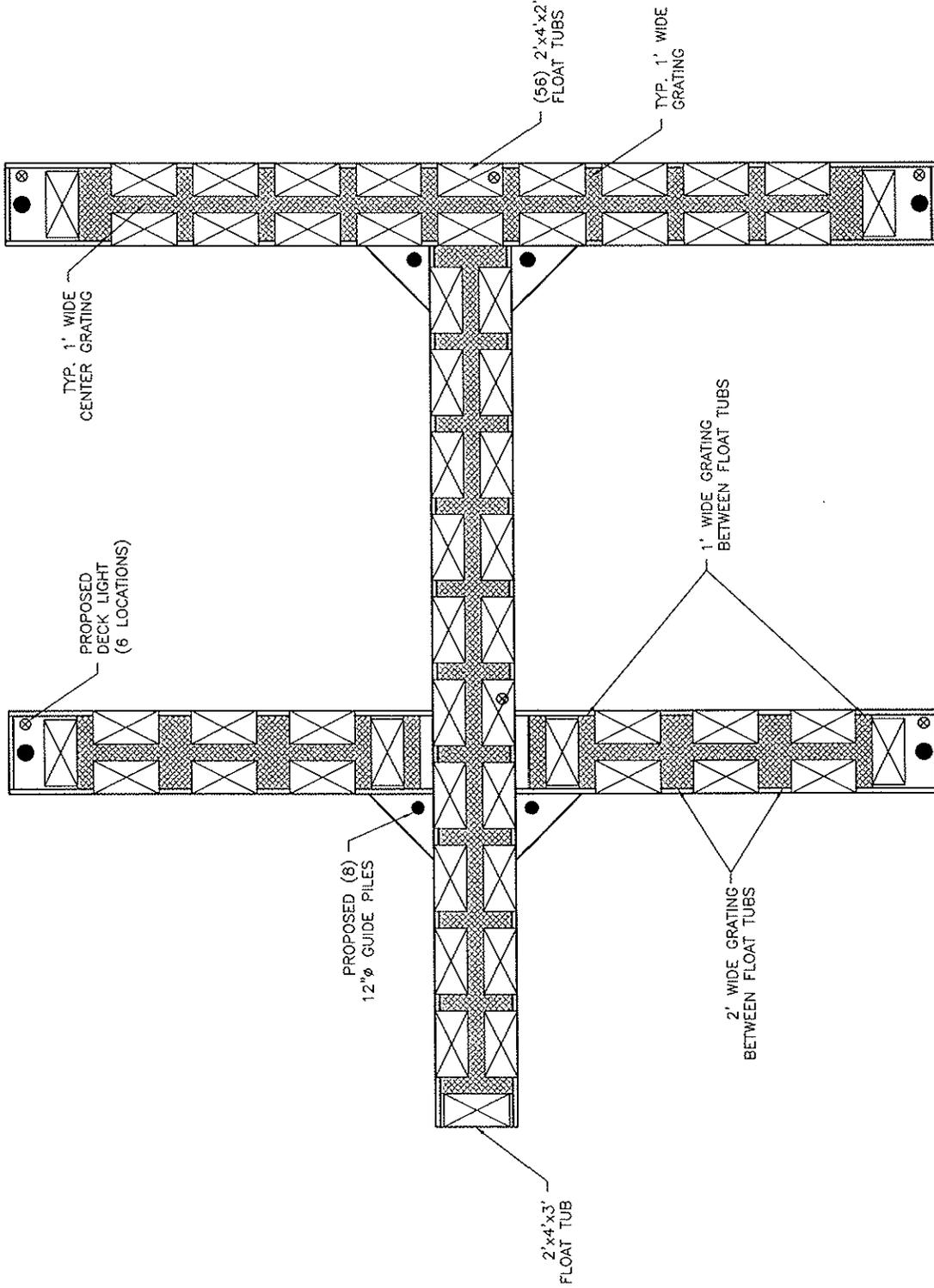
'D' PIER ELEVATION VIEW
20' 15' 10' 5' 0' 20'
SCALE: 1"=20'

REVISED
1-19-06

NOTE:
PLACE AND SECURE PROPOSED NEW OVERALL 57' X 59' ± 'D' FLOAT PIER SECTIONS (ACTUAL 833SF). UTILIZING NEW FLOAT AS TEMPLATE, INSTALL EIGHT (8) TWELVE-INCH (12") STEEL GUIDE PILES TO REFUSAL. INSTALL AND SECURE PROPOSED NEW 3'-5" X 10' (34SF) RAMP BRIDGE TO END OF EXISTING 'D' PIER AND TO PROPOSED NEW FLOAT PIER.

REFERENCE #:	
APPLICANT: YARROW BAY YACHT BASIN	
PROPOSED: EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.	
NEAR/AT: KIRKLAND	
SHEET: 6	OF: 9
DATE: 1-12-05	DWG#: 04-3320-A.6-1

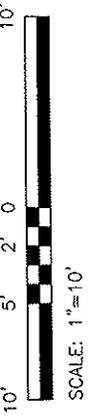
REVISED
1-19-06

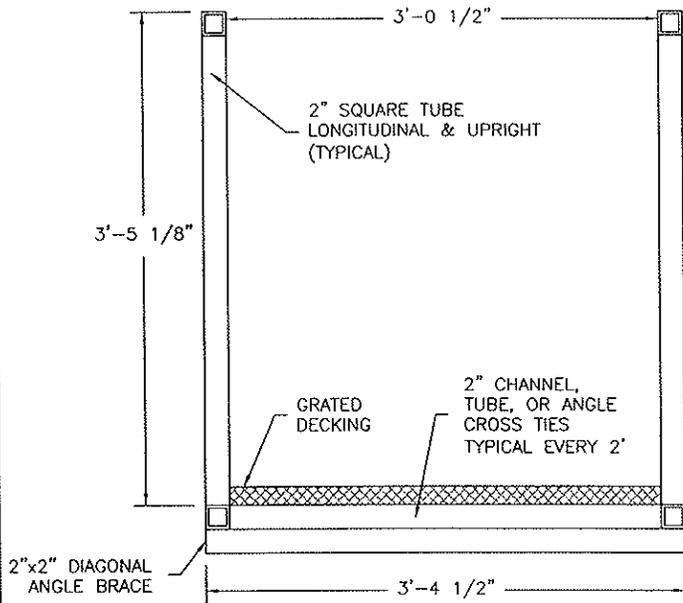


TOTAL DECK SURFACE AREA = 844 S/F
TOTAL GRATED AREA = 263 S/F x 60% = 158 S/F
TOTAL ADDITIONAL OVERWATER COVERAGE AREA = 686 S/F

REFERENCE #:	
APPLICANT: YARROW BAY YACHT BASIN	
PROPOSED: EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.	
NEAR/AT: KIRKLAND	
SHEET: 7	OF: 9
DATE: 12-29-05	DWG#: 04-3320-A.7-1

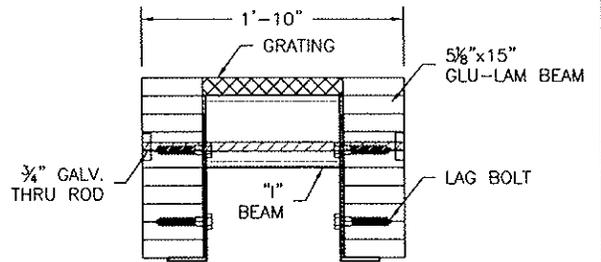
PROPOSED PIER 'D' FLOAT & GRATING PLAN VIEW





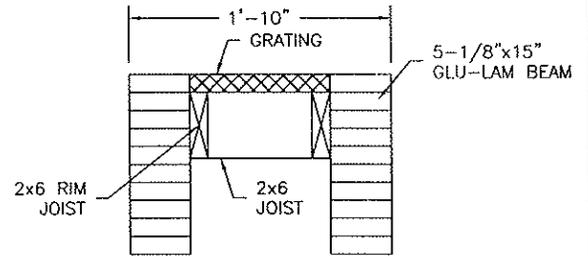
**PROPOSED PEDESTRIAN BRIDGE
X-SECTION A-8**

SCALE: 3/4"=1'



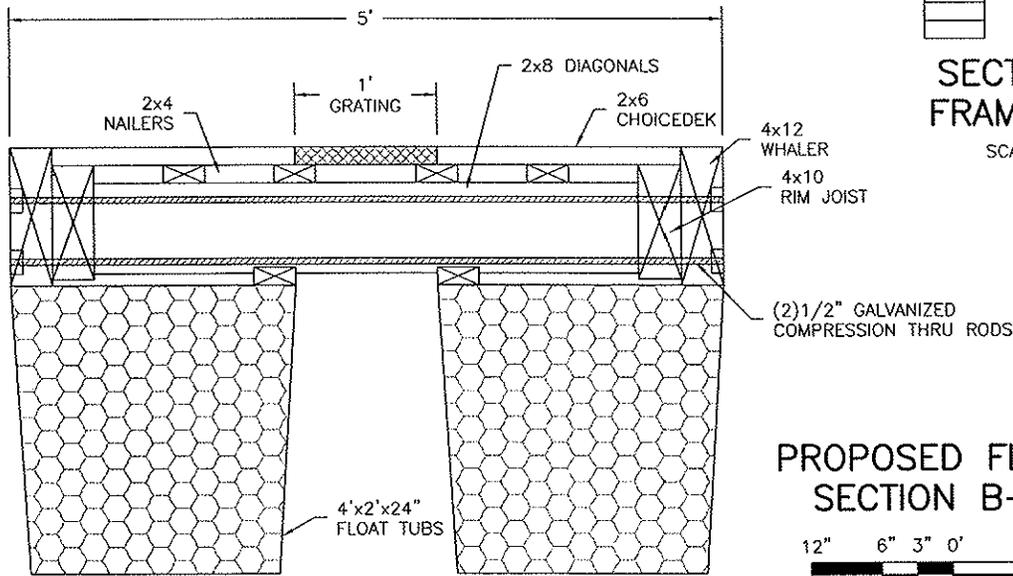
**PROPOSED WALKWAY
SECTION C-8**

SCALE: 3/4"=1'

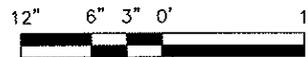


**SECTION C-8
FRAMING PLAN**

SCALE: 3/4"=1'



**PROPOSED FLOAT
SECTION B-8**



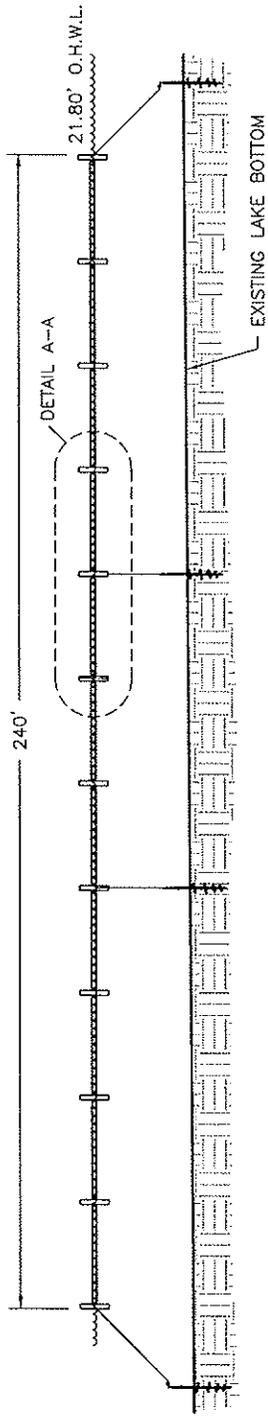
SCALE: 3/4"=1'

MATERIAL SPECIFICATIONS

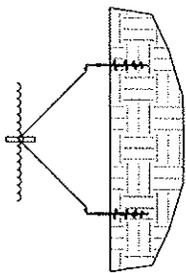
PART	SPECS	TREATMENT/ MATERIAL
FLOAT GUIDE PILING	12" STEEL	DEVSTAR 5-A COATING
WALKWAY GLU-LAM BEAM	5-1/8"x15"	ACZA (CHEMONITE)
ALL METAL COMPONENTS	SEE FABRICATION SHEETS	GALVANIZED OR STAINLESS
FLOAT	#4860-20 ACE ROTO-MOLD	PLASTIC
FLOAT WOOD COMPONENTS	SEE PLANS & FAB. SHEETS	ACZA (CHEMONITE)
FLOAT DECKING	8" CHOICEDEK	PLASTIC/ WOOD COMPOSITE
FLOAT GRATING	THRU-FLOW	PLASTIC
G-2 GRATING	1x3 GRATED PANELS	PLASTIC

**REVISED
1-19-06**

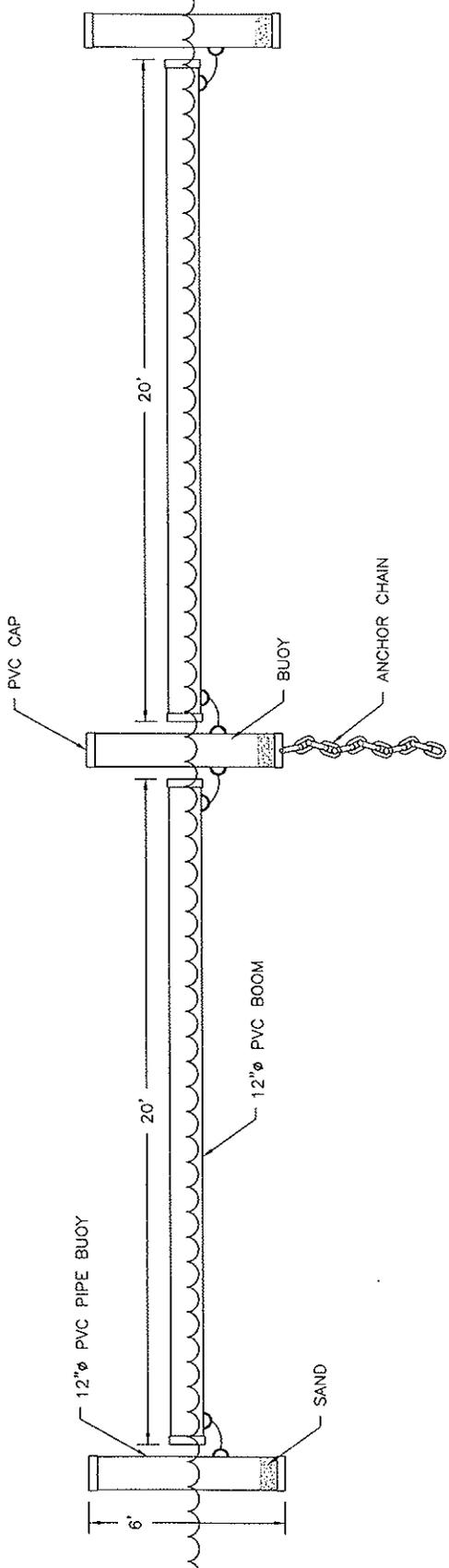
REFERENCE #:	
APPLICANT: YARROW BAY YACHT BASIN	
PROPOSED: EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.	
NEAR/AT: KIRKLAND	
SHEET: 8	OF: 9
DATE: 1-12-05	DWG#: 04-3320-A.8-1



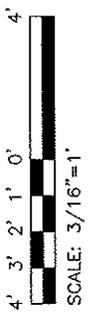
**FLOATING PVC BOOM
ELEVATION VIEW**



BOOM END VIEW
SCALE: 1"=40'

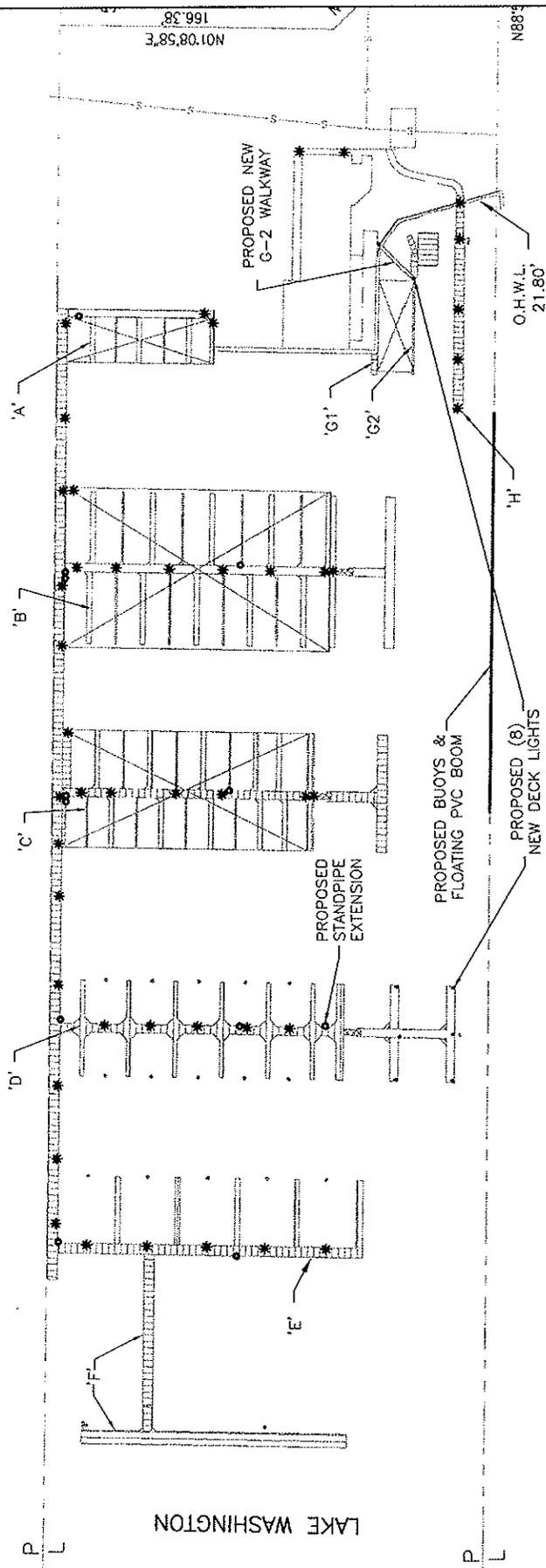


DETAIL A-A

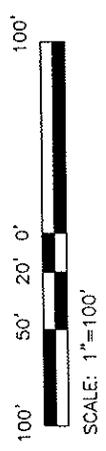


**FLOATING PVC
BOOM DETAIL**

REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.
NEAR/AT:	KIRKLAND
SHEET:	9 OF 9
DATE:	1-19-06
DWG#:	04-3320-A-9-1



ADDENDUM A: STANDPIPE & LIGHT LOCATIONS



- LEGEND
- * = LIGHT
 - o = STANDPIPE

REFERENCE #:	
APPLICANT: YARROW BAY YACHT BASIN	
PROPOSED: EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.	
NEAR/AT: KIRKLAND	
SHEET: ADDENDUM A	
DATE: 1-12-05	DWG#: 04-3320

REVISED
1-19-06

LAKE WASHINGTON

MONITORING AND MAINTENANCE PLAN

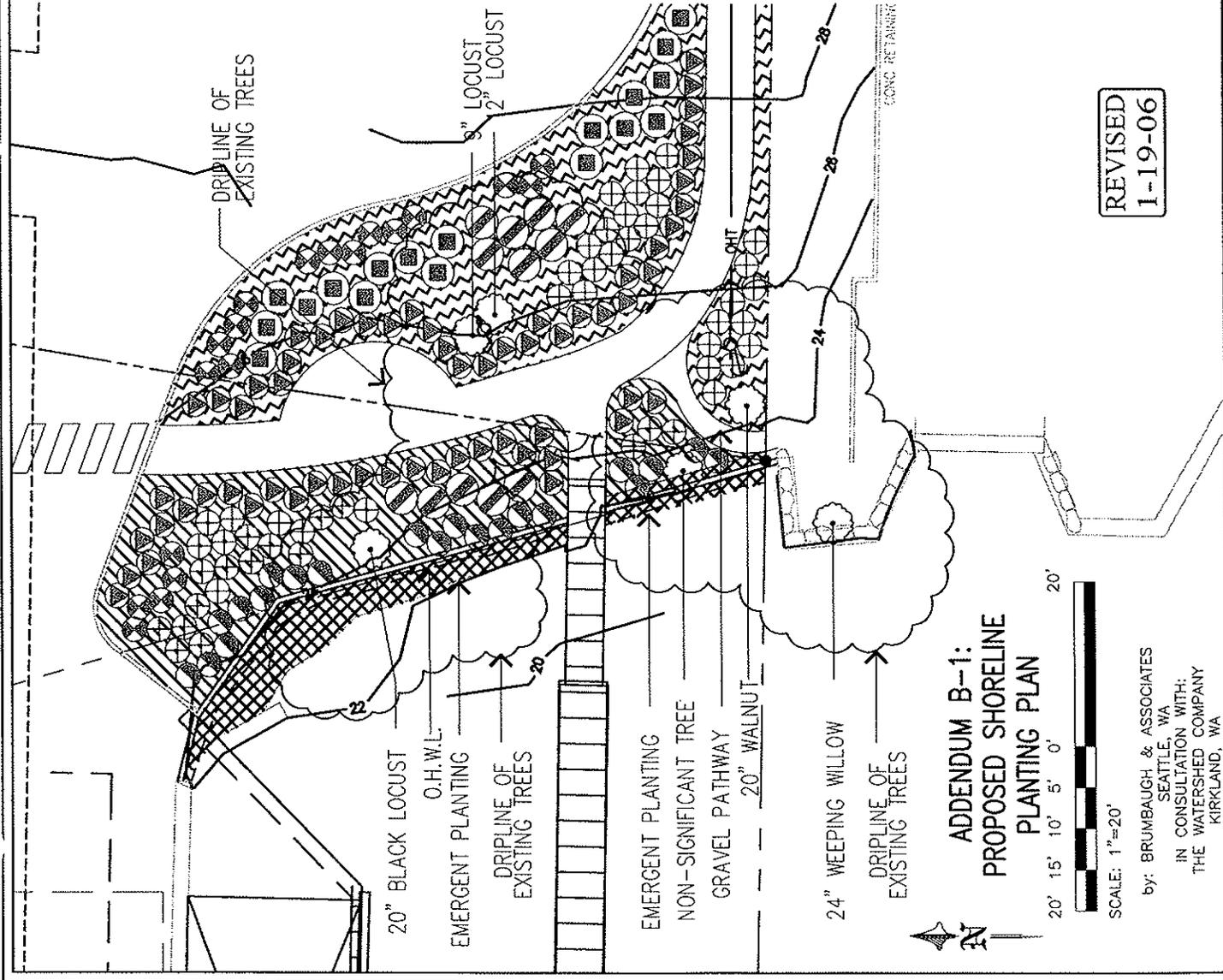
BY THE WATERSHED COMPANY

MONITORING: THE APPLICANT SHALL ASSURE 100 PERCENT SURVIVAL OF TREES AND SHRUBS DURING THE FIRST TWO YEARS OF MONITORING, 100 PERCENT SURVIVAL OF TREES DURING THE FINAL THREE YEARS OF MONITORING, AND 80 PERCENT SURVIVAL OF SHRUBS DURING THE FINAL THREE YEARS OF MONITORING.

THE APPLICANT SHALL MAKE "GOOD-FAITH" EFFORTS TO ESTABLISH THE PROPOSED EMERGENT VEGETATION. THE APPLICANT SHALL ALLOW MONITORING OF THE TERRESTRIAL AND EMERGENT VEGETATION AND OTHER FISH HABITAT ENHANCEMENT FEATURES ON AN ANNUAL OR SEMI-ANNUAL BASIS BY QUALIFIED INDIVIDUALS SPECIFIED BY NOAA FISHERIES AND THE USACE. SUCH MONITORING MAY INCLUDE SNORKEL SURVEYS TO OBSERVE FISH USE OF EMERGENT PLANTS AND TO DETERMINE EMERGENT PLANT CONDITION. ACCESS TO THE APPLICANT'S PROPERTY FOR MONITORING PURPOSES WOULD BE ALLOWED, PROVIDED THAT MONITORS NOTIFY THE APPLICANT AT LEAST ONE WEEK PRIOR TO THE MONITORING VISIT. THE APPLICANT SHALL NOT BE RESPONSIBLE FOR ANY COSTS OF MONITORING BY USACE, NOAA FISHERIES, OR PARTIES DESIGNATED BY USACE OR NOAA FISHERIES.

FOR FIVE YEARS, THE APPLICANT SHALL PROVIDE TO THE USACE AN ANNUAL STATEMENT, INCLUDING PHOTOGRAPHS, OF THE CONDITION OF THE TERRESTRIAL VEGETATION AND EMERGENT VEGETATION. THE STATEMENT SHALL INCLUDE PERCENT SURVIVAL OF THE TERRESTRIAL VEGETATION, PHOTOGRAPHS OF THE TERRESTRIAL VEGETATION AREA SHALL BE TAKEN BEFORE PLANTING, IMMEDIATELY AFTER PLANTING, AND ONCE EACH YEAR AFTER THAT DURING JUNE OR JULY. THE PHOTOS SHALL BE TAKEN FROM PERMANENT PHOTO STATIONS SELECTED SUCH THAT THEY PROVIDE COMPLETE COVERAGE OF THE AREA WITHIN THE MITIGATION PLAN SCOPE. THE STATEMENT SHALL ALSO INCLUDE PERCENT SURVIVAL AND TOTAL PLANT COUNTS OF THE EMERGENT VEGETATION. PHOTOGRAPHS OF THE EMERGENT VEGETATION AREA SHOULD ALSO BE TAKEN BEFORE PLANTING AND IMMEDIATELY AFTER PLANTING. THEREAFTER, PHOTOS OF EMERGENT VEGETATION SHOULD BE TAKEN TWICE YEARLY, ONCE AT LOW LAKE (DECEMBER OR JANUARY) AND ONCE AT HIGH LAKE (JUNE OR JULY). THE STATEMENT AND PICTURES SHALL BE SUBMITTED TO THE USACE BY FEBRUARY 28 OF EACH YEAR OF THE MONITORING PERIOD.

MAINTENANCE: MAINTENANCE OF THE TERRESTRIAL AND EMERGENT PLANTS DURING THE FIVE-YEAR MONITORING PERIOD SHALL BE CONDUCTED BY THE APPLICANT OR HIS AUTHORIZED AGENTS TO ENSURE ACHIEVEMENT OF THE SPECIFIED SURVIVAL STANDARDS. MAINTENANCE INCLUDES REMOVAL AND REPLACEMENT OF DEAD OR DYING PLANTS, WEEDING OF NON-NATIVE INVASIVE SPECIES (TERRESTRIAL AND EMERGENT SPECIES), AND WATERING (TERRESTRIAL SPECIES). WEEDING OF NON-NATIVE SPECIES IN THE NEARSHORE AREA SHALL BE DONE WHEN JUVENILE SALMONIDS ARE NOT IN THE SHALLOW WATERS OF THE PROJECT SITE. MAINTENANCE SHALL NOT INCLUDE APPLICATION OF TOXIC CHEMICAL TREATMENTS OR PRUNING.



**ADDENDUM B-1:
PROPOSED SHORELINE
PLANTING PLAN**



**REVISED
1-19-06**

REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.
NEAR/AT:	KIRKLAND
SHEET:	ADDENDUM B-1
DATE:	12-29-05 DWG#: 04-3320

by: BRUMBAUGH & ASSOCIATES
SEATTLE, WA
IN CONSULTATION WITH:
THE WATERSHED COMPANY
KIRKLAND, WA

PLANT SCHEDULE

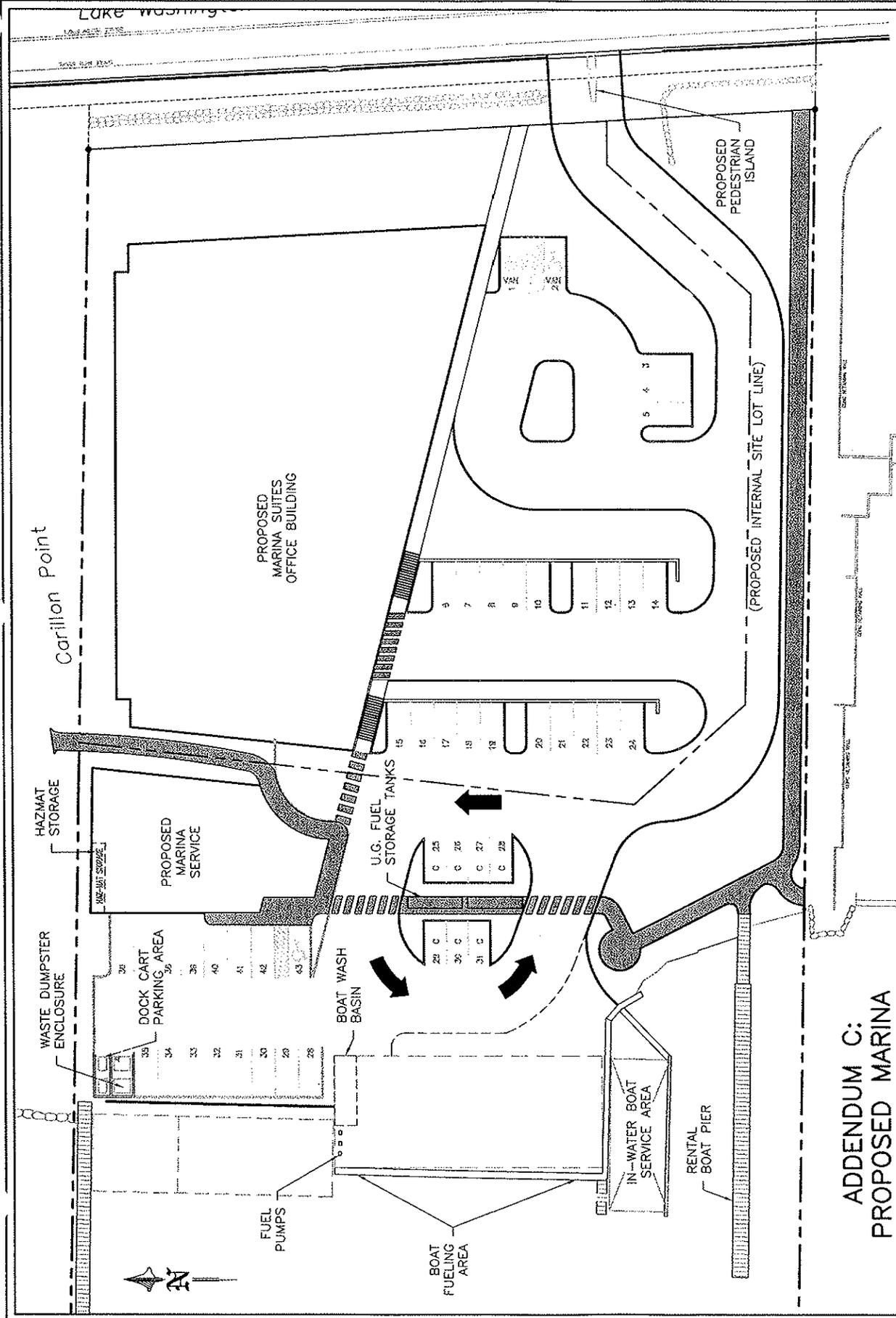
BY BRUMBAUGH & ASSOCIATES, SEATTLE, WASHINGTON

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	NOTES
	EXISTING TREES TO REMAIN WITH DRIPLINE		
	SHRUBS		
	RIBES SANGUINEUM / RED FLOWERING CURRANT	2 GAL.	FULL FOLIAGE, 48" O.C.
	POLYSTICHUM MUNITUM / SWORD FERN	1 GAL.	FULL FOLIAGE, 24" O.C.
	BERBERIS NERVOSA / OREGON GRAPE	1 GAL.	FULL FOLIAGE, 36" O.C.
	SYMPHORICARPOS ALBUS / SNOWBERRY	2 GAL.	FULL FOLIAGE, 48" O.C.
	ROSA NUTKANA / NOOTKA ROSE	2 GAL.	FULL FOLIAGE, 48" O.C.
	VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	2 GAL.	FULL FOLIAGE, 48" O.C.
	GROUNDCOVER		
	1/3 - EQUISETUM TELMATEAL / GIANT HORSETAIL	4" POT	FULL FOLIAGE, 24" O.C.
	1/3 - SCIRPUS ACUTUS / HARDSTEM BULRUSH	4" POT	FULL FOLIAGE, 24" O.C.
	1/3 - SCIRPUS MICROCARPUS / FRUITED BULRUSH	4" POT	FULL FOLIAGE, 24" O.C.
	ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	4" POT	FULL FOLIAGE, 24" O.C.
	FRAGARIA CHILOENSIS / WILD STRAWBERRY	4" POT	FULL FOLIAGE, 24" O.C.

ADDENDUM B-2

REVISED
1-19-06

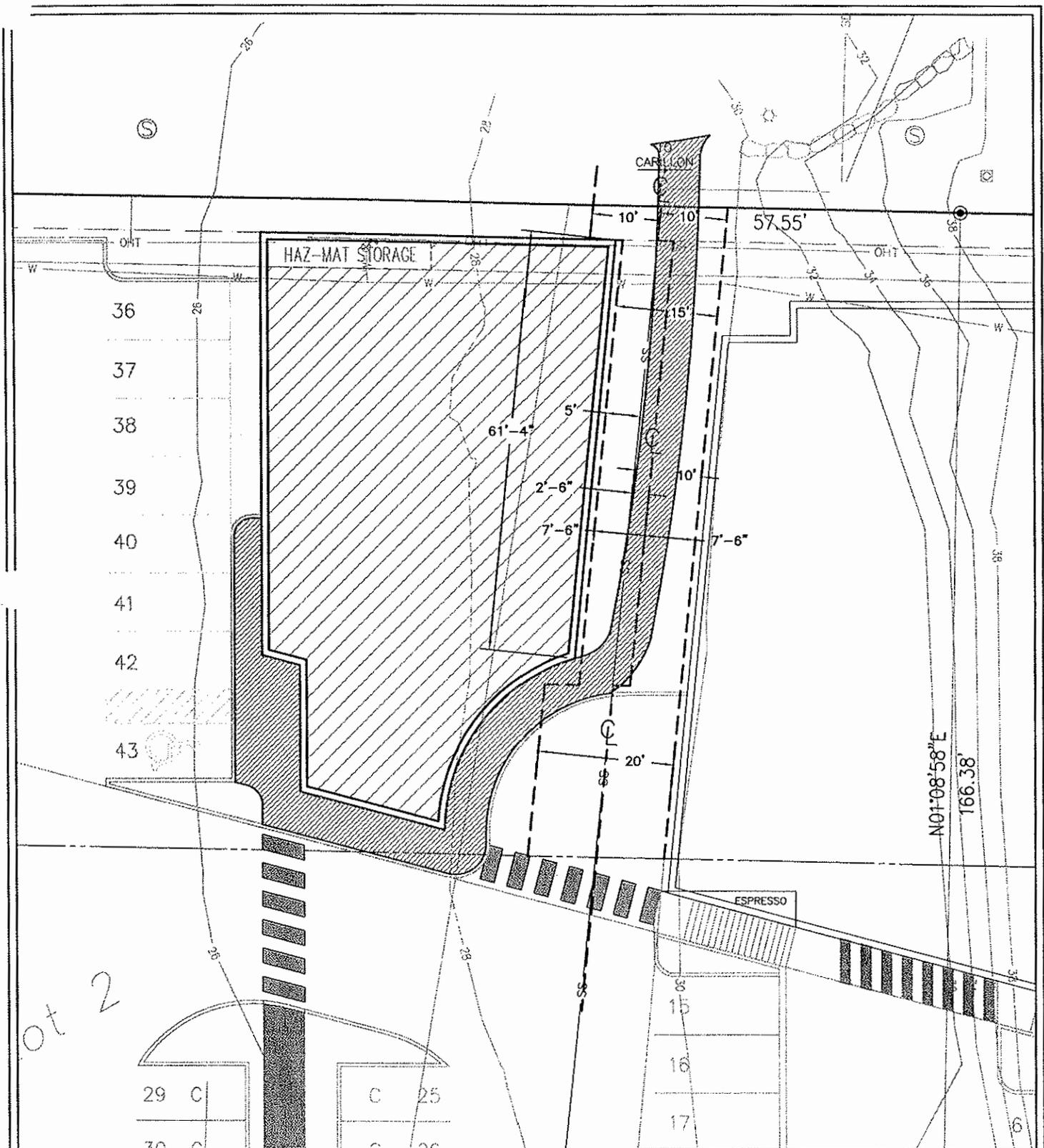
REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	EXPAND PUBLIC MOORAGE AVAILABILITY. INSTALL FLOATING PVC BOOM.
NEAR/AT:	KIRKLAND
SHEET:	ADDENDUM B-2
DATE:	12-29-05
DWG#:	04-3320



Breckwater Condominiums

**ADDENDUM C:
PROPOSED MARINA
OPERATIONS PLAN VIEW**

REFERENCE #:	
APPLICANT:	YARROW BAY YACHT BASIN
PROPOSED:	MARINA OPERATIONS VIEW
NEAR/AT:	KIRKLAND
SHEET:	ADDENDUM C
DATE:	1-19-06
DWG#:	04-3320



lot 2

ADDENDUM D

20' 15' 10' 5' 0' 20'



SCALE: 1"=20'

REFERENCE #:
APPLICANT: YARROW BAY YACHT BASIN
PROPOSED: MARINA SERVICES BUILDING
NEAR/AT: KIRKLAND
SHEET: ADDENDUM D
DATE: 1-19-06
DWG#: 04-3320

TO BE COMPLETED BY APPLICANT:

A. BACKGROUND

1. Name of proposed project, if applicable:
Proposed Yarrow Bay Marina Development Project
2. Name of applicant:
**Marina Suites LLC and
Yarrow Bay Yacht Basin and Marina, LLC**
3. Tax parcel number:
**Marina Suites: #172505 9114
Yarrow Bay Yacht Basin: #172505 9130**
4. Address and phone number of applicant and contact person:
Applicant:

Yarrow Bay Yacht Basin Attn: Dennis Bortko 5001 Lk. Washington Blvd. NE Kirkland, WA 98033 425/822-6066	Marina Suites LLC c/o Goodman Real Estate Attn: Matt Parent Goodman Real Estate 2801 Alaskan Way, Suite 200 Seattle, WA 98121 425/ 215-9734
--	--

Contact person and phone number:
**Phil Goldenman, Permit Coordinator
WATERFRONT CONSTRUCTION, INC.
205 NE Northlake Way, Suite 230
Seattle, WA 98105
Phone: 206-548-9800
Fax: 206-548-1022
<phil@waterfrontconstruction.com>**
5. Date checklist prepared:
January 17, 2006
6. Agency requesting checklist:
City of Kirkland Planning and Community Development
7. Proposed timing or schedule (including phasing, if applicable):
**As soon as permits allow and within the authorized work windows,
construction will be scheduled.**
8. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? **No.** If yes, explain.
9. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
An April, 2005 biological evaluation report by The Watershed Co. is provided as well as a January, 2006 letter revising the June, 2002 soils report. Wm. Popp Associates Traffic Impact Analysis 1/06 Report also.

ENCLOSURE <u>3</u>
<u>SA206-00001</u>

10. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. **Yes. Corps' Proj. No. 200500077.**
11. List any government approvals or permits that will be needed for your proposal, if known.
SEPA-City of Kirkland
Shoreline Substantial Development - City of Kirkland
Zone II-B Review – City of Kirkland
Hydraulic Project Approval-Wash. St. Dept. of Fish and Wildlife
Letter of Permission- U. S. Army Corps of Engineers (200500077)
Building Permits-City of Kirkland
12. Give a brief, complete description of your proposal, including the proposed uses and the site of the project. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
The proposal is to: construct a new office building, a new marina services building and demolish existing structures, related site improvements and utilities (including new public pedestrian walkway system), re-location of underground fuel storage tanks, additional moorage, joint-use floating pvc boom with adjacent property, and related marina utility upgrades.
13. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range
Address:
5001 and 5207 Lake Washington Blvd. NE, Kirkland, WA 98033
¼ Section: NW Section: 17 Township: 25N Range: 05E W.M.
Directions: **Head south along Lake Washington Boulevard NE from downtown Kirkland's Central Avenue intersection approximately 2 miles to entrance to Yarrow Bay Marina on right just past Carillon Point.**
Legal Description:
Please see attached Record Legal Description document.
Parcel A is Lot 1 and 5207 Lake Washington Boulevard NE
Parcel B is Lot 2 and 5001 Lake Washington Boulevard NE

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one):
Flat, rolling, hilly, steep slopes, mountainous, other **sloping**.
- b. What is the steepest slope on the site (approximate percent slope)? **8.65 % is average slope from upland property line at edge of Lk. Washington Blvd NE to deepest depth at furthest extent of marina out into Lake Washington beyond OHWL. (Landward 48' rise + lakeward 25' depth = 73' rise /. 675 overall = 8.65%).**
- c. What general types of soils are found on the site (for example, **clay, sand, gravel, peat, muck**)? **Surficial fill, alluvium and Possession Drift per June 24, 2002 soils report by Associated Earth Sciences, Kirkland.**
If you know the classification of agricultural soils, specify them and note any prime farmland. **No prime farmland soils are present.**
- d. Are there surface indications or history of unstable soils in the immediate vicinity? **No.** If so, describe.
- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill. **Buildings and underground storage tanks excavation/relocation: approx. 28000cy; Infill: approx. 4000cy [imported from local commercial quarries]**
- f. Could erosion occur as a result of clearing, construction, or use? **Best Management Practices will be used to mitigate any erosion from occurring on site.** If so, generally describe.
- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? **79%**
- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: **On-site erosion control measures will be utilized.**

2. Air

- a. What type of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.
During construction, the running of equipment will contribute some emissions in the area. Once construction is completed, there will be some vehicle emissions during access and egress to the site.
- b. Are there any off-site sources of emissions or odor that may affect your proposal? **No.** If so, generally describe.

Compliance with city regulations concerning erosion control required.

c. Proposed measures to reduce or control emissions or other impacts to air:
The equipment used at the project site will pass all emission standards required by the state agencies. During excavation, flaggers will be provided to control entrance and exit to/from site. Two driveway lanes are proposed at project completion, for egress to reduce vehicle emissions during driveway queuing to exit via the boulevard.

3. Water

a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If **yes**, describe type and provide names. **Yarrow Bay/Lake Washington.** If appropriate, state what stream or river it flows into. **Ship Canal.**
 - 2) Will the project require any work **over, in, or adjacent to the described waters?** If **yes**, please describe and attach available plans. **See enclosed Yarrow Bay Marina project plan set and project description notes.**
 - 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. **N/A.**
 - 4) Will the proposal require surface water withdrawals or diversions? **No.** Give general description, purpose, and approximate quantities if known.
 - 5) Does the proposal lie within a 100-year floodplain? **No.** If so, note location on the site plan.
 - 6) Does the proposal involve any discharges of waste materials to surface waters? **No.** If so, describe the type of waste and anticipated volume of discharge.
- b. Ground:
- 1) Will ground water be withdrawn, or will water be discharged to ground water? **No.** Give general description, purpose, and approximate quantities if known.
 - 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any **None.** (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

- c. Water Runoff (including storm water):
- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). **Storm water will be channeled to follow existing grade via V ditches to a temporary settling pond or storage tank to minimize any silt from being discharged with the run-off. Best Management Practices will be used to mitigate any erosion from occurring on site. Completed project run-off from parking and roof areas will be collected in proposed stormwater collection system. Storm water from perimeter landscape areas will follow existing grade. Peak run-off rate from a 100-year event is anticipated to be approximately 1.9 cfs. No storm run-off enters the site from adjacent properties as the upstream/uphill area is controlled by the storm system in Lake Washington Boulevard. Where will this water flow? To natural beach shoreline or proposed storm drainage collection system that routes run-off through a wet vault for water quality treatment and then through existing bulkhead outfalls as it does now... Will this water flow into other waters? ...into Yarrow Bay and Lake Washington. If so, describe. See survey and civil engineering storm and utility site plan drawings submitted with this SEPA application.**
- 2) Could waste materials enter ground or surface waters? **No.** If so, generally describe.
- d. Proposed measures to reduce or **control** surface, ground, or runoff water impacts, if any. **During construction, Best Management Practices will be utilized to minimize impact to surrounding bodies of water and storm drainage systems. BMP's may include: surface treatments to minimize erosion; channelization of surface water to holding ponds or tanks for settling; water treatment to remove silt (sand filters, etc.); use of silt fencing to prevent silt from entering Lake Washington or storm system; wheel washes to clean mud from tires; and rock entry pads to prevent mud from being tracked on to boulevard. Run-off from all paved areas subject to vehicle use at project completion will be collected and routed through a wet vault system to provide for treatment prior to discharge to the existing bulkhead outfalls.**
4. **Plants**
- a. Check or circle types of vegetation found on the site: **Addendum D.4. included with submittal documents is Greenforest, Inc. Arborist Report.**
- deciduous tree:** cottonwood, elm, locust, maple, plum, walnut, willow,
 - evergreen tree:** fir, cedar, pine,
 - grass**
 - shrubs**
 - pasture
 - crop or grain
 - wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
 - water plants: eelgrass, **milfoil**

Compliance with city surface water regulations will be required.

See Attachment 10.

- b. What kind and amount of vegetation will be removed or altered? **Please review project plan C.5. (Brumbaugh & Associates Site Planting Plan) included with submittal documents.**
- c. List threatened or endangered species known to be on or near the site. **Please review pages 12-19 of The Watershed Company's April, 2005 Biological Evaluation Report included with submittal documentation.**
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: **Please review project plan C.5. (Brumbaugh & Associates Site Planting Plan) included with submittal documents.**

See Attachment 7

See Attachment 8

See Attachment 7

5. Animals

- a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site: birds: **grebes, heron, Canadian geese, ducks** other: mammals: other: fish: **salmon, trout**, other:
- b. List any threatened or endangered species known to be on or near the site. **Please review pages 12-19 of The Watershed Company's April, 2005 Biological Evaluation Report included with submittal documentation.**
- c. Is the site part of a migration route? If so, explain. **Although the site could be used by juvenile salmonids and/or migratory waterfowl because of its proximity to Yarrow Bay, no particular site characteristics make the site any more (or less) attractive to fish and/or waterfowl than other lake shoreline properties.**
- c. Proposed measures to preserve or enhance wildlife, if any: **None.**

See Attachment 8

6. Energy and Natural Resources

- a. What kinds of energy (**electric, natural gas, oil, wood stove, solar**) will be used to meet the completed project's energy needs? Describe whether it will be used for **heating, lighting, manufacturing, etc.**
- b. Would your project affect the potential use of solar energy by adjacent properties? **No.** If so, generally describe.
- c. What kinds of energy conservation features are included in the plans of this proposal? **The exterior building envelopes will be designed to meet and/or exceed current energy code requirements. The buildings' design will also make use of some solar shading of the southerly façade. Through the use of extensive exterior glazing, natural day lighting will be enhanced, thereby affording energy savings. List other proposed measures to reduce or control energy impacts, if any: The HVAC mechanical systems will utilize economizers to reduce energy consumption. The lighting system will utilize perimeter zoning to reduce energy consumption.**

- Removal of flammable nearshore habitat
- Use of non-toxic materials,
- Work within established windows
- Removal of invasives
- Installation of native plantings along shoreline in SW corner
- Incorporation of natural BMPs
- In-water siltation control

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? **No.** If so, describe.

1) Describe special emergency services that might be required.
No requirement for emergency services is anticipated. However, should they be needed, the Washington State Department of Ecology, an Emergency Response Cleanup Team, and Washington State Department of Fish & Wildlife will be contacted.

2) Proposed measures to reduce or control environmental health hazards, if any:
A hazardous spill management plan will be present on-site both during and after completion of proposed construction. Spill clean-up and containment materials will also be available on-site at the Yarrow Bay Marina Services Building. Included in the clean-up packets will be containment booms, materials designed to absorb petroleum products, and plastic bags to be used for material transport. The Washington State Department of Ecology's Best Management Practices Manual for Marina Operations is being proposed for incorporation in the submittal documentation and is incorporated in Addendum D. 5. A Hazardous Material Study is proposed for demolition of the existing Marina Services Building and existing material storage areas and existing underground fuel storage tanks (which are double-walled, meet WSDOE requirements will be re-located on site per WSDOE standards).

b. Noise
1) What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)? **None.**

What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: **traffic, construction, operation, other**)? Indicate what hours noise would come from site. **Proposed construction will occur between 7am and 7pm for a 9-10 month period during installation of the proposed in-water marina facilities, construction of the two proposed buildings and demolition of the existing building. Noise will be generated by barge crane construction equipment fitted with a vibratory steel piling insertion system. Noise created by soils excavation and soldier piling, will increase noise levels above ambient conditions during construction. Construction equipment and materials will be transported to and from the site via trucking and a barge crane will install 'D' float pier extension, its eight (8) steel pilings, G-2 pier walkway, pvc float boom and remove the existing floats in the south nearshore area.**

Compliance with federal and state regulation for USFS and hazardous waste and clean.

The range of sound magnitude from the faintest to the loudest the human ear can hear is so large that sound pressure is expressed on a logarithmic scale in units called decibels (dB). Environmental noise is commonly "A-weighted" to simulate how an average person hears sounds. A-weighted sound levels are expressed in units of A-weighted decibels (dBA). U.S. Environmental Protection Agency (U.S. EPA) research found that noise associated with the normal operation of construction equipment is typically 75 to 92 dB at 46 feet (U.S. EPA 1971). These measurements are based on sound movement through air. Decibel conversion from air to water is approximately 26 dB higher (Walter 1999). Underwater noise associated with the normal operation of construction equipment will be in the 101 to 118 dB range. Point-source noise dissipates at approximately 6 dB per distance doubled (e.g., 45, 90, 180 feet) through water. See Traffic Impact Analysis Report's Technical Appendices for expected vehicle traffic volume.

- 3) Proposed measures to reduce or control noise impacts, if any:
Construction will be limited to 7am - 7pm hours during the work week, which will minimize impacts to local residents. All materials and construction equipment will be either truck or barge transported to/from site.

Compliance with City limits on construction hours.

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties?
**Site: Marina moorage, boat sales, dry boat storage and service.
Adjacent: North: Carillon Point office buildings, hotel and marina
South: Breakwater Condominiums**
- b. Has the site been used for agriculture? **No.** If so, describe.
- c. Describe any structures on the site.
Existing structures consist of a marina sales, service and office building with owner apartment residence, shoreline bulkheading, main fixed pier walkway with A – E, G-H fixed and B, C and F float piers and covered moorage sheds at Piers A-C and G. There are two little outer buildings used for storage. There is also an upland concrete foundation wall and basement of a former residence on site. There are also two underground fuel storage tanks for the marina's fueling service.
- d. Will any structures be demolished? **Yes.** If so, what? **The existing marina services building, outer storage buildings and upland concrete foundation/basement. Also, three floats currently moored along south shoreline will be removed.**
- e. What is the current zoning classification of the site? **PLA-15A**
- f. What is the current comprehensive plan designation of the site? **Commercial.**

g. If

applicable, what is the current shoreline master program designation of the site? **UM-2**

- h. Has any part of the site been classified as an "environmentally sensitive" area? **No.** If so, specify.
- i. Approximately how many people would reside or work in the completed project? **Assuming an average employee density of 250sf/employee, Marina Suites Office Building is anticipated to be 220 employees. Yarrow Bay Marina will remain the same at approximately 3-5 employees. This totals 225 estimated employees on site at completion.**
- j. Approx. how many people would the completed project displace? **None.**
- k. Proposed measures to avoid or reduce displacement impacts, if any: **N/A.**
- l. Proposed measures to ensure the proposal is compatible with existing and project land uses and plans, if any:
Zone II-B Review Process; Kirkland, state and federal permit review processes and approvals; Traffic Impact Analysis and Road Concurrency Reviews; Professional Biological Evaluation Report; Soils Report; 12/15/05 mailing to neighbors within 300' radius of site; 1/11/2006 Neighborhood Meeting; Site Landscaping Plan; Arborist Report; incorporation of WSDOE Best Management Practices Manual into marina operations; HzMt study for existing building demolition and fuel storage tanks' re-location.

Seismic Hazard Area on upland portion of site. see Geotechnical evaluation in Attachment 9

Compliance with City, State and Federal regulations.

9. Housing

- a. Approximately how many units would be provided, if any? **None.** Indicate whether high, middle, or low-income housing.
- b. Approximately how many units, if any, would be eliminated? **One.** Indicate whether high, **middle**, or low-income housing.
- c. Proposed measures to reduce or control housing impacts, if any: **None.**

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), **40' above ABE (equates to 83.09' above sea level [Corps Datum])** not including antennas; what is the principal exterior building material(s) proposed? **Glass and brick.**
- b. What views in the immediate vicinity would be altered or obstructed?
A shoreline view corridor will be created through the property from the boulevard to the shoreline greatly enhancing the Kirkland Comprehensive Plan Amendment's dedicated view above the site on NE 52nd. The three covered marina moorage structures will be obstructed by the new office building from the view of the upland condo properties.

See Enclosure 11.

c. Proposed measures to reduce or control aesthetic impacts, if any: **The building design has included architectural façade articulation/modulation to afford interest and aesthetic variety. The site has been designed to locate the majority of the vehicular parking underground. Both marina fuel storage tanks will be underground.**

Light and glare in parking areas.

11. Light and Glare

a. What type of light or glare will the proposal produce? **Some glare may occur from the glass windows of the proposed office building. What time of day would it mainly occur? Sunset.**

b. Could light or glare from the finished project be a safety hazard or interfere with views? **No.**

c. What existing off-site sources of light or glare may affect your proposal? **None.**

d. Proposed measures to reduce or control light and glare impacts, if any: **None.**

• Limitation on mirrored glass
• Applicant should submit light study.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity? **Water recreation opportunities in the vicinity of the site are boating, fishing, swimming/diving, and shoreline walking/viewing of Yarrow Bay and wildlife.**

• Light fixtures should be shielded to conceal light source -

b. Would the proposed project displace any existing recreational uses? If so, describe. **No.**

• Height limitations for lighting

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: **A joint PVC float boom is being proposed along the extended lateral property line with Breakwater Condominiums for temporary moorages during the summer peak fueling boating traffic and away from trespassing tie-ups at their pier.**

• Hour limitation for lighting (except security lighting)

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe. **No.**

• Uniformity in lighting across site.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site. **None.**

c. Proposed measures to reduce or control impacts, if any: **None.**

14. Transportation

- a. Identify public streets and highways serving the site, and describe the proposed access to the existing street system. Show on site plans, if any. **The site is currently accessed from Lake Washington Boulevard NE in Kirkland from SR-520. This will not change. Project construction materials and equipment to site will be transported via barge or truck.**
- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop? **Yes. The stop is immediate to site.**
- c. How many parking spaces would the completed project have? **211**
How many would the project eliminate? **None.**
- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? **No. Please see William Popp Associates' Report, Addendum D.7.** If so, generally describe (indicate whether public or private).
- e. Will the project use (or occur in the immediate vicinity of) **water**, rail, or air transportation? If so, generally describe. **Truck and barge transport to and from site on Lake Washington during construction phase; recreational boating during and after project is done.**
- f. How many vehicular trips per day would be generated by the completed project? **997** If known, indicate when peak volumes would occur? **4-6pm**
Please see William Popp Associates' Report, Addendum D.7 .
- g. Proposed measures to reduce or control transportation impacts, if any. **Please see William Popp Associates' Report, Addendum D.7 .**

See Enclosures
5-7

15. Public Services

- a. Would the project result in an increased need for public services (for example: **fire protection**, police protection, health care, schools, other)? If so, generally describe. **Increase in building square footage. The current utilities serving the site are adequate and will not increase public service needs.**
- b. Proposed measures to reduce or control direct impacts on public services, if any. **Construction of buildings to fire code; provision of fire truck turn-around area; provision of additional standpipe in Pier 'D'; provision of grasscrete paving of adjacent walkway buffer areas over sewer easement between proposed buildings.**

* Transportation Demand Mgt Strategies, include
- designation of spaces for (carpools) How
- commuter information center
- Pedestrian refuge island separating ingress and egress

16. Utilities

- a. Circle utilities currently available at the site: **electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**
- b. Describe the utilities that are proposed for the project, the utility providing the service and the general construction activities on the site or in immediate vicinity, which might be needed. **Installation of a sixty linear foot +/- stand-**

pipe extension on fixed Pier 'D' will bring the ends of the float pier extension to within 120' of the nearest standpipe as required per Kirkland Fire Code. The water piping would also be extended to the ends of the fixed piers approximately the same linear feet. Electrical services would be extended to the float pier extensions. The Kirkland Water Utility facilities on-site are adequate to handle this. All existing utilities to site are deemed adequate to serve the two proposed buildings as well. The existing sewer line underneath the existing marina driveway will be re-located to the south. All existing on-site overhead utilities will be located underground.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand the lead agency is relying on them to make its decision.

Signature:

Phil Goldenman
Permit Coordinator
Waterfront Construction, Inc.
205 NE Northlake Way, Suite 230
Seattle, WA 98105
P (206) 548-9800
F (206) 548-1022
phil@waterfrontconstruction.com

Date submitted: January 20, 2006

Date revisions* submitted for underground fuel storage tanks: April 10, 2006

*A.12; B.1.e; B.7.a.2); 8c; 10c; & and for utilities: 16b.

d

CITY OF KIRKLAND

123 FIFTH AVENUE • KIRKLAND, WASHINGTON 98033-6189 • (425) 828-1243

**DEPARTMENT OF PUBLIC WORKS
MEMORANDUM**

To: Stacy Clauson, Planner

From: Thang Nguyen, Transportation Engineer

Date: August 2, 2005

Subject: Marina Suite Traffic Concurrency Test Notice

This memo summarizes public works review of the traffic concurrency test result for the proposed redevelopment of Marina Suite located at 5001 Lake Washington Boulevard NE.

Project Description

The applicant proposes to construct replace a 4,000 square foot (sf) office building with a 60,000 sf building. It is anticipated that the project will be built and fully occupied by the end of 2007.

The proposed project passed traffic concurrency. Attached is the result of the concurrency test. This memo will serve as the concurrency test notice for the proposed project. Per *Section 25.10.020 Procedures* of the KMC, this Concurrency Test Notice will expire in one year (August 2, 2006) unless a development permit and certificate of concurrency are issued or an extension is granted.

EXPIRATION

The concurrency test notice shall expire and a new concurrency test application is required unless:

1. A complete SEPA checklist, traffic impact analysis and all required documentation are submitted to the City within 90 calendar days of the concurrency test notice.
2. A Certificate of Concurrency is issued or an extension is requested and granted by the Public Works Department within one year of issuance of the concurrency test notice. (A Certificate of Concurrency is issued at the same time a development permit or building permit is issued if the applicant holds a valid concurrency test notice.)
3. A Certificate of Concurrency shall expire six years from the date of issuance of the concurrency test notice unless all building permits are issued for buildings approved under the concurrency test notice.

ENCLOSURE <u>4</u>
<u>512206-0001</u>

Memorandum to Stacy Clauson
August 2, 2005
Page 2 of 2

APPEALS

The concurrency test notice may be appealed by the public or agency with jurisdiction. The concurrency test notice is subject to an appeal until the SEPA review process is complete and the appeal deadline has passed. Concurrency appeals are heard before the Hearing Examiner along with any applicable SEPA appeal. For more information, refer to the Kirkland Municipal Code, Title 25. If you have any questions, please call me at x3869.

cc: John Burkhalter, Senior Development Engineer
Bill Popp Jr., William Popp Associates

William Popp Associates

Transportation Engineers/Planners

RECEIVED
JAN 20 2006

(425) 401-1030

FAX (425) 401-2125

e-mail: info@wmpoppassoc.com

AM
PLANNING DEPARTMENT
BY _____ PM

TRAFFIC IMPACT ANALYSIS

for

Marina Suites Office Building and Yarrow Bay Yacht Basin

Prepared for:

Marina Suites LLC and Yarrow Bay Yacht Basin

Attn: Phil Goldenman

Permit Coordinator

Waterfront Construction, Inc.

205 NE Northlake Way, Suite 230

Seattle, WA 98105

Prepared by:

William Popp Associates

14-400 Building, Suite 206

14400 Bel-Red Rd

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January 20, 2005

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TRAFFIC IMPACT ANALYSIS

for

Marina Suites Office Building and Yarrow Bay Yacht Basin

Prepared for:

Marina Suites LLC and Yarrow Bay Yacht Basin

Attn: Phil Goldenman

Permit Coordinator

Waterfront Construction, Inc.

205 NE Northlake Way, Suite 230

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January 20, 2005

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Existing Counts

- Daily Traffic Count Summaries
- Existing Site Driveway Counts; AM and PM peak periods
- Gap Study Lake Washington Blvd north of NE 52nd St

Site Access Sight Distance Sketch

City of Kirkland Concurrency

- Test Notice 8/2/05
- Concurrency Results Forms
- Proportional Results Share Impact Worksheets at Significant Intersections

PM Peak Hour Analysis

- Turn Movements (existing 2005 and future 2008)
- Level of Service Calculation Results (per HCM)

AM Peak Hour Analysis

- Turning Movements (existing 2005 and future 2008)
- Level of Service Calculation Results (per HCM)

Driveway Sketches

- 2008 PM Peak Q with 2 lane driveway
- 2008 PM Peak Q with 3 lane driveway

Vehicle-Boat Access and On-Site Circulation

Parking Supply and Demand

- Yarrow Bay Marina Count
- Parking Demand Estimate (average weekday)
- Parking Supply and Demand Chart

I. Introduction

The following traffic study was prepared in accordance with the Traffic Impact Analysis Guidelines for proposed developments in the City of Kirkland. This study summarizes the project trip generation, concurrency results including project distribution and assignment, intersection impacts and level of service, site access issues, and traffic related mitigation.

According to the City's transportation guidelines, all commercial developments (non-residential) of more than 4,000 square feet with associated parking of 20 or more spaces are subject to environmental review under the State Environmental Policy Act (SEPA) and to road concurrency evaluation under the City's Concurrency Management Ordinance. The traffic impact analysis guidelines and subsequent analysis will assist in the determination of project compliance with transportation concurrency requirements, allow a thorough and complete review of potential traffic impacts, and ensure that review and mitigation of all proposals occur in a consistent and equitable manner.

A. Proposal

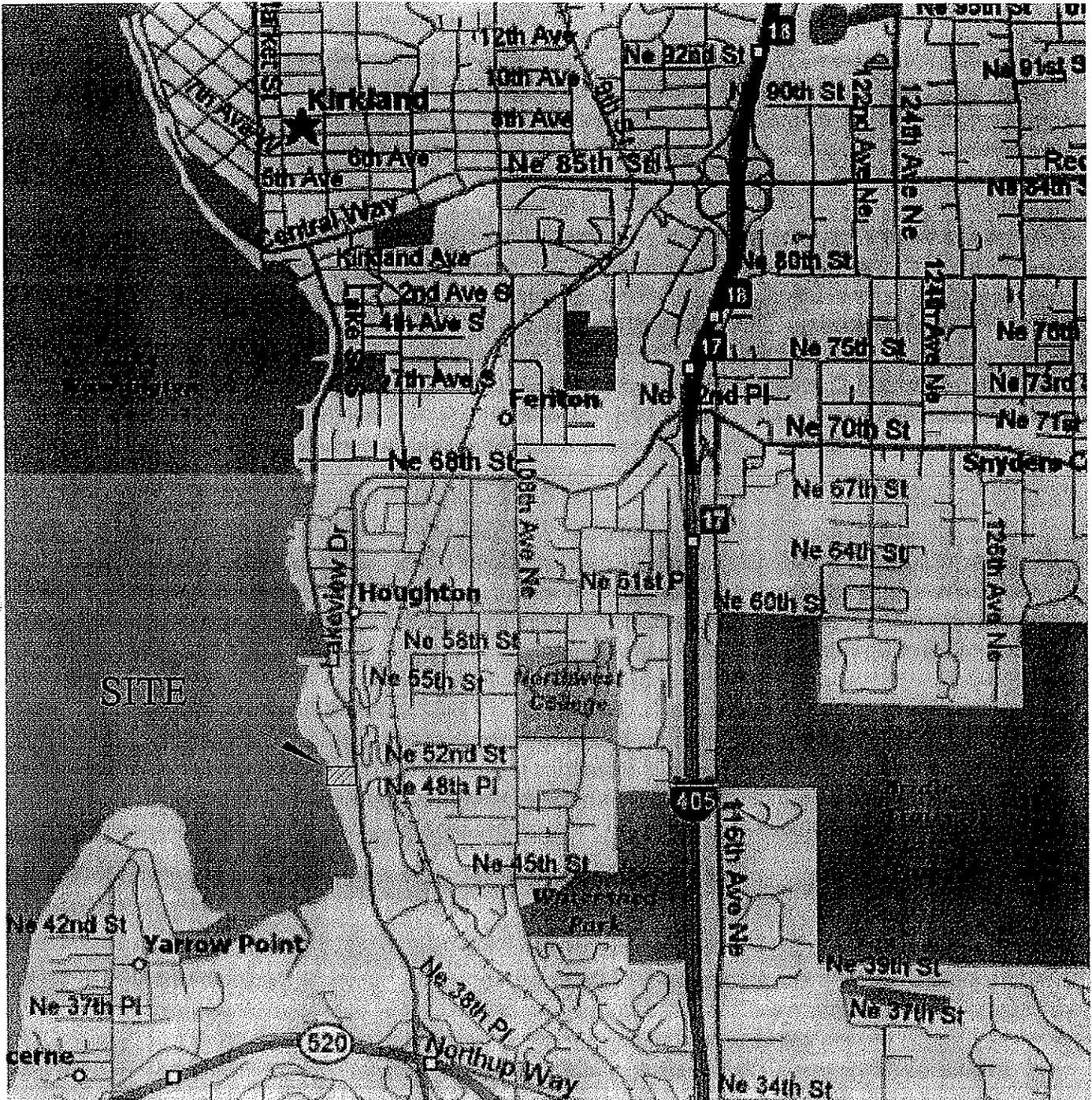
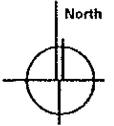
The Marina Suites LLC are proposing construction of new office buildings on the Yarrow Bay Marina site. The site is located on the west side of Lake Washington Boulevard north of NE 52nd St. The site is situated between the Breakwater Condominiums and Carillon Point. A vicinity map is presented in Figure 1.

The site consists of two separate parcels. One parcel is vacant and the other is occupied with a 6,878 gsf (+/-) building consisting of a marine service shop, retail services, office, storage, and apartment/office. The existing marina services consists of 104 moorage slips, plus a fueling dock, boat haul-out for cleaning, service & repair, up land dry dock storage area, and a boat rentals dock.

The proposal consists of the following:

- 55,000 gross square footage (gsf) of general office type use.
- Demolition of existing approximately 7,000 gsf Yarrow Bay Marina at the southwest corner of the property and construction of a new approximately 7,000 gsf +/- services building in the site's northwest corner.
- Expansion of the marina to include 10 additional moorage slips.
- Removal of the upland dry dock boat storage area.
- Removal of the existing boat trailer parking area.

Access to the site will be provided via one access driveway to Lake Washington Boulevard. This driveway will be located at the present driveway location at the south end of the site. This driveway is currently approximately 43 feet wide and the south edge



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VICINITY MAP

Marina Suites Office Building
Yarrow Bay Marina

Figure 1

is about 55 feet north of the south property line. The proposed driveway will consist of one 14' entrance lane and two 12' exit lanes with a 6' wide pedestrian refuge island in the median separating the entrance and exit lanes. The north edge of the driveway will match the existing north driveway edge and the south edge of the driveway will be in the approximate same location as present depending on the ultimate width of the driveway median. The distance from the proposed south driveway edge to the north edge of the Breakwater Condominiums is 135 feet, and 140 feet to the north edge of NE 52nd St. These separation distances are only 1 foot less than existing conditions.

The driveway spacing (edge to edge) north will not change from current conditions. The spacing is approximately 190 feet to the opposite side 5210 Apartments' driveway and 225 feet to the Carillon Point (gated) driveway.

The total proposed parking on site is 211 stalls. Most of the parking, approximately 168 stalls, will be under the proposed new office building. There will be 43 surface stalls plus 2 load/unload delivery service stalls adjacent to the main lobby entrance. A site plan is presented in Figure 2.

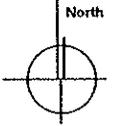
II. Existing Conditions

The existing conditions section identifies the roadway and channelization features, traffic volumes, transit, and site access sight distance.

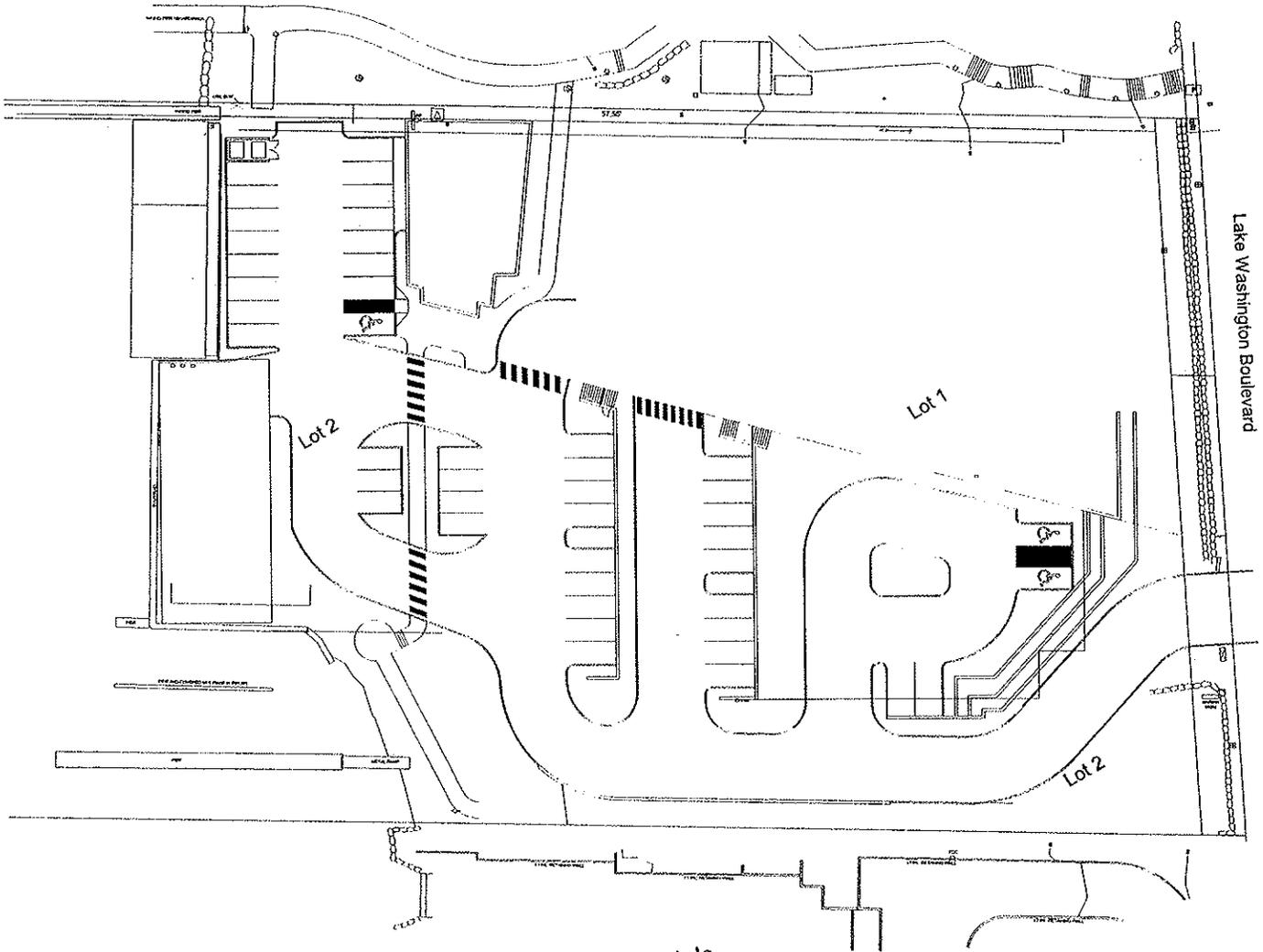
A. Roadway Inventory

The primary existing road system utilized by project traffic would be Lake Washington Boulevard and Lake View Drive. These streets are discussed below.

- Lake Washington Boulevard is a three lane principal arterial with connection between Central Way and Northup Way/Bellevue Way/SR 520. In the vicinity of the site the roadway is approximately 44 feet wide (face of curb to face of curb). Approximate channelization dimensions within the roadway consist of two 5.5 foot bikelanes, two 11 foot thru lanes, and one 11 foot center two-way left turn lane. There is curb, gutter and sidewalks on both sides. The sidewalk on the west side is 10 feet wide and the sidewalk on the east side is 5 feet wide. On-street parking is prohibited. There is a pedestrian mid-block crosswalk located 65 feet north of the north edge of the project driveway. This crosswalk includes a raised center median to allow for pedestrian refuge/protection. The posted speed limit is 35 mph.
- Lake View Drive is a two lane minor arterial connecting between NE 68th St and Lake Washington Boulevard. This roadway provides primary access to I-405. There are curb, gutters, and sidewalks on both sides. Marked pedestrian crosswalks are located



Carillion Point



Breakwater Condo's

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SITE PLAN

Marina Suites Office Building
Yarrow Bay Marina

Figure 2

throughout this arterial and at all of the signalized intersections along this roadway. The posted speed limit ranges between 25 and 30 mph.

B. Traffic Volumes

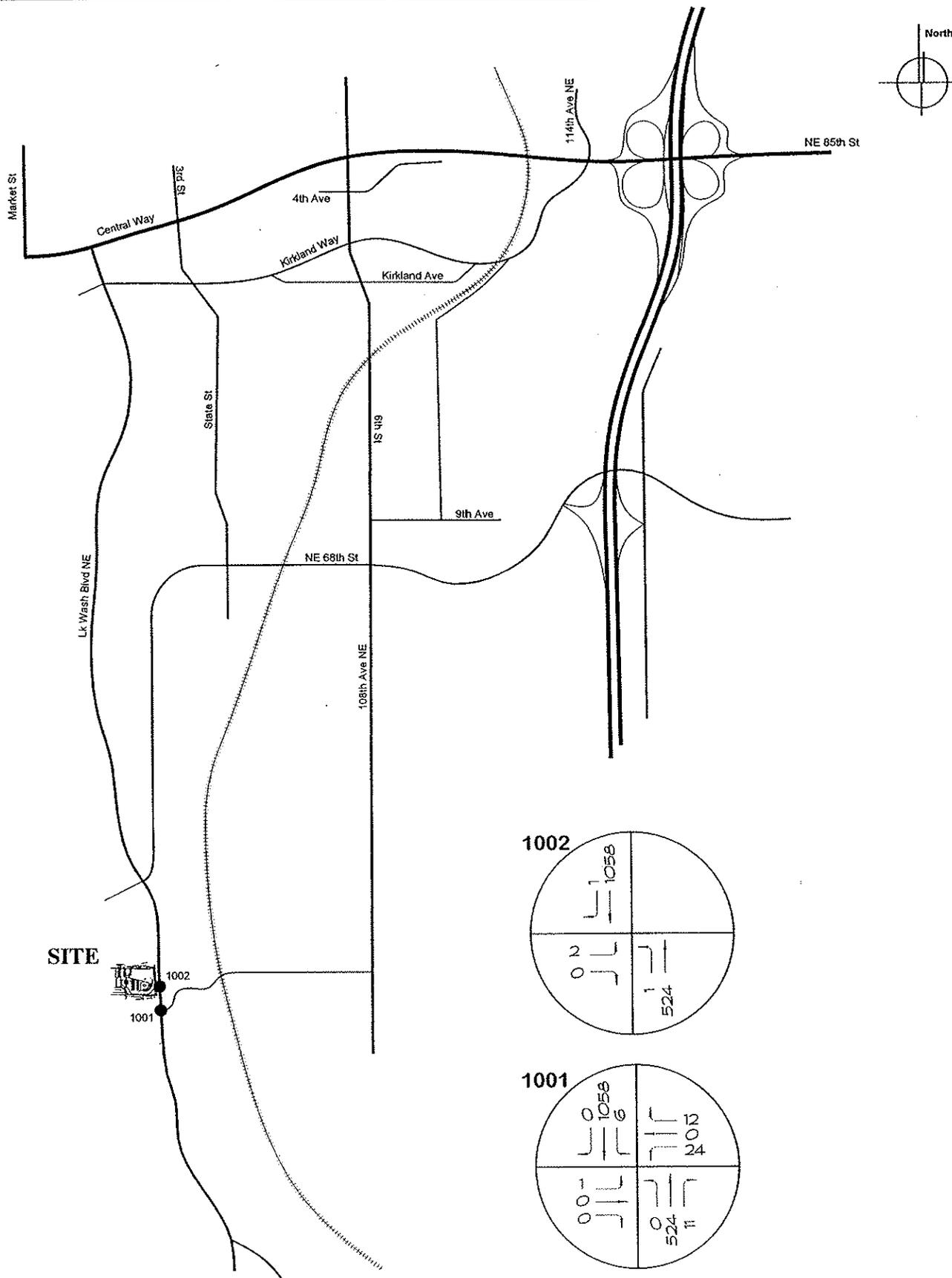
Traffic volumes and historical trends on selected study area links are as follows:

- Lake Washington Boulevard between Lake View Dr and NE 52nd St: The 2005 Average Weekday Daily Traffic (AWDT) on this arterial is estimated to be approximately 24,000 vehicles per day (vpd), and the PM peak hour volume is approximately 2,350 vehicles; 950 southbound and 1,400 northbound. According to historical AWDT traffic count records, the daily traffic volume on this roadway has increased at an approximate rate of 0.5% per year between 1995 and 2002. However, traffic counts have been decreasing at an approximate rate of 1.2% per year since they peaked in 1999.
- Lake View Drive north of Lake Washington Boulevard: The 2005 Average Weekday Daily Traffic (AWDT) on this arterial is estimated to be approximately 8,750 vehicles per day (vpd), and the PM peak hour volume is approximately 950 vehicles; 325 southbound and 625 northbound. According to historical AWDT traffic count records (1995 to 2002), the daily traffic volume on this roadway has decreased at an annual growth rate of 0.4% per year since 1995. The 1995 volume was 8,340. Traffic counts on this arterial peaked in 1997 at 9,100 vpd, then dropped significantly to 8,300 vpd in 1999. The 2002 count showed a daily volume of about 8,600 vpd. Based on recent trends from 1999 to 2002, it is estimated that traffic will increase (for the short term) at a rate of 0.75% per year.
- NE 52nd St east of Lake Washington Boulevard: The 2005 Average Weekday Daily Traffic (AWDT) on this arterial is estimated to be approximately 750 vehicles per day (vpd), and the PM peak hour volume is approximately 60 vehicles; 20 westbound and 40 eastbound. According to historical AWDT traffic count records, the daily traffic volume on this roadway has remained relatively constant since 1995.

The counts are attached in the technical appendix. The existing AM and PM peak hour turning movement volumes at selected intersection are shown in Figure 3 and 4 respectively. These intersections were selected for further study based on the City's proportional share worksheet calculations, discussed later.

C. Transit Service

King County Metro currently provides one bus route along the site frontage on Lake Washington Boulevard. This route is Route 230. There are bus stops on both sides of the street just north of the site access. The route provides daily service between Totem Lake

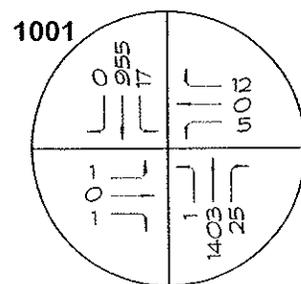
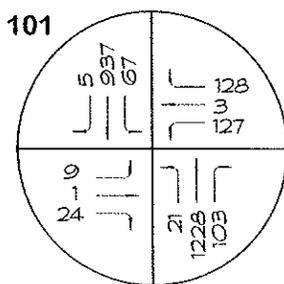
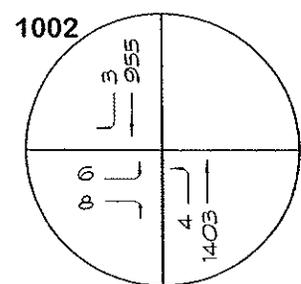
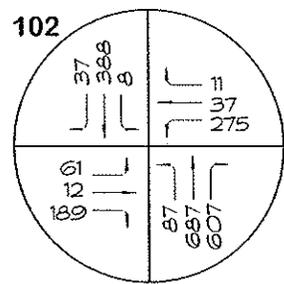
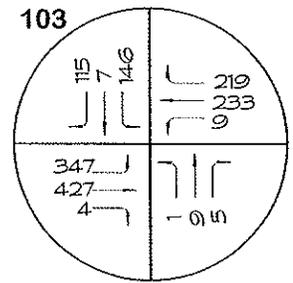
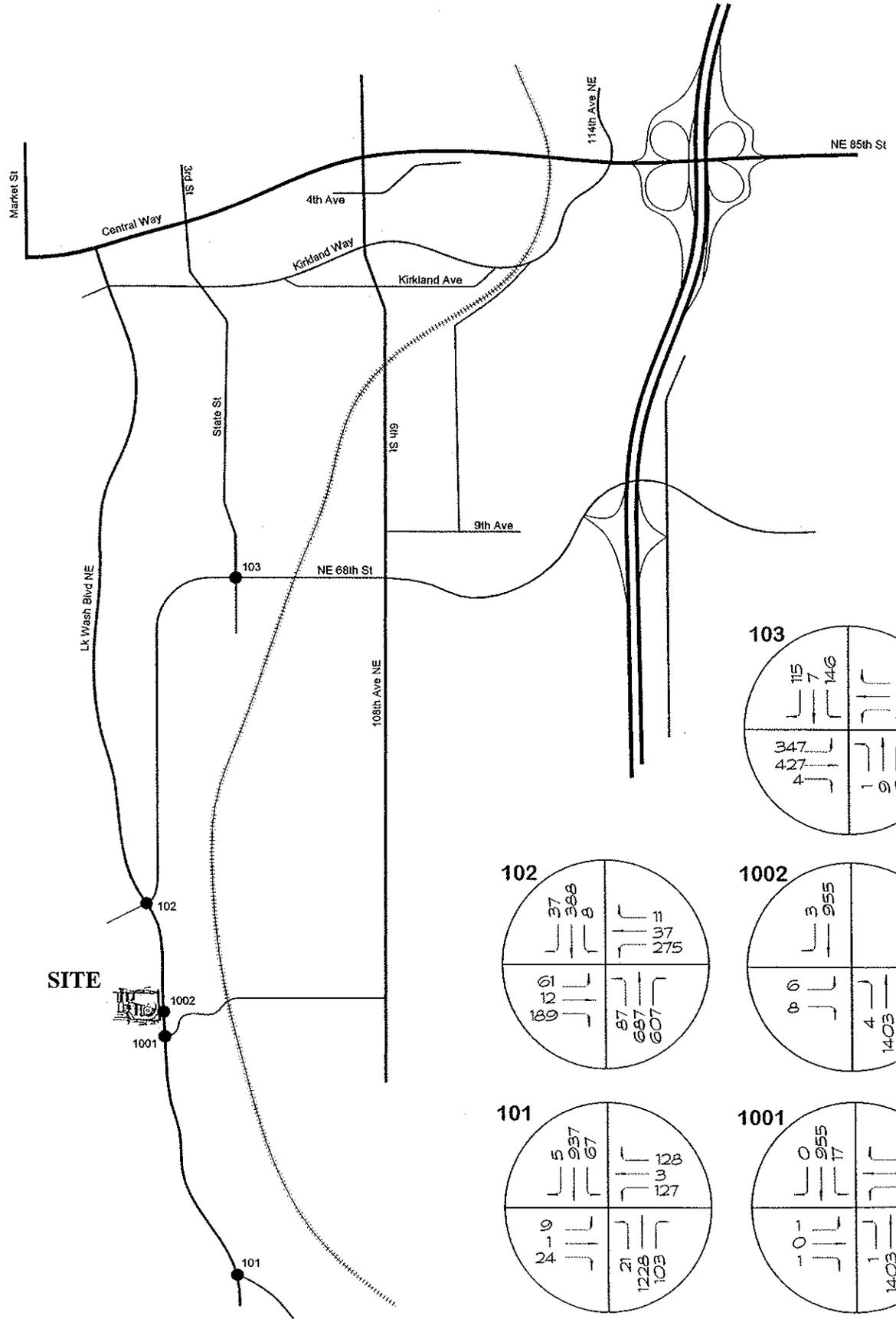
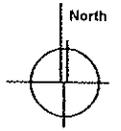


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2005 AM PK - EXISTING TRAFFIC VOLUMES

Marina Suites Office Building
 Yarrow Bay Marina

Figure 3



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2005 PM PK - EXISTING TRAFFIC VOLUMES

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 Yarrow Bay Marina

Figure 4

and Redmond. It passes through the Kirkland Transit Center and the South Kirkland Park & Ride, both of which allow for transfers to multiple other routes.

D. Accidents

The 3 plus year accident history at the study area intersections is presented in Table 1. This data was provided by city staff. The study area intersections were determined based on the City's Concurrency analysis and the Significant Intersection impact analysis. These are discussed later in this report.

Table 1
Accidents (2000 thru 2004)

Intersection	2004	2003	2002	2001	2000
Lake Washington Boulevard/Lake View Dr					
Number of Accidents ¹	2	1	2	3	5
Accident Rate ²	0.20	0.10	0.20	0.30	0.43
Lake Washington Boulevard/NE 38 th Pl					
Number of Accidents	5	2	3	11	3
Accident Rate	0.48	0.19	0.29	1.07	0.30
State St/NE 68 th St					
Number of Accidents	0	0	0	2	0
Accident Rate	-	-	-	0.28	-
Lake Washington Boulevard/NE 52nd Pl					
Number of Accidents					no data available

¹ Data summary provided by City. No data was available at the Lake Washington Boulevard/NE 52nd St intersection

² Accidents per million vehicles entering

As shown in Table 1, based on the historical data, these analysis intersections are not considered high accident locations. Only one instance has the number of accidents exceeded 10 per year which occurred in 2001 at the Lake Washington Boulevard/NE 38th Pl intersection.

For the 5-year period shown, the Lake Washington Boulevard/Lake View Dr intersection is averaging 2.6 accidents per year with a high of 5 in 2000. The average accident rate was estimated to be 0.25 accidents per million vehicles entering.

Again, over the course of the 5-year period shown, the Lake Washington Boulevard/NE 38th Pl intersection is averaging 4.8 accidents per year with a spike of 11 in 2001. The average accident rate was estimated to be 0.47 accidents per million vehicles entering with a rate of 1.07 in 2001.

At the State St/NE 68th St intersection, over the same period, is averaging 0.4 accidents per year. The average accident rate was estimated to be 0.05 accidents per million vehicles entering.

The “target” not-to-exceed intersection accident rate set at the city is 1.0 acc/mev.

E. Intersection Sight Distance

Intersection sight distance requirements are the design parameters set forth in order to provide sufficient sight distance for entering vehicles such that they do not impede the mainline traffic speed and in-turn do not reduce the capacity of the roadway. This analysis follows the guidelines set forth in the City of Kirkland Department of Public Works Pre-Approved Plans Policy R-13, Intersection Sight Distance. According to Table 2 of Policy R-13, Driveway Case E3, the minimum sight distance is 390 feet. This is based on: a posted speed limit of 35 mph, greater than 15,000 ADT, and 50 to 200 PM peak hour trips on the driveway. The setback distance for the driveway motorist’s eye is 14 feet from edge of traveled way.

Intersection sight distance evaluation was based on Lake Washington roadway profiles and field observations. Measurements were based on criteria of 3.5 feet for entering driver eye height (14 foot setback from edge of traveled way) and an approaching vehicle height of 4.25 feet. In this particular case, the edge of traveled way is presumed to be the fog line, thus the driver’s eye would be located near the back of sidewalk; since there is a 5’ bikelane and a 10’ sidewalk. Since Lake Washington Boulevard is relatively straight horizontally in the site vicinity, the factor limiting sight distance is the vertical curve.

Based on this, the available sight distance from the site access looking north is 865 feet and looking south the sight distance is 465 feet. Thus, based on this information it is concluded that there is adequate entering sight distance in both directions.

F. City Programmed Improvements

According to the City of Kirkland’s Capital Facilities Plan, there are several proposed projects that may have an affect on this project. They would include:

- Lake Washington Boulevard/NE 38th Pl Intersection Improvements.
- Lake Washington Boulevard/SR 520 Queue by-pass southbound to westbound.
- NE 52nd St Sidewalk (non-motorized).
- Crosswalk Upgrades (various locations – non motorized).

III. Trip Generation

Trip generation for the proposed project was calculated using trip generation equations obtained from the Seventh Edition of the ITE *Trip Generation Report*, 2003. For the proposed use, trip generation equations associated with Land Use Code 710 (General Office) were used.

As noted in Section I.A., the site is currently occupied by existing marina type uses. In order to determine the total trip generation for these uses, driveway turning movement counts were conducted Wednesday August 31, 2005 between 7:00 and 9:00 AM to bracket the AM peak hour and between 4:00 and 6:00 PM to bracket the PM peak hour. Additional driveway PM peak hour counts were conducted Tuesday November 29, 2005 however these counts were significantly less than the August counts thus they were not used. The counts are included in the Technical Appendix. The daily volume was estimated based on the ITE relationship between PM peak hour and Daily using average trip rates. The relationship between daily and PM peak was estimated to be by an approximate factor of seven. These uses will relocate to a new building on site but are assumed to continue to operate in a similar capacity as they currently do.

The results of the trip generation analysis are presented in Table 2.

**Table 2
Trip Generation**

Land Use	AWDT	AM Peak			PM Peak			
		Total	In	Out	Total	In	Out	
Existing Use: 6.98 ksf Yarrow Bay Marina Uses^a								
Local Study	Vol	155	4	2	2	21	7	14
Proposal: New Office Building Complex								
LUC 710, General Office ^b								
55 ksf		Eq1 ^c	Eq2 ^d	88%	12%	Eq3 ^e	17%	83%
	Vol	842	116	102	14	140	24	116
Total from Site								
	Vol	997	120	104	16	161	31	130

^a AM and PM peak hour volumes based on Summer driveway counts. The daily volume estimate was based on the ITE daily to PM peak hour relationship based on average rates. New building and old building are approximately the same in size and use.

^b Linear Regression Equations from ITE 7th Generation Trip Generation manual

^c Eq1 (Daily Equation): $\ln(T)=0.77\ln(X)+3.65$, $R^2=0.8$

^d Eq2 (AM PK Equation): $\ln(T)=0.8\ln(X)+1.55$, $R^2=0.83$

^e Eq3 (PM PK Equation): $T=1.12(X)+78.81$, $R^2=0.82$

As shown in Table 2, the project is estimated to generate a total of 968 daily, 120 AM and 161 PM peak hour trips to and from the site. However, since part of the project consist of

relocated existing uses, the net new trips to the surrounding street system is 842 daily, 116 AM and 140 PM peak hour trips, based on 55 ksf of new office space.

As noted in the Section I.A., Proposal, part of this site redevelopment includes adding 10 new boat slips to the marina. Based on the existing driveway counts, it is estimated that the PM peak hour trip rate per boat slip is 0.10 trips/slip. Thus, the new PM peak hour trips from the 10 new boat slips would equate to 1 additional PM peak hour trip exiting the site. The daily estimate is assumed to be slightly higher than this. However, due to the relative trip generation insignificance related to the trips generated from the new boat slips, they are not included in the with-project intersection capacity analyses.

IV. Trip Distribution and Assignment

The distribution and assignment of project PM peak hour trips was performed by the City using the City's traffic model as part of the transportation concurrency test. The results suggest the following distribution at the project site access:

- 55% of the project trips enter/exit the site from the north on Lake Washington Boulevard.
- 45% of the project trips enter/exit the site from the south on Lake Washington Boulevard.

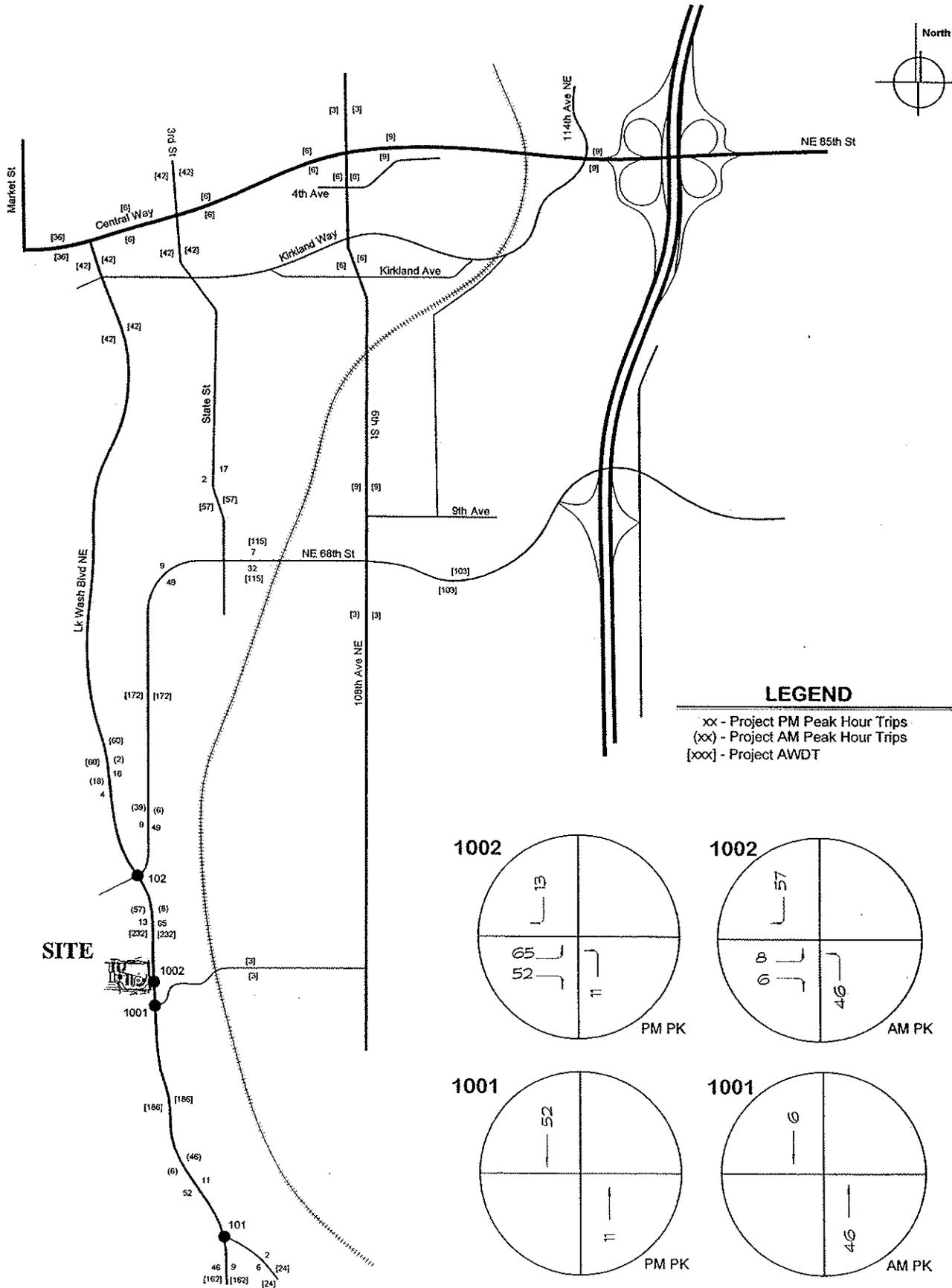
The outlying distribution is as follows:

- 40% of the project trips are to/from the northeast on Lake View Dr and NE 68th St.
- 15% of the project trips are to/from the north on Lake Washington Boulevard north of Lake View Drive.
- 5% of the project trips are to/from the southeast on NE 38th Pl.
- 40% of the project trips are to/from the south on Lake Washington Boulevard south of NE 38th Pl.

The assignment of project weekday daily, AM and PM peak hour trips are shown in Figure 5. The AM and PM peak hour project turning movement volumes at the site accesses are shown in Figures 8 and 9 respectively.

V. Transportation Concurrency

The City of Kirkland conducted a traffic concurrency test for this project and provided the results in a memo to the Planning Department dated 8/2/05. The memo and concurrency results are attached. The project passed concurrency. The concurrency test notice shall expire and a new concurrency test application is required unless:



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PROJECT TRAFFIC VOLUMES

Marina Suites Office Building
 Yarrow Bay Marina

Figure 5

1. A complete SEPA checklist, traffic impact analysis and all required documentation are submitted to the City within 90 calendar days of the concurrency test notice
2. A Certificate of Concurrency is issued or an extension is requested and granted by the Public Works Department within one year of issuance of the concurrency test notice. A Certificate of Concurrency is issued at the same time a development permit or building permit is issued if the applicant holds a valid concurrency test notice.

Please refer to the memo for additional details including expiration dates.

The concurrency test was conducted assuming a 60 ksf office building minus an existing 4 ksf Yarrow Bay Marina facilities building. Due to the fact the existing marina uses were assumed to occupy 4 ksf of the new office building, the concurrency test was conducted based on a net new floor area of 56 ksf. Subsequent to the concurrency pass notice, the proposed office building gross area was reduced to 55 ksf. Furthermore, refinement of existing uses indicated a gross floor area of approximately 7 ksf for the existing marina service building. A new exclusive building of approximately 7 ksf for the marina uses will be constructed adjacent to the westerly end of the new 55 ksf office building. Thus, all-in-all, the net new building area is 55 ksf rather than the 56 ksf assumption used in the concurrency test. It is assumed that the difference is inconsequential and would not affect the findings of the concurrency test.

VI. Significant Traffic Impact

The City's analysis guidelines require analysis of all intersections where the project's proportional share is greater than 1%. These intersections are defined as significant intersections.

Based on project trip distribution and assignment, there are three intersections that are identified as significant. All intersections reviewed and those defined as significant or not are shown in Table 3 below. The intersections reviewed included all intersections identified in the concurrency run. It is important to note that the proportional share calculations utilize the net new daily trip estimates as shown in Table 2, which do not include the existing estimated daily trips emanating from the site. The net new daily trips utilized in the calculations are approximately 15% less than the total daily trips estimated from the proposed site.

Table 3
Significant Intersection Check

	Intersection	Project AWDT ^a	Proportional Share ^b	Significant? ^c
101	Lake Wash/NE 38th Pl	372	1.16%	Yes
102	Lake Wash/Lakeview Dr	464	2.30%	Yes
103	State St/NE 68th St	344	1.15%	Yes
104	108th Ave NE/NE 68th St	230	0.71%	No
106	Central Way/3rd St	96	0.86%	No
107	Central Way/Lake St	84	0.49%	No
108	Lake St/Kirkland Ave	84	0.25%	No
201	98th Ave NE/Juanita Dr	114	0.39%	No
202	100th Ave NE/NE 124th St	60	0.16%	No
203	100th Ave NE/NE 132nd St	42	0.12%	No
205	Market St/Forbes Creek	132	0.40%	No

a Total daily trips entering intersection.

b Based on the City of Kirkland Proportional Share Impact Worksheet.

c A significant intersections defined as any intersection where the proportional share is equal to or exceeds 1.0%.

According to the results shown in Table 3, there are 3 intersections that meet the criteria to be defined as a significant intersection, i.e., greater than 1%. It is important to note that at none of the intersections proportional share project impact exceed 5%. The remaining intersections are determined not to be significant.

Thus, the three intersections that require additional analysis are:

- For the PM peak hour analyses, these intersections include the following:

- 101 Lake Washington Boulevard/NE 38th Pl
- 102 Lake Washington Boulevard/Lakeview Dr
- 103 State St/NE 68th St

Other intersections included in this analysis are:

- 1001 Lake Washington Boulevard/NE 52nd St (special City request) (reference number is specific only to this report)
- 1002 Lake Washington Boulevard/Site Access (reference number is specific only to this report)

- For the AM peak hour analyses, only the Lake Washington Boulevard/NE 52nd St and the Lake Washington Boulevard/Site Access intersections were analyzed.

VII. Future Year (Year 2008) Traffic Estimates

The horizon year of this project is estimated to be 2008. The City provided PM peak hour traffic volume forecasts for the year 2008 that included traffic growth from all pipeline projects plus the project traffic. Therefore, the horizon year background traffic forecasts were estimated by backing out the proposed project traffic. The AM peak hour background forecasts for the two subject intersections were estimated based on the growth (annual growth rate) determined from the PM peak hour for the background condition and the existing counts.

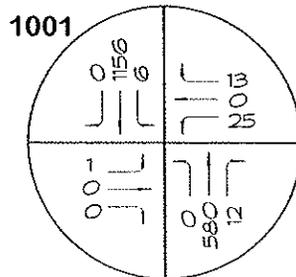
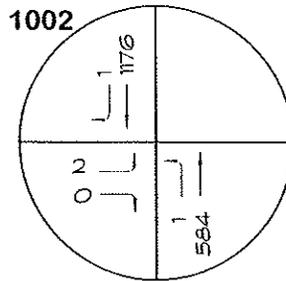
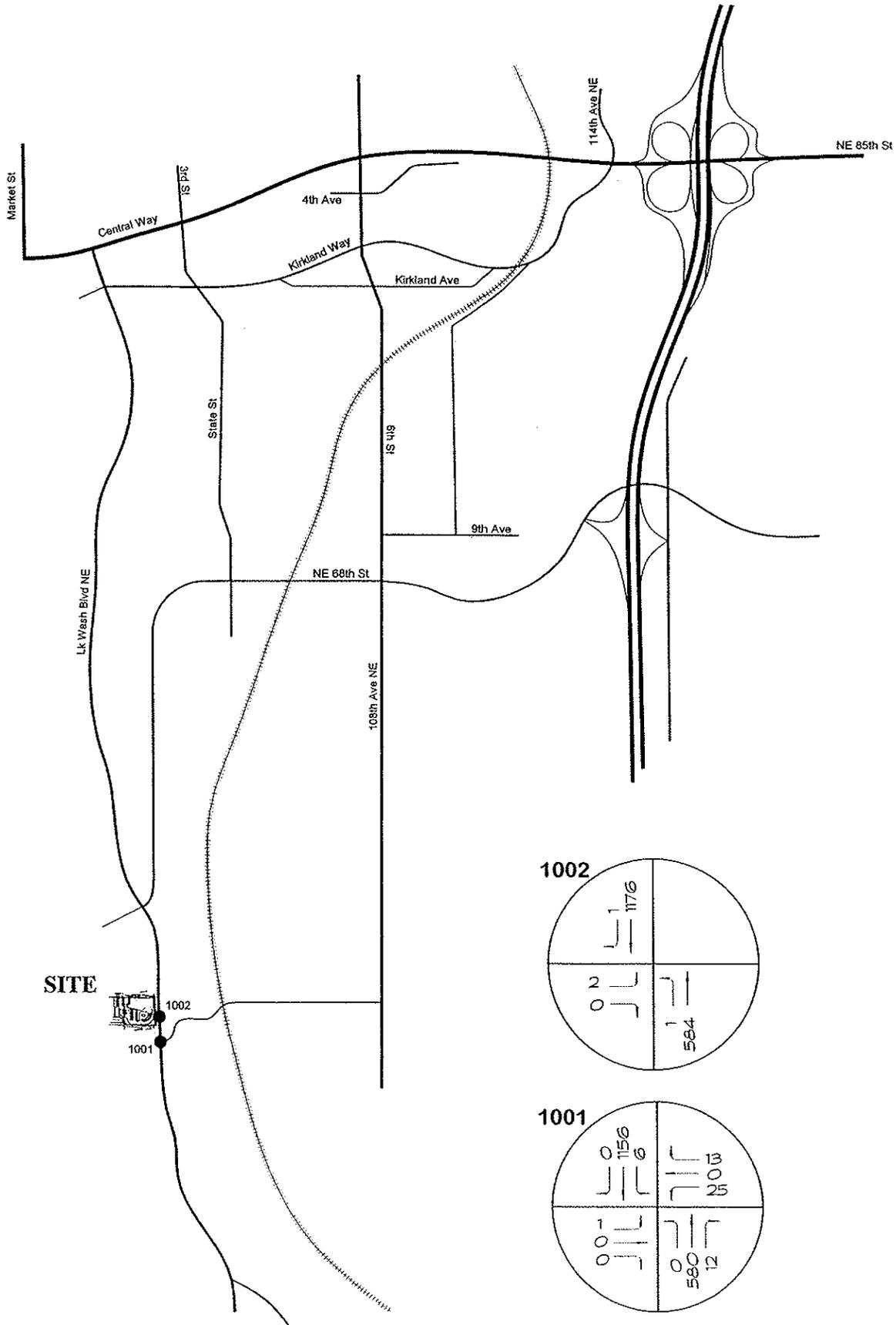
The horizon year volumes at the analysis intersections without the project are shown in Figure 6 and 7 for the AM and PM peak hours respectively.

The horizon year turning movement volumes at the analysis intersections with the project are shown in Figure 8 and 9, for AM and PM peak hours respectively. In addition, the AM and PM peak hour driveway volumes are shown in these same two figures.

VIII. Level of Service Analysis

Level-of-service for the existing condition, as well as future conditions, were calculated using the techniques presented in the 2000 Highway Capacity Manual (HCM) for both the AM and PM street peak hours.

Level of service was calculated at the study area intersection for existing 2005, 2008 with and without project conditions. The future (year 2008) weekday AM and PM peak hour level of service at the site access intersection was also computed. The results are shown in Table 4. Note the delay presented for unsignalized intersections represents the delay for the critical approach or movement and not the overall intersection.

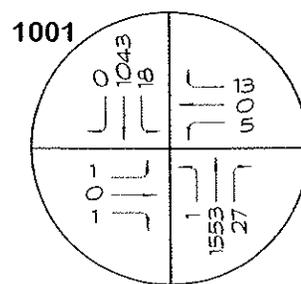
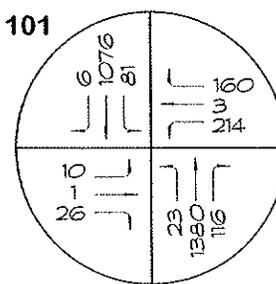
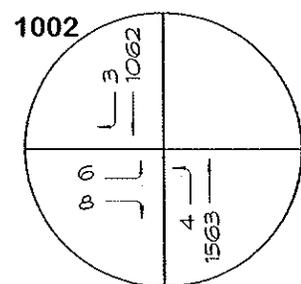
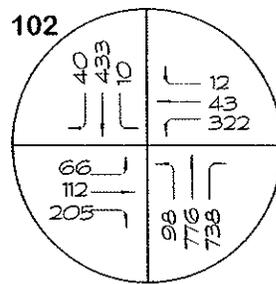
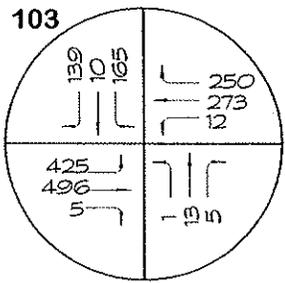
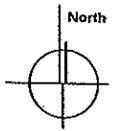
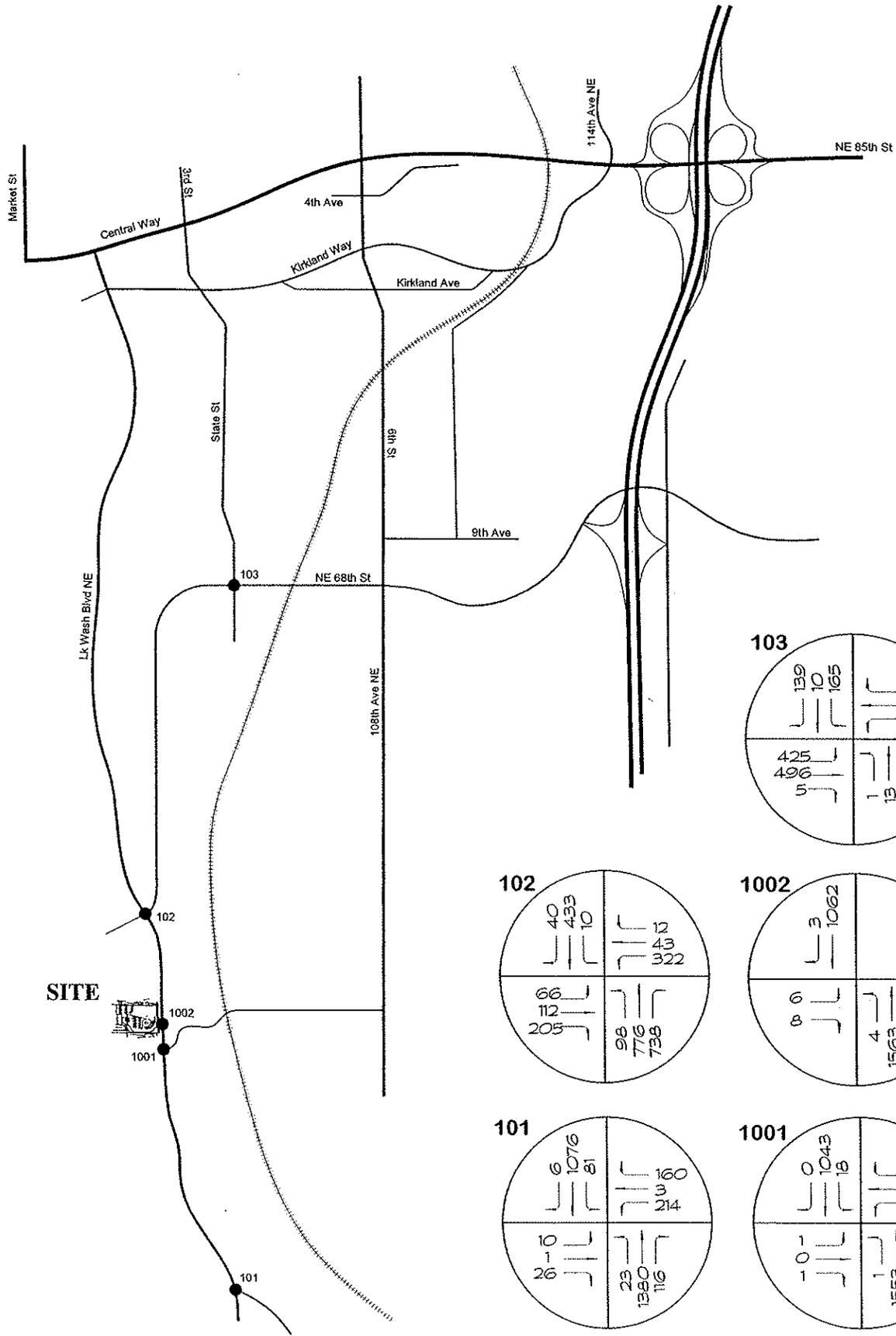


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2008 AM PK - BACKGROUND TRAFFIC VOLUMES

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Figure 6

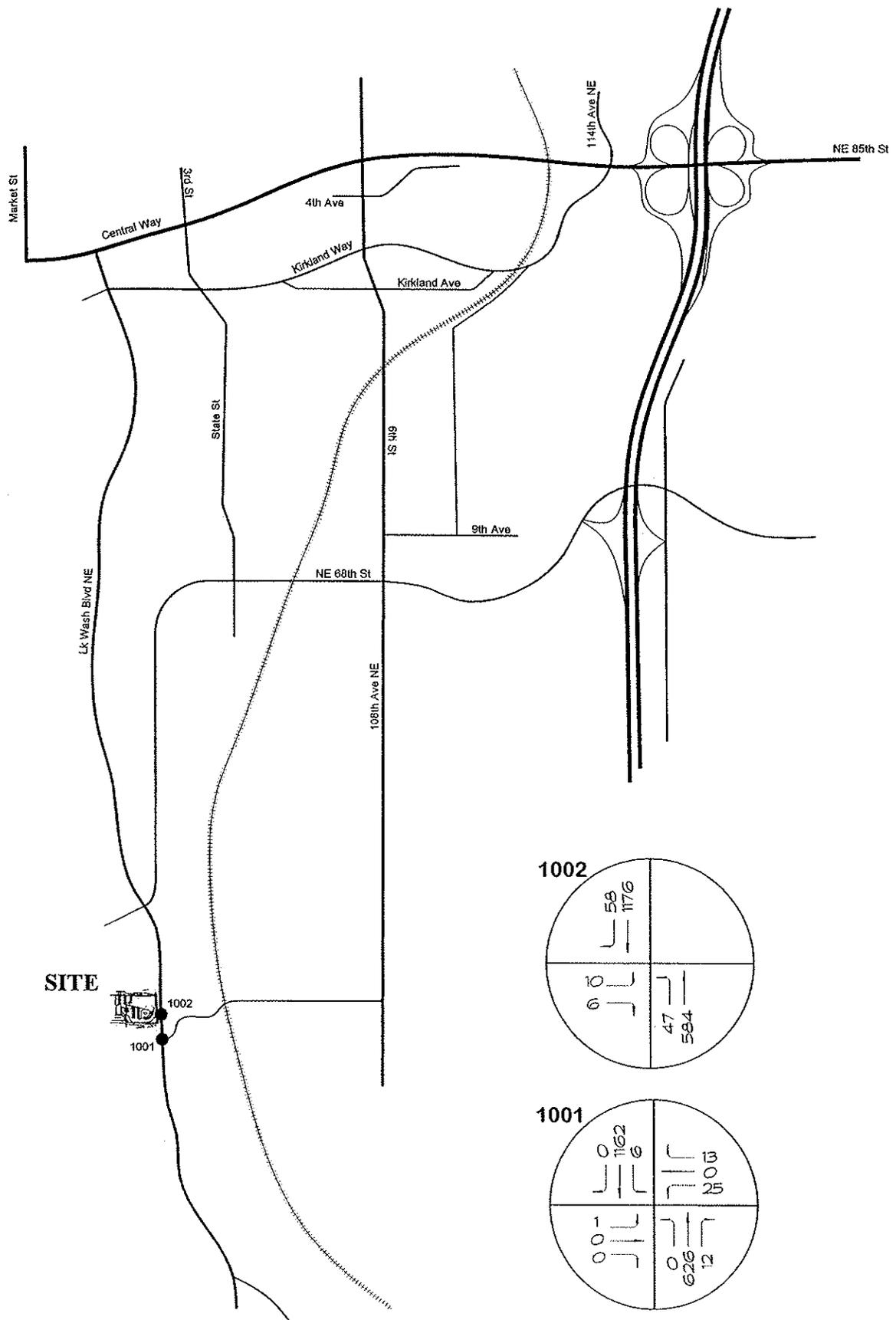


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2008 PM PK - BACKGROUND TRAFFIC VOLUMES

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Figure 7

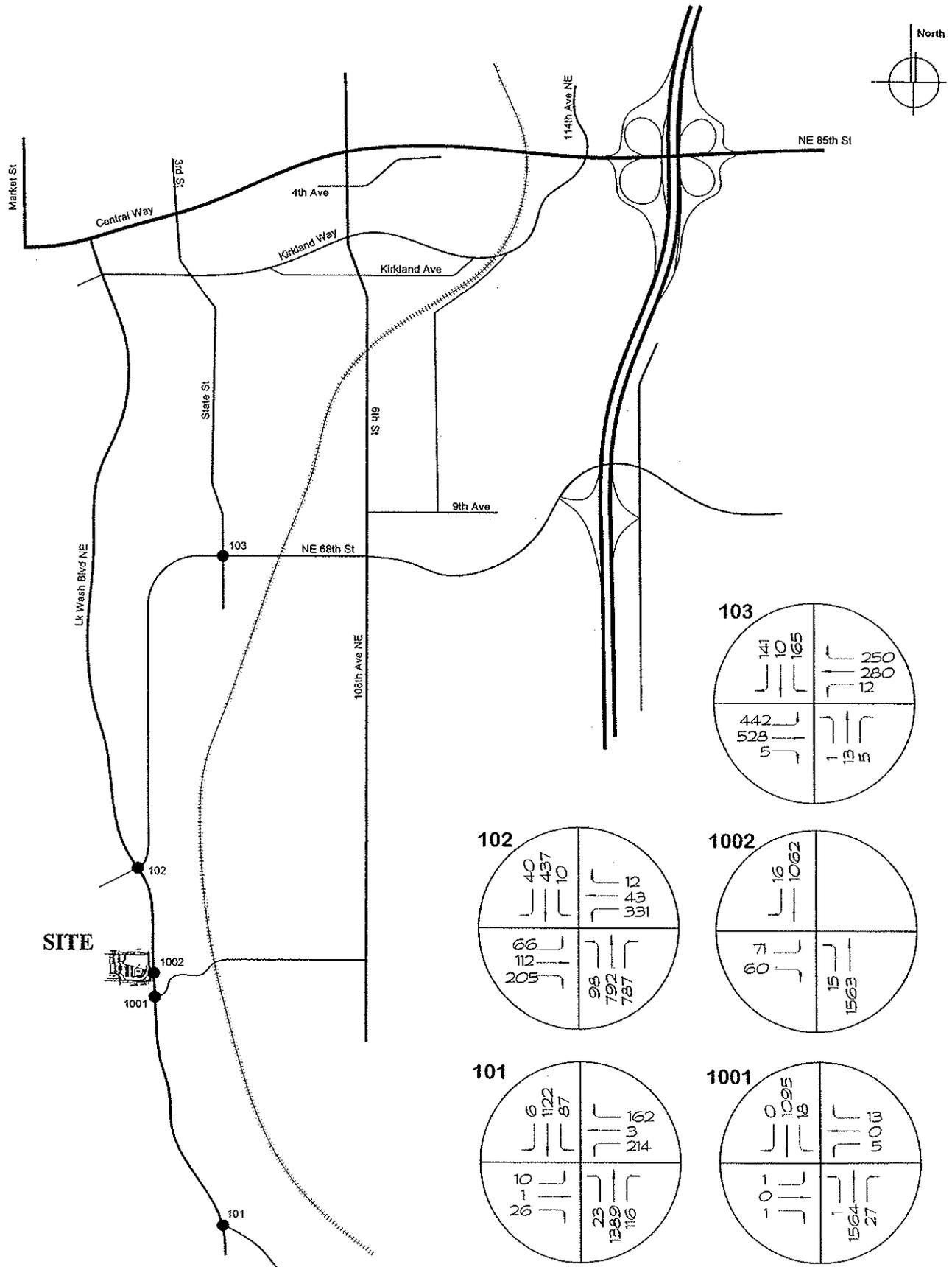


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**2008 AM PK - BACKGROUND PLUS
 PROJECT TRAFFIC VOLUMES**

Marina Suites Office Building
 Yarrow Bay Marina

Figure 8



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**2008 PM PK - BACKGROUND PLUS
 PROJECT TRAFFIC VOLUMES**

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 Yarrow Bay Marina

Figure 9

Table 4
AM & PM Peak Hour Level of Service

Intersection		Approach/ Movement	2005 Existing LOS (Delay) ^a	2008 without project LOS (Delay) ^a	2008 with project LOS (Delay) ^a
PM PEAK HOUR^b					
101	Lake Wash Blvd/NE 38th Pl	overall	D 44.8	F 83.9	F 85.1
102	Lake Wash Blvd/Lakeview Dr	overall	C 24.5	D 36.5	D 42.4
103	State St/NE 68th St	overall	C 33.2	D 36.7	D 37.9
1001	Lake Wash Blvd/NE 52nd St	EB	D 34.3	E 42.9	E 44.6
		WB	E 37.4	E 47.2	E 48.7
		NBL	B 10.2	B 10.6	B 10.9
		SBL	B 13.3	B 14.7	B 14.8
1002	Lake Wash Blvd/Site Access	EB	D 25.9	D 30.2	F 152
		EBL ^c	- -	- -	F 110
		EBR ^c	- -	- -	D 25.7
		NBL	B 10.2	B 10.8	B 11
AM PEAK HOUR^b					
1001	Lake Wash Blvd/NE 52nd St	EB	D 25.5	D 28.5	D 29.3
		WB	C 24.2	D 27.6	D 28.5
		NBL	B 10.7	B 11.2	B 11.2
		SBL	A 8.6	A 8.7	A 8.9
1002	Lake Wash Blvd/Site Access	EB	C 21.1	C 23.7	D 26.9
		EBL ^c	- -	- -	D 27.2
		EBR ^c	- -	- -	C 23.7
		NBL	B 10.7	B 11.4	B 12.4

a Delay is represented in seconds per vehicle

b Intersections 101, 102, and 103 are signalized. Intersection 1001 and 1002 are two-way stop control. Intersection 1001 and 1002; stopped approaches are EB/WB.

c with widening of the driveway to include an exclusive left and right turn lane.

As shown in Table 4, the Lake Washington Boulevard/NE 38th Pl St intersection, which is signalized, is estimated to operate at LOS D for current conditions and LOS F for future conditions with or without the project for the PM peak period. The overall delay increase at this intersection with impact from project traffic is just over 1 second per vehicle. The project's proportional share is 1.16% thus no mitigation is required to improve the LOS. The City has in its Capital Improvement Program a project aimed at improving the capacity of this intersection.

The Lake Washington Boulevard/Lake View Drive intersection, which is signalized, is estimated to operate at LOS C for current conditions and LOS D for future conditions with or without the project for the PM peak period. The overall delay increase at this intersection with impact from project traffic is 6 seconds per vehicle. The project's proportional share is 2.3%.

The State St/NE 68th St intersection, which is signalized, is estimated to operate at LOS C for current conditions and LOS D for future conditions with or without the project for the PM peak period. The overall delay increase at this intersection with impact from project traffic is just over 1 second per vehicle. The project's proportional share is 1.15%.

The Lake Washington Boulevard/NE 52nd St intersection is a stop sign controlled intersection with the eastbound and westbound approaches stopped. As shown in Table 4, the westbound approach (NE 52nd St critical approach, stop sign) is estimated to operate at LOS E for current conditions, as well as for future conditions with or without the project for the PM peak period. The eastbound approach (a driveway from the Breakwater Condominiums) is also estimated to operate at LOS E for future conditions with or without the project during the PM peak period. The northbound and southbound left turn movements are estimated to operate at LOS B. For the AM peak period, the eastbound and westbound approaches are estimated to operate at LOS D for future conditions with or without the project. The northbound and southbound left turns are estimated to operate at LOS B and A respectively with or without the project.

The project driveway to Lake Washington Boulevard is estimated to operate at LOS F for future conditions with the project for the PM peak hour, and LOS D for the AM peak hour. The northbound left turn into the site is estimated to operate at LOS B for future conditions with the project for either weekday peak hour. The exiting movements from the site are estimated to be critical during the PM peak hour. Assuming a single lane exiting the site, the delay is estimated to be 152 seconds per vehicle. With a two lanes exiting the site (an exclusive left and right turn lane), the combined delay for the eastbound movements is estimated to be 71.2 seconds per vehicle; 110 seconds per vehicle for the left turn lane and 26 seconds per vehicle for the right turn lane. Thus the overall delay for the driveway approach can be cut approximately in half with a two-lane exit rather than a single lane. The LOS during the AM peak hour is estimated to be LOS D for either a single-lane or two-lane approach.

IX. Gap Analysis (Lake Washington Boulevard)

A 2-day gap study was conducted on Lake Washington Boulevard between NE 52nd St and the Yarrow Bay Marina driveway. The analysis was conducted Wednesday 9/7/05 and Thursday 9/8/05. Gaps were recorded separately for the northbound and southbound directions. All of the data can be found in the technical appendix.

Gaps were recorded and allocated to thirteen separate bins. The data in each of the thirteen bins was combined into seven critical gap groupings. Per HCM, the left turn critical gap is estimated to be 5.5 seconds with a follow-up vehicle time of 2.1 seconds. For this analysis, the following was assumed:

- Group 1 – Any gap of 5 seconds or less was considered not useable for a side street entering vehicle.
- Group 2 – A gap between 6 and 11 seconds could accommodate 1 vehicle.
- Group 3 – A gap between 12 and 17 seconds could accommodate 2 vehicles.
- Group 4 – A gap between 18 and 23 seconds could accommodate 3 vehicles.
- Group 5 – A gap between 24 and 29 seconds could accommodate 4 vehicles.
- Group 6 – A gap between 30 and 35 seconds could accommodate 5 vehicles.
- Group 7 – A gap greater than 35 seconds could accommodate 7 vehicles.

The number of allowable vehicles within each gap grouping is assumed to be equivalent to the number of equivalent critical gaps.

Since there is a center two way left turn lane on Lake Washington Boulevard, vehicles exiting left out of the site are able to store in the middle, thus the number of gaps in traffic southbound and northbound can be treated separately. It is important to note that the critical conditions occur during the AM and PM peak commute periods and thus it is assumed that most of the vehicles exiting the site would be typical passenger car vehicles and not vehicles pulling boats.

A. Northbound

A summary of the gaps northbound on Lake Washington Boulevard north of NE 52nd St is shown in Table 5.

Table 5
Gap Summary; Northbound, Lake Washington Boulevard

Group >	② 6 to 11 sec	③ 12 to 17 sec	④ 18 to 23 sec	⑤ 24 to 29 sec	⑥ 30 to 35 sec	⑦ > 35	Total Gaps	Equivalent Critical Gaps ^a
<i>Day 1; Wednesday 9/7/05</i>								
7 to 8 AM	57	28	20	16	9	14	144	380
8 to 9 AM	55	18	15	10	4	21	123	343
4 to 5 PM	60	25	8	7	3	1	104	184
5 to 6 PM	53	20	1	5	1	1	81	128
<i>Day 2; Thursday 9/8/05</i>								
7 to 8 AM	58	32	21	12	6	22	151	417
8 to 9 AM	50	27	11	9	7	18	122	334
4 to 5 PM	48	16	12	1	1	3	81	146
5 to 6 PM	42	10	7	4	1	0	64	104
<i>Peak Hour Average^b</i>								
AM Peak Hour								369
PM Peak Hour								141

a Equivalent gaps determined based on number of vehicles assumed per each gap group.

b Average number of gaps for a one hour period based on the data for the 2-hour street peak period.

As determined from Table 5, the average number of critical gaps for a one hour period during the AM peak 2-hour street peak period (7 to 9 am) is 369 gaps per hour. Since there are only 10 vehicles estimated to exit the site to the north during the peak hour, it is concluded that there are more than adequate number of gaps in the traffic stream northbound to accommodate the left turn out movement. It should be noted that the southbound gaps are presumed to be critical for the AM peak scenario.

The average number of critical gaps for a one hour period during the PM peak 2-hour street peak period (4 to 6 PM) is 141 gaps per hour. There are 71 vehicles estimated to exit the site to the north, thus it is concluded that there is an adequate number of gaps in the traffic stream northbound to accommodate the left turn out movement. It should be noted that the northbound gaps are presumed to be critical for the PM peak scenario.

B. Southbound

A summary of the gaps southbound on Lake Washington Boulevard north of NE 52nd St is shown in Table 6.

Table 6
Gap Summary; Southbound, Lake Washington Boulevard

Group >	② 6 to 11 sec	③ 12 to 17 sec	④ 18 to 23 sec	⑤ 24 to 29 sec	⑥ 30 to 35 sec	⑦ > 35	Total Gaps	Equivalent Critical Gaps ^a
<i>Day 1; Wednesday 9/7/05</i>								
7 to 8 AM	46	20	14	2	1	1	84	148
8 to 9 AM	53	13	11	4	2	0	83	138
4 to 5 PM	96	29	10	7	2	3	147	243
5 to 6 PM	92	30	15	1	2	1	141	218
<i>Day 2; Thursday 9/8/05</i>								
7 to 8 AM	52	17	6	8	1	3	87	162
8 to 9 AM	51	8	10	5	4	0	78	137
4 to 5 PM	123	36	16	4	1	1	181	271
5 to 6 PM	96	33	9	4	2	0	144	215
<i>Peak Hour Average ^b</i>								
AM Peak Hour								146
PM Peak Hour								237

a Equivalent gaps determined based on number of vehicles assumed per each gap group.

b Average number of gaps for a one hour period based on the data for the 2-hour street peak period.

As determined from Table 6, the average number of critical gaps for a one-hour period during the AM peak 2-hour street peak period (7 to 9 am) is 146 gaps per hour. Since there are only 10 vehicles estimated to exit the site to the north, and 6 vehicles exiting to the south, it is concluded that there are more than adequate number of gaps in the traffic stream southbound to accommodate the left turn out or right turn out movement. As noted above, the southbound gaps are presumed to be critical for the AM peak scenario.

The average number of critical gaps for a one-hour period during the PM peak 2-hour street peak period (4 to 6 PM) is 237 gaps per hour. There are 71 vehicles estimated to exit the site to the north in an exclusive left turn lane, and 60 vehicles exiting to the south in an exclusive right turn lane, thus it is concluded that there is an adequate number of gaps in the traffic stream southbound to accommodate the left turn out movement crossing the southbound thru traffic or the right turn out movement entering the southbound traffic stream. As noted above, the northbound gaps are presumed to be critical for the PM peak scenario.

X. Site Access Issues

A. Driveway Spacing

The City's standards requires the driveway spacing from intersections off an arterial street to be 150 feet minimum and the spacing to adjacent driveways to be 100 feet minimum (both edge to edge).

Access to the site will be provided via one access driveway to Lake Washington Boulevard, which will be at the present driveway location at the south end of the site. This driveway is currently approximately 43 feet wide and the south edge is about 55 feet north of the south property line. The recommended 3-lane driveway configuration consists of one 14' entrance lane and two 12' exit lanes. To break up the pedestrian crossing distance it is recommended that an approximate 6' median be designed between the entrance and exit lanes thereby providing refuge for pedestrians. The proposed north driveway edge will match the existing driveway edge. The distance from the south driveway edge south to the north edge of the Breakwater Condominiums will be 135 feet, and 140 feet to the north edge of NE 52nd St. These separation distances are only 1 foot less than existing conditions.

The driveway spacing (edge to edge) north will be the same as existing which is approximately 190 feet to the opposite side condominium driveway and 225 feet to the Carillon Point (gated) driveway.

All dimensions are shown in the Technical Appendix in the Driveway Sketches section.

B. Driveway Queuing

According to the HCS level of service outputs, the 95th percentile queue for vehicles exiting the site is critical during the PM peak hour and is estimated to be approximately 8 vehicles or 200 feet. This assumes a single lane exit. With a two lane exit configuration, the 95th percentile queue is estimated to be approximately 4 vehicles (100 feet) for the left turn and 1 vehicle (25 feet) for the right turn. The analysis assumes 1 vehicle storage in the center two way left turn lane.

These queues are depicted in the Technical Appendix in the Driveway Sketches section.

C. Queuing on Lake Washington Boulevard (between Site Access and NE 52nd St)

During the PM peak period, it is estimated there will be 15 vehicles entering the site from Lake Washington Boulevard (northbound left turn) and there will be 18 vehicles making a southbound left turn at NE 52nd St. Based on these volumes, the 95th percentile queue for vehicles entering the site (northbound left turn) is estimated to be 0.08 vehicles and the 95th percentile queue for the southbound left turn at NE 52nd St is estimated to be 0.16

vehicles. Thus, assuming a worst case scenario where there is 1 vehicle waiting to turn left into the site and a coinciding vehicle waiting to turn left onto NE 52nd St, there would be approximately 100 feet of separation between the two movements within the center two-way left turn lane.

During the AM peak period, it is estimated there will be 47 vehicles entering the site from Lake Washington Boulevard (northbound left turn) and there will be 6 vehicles making a southbound left turn at NE 52nd St. Based on these volumes, the 95th percentile queue for vehicles entering the site (northbound left turn) is estimated to be 0.32 vehicles and the 95th percentile queue for the southbound left turn at NE 52nd St is estimated to be 0.02 vehicles. Thus, assuming a worst case scenario where there is 1 vehicle waiting to turn left into the site and a coinciding vehicle waiting to turn left onto NE 52nd St, there would be approximately 100 feet of separation between the two movements within the center two-way left turn lane. The AM scenario is identical to the PM scenario.

All queue results are based on the HCS level of service outputs.

D. Vehicle – Boat Access and On-Site Circulation

An evaluation of vehicle-boat combination enter and exiting the site as well as on site circulation was conducted using AutoCadd/AutoTurn information for a 19 foot long vehicle pulling a 20 foot boat. The front axle to boat trailer axle is 31 feet. Larger boat/trailer details were not available. Based on this information, on-site vehicle-boat circulation should be adequate. Vehicle-boat ingress will be very tight with a 14 foot entrance lane accompanied with a 6 foot median island in the driveway. Vehicles entering from the north will likely need to turn wide into the center two-way left turn lane to entering the driveway. Based on this, if a pedestrian refuge area is designed into the Marina Suites driveway, it is recommended that it be a mountable design to allow for larger vehicles such as car-boat and trucks to drive over when entering the site.

For vehicle-boat egress, there does not appear to be sufficient center two-way left turn distance from the driveway to the pedestrian crosswalk island to accommodate this combination vehicle storing in the center. Some additional distance may be gained if the car-boat combination were to turn left from the right turn lane. However, it is assumed most of the car-boat use would occur during non-peak times where storage in the center turn lane is not necessarily a benefit. In addition, vehicle-boat combinations will most likely require overlapping use of both exit lanes in the driveway as they approach to Lake Washington Boulevard. Larger vehicles exiting to the north will likely overlap onto the right turn lane and vice-versa, larger vehicles exiting to the south will likely overlap onto the left turn lane.

XI. On-Site Parking

There are multiple uses proposed on the site which are presumed to share parking. These uses include the existing marina, the relocated marina services building and its associated uses, and the proposed new office building.

New Office Building

The City's parking rate for new office space is 1 stall per 300 gsf. Thus based on 55 ksf, the required number of parking stalls for the new office building would be 183 stalls.

New Marina Slips

The City's parking rate for new boat slips is 1 stall per 2 boat slips. Thus based on 10 new slips, the required number of parking stalls for the new slips would be 5 stalls.

Existing Marina Operations

Since the marina operations building (including shop, store, rentals, and office) will relocate to the north side of the property and the size of the new building will be relatively equivalent to the existing one, it was concluded that the existing parking demand would be an appropriate estimate for the relocated building. Therefore, a seven day parking lot count was conducted on the site between Saturday 8/27/05 and Friday 9/2/05. Counts were recorded generally every two hours between 10 AM and 7 PM. However, for this analysis, the focus is on the weekday parking activity and thus the weekend counts are not considered. It should be noted that the parking counts were conducted during what is presumed to be one of the busier Summer weeks.

The existing parking count is shown in Table 7. It is important to note that the parking demand for the existing marina slips (104 slips) is included in the parking count.

Table 7
Existing Parking Count ^a

Day	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
Monday, 8/29/05	5	-	9	-	3	-	7	-	-	9
Tuesday, 8/30/05	10	-	-	-	-	-	16	-	-	-
Wednesday, 8/31/05	12	-	17	-	14	-	24	-	29	31
Thursday, 9/1/05	18	-	20	-	24	-	19	-	16	21
Friday, 9/2/05	18	-	22	-	27	-	21	-	26	29
Weekday Avg	13		17		17		17		24	23
Percent of Peak	53%	63% interp ^b	72%	72% interp	72%	73% interp	74%	87% interp	100%	95%

a Assumed uses include the 6,870 gsf Yarrow Bay Marina Building plus the 104 slip marina. These figures do not include boat trailers

b interp = interpolation

As shown in this table, the peak parking demand occurs during the 6 PM hour which on average was determined to be 24 occupied stalls. The one-day peak hour demand occurred at 7 PM and was 31 vehicles. For this analysis, the peak parking demand is assumed to be 30 vehicles and the peak hour period is assumed to be the 6 o'clock hour.

As a side note, the peak demand during the weekend was 48 occupied stalls which occurred on Saturday at 4 PM.

Therefore, the peak weekday demand for the new office building is 183 stalls, the peak demand for the new marina boat slips is 5 stalls, and the peak demand for the relocated existing uses is estimated to remain at 30 stalls. However, in order to estimate parking activity throughout the day and identify the peak hour given the various uses, it was necessary to utilize parking accumulation percentage estimates by hour of day for each use.

The Urban Land Institute's (ULI) Shared Parking, 1984, document identifies hourly accumulation of parking by percentage for each hour of a given weekday for office uses, as well as other uses.

Table 8 below identifies the combined site use parking accumulation for each hour of the day (less the early morning hours which were not available however could be assumed to be identical to or less than the 6:00 AM hour).

**Table 8
Peak Parking Accumulation ^a**

Hour of Day	Proposed Office ^b		Existing Marina ^c		New Boat Slips ^d	Total Demand ^e	Total Supply
	% of Pk	Veh	% of Pk	Veh	Veh	Veh	Veh
6:00 AM	3%	6	35%	11	2	18	215
7:00 AM	20%	37	40%	12	2	51	215
8:00 AM	63%	116	45%	14	2	131	215
9:00 AM	93%	171	50%	15	3	188	215
10:00 AM	100%	183	53%	16	3	202	215
11:00 AM	100%	183	63%	19	3	205	215
12:00 PM	90%	165	72%	22	4	190	215
1:00 PM	90%	165	72%	22	4	190	215
2:00 PM	97%	178	72%	22	4	203	215
3:00 PM	93%	171	73%	22	4	196	215
4:00 PM	77%	141	74%	22	4	167	215
5:00 PM	47%	86	87%	26	4	117	215
6:00 PM	23%	42	100%	30	5	77	215
7:00 PM	7%	13	95%	29	5	46	215
8:00 PM	7%	13	90%	27	5	44	215
9:00 PM	3%	6	85%	26	4	35	215
10:00 PM	3%	6	80%	24	4	34	215
11:00 PM	0%	0	70%	21	4	25	215
12:00 AM	0%	0	50%	15	3	18	215

- a Parking demand by hour of day for each of the existing and proposed site uses.
- b 55 ksf office building; parking rate is 1 stalls per 300 gsf. The distribution of parking demand by hour of weekday is based on Urban Land Institute; Shared Parking, 1984; Exhibit 28 – Representative Hourly Accumulation by Percentage of Peak Hour.
- c Assumes a peak parking demand of 30 vehicles, occurring at 6 PM. The distribution of parking demand by hour of weekday is based on Table 7 above. Hours outside of the 10 AM to 7 PM were estimated and some hours between this period were interpolated.
- d 10 new boat slips; peak demand based on City rate of 1 stall per 2 boat slips. Hourly distribution of parking demand was based on the existing marina counts.
- e Total parking demand by hour of weekday.

As shown in Table 8, the peak parking demand for the typical weekday is estimated to be 205 stalls which occurs at 11 AM. This would include 183 vehicles from the new office building, 19 from the existing relocated marina uses, and 3 from the new marina boat slips. This estimated demand is 95% of the proposed parking supply (205 stall demand versus 215 stall supply). Thus, the parking supply is estimated to be adequate.

Parking demand on the weekend is estimated to be insignificant for the office building thus the supply should be more than adequate for the marina uses.

XII. Transportation Demand Management Plan (TDM)

The transportation demand management (TDM) plan goal is to help achieve mode split goals by reducing the single occupant vehicle (SOV) percentage of office trips from the project thereby reducing the overall SOV travel to and from the site.

The following are examples of TDM strategies:

- Provide a Commuter Information Center (CIC): A CIC would be located in a prominent location, typically in the lobby of the building. A CIC is a transportation information display in a freestanding, wall mounted, or kiosk configuration, which provides rideshare and transit service information including a destination brochure, targeted specifically to the commuter market. Preferred location will be determined by the BTC.
- Designate a Building Transportation Coordinator (BTC): The BTC would be appointed (identified by name and position) by the building or institution owner(s) and/or responsible party(s) prior to issuance of the Certificate of Occupancy. The BTC will be responsible for accomplishing program goals, and will maintain and stock the Commuter Information center. The BTC will be located on the site, available to the building's tenants, and be part of Building Management. The BTC's name, phone number and location will be displayed on the building's directories.
- Periodic Promotional Events: A minimum of one promotional event per year is recommended to promote transit and high occupancy vehicle (HOV) use and flextime programs for employees and/or tenants.
- Ridematch Opportunities: Depending on the success of the TMP, a ridematch program may be implemented. Ridematch is a Metro's computer-assisted service which matches commuting customers with similar origins, destinations, and work schedules for purposes of forming, joining, or adding to carpools, vanpools, and custom buses.
- Preferential Parking for HOV's: Preferential parking could be provided at the building near employee entrances for carpools/vanpools. Preferential parking for HOV's could be provided at a rate of 5% of total office parking stalls. These spaces will be designated specifically for carpools and will have high visibility to encourage program participation. A carpool or vanpool is defined as containing at least one person who works in the Marina Suites Office Building and others who work in the vicinity. The carpool/vanpool should commute at least four days per week to and from work. These spaces will be reserved for exclusive use by carpools/vanpools between the hours of 7:00 and 10:00 AM. Carpool/Vanpool spaces will be clearly identified with signs and located near the elevator lobby.
- Incentives for Carpool/Vanpool: A two-person carpool would receive a 25% discount from the normal monthly parking rate and a three person or larger carpool/vanpool would receive a 50% discount.
- Transit Subsidy: A peak hour transit subsidy of 50% could be offered to all tenants that primarily commute to and from work by bus.

- **Signage:** Signage could be provided in the parking lot giving preferential treatment for carpools and vanpools.
- **Bicycle Racks:** Provide weather protected lockable bicycle racks and/or hangers to be used by employees and/or visitors.
- **Showers/Dressing Rooms:** Project should provide both Men's and Women's showers and dressing rooms which can be utilized for those boating, walking or bicycling to work. The proposed Yarrow Bay Marina Services Building will provide shower facilities for its boat mooring tenant commuters and their commuting guests.

XIII. Summary

Marina Suites Office Building is a proposed 55,000 gsf office development located on the west side Lake Washington Boulevard north of NE 52nd St. The project also includes development of a new building of similar size (7 ksf +/-) to accommodate the existing Yarrow Bay Marina services. Furthermore, 10 additional boat slips are proposed as part of the existing 104 boat moorage marina.

The following are the summaries of this traffic study.

A. Site Access Sight Distance

The sight distance evaluation follows the guidelines set forth in the City of Kirkland Department of Public Works Pre-Approved Plans Policy R-13, Intersection Sight Distance. According to Table 2 of Policy R-13, Driveway Case E3, the minimum sight distance is 390 feet. This is based on: a posted speed limit of 35 mph, greater than 15,000 ADT, and 50 to 200 PM peak hour trips on the driveway. The setback distance for the driveway motorist's eye is 14 feet from edge of traveled way.

The site access intersection sight distance evaluation determined that the available sight distance from the site access looking north is 865 feet and looking south the sight distance is 465 feet. Thus, based on this information it is concluded that there is adequate entering sight distance in both directions.

B. Accidents

Based on the City's historical accident records between 2000 and 2004, none of the three analysis intersections are experiencing conditions that would indicate unsafe operations. The Lake Washington Boulevard/Lake View Dr intersection is averaging 2.6 accidents

per year. The Lake Washington Boulevard/NE 38th Pl intersection is averaging 4.8 accidents per year and the State St/NE 68th St intersection is averaging 0.4 accidents per year. The average accident rate at these three intersections, Lake Washington Boulevard/Lake View Dr, Lake Washington Boulevard/NE 38th Pl, and State St/NE 68th St, was estimated to be 0.25, 0.47, and 0.05 accidents per million vehicles entering respectively. The “target” not-to-exceed intersection accident rate set at the city is 1.0 acc/mev and focus on locations with 10 or more accidents per year.

C. Trip Generation, Trip Distribution & Assignment

The Marina Suites development is estimated to generate a total of 968 daily, 120 AM and 161 PM peak hour trips to and from the site. However, since part of the project consist of relocated existing uses, the net new trips to the surrounding street system is 842 daily, 116 AM and 140 PM peak hour trips, based on 55 ksf of new office space.

Part of this site redevelopment includes adding 10 new boat slips to the marina. Based on the existing driveway counts, it was estimated that the PM peak hour trip rate per boat slip is 0.10 trips/slip, thus it is estimated there would be 1 new PM peak hour trip generated from the boat slips. The daily estimate is assumed to be slightly higher than this. However, due to the relative trip generation insignificance related to the trips generated from the new boat slips, these trips were not included in any of the analyses except for traffic mitigation estimates, which is actually based on berths anyway.

The assignment of project trips from the new 55 ksf office building was based on the City’s traffic concurrency model run. The distribution and assignment assumed 55% of the project trips enter and exit the site from the north on Lake Washington Boulevard and 45% enter/exit from the south.

D. Concurrency, Significant Intersections

Based on the concurrency test, this project passed concurrency. There are three significant intersections defined based on the proportional share impact calculations. These intersections include:

- Lake Washington Boulevard/NE 38th Pl (#101); Proportional Share = 1.16%
- Lake Washington Boulevard/Lakeview Dr (#102); Proportional Share = 2.3%
- State St/NE 68th St (#103); Proportional Share = 1.15%

The project’s proportional share impact at each of these intersections is greater than 1% but less than 5%. Based on these proportional share impact findings, the project would not be required to provide direct mitigation towards these intersections if they were operating at LOS E or F.

E. Driveway Spacing

The City's standards requires the driveway spacing from intersections off an arterial street to be 150 feet minimum and the spacing to adjacent driveways to be 100 feet minimum (both edge to edge). The proposed access to the site will be provided via one access driveway to Lake Washington Boulevard, which will be located at the present driveway location at the south end of the site.

This driveway is currently approximately 43 feet wide. The recommended 3-lane driveway configuration will be approximately 44 feet wide, consisting of one 14' entrance lane and two 12' exit lanes plus a 6' median to break up the pedestrian crossing distance thereby providing refuge for pedestrians.

The distance from the south driveway edge south to the north edge of the Breakwater Condominiums will be 135 feet, and 140 feet to the north edge of NE 52nd St. These separation distances are only 1 foot less than existing conditions.

The proposed north driveway edge will match the existing driveway edge. The driveway spacing (edge to edge) north will be the same as existing which is approximately 190 feet to the opposite side condominium driveway and 225 feet to the Carillon Point (gated) driveway.

F. Site Access Queuing

Exiting Site

According to the HCS level of service outputs, the 95th percentile queue for vehicles exiting the site is critical during the PM peak hour and is estimated to be approximately 8 vehicles or 200 feet. This assumes a single lane exit. With a two lane exit configuration, the 95th percentile queue is estimated to be approximately 4 vehicles (100 feet) for the left turn and 1 vehicle (25 feet) for the right turn. The analysis assumes 1 vehicle storage in the center two way left turn lane. It is recommended that the site access be designed to accommodate two lanes existing the site. The driveway could be designed for a 100 foot long right turn pocket to allow right turn vehicles to avoid the left turn exiting queue.

Entering Site

During the PM peak period, it is estimated there will be 15 vehicles entering the site from Lake Washington Boulevard (northbound left turn) and there will be 18 vehicles making a southbound left turn at NE 52nd St. Based on these volumes, the 95th percentile queue estimate for vehicles entering the site (northbound left turn) is estimated to be less than 1 vehicle and the same would be true for the southbound left turn at NE 52nd St. Thus, assuming a worst case scenario where there is 1 vehicle waiting to turn left into the site and a coinciding vehicle waiting to turn left onto NE 52nd St, there would be

approximately 100 feet of separation between the two movements within the center two-way left turn lane. Therefore, there should not be any queue spillover in either direction onto the thru lane.

The same conclusion is made for the AM peak period

G. Vehicle – Boat Access and On-Site Circulation

On site circulation for larger vehicles such as trucks and vehicle-boat combinations should be adequate based on the most recent parking layout design.

At the project driveway entrance and exit to Lake Washington Boulevard, the proposed design includes a 14' entrance lane, a 6' pedestrian refuge area, and two 12' exit lanes. The entrance lane is relatively narrow for larger vehicles entering the site such as a car-boat combination, therefore, it is recommended that the pedestrian refuge area between the entrance lane and the exit lane be designed such that it would allow larger vehicles to drive over it (ie., mountable curbing) when entering the site. The vast majority of the traffic entering the site however would be able to enter the site under normal conditions.

H. Level of Service

Off-Site Intersections – with Significant Impact

The analysis calculated that the future 2008 with project LOS at the significant impact intersections was:

- Lake Washington Boulevard/NE 38th Pl (#101); LOS F
- Lake Washington Boulevard/Lakeview Dr (#102); LOS D
- State St/NE 68th St (#103); LOS D

At all three of these intersections, the future LOS is the same with or without the project. Since the project's proportional share impact is less than 5% at each of these intersections, which is the threshold percentage for LOS F conditions, the project is not required to provide direct mitigation towards improving the level of service.

The mitigation fees that will be required per City ordinance based on the project's floor area etc. are assumed to provide assistance in the form of traffic mitigation towards the City's roadway/intersection improvement projects for the problem analysis intersections.

Lake Washington Boulevard/Site Access Driveway

The project driveways is recommended as a 3-lane driveways. The eastbound left turn level of service is estimated to be LOS F for the PM peak hour and LOS D for the AM

peak hour. The eastbound right turn is estimated to be borderline LOS D for the PM peak hour and C for the AM peak hour. The northbound left turn into the site is estimated to be LOS B for either peak hour.

Lake Washington Boulevard/NE 52nd St

The eastbound and westbound side street approaches at this intersections are both estimated to operate at LOS E for the PM peak hour and D for the AM peak hour, for the 2008 with project scenario. The increase in delay for each approach is relatively insignificant for each as a result of the project traffic.

I. Mitigation Fee Analysis

Per City Ordinance No. 3685, road impact fees will be required. Fees must be paid prior to issuance of building or tenant improvement permit. According to the City's current Road Impact Fee schedule, the fee for administrative office with a floor area ranging between 50,000 and 99,999 gsf is \$2.73 per gsf (GFA). The total fee for the new office would be \$150,150.

For the new marina slips, the fee is \$144 per berth thus the total fee for this would be \$1,440.

It is understood that the City will allow a traffic mitigation fee credit for the existing uses. The existing building will be demolished and a new building will be installed. The net change in square footage is estimated to be slightly less floor area. The City has indicated that the likely allowable category for road impact fee credits will be *Miscellaneous retail sales*. The land use type has an impact fee of \$0.84 per gsf. Therefore, if the ultimate net floor area change for this use is determined to be 100 square feet, the trip fee credit would be \$84.

Thus the total traffic mitigation fee is estimated to be \$150,506.

J. Frontage Improvements

The project will reconstruct frontage improvements on Lake Washington Boulevard including new curb, gutter, and sidewalk. In addition, the project will provide public access near the water's edge north and south between Breakwater Condominiums and Carillon Point as well as access from Lake Washington Boulevard to the water.

K. Parking

Peak parking demand estimates were evaluated for each of the proposed uses on site. The peak parking demand for the new 55 ksf office building was determined to be 183 stalls based on the City parking code rate of 1 stall per 300 gsf. The peak parking demand for the new marina slips, 10 slips, was determined to be 5 stalls which was also based on the City parking code rate of 1 stall per 2 boat slips.

The remaining existing uses that would include the shop, store, rental uses, office, and existing marina slips was based on actual parking counts conducted over the course of a week. The peak demand was estimated to be 30 stalls.

The peak parking demand for the existing marina uses was determined to occur during the Friday 6:00 PM hour. It is assumed the peak parking demand for the new marina slips would also occur during this hour. In order to estimate the hourly parking demand for the new office building, this study obtained information from the Urban Land Institute's (ULI) Shared Parking, 1984, document which identifies hourly accumulation of parking by percentage for each hour of a given weekday for office uses, as well as other uses. The peak parking demand for the typical weekday for the office use is estimated to occur at 11 AM.

In estimating the parking demand over the course of an average weekday, it was determined that the peak parking demand would be 205 vehicles and occur at 11:00 AM. This would include 183 vehicles from the new office building, 19 from the existing relocated marina uses, and 3 from the new marina boat slips.

Therefore, the parking supply is estimated to be adequate. It is important to note that the parking evaluation for the existing marina uses was conducted during the Summer period hence the peak demand estimates should be conservative.

L. TDM

The project will be required to implement a transportation demand management program with an ultimate goal to reduce single occupant vehicle trips to and from the site. Suggested elements to include in the plan were discussed in Section XII.

TECHNICAL APPENDIX

for

Marina Suites Office Building and Yarrow Bay Yacht Basin

January 20, 2006

CONTENTS:

Existing Counts

- Daily Traffic Count Summaries
- Existing Site Driveway Counts; AM and PM peak periods
- Gap Study Lake Washington Blvd north of NE 52nd St

Site Access Sight Distance Sketch

City of Kirkland Concurrency

- Test Notice 8/2/05
- Concurrency Results Forms
- Proportional Results Share Impact Worksheets at Significant Intersections

PM Peak Hour Analysis

- Turn Movements (existing 2005 and future 2008)
- Level of Service Calculation Results (per HCM)

AM Peak Hour Analysis

- Turning Movements (existing 2005 and future 2008)
- Level of Service Calculation Results (per HCM)

Driveway Sketches

- 2008 PM Peak Q with 2 lane driveway
- 2008 PM Peak Q with 3 lane driveway

Vehicle-Boat Access and On-Site Circulation

Parking Supply and Demand

- Yarrow Bay Marina Count
- Parking Demand Estimate (average weekday)
- Parking Supply and Demand Chart



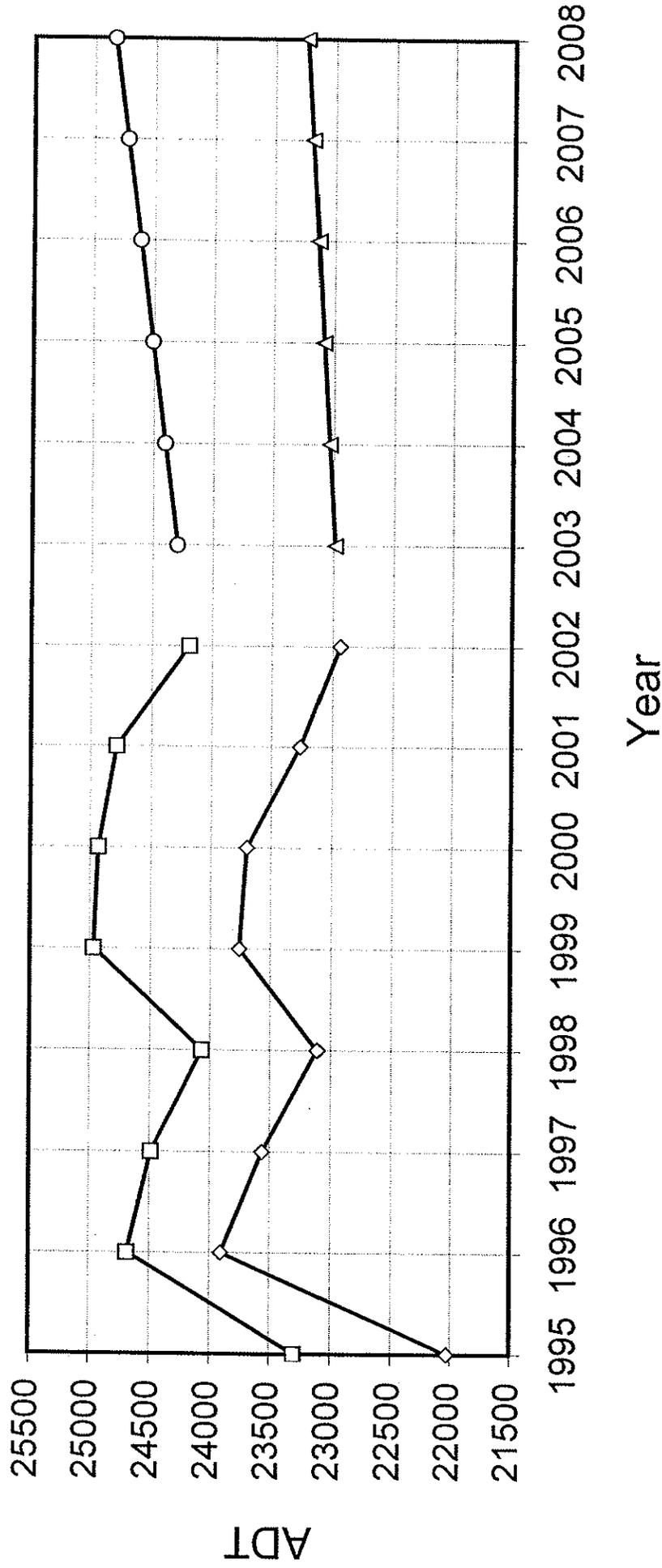
Existing Counts

- ✓ Daily Traffic Count Summaries
- ✓ Existing Site Driveway Counts; AM and PM peak periods
- ✓ Gap Study Lake Washington Blvd north of NE 52nd St

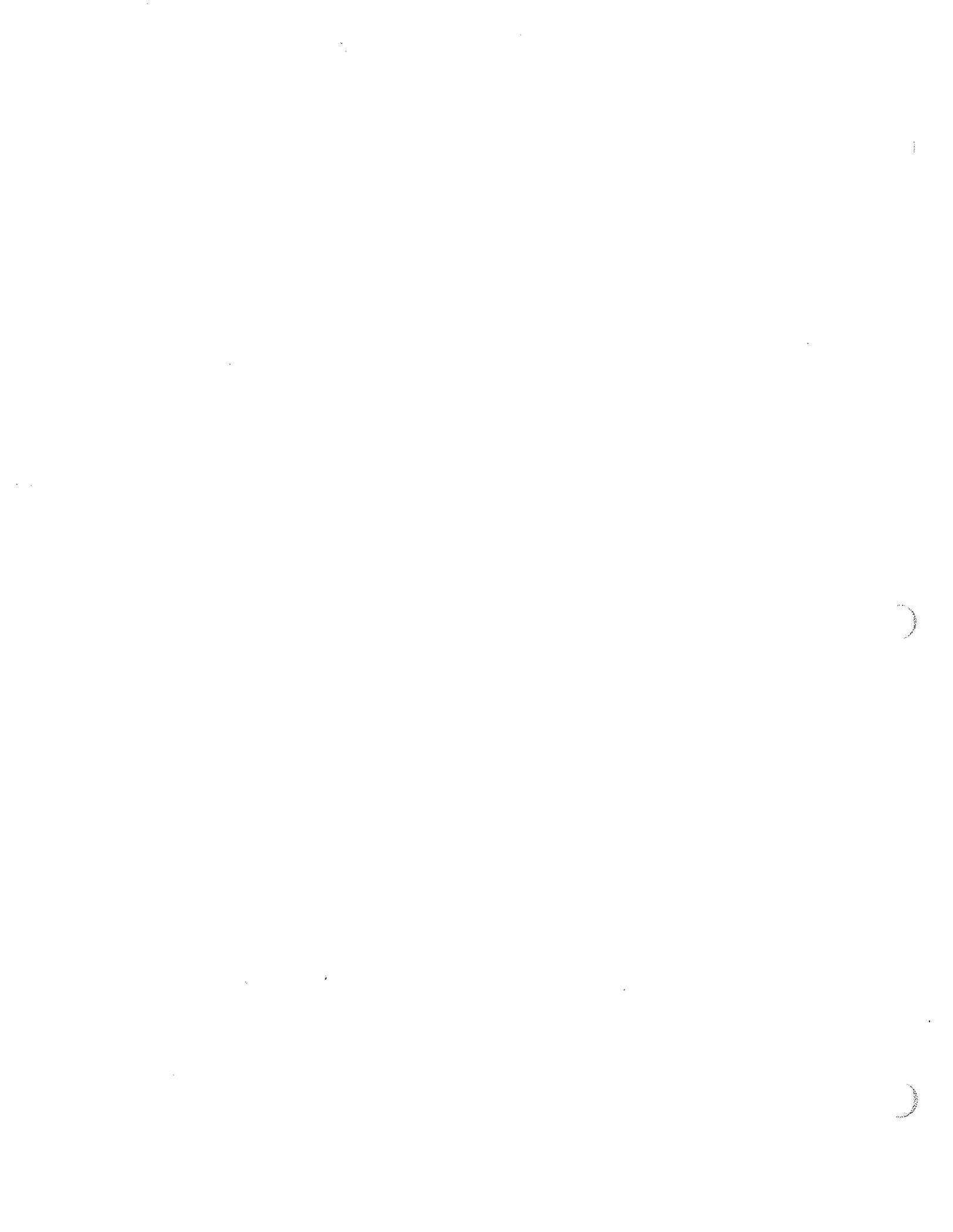


Lake Washington Blvd Marina Suites Vicinity

Average Daily Traffic; Historical and Trend



◆ Lk Wa Blvd s/o Lakeview Dr □ Lk Wa Blvd n/o NE 38th PI
 ▲ Trend (LWB s/o Lakeview) ○ Trend (LWB n/o 38th)



Location: Lk Wash Blvd/NE 52nd St (east leg)/Yarrow Bay Marina Driveway (west leg north of intersection)

condo driveway count on separate sheet

City/Town: Kirkland

Checker: D.S.

Weather: Sunny

Job: Marina Suites

Date: 31-Aug-05 Wed Start Time: 4:00 PM

Pk Hr: 5:00 PM 6:00 PM

Min. Adj Factor; F(adj) = 1.0714

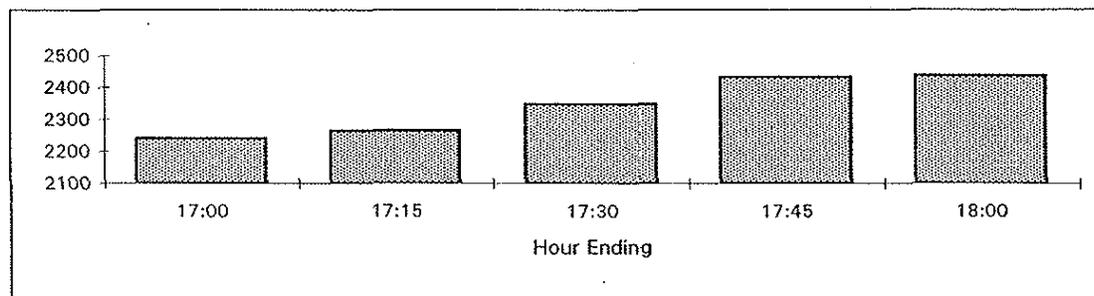
END TIME	FROM: NORTH				Portion Trucks	FROM: EAST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
4:15 PM	0	191	2	193	0	9	0	2	11	0
4:30 PM	1	192	3	196	0	4	0	4	8	0
4:45 PM	0	222	1	223	0	2	0	6	8	0
5:00 PM	2	214	4	220	0	7	0	2	9	0
5:15 PM	1	242	2	245	0	0	0	3	3	0
5:30 PM	0	230	6	236	0	6	0	0	6	0
5:45 PM	1	225	6	232	0	2	0	2	4	0
6:00 PM	1	194	2	197	0	3	0	0	3	0

PK HR	3	891	16	910	0	11	0	5	16	0
Adj HR	3	955	17	975	0	12	0	5	17	0

END TIME	FROM: SOUTH				Portion Trucks	FROM: WEST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
4:15 PM	3	303	0	306	0	3	0	0	3	0
4:30 PM	4	290	0	294	0	1	0	0	1	0
4:45 PM	2	289	1	292	0	0	0	0	0	0
5:00 PM	8	315	2	325	0	2	0	0	2	0
5:15 PM	3	281	2	286	0	2	0	0	2	0
5:30 PM	7	323	2	332	0	1	0	1	2	0
5:45 PM	6	358	0	364	0	1	0	1	2	0
6:00 PM	7	347	0	354	0	3	0	4	7	0

PK HR	23	1309	4	1336	0	7	0	6	13	0
Adj HR	25	1403	4	1432	0	8	0	6	14	0

END TIME	15 Min TOTALS	Time			
		Start -	End	hr vol	pk hr?
16:15	550				
16:30	535				
16:45	560	16:00	17:00	2241	no
17:00	596	16:15	17:15	2265	no
17:15	574	16:30	17:30	2347	no
17:30	617	16:45	17:45	2432	no
17:45	645	17:00	18:00	2437	YES
18:00	601				

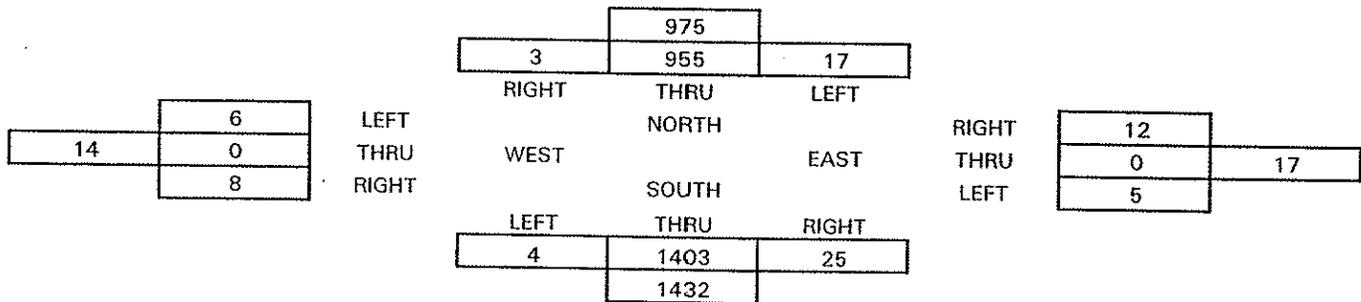


INTERSECTION: Lk Wash Blvd/NE 52nd St (east leg)/Yarrow Bay Marina Driveway (west leg north of intersection)
 condo driveway count on separate sheet
 PEAK HOUR: 5:00 PM 6:00 PM
 DATE: 31-Aug-05
 SOURCE: WPA

PEAK HOUR DIRECTIONAL LEG VOLUMES

	975	1421	
7			17
14			42
	968	1432	

PEAK HOUR APPROACH VOLUME MOVEMENTS



ADJUSTMENT FACTORS DERIVED FROM COUNT

Peak Hour Factors:

From North:	0.93	SB
From South:	0.92	NB
From East:	0.66	WB
From West:	0.47	EB
Total	0.94	

Percent Trucks & Buses:

From North:	0.0%	SB
From South:	0.0%	NB
From East:	0.0%	WB
From West:	0.0%	EB

Location: Lk Wash Blvd/Condo Dvwy (west leg) opposite NE 52nd St
(Pk Hr used for this was from Lk Wa Blvd/NE 52nd St count)

City/Town: Kirkland

Checker: D.S.

Weather: sunny

Job: Marina Suites

Date: 31-Aug-05 Wed

Start Time: 4:00 PM

Pk Hr: 5:00 PM 6:00 PM

fin. Adj Factor; F(adj) =

1.0000 (15 min/# of minutes counted)

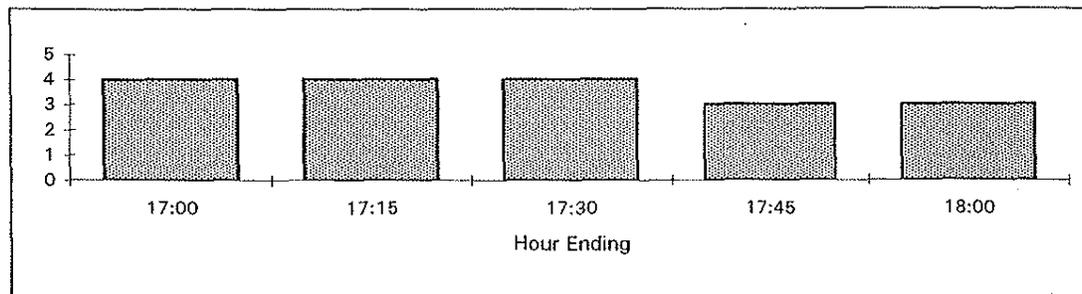
END TIME	FROM: NORTH				Portion Trucks	FROM: EAST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
4:15 PM	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0

PK HR	0	0	0	0	0	0	0	0	0	0
Adj HR	0	0	0	0	0	0	0	0	0	0

END TIME	FROM: SOUTH				Portion Trucks	FROM: WEST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
4:15 PM	0	0	0	0	0	1	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	0	1	0
5:00 PM	0	0	1	1	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	1	0
5:30 PM	0	0	1	1	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	1	0	0	1	0

PK HR	0	0	1	1	0	1	0	1	2	0
Adj HR	0	0	1	1	0	1	0	1	2	0

END TIME	15 Min TOTALS	Time			
		Start	End	hr vol	pk hr?
16:15	1				
16:30	1				
16:45	1				
17:00	1	16:00	17:00	4	no
17:15	1	16:15	17:15	4	no
17:30	1	16:30	17:30	4	no
17:45	0	16:45	17:45	3	no
18:00	1	17:00	18:00	3	no

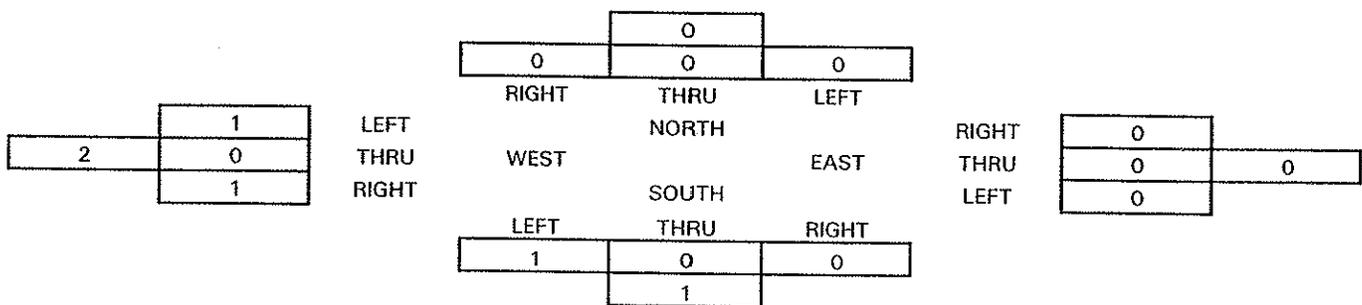


INTERSECTION: Lk Wash Blvd/Condo Dvwy (west leg) opposite NE 52nd St
 (Pk Hr used for this was from Lk Wa Blvd/NE 52nd St count)
 PEAK HOUR: 5:00 PM 6:00 PM
 DATE: 31-Aug-05
 SOURCE: WPA

PEAK HOUR DIRECTIONAL LEG VOLUMES

	0	1	
1			0
2			0
	1	1	

PEAK HOUR APPROACH VOLUME MOVEMENTS



ADJUSTMENT FACTORS DERIVED FROM COUNT

Peak Hour Factors:	From North:	n/a	SB
	From South:	#VALUE!	NB
	From East:	n/a	WB
	From West:	#VALUE!	EB
	Total	#VALUE!	
Percent Trucks & Buses:	From North:	n/a	SB
	From South:	0.0%	NB
	From East:	n/a	WB
	From West:	0.0%	EB

Location: Lk Wash Blvd/NE 52nd St (east leg)/Yarrow Bay Marina Driveway (west leg north of intersection)
 condo driveway count on separate sheet

City/Town: Kirkland

Checker: D.S. for WPA

Weather: overcast

Job: Marina Suites

Date: 8/31/05 Wed

Start Time: 7:00 AM

Pk Hr: 7:45 AM 8:45 AM

Min. Adj Factor; F(adj) =

1.0714 (15 min/# of minutes counted)

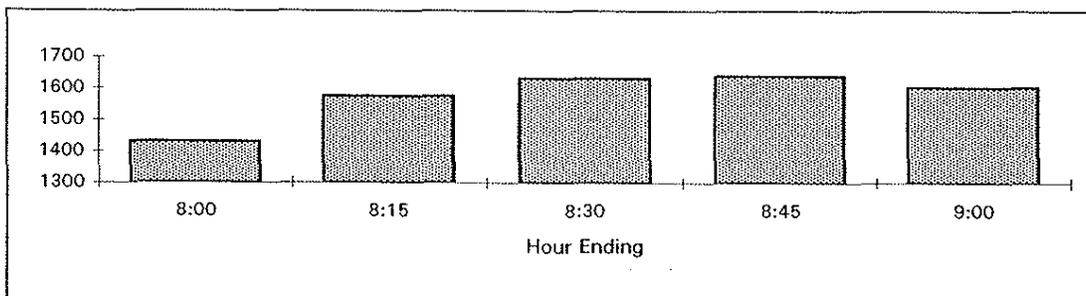
END TIME	FROM: NORTH				Portion Trucks	FROM: EAST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
7:15 AM	0	176	0	176	0	1	0	4	5	0
7:30 AM	0	228	0	228	0	1	0	2	3	0
7:45 AM	0	243	1	244	0	2	0	6	8	0
8:00 AM	0	266	1	267	0	2	0	9	11	0
8:15 AM	0	257	3	260	0	2	0	5	7	0
8:30 AM	1	233	2	236	0	3	0	2	5	0
8:45 AM	0	231	0	231	0	4	0	6	10	0
9:00 AM	0	224	3	227	0	3	0	4	7	0

PK HR	1	987	6	994	0	11	0	22	33	0
Adj HR	1	1058	6	1065	0	12	0	24	36	0

END TIME	FROM: SOUTH				Portion Trucks	FROM: WEST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
7:15 AM	3	83	1	87	0	0	0	0	0	0
7:30 AM	4	83	0	87	0	0	0	0	0	0
7:45 AM	2	97	0	99	0	1	0	0	1	0
8:00 AM	2	118	0	120	0	0	0	0	0	0
8:15 AM	3	131	0	134	0	0	0	0	0	0
8:30 AM	2	127	0	129	0	0	0	1	1	0
8:45 AM	3	113	1	117	0	0	0	1	1	0
9:00 AM	3	127	0	130	0	0	0	0	0	0

PK HR	10	489	1	500	0	0	0	2	2	0
Adj HR	11	524	1	536	0	0	0	2	2	0

END TIME	15 Min TOTALS	Time			
		Start	End	hr vol	pk hr?
7:15	287				
7:30	341				
7:45	377	7:00	8:00	1431	no
8:00	426	7:15	8:15	1574	no
8:15	430	7:30	8:30	1631	no
8:30	398	7:45	8:45	1639	YES
8:45	385	8:00	9:00	1603	no
9:00	390				

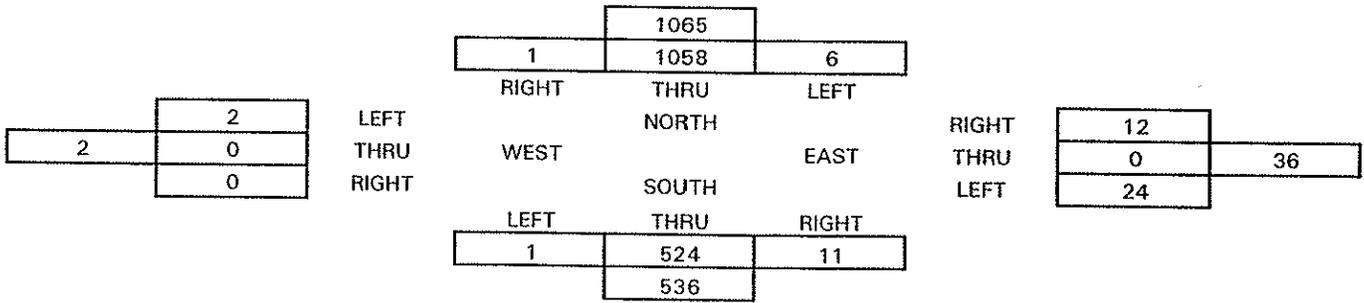


INTERSECTION: Lk Wash Blvd/NE 52nd St (east leg)/Yarrow Bay Marina Driveway (west leg north of intersection)
 condo driveway count on separate sheet
 PEAK HOUR: 7:45 AM 8:45 AM
 DATE: 31-Aug-05
 SOURCE: WPA

PEAK HOUR DIRECTIONAL LEG VOLUMES

	1065	538	
2			36
2			17
	1082	536	

PEAK HOUR APPROACH VOLUME MOVEMENTS



ADJUSTMENT FACTORS DERIVED FROM COUNT

Peak Hour Factors:

From North:	0.93	SB
From South:	0.93	NB
From East:	0.76	WB
From West:	0.47	EB
Total	0.95	

Percent Trucks & Buses:

From North:	0.0%	SB
From South:	0.0%	NB
From East:	0.0%	WB
From West:	0.0%	EB

Location: Lk Wash Blvd/Condo Dvwy (west leg) opposite NE 52nd St
 (PK Hr used for this was from Lk Wa Blvd/NE 52nd St count)

City/Town: Kirkland

Checker: D.S.

Weather: overcast

Job: Marina Suites

Date: 31-Aug-05 Wed

Start Time: 7:00 AM

Pk Hr: 7:45 AM 8:45 AM

Min. Adj Factor; F(adj) =

1.0000 (15 min/# of minutes counted)

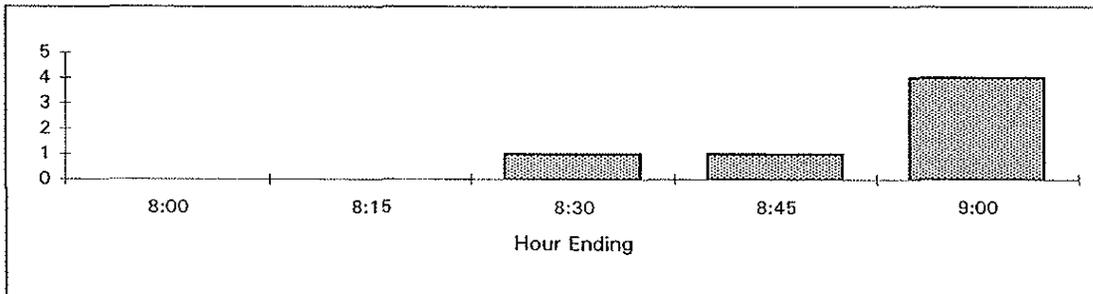
END TIME	FROM: NORTH				Portion Trucks	FROM: EAST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
7:15 AM	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0

PK HR	0	0	0	0	0	0	0	0	0	0
Adj HR	0	0	0	0	0	0	0	0	0	0

END TIME	FROM: SOUTH				Portion Trucks	FROM: WEST				Portion Trucks
	RIGHT	THRU	LEFT	TOTAL		RIGHT	THRU	LEFT	TOTAL	
7:15 AM	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	1	0
8:45 AM	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	2	0	1	3	0

PK HR	0	0	0	0	0	0	1	1	0
Adj HR	0	0	0	0	0	0	1	1	0

END TIME	15 Min TOTALS	Time			
		Start	End	hr vol	pk hr?
7:15	0				
7:30	0				
7:45	0				
8:00	0	7:00	8:00	0	no
8:15	0	7:15	8:15	0	no
8:30	1	7:30	8:30	1	no
8:45	0	7:45	8:45	1	no
9:00	3	8:00	9:00	4	YES



INTERSECTION:

Lk Wash Blvd/Condo Dvwy (west leg) opposite NE 52nd St
 (Pk Hr used for this was from Lk Wa Blvd/NE 52nd St count)

PEAK HOUR:

7:45 AM 8:45 AM

DATE:

31-Aug-05

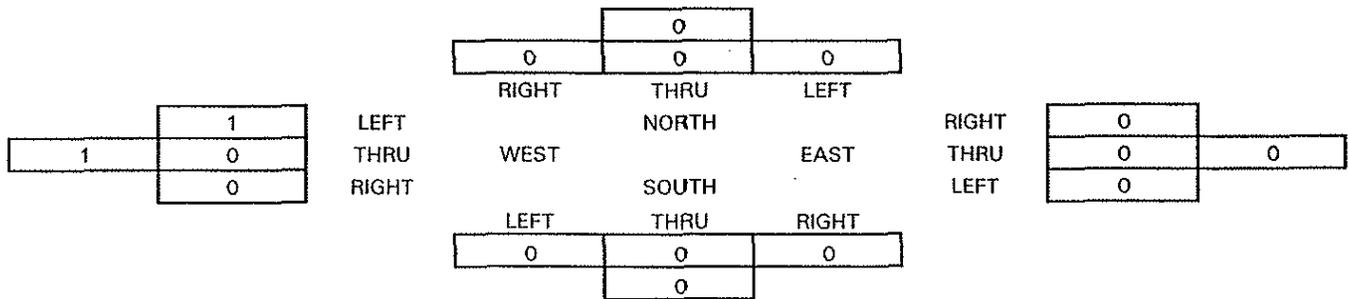
SOURCE:

WPA

PEAK HOUR DIRECTIONAL LEG VOLUMES

	0 1	
0		0
1		0
	0 0	

PEAK HOUR APPROACH VOLUME MOVEMENTS



ADJUSTMENT FACTORS DERIVED FROM COUNT

Peak Hour Factors:	From North:	n/a	SB
	From South:	n/a	NB
	From East:	n/a	WB
	From West:	0.08	EB
	Total	0.08	

Percent Trucks & Buses:	From North:	n/a	SB
	From South:	n/a	NB
	From East:	n/a	WB
	From West:	0.0%	EB

GAP STUDY - LAKE WASHINGTON BOULEVARD NE (north of NE 52nd St) - NORTHBOUND

Data File: 0515601NB_JDF

Site Code: '05-156-01'

Start Date: 9/7/05

Start Time: 0:00

Sensor Layout: '51'

Sensor Spacing: '100'

'Location:': 'Lk Wa. Blvd n/o NE 52nd St'

'City:': 'Kirkland'

'Counter:': '500'

From HCS: Left turn in critical gap is estimated to be 5.5 sec; follow up time estimated to be 2.1 sec. However, for simplicity, we have used 6.0 sec for all vehs.

gap range # of veh's (or # of critical gaps)

- 0 to 5 0
- 6 to 11 1
- 12 to 17 2
- 18 to 23 3
- 24 to 29 4
- 30 to 35 5
- >35 7 or more

Date	Start Time	Total	Total Useable										Total							
			6 to 11	12 to 17	18 to 23	24 to 29	30 to 35	Gaps	# of critical gaps within defined ranges					Total						
			6 to 11	12 to 17	18 to 23	24 to 29	30 to 35	Gaps	6 to 11	12 to 17	18 to 23	24 to 29	30 to 35	6 to 11	12 to 17	18 to 23	24 to 29	30 to 35	Total	
9/8/05	12:00 AM	56	3	2	1	2	2	38	3	2	3	2	5	3	4	9	8	25	266	315
9/8/05	1:00 AM	25	1	1	0	0	0	18	2	3	0	1	0	18	2	6	4	0	126	138
9/8/05	2:00 AM	17	0	0	0	0	0	15	0	1	0	1	0	15	0	2	0	4	0	111
9/8/05	3:00 AM	17	0	1	0	0	0	12	1	0	1	1	2	12	1	1	0	4	10	84
9/8/05	4:00 AM	21	0	1	0	0	0	17	2	0	0	0	0	19	2	0	0	0	133	135
9/8/05	5:00 AM	89	13	7	4	5	7	22	11	12	10	11	7	25	11	24	30	44	35	175
9/8/05	6:00 AM	175	42	22	18	14	8	29	38	22	16	13	9	35	38	44	48	52	45	472
9/8/05	7:00 AM	229	78	38	20	18	14	48	58	32	21	12	6	22	58	64	63	48	30	154
9/8/05	8:00 AM	245	123	34	16	16	11	17	50	27	11	9	7	18	50	54	33	35	35	126
9/8/05	9:00 AM	263	129	32	27	18	16	15	59	34	12	6	6	17	59	68	36	24	30	119
9/8/05	10:00 AM	317	161	56	26	16	11	14	82	27	21	8	6	12	82	54	63	32	30	84
9/8/05	11:00 AM	308	163	46	24	13	15	4	70	28	13	21	4	9	70	56	39	84	20	63
9/8/05	12:00 PM	348	216	51	25	12	9	7	76	21	14	9	7	5	76	42	42	36	35	266
9/8/05	1:00 PM	333	203	47	21	21	8	3	68	29	10	11	6	6	68	58	30	44	30	42
9/8/05	2:00 PM	322	183	51	23	15	13	8	74	28	17	9	6	5	74	56	51	36	30	35
9/8/05	3:00 PM	330	228	45	21	5	10	2	66	15	9	5	3	4	66	30	27	20	15	28
9/8/05	4:00 PM	331	250	32	16	9	7	6	48	16	12	1	1	3	48	32	36	4	5	21
9/8/05	5:00 PM	328	284	31	11	5	5	2	42	10	7	4	1	0	42	20	21	16	5	0
9/8/05	6:00 PM	294	213	33	10	9	5	4	43	14	13	7	2	2	43	28	39	28	10	14
9/8/05	7:00 PM	319	174	45	28	21	11	8	73	32	14	10	7	9	73	64	42	40	35	63
9/8/05	8:00 PM	289	140	44	23	11	9	16	67	20	22	15	8	17	67	40	66	60	40	119
9/8/05	9:00 PM	272	103	44	28	21	19	13	72	40	20	14	7	16	72	80	60	56	35	112
9/8/05	10:00 PM	196	44	36	9	15	13	14	45	28	24	19	12	24	45	56	72	76	60	168
9/8/05	11:00 PM	121	21	15	8	6	7	8	23	13	15	6	4	39	23	26	45	24	20	273
Daily Totals:		5245	2752	714	359	284	200	146	1073	454	285	195	116	370	1073	908	855	780	580	2590
Percent of Total:					14%	6.8%	4.8%	3.8%	2.7%	2.2%	1.5%	1.3%	0.9%	1.0%	5.0%	6.0%	6.0%	6.0%	6.0%	6.0%