SEPA File

Civil Engineering Comment Responses

to

Preliminary Draft Supplemental Environmental Impact Statement Dated March 1997

for

Lakepointe Development

Submitted by:

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Job No. 95379

May 30, 1997

EXHIBIT G-32

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KPFF responses are on Attachment A

site. This moderate earthquake has a higher probability, a 40 percent probability of exceedance in 50 years, or an estimated occurrence rate (return period) of one event per 100 years.

The effects of seismic shaking on structures are minimized by structural design and construction specifications of current building codes.

Liquefaction Potential

Liquefaction potential is greatest where groundwater levels are shallow and where loose, fine sands occur at depths of 50 feet or less. Liquefaction potential decreases with increasing grain size, clay, and gravel contents, but increases with increasing ground acceleration and duration of shaking. On-site groundwater is at depths of 5 to 8 feet. Because layers of loose, sandy soils are present within the upper 50 feet of the site, liquefaction is an important design consideration for development.

The majority of on-site soils, including wood debris fill, peat and organic silt, and dense sand and gravel are not susceptible to liquefaction. Peat and organic silts deposits are distributed in a horizontal layer of relatively uniform thickness, with no significant unbalanced loading across the site. Therefore, if the underlying loose alluvium liquefies, the risk of seismically-induced lateral spreading within these upper organic layers, is low. Beneath the peats and organic silt, some of the explorations encountered loose alluvial sands with interbeds of silt and gravel. Structures above loose alluvial sands could be susceptible to liquefaction-induced settlement.

IMPACTS OF THE PROPOSED ACTION

Topography and Geology

Topographic Constraints

There are no topographic constraints that would affect the proposed development. The upland portion of the site, where building and road development would occur, is relatively flat with elevations ranging from 23 to 32 feet. Alteration of the site topography under the Proposed Action would be limited to demolition of existing buildings, excavation for building and garage areas ***(need detail here; why need for cut, relationship to MTCA)***, and fill for a portion of the embankments for the Lakepointe Way intersections with NE Bothell Way and 68th Avenue NE. Utilizing piles to elevate the majority of proposed structures above the existing site elevations would minimize the amount of cut volumes. Total excavation volumes would range from approximately 160,000 to 180,000 cubic yards, and total fill volumes would range from approximately 65,000 to 75,000 cubic yards. ***(need to discuss transport of material off-site?)***

see KPFF attachment A #3

Steeper slopes in the shoreline area, generally less than 10 feet in height, would be protected, stabilized or enhanced. No building or roadway development is planned within or near the slopes along the Lake Washington and Sammamish River shoreline area. Proposed development within or in the vicinity of these slopes would be limited to public viewpoints and stormwater outfall locations. Grading in these areas would be limited and slopes would be planted with native vegetation to minimize any erosion impacts. The site topography poses no significant constraint to implementing any of the shoreline enhancement or protection options.

gradual reduction in annual soil erosion as each construction phase is completed. The lack of existing stormwater control and ground protection inhibits more accurate estimates.

Table 7
Estimated USLE Sediment Generation During and After Construction, by Phase

Prior to Phase	Total Site Sediment Generation (tons/year)
1	34.4
2	12.6
3	12.0
4	7.6
5	5.4
6	3.6
7	1.2

Source: AGRA Earth & Environmental, 1996

Landslide and Seismic Hazard

There are no landslide hazard areas or significant steep slopes within the project site. Seismic risks due to loose/soft soils could result in liquefaction and strong ground motion during a major earthquake. This would require deep foundation support (use of piles) for all structures. Utilities and on-grade paving would require subgrade improvement and allowance for some long-term settlement. Proposed improvements in the strength and compressibility characteristics of site soils (the numerous piles would compress loose soils and improve soil strength and stability), installation of bulkheads in the marina, and stabilization of shoreline areas through plantings would reduce the likelihood of shallow-seated slope movement near shoreline areas.

see KPFF ~~Appendix~~ Attachment A #4

ALTERNATIVES

Alternative 1: Conceptual Master Plan in the Northshore Community Plan

The area proposed for development under Alternative 1 would be similar to the Proposed Action; slopes near shorelines would generally remain in open space. Alternative 1 would require the use of pile foundations and other geotechnical-related site preparation techniques similar to the Proposed Action. Alternative 1 would result in 35,000 to 60,000 cubic yards (or 22 to 33 percent) more excavation but 42,000 to 46,000 cubic yards (or 35 to 61 percent) less fill than the Proposed Action. **(Describe why more excavation — implications??)** The distribution of grading activities across the site under Alternative 1 would be similar to the Proposed Action, except excavation for elevated roadway supports would not occur since the road would be built at grade. **(Other differences worth noting??)** ← see KPFF A attachment #5

The potential erosion hazard impacts under Alternative 1 would be similar to the Proposed Action. There would be differences in the distribution of grading activities across the site, but the differences would not lead to significant differences in the pattern of potential erosion/sedimentation. The total site sediment generation would be similar to that shown in Table 7 for the Proposed Action, with possible variation depending on the phasing of development under Alternative 1. With implementation of a TESCP, erosion and sedimentation would be controlled and reduced in a manner similar to the Proposed Action.

WATER

This section summarizes the analyses and findings of several technical reports prepared by members of the Lakepointe water resources evaluation team. The team consists of Beak Consultants, KPFF Consulting Engineers and AGRA Earth and Environmental. The full technical reports are included in Appendices _, _ and _.

AFFECTED ENVIRONMENT

Surface Water Quantity

Rivers and Lakes

Sammamish River

The Sammamish River is approximately 15.3 miles long. The river, which has been channelized by the Army Corps of Engineers for its entire length, generally flows north and west from Lake Sammamish to Lake Washington. The site borders the north side of the Sammamish River at its confluence with Lake Washington.

Lake Washington

Lake Washington, which borders the west side of the site, is the largest lake in King County, with a drainage area of 472 square miles and an area of 21,500 acres. The lake has a volume of 2.35 million acre-feet, a mean depth of 108 feet, and a maximum depth of 214 feet. The main inflows to the lake are the Cedar River in the south end (57 %) and the Sammamish River in the north end (27 %). The Lake Washington watershed is considered urban, with approximately 63 percent of its area developed (Metro 1989).

Site Drainage Characteristics

The site is located within the Lake Washington Drainage Basin (North Section). All runoff generated on the site eventually flows to Lake Washington, although some surface water does reach the Sammamish River at it's confluence (river mouth) with Lake Washington. Surface water drainage from an approximately 24-acre area north of NE Bothell Way is either conveyed under the site, via an underground pipe, to Lake Washington or is infiltrated to groundwater. Refer to Appendix _, Technical Information Report, for maps indicating the various drainage basins in the site vicinity. Groundwater from this area migrates to the groundwater table under the site.

The site currently contains approximately 14 acres in impervious surfaces, including 10 acres of parking area, 3 acres of building area and 1 acre of roadway. Existing stormwater flows are calculated to be 16 cubic feet per second (cfs) for the 25-year storm and 22 cfs for the 100-year storm. Surface water from on-site impervious areas currently sheet flows to catch basins where it is collected and conveyed by pipe to Lake Washington and the mouth of the Sammamish River. ***(need more description on existing drainage system - locations of pipes and outfalls)*** Precipitation that falls on pervious surfaces on the

See KPFF Attachment A #2

the organic wood leachate of the fill and peat soils. Lead concentrations in the groundwater are attributed to lead paint coatings on wood debris. The source of arsenic concentrations in the groundwater is not known, but may be due to the presence of treated piling in the wood debris: copper arsenate is used as a wood preservative. ***(do these levels exceed standards - if so, by how much)***

IMPACTS OF THE PROPOSED ACTION

Surface Water Quantity

Development of the Proposed Action would increase the area of impervious surfaces (i.e., decrease the area available for stormwater infiltration). At full buildout of the first six phases of the Master Plan, approximately 27 acres (approximately 60 percent of the 45 acres included in the first six phases of the Master Plan) would be covered in impervious surfaces, compared to less than 32 percent in the existing condition. The proposed 27 acres of impervious surfaces would include approximately 14 acres of roads, walkways and parking areas, and 13 acres of building area.

All runoff generated by the proposed impervious surfaces would be directed to a storm drainage system which would collect, treated through a variety of stormwater treatment facilities, and discharge to one location in the inner harbor, one location at Lake Washington, and three locations along the Sammamish River.

see KPFF attachment A #2. This responds to Jeffs 4/12/97, #7 comment

The locations for stormwater discharge along the Sammamish River and Lake Washington would be similar to that under the existing condition ***(need to identify all existing outfall locations)***. However, the discharge of stormwater into the inner harbor would be different from existing conditions (currently no discharge to the inner harbor); a primary purpose of discharging to the inner harbor would be to provide flushing of the current stagnant water in the harbor.

Because the site is located adjacent to Lake Washington and the Sammamish River and stormwater runoff would not impact downstream properties, no detention facilities are required and none are proposed.

Upon full development of the first six phases of the Master Plan, it is estimated that flows of approximately 26 cubic feet per second (cfs) for the 25-year storm and 35 cfs for the 100-year storm would be generated, compared to 16 cfs and 22 cfs under existing conditions, respectively (verify). Because no detention facilities would be provided, the duration of stormwater flow would not be significantly greater than under existing conditions (**do we need to calculate flows at each outfall location, any erosion potential at outfall, and describe measures to mitigate erosion impacts at outfall locations?**)

Done. See the TIR.

See KPFF Attachment B, #3.

Storm runoff from the Proposed Action would be treated to remove pollutants in one of three ways. From the high-use-traffic areas (Lakepointe Way, Lakepointe Boulevard and surface parking areas), stormwater runoff would be routed through a oil/water separator then to a two-celled water quality wetpond. Discharge from the wetpond would be conveyed by pipe to the north end of the inner harbor (marina channel) to promote flushing of the marina area. Stormwater from the lesser-used roadways (including NE 173rd Place and NE 174th Street) would be directed to one of two sand filtration/biofiltration swales for treatment. Treated discharge from these swales may be directed to the

See KPFF Attachment A #1

back end of artificial wetland confluences before entry into the lower Sammamish River; otherwise treated discharge would be conveyed directly to the river in a pipe with an energy dissipator. Rooftop runoff would be directed in part to the Sammamish River and in part directly to Lake Washington. Excluding rooftop runoff from stormwater treatment facilities would enhance treatment capacity for runoff from streets and parking areas.

See KPFF attachment A #1. This responds to Jeff's comment #7. 4/12/97

Surface Water Quality

Construction

Erosion and Sedimentation

Soil erosion estimates were calculated using the Universal Soil Loss Equation (USLE) described in the King County Surface Water Design Manual (refer to the *Earth* section of this document for additional detail). Construction activities on the site would not generally increase the amount of erosion and sedimentation from existing conditions, assuming proper implementation of proposed erosion control measures (refer to the *Earth* section of this document for further information on current erosion/sedimentation conditions). With the proposed temporary erosion control measures (including temporary sedimentation ponds), erosion and sedimentation within the area undergoing construction would be contained on the site with no sediment discharge to adjacent waters anticipated; thus, during construction, the only site areas contributing sediment yields would be those portions of the site not undergoing construction. The absence of steep slopes and lack of definitive drainage channels also reduce sediment transport risk.

Because completion of each development phase under the Master Plan would eliminate the existing conditions that contributes to the potential for erosion in that respective area (graded areas with no vegetation under existing condition would be changed to buildings, roadways and landscaping), the on-site erosion potential would be consecutively reduced as each development phase is completed. Upon construction of the Master Plan, calculated on-site erosion would be zero tons per year compared to 34.6 tons per year in the existing condition. Refer to Table 10 for the estimated sediment yields in the existing and post-development condition.

With the proposed temporary erosion control measures during construction and the elimination of existing erosion conditions in the areas of completed development, sedimentation yields to adjacent waters would be reduced from existing conditions and no significant impacts would be anticipated.

Phosphorus and Nitrogen

Phosphorus and nitrogen are natural components of soils, and are known to increase in stormwater runoff as a function of sediment erosion. In cleared areas, nitrate-nitrogen losses have been low when measured (Lynch and Corbett 1990). With the low slope, low potential for sediment delivery relative to the existing condition (no sediment transport anticipated in the areas undergoing construction), and proposed temporary erosion control features, the proposal would have a low risk of phosphorus or nitrogen release.

UTILITIES

Note: The Project Team (possibly kpff) will need to provide additional information in order to complete this section. The requested information is summarized on the two pages following this section.

AFFECTED ENVIRONMENT

Water Supply

The Northshore Utility District supplies water to existing users on the site and in the vicinity. There are 12-inch diameter water mains in both 68th Avenue NE and NE 175th Street, with existing pressure of approximately 125 pounds per square inch (psi). Existing fire flow available in the site vicinity is approximately 5,000 gallons per minute (gpm). An existing 8-inch cast iron/ductile iron water main constructed in 1974 and 1980 provides domestic water and fire flow to existing uses on the site.

The Northshore Utility District provides domestic water from three reservoirs located _____. The District has included the estimated water demands of the Proposed Action in its projected future demands. **(Existing use and capacity?? Avg. year/month and peak year/month demand...)**

see kpff attachment A, #9A

Sewer/Solid Waste

Sewer

The Northshore Utility District supplies water to existing users on the site and in the vicinity. There is a 42-inch diameter reinforced concrete pipe gravity sewer main in NE 175 Street. Existing sanitary sewer services on the site connect to the 42-inch sewer by 8-inch PVC gravity mains.

A METRO pump station is located adjacent to the northern portion of the site. Other sewer mains associated with this pump station include a 78-inch diameter METRO pipe, and two 132-inch diameter pipes are located under the Burke-Gilman Trail. Existing buildings east of the pump station connect by gravity main to the 78-inch METRO pipe.

Solid Waste

Unincorporated areas of King County are served by private garbage collection companies, which receive franchises through the Washington State Utilities and Transportation Commission (WUTC). Eastside Disposal currently serves the Kenmore area. Refuse is taken to the Houghton Transfer Station in Kirkland, and then to the Cedar Hills Regional Landfill. Eastside Disposal provides full residential recycling service for glass, aluminum, tin, cardboard, mixed paper, newspaper, and plastic bottles.

The King County Comprehensive Solid Waste Management Plan (CSWMP) guides the County's solid waste planning. A waste characterization study in the 1992 CSWMP estimated waste disposal rates of 0.26 tons/multi-family resident/year, and 0.73 tons/commercial employee/year. These are equivalent to rates of 1.42 pounds/multi-family resident/day, and 4.0 pounds/commercial employee/day (CSWMP, Appendix B, 1992).

Some of the existing commercial/industrial uses on the site generate solid waste, likely including cardboard, wood, plastic and paper. Also, construction debris, including waste roofing materials, was stockpiled on the site until it was removed in 1996.

See KPFF attachment A #6

Energy

Electrical service in the site vicinity is provided by the Puget Sound Power and Light Company (Puget Power). Existing on-site uses are served by underground transmission lines **(Sizing??)** along NE 175th Street. **(Capacity of existing system??/Imps??)**

The Washington Natural Gas Company (WNG) provides natural gas service to the site vicinity. The system consists of a network of mains and distribution lines located throughout the area. The nearest gas mains are a 4-inch high pressure line along NE 175th Street and a 6-inch high pressure line along 68th Avenue NE. **(Capacity of existing system??)**

See KPFF attachment A #7

IMPACTS OF THE PROPOSED ACTION

Water Supply

The Proposed Action would obtain water through extensions from the existing water lines in 68th Avenue NE and NE 175th Street. The on-site water lines would be installed in a looping configuration around the site perimeter and under (the new street), with extensions to the proposed structures.

See KPFF Attachment A, 9B.

The Proposed Action would generate daily domestic water demands of approximately ____ gpd and fire flow demands of _____ gpm for ___-hour duration. The Northshore Utility District would be able to supply the needed volumes of water to serve the Proposed Action.

Sewer/Solid Waste

Sewer

The Proposed Action would obtain sanitary sewer service by extension from the existing sewer line in NE 175th Street through the center of the proposed structures.

The Proposed Action would generate daily sewer volumes of approximately _____ gpd. The Northshore Utility District would be able to accommodate the expected additional wastewater volume.

Solid Waste

Using the factors cited in the CSWMP, the Proposed Action would generate an estimated ___ tons of solid waste per day from residential and commercial sources. Residential uses would generate an estimated 585 tons for disposal per year, and commercial uses would generate an estimated ___ tons per year. Eastside Disposal would provide solid waste collection and residential recycling services to the site. As required by King County, construction, demolition and land clearing (CDL) debris would be transported to approved disposal locations.

Energy

ALTERNATIVES

Alternative 1: Conceptual Master Plan in the Northshore Community Plan

Water Supply

Sewer/Solid Waste

Natural Gas and Electricity

see KPFF attachment A #8

Alternative 2: No Action Alternative

Under the No Action Alternative, existing uses of the site would continue, and there would be no impact on the provision of utilities.

MITIGATION MEASURES

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Water

With implementation of the proposed mitigation measures, no significant unavoidable water system impacts are expected.

Sewer/Solid Waste

With implementation of the proposed mitigation measures, no significant unavoidable sewer or solid waste impacts are expected.

Energy

With implementation of the proposed mitigation measures, no significant unavoidable electricity or natural gas impacts are expected.

KPFF responses are on attachment B, and are numbered per (1)

UTILITIES INFORMATION NEEDS

Water System

- (1) ✓ Please describe in more detail which areas will be treated by wetpond and which areas will be treated by biofiltration.
- (2) ✓ When discussing downstream erosion, a discussion on the potential for erosion at each discharge location should be provided.
- (3) ✓ Describe how post development storm flows would be higher than existing conditions but would be controlled to limit erosion.
- (4) Beale Under "Sediment Deposition", quantify the effectiveness of sediment removal under the proposed system. Would there be sediment impact under the 100-year storm?
- (5) ✓ Under "Fire Flow Requirements", a description of available water system capacity for fire flow, without the proposal, is required per the EIS Scope.
- (6) ✓ Regarding the Northshore Utility District, state which reservoir serves the site.
- (7) ✓ Regarding "Projected Water Demand", what is the estimated 3.5 person per unit assumption based upon; this number seems high for multifamily use.
- (8) ✓ Regarding "Commercial and retail demand", clarify the assumptions for uses; are you assuming some restaurant uses (which use more water than shops)?
- (9) ✓ Regarding "Total Site Water Demand", for each phase describe the following: average yearly demand; peak 4 month demand; and, peak week demand (per EIS Scope).
- (10) ✓ Regarding "Ability to serve Water Demand", describe total capacity of district, existing demand on district capacity on an overall basis and available district capacity to serve the project.
- (11) Also, describe any district deficiencies in storage, distribution, fireflow etc.
- (12) ✓ Regarding "Water District Impacts", indicate that no boundary expansion is required.

Sewer System

- (13) Regarding "Projected Wastewater Flows", what is the 3.5 persons per unit assumption based on; seems high.

- (14) Describe what the estimated effluent from the commercial retail based on.
- (15) Regarding "Capacity of Metro to Treat Sewage", describe the remaining capacity of the plant and the ability to serve project flows.
- (16) Regarding " Construction Waste", are there any proposed programs for composting and recycling?

Gas/Electricity

- (17) Is the anticipated demand for natural gas based on primarily using gas or electricity for heating? Please explain in detail.
- (18) The anticipated gas demand for commercial/retail is stated to be for 500,000 square feet of area. The actual amount of commercial/retail space is closer to 650,000 square feet. Verify with Callison.
- (19) Is the anticipated demand for electricity based on primarily using gas or electricity for heating? Please explain in detail.
- (20) The anticipated electricity demand for commercial/retail is stated to be for 500,000 square feet of area. The actual amount of commercial/retail space is closer to 650,000 square feet. Verify with Callison.

Huckell/Weinman Associates, Inc.
Land Use
Environmental and Regulatory Analysis
Economics
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MEMORANDUM - November 22, 1996

Date: 3-14-97 No. of Pages: 8	Callison Architecture, Inc.
To: JOHN ELLASON	From: L BROADWAY
Co:	
Phone:	Phone: 206-623-4646
Fax:	Fax: 206-623-4625

To: Barbara Quested, Anna Nelson
King County DDES

From: Mike Blumen/Rich Schipanski RS
Huckell/Weinman Associates

Re: Lakepointe Master Plan SEIS
Draft Technical Report Review

For KPFF responses
see attachments A and B

This memo outlines our major comments on the draft technical reports received by King County and transmitted to Huckell/Weinman Associates. The technical reports reviewed include the following: *Technical Report on Natural Resources** (Beak Consultants, October 11); *Transportation Impact Analysis (TP&E, October 30); Response to Scoping Issues* (KPFF, October 17); *Draft Technical Information Report* (KPFF, March 15); *Supplemental Information to Draft Technical Information Report* (KPFF, October 1); and, *Draft Technical Report on Earth, Water, Toxic and Hazardous Materials* (AGRA, November 12). This memo is intended as a discussion tool for our meeting with King County scheduled for December 9. It is assumed that you will compile all relevant comments and prepare a comprehensive memo to the Applicant seeking all necessary revisions. The Applicant will then coordinate the preparation of revised reports for submittal to the County and Huckell/Weinman Associates.

Per our agreement with King County, we have assumed two rounds of review of technical reports. Should more than two rounds of review be required to produce final reports, an adjustment in scope and budget may be warranted. Further, our agreement on schedule (submittal of the Preliminary SDEIS four weeks after receipt of final reports) is still valid.

The following general comment relates to all of the technical reports: "An analysis of the impacts generated by the SEPA Alternative, with a comparison to the impacts identified for the proposal must be provided". It should be noted that this alternative analysis cannot be performed until a site plan, with associated site plan statistics (impervious surfaces, building heights, open space, roadway alignment, etc.) is prepared and distributed to the technical team, as well as to King County and Huckell/Weinman Associates. Therefore, all technical reports should be revised to include the analysis of the SEPA Alternative.

The following comments do not include our editorial comments; these comments will be transmitted to the technical consultants, via King County, separately.

TRANSPORTATION REPORT - TP&E

Page/ (Paragraph)	*Comment*
1 (p 1)	It might be useful to briefly summarize the conclusions of the Transpo Report. Should also mention that the Transpo Report analyzed 1,000 residential units and 500,000 square feet of commercial/retail use.
5 (p 1)	In reference to "Nonmotorized Facilities", provide a discussion on existing air and marine transportation in the area (listed as an item in the SEIS Scope of Work).
5 (p 2)	In reference to "Planned Transportation Improvements", the list of roadway improvements does not include the nature of the improvement. Please describe the type of planned improvements.
6 (p 4)	Provide a conclusionary statement on how the different horizon years might affect traffic assumptions (per SEIS Scope of Work).
8 (p 2)	Regarding NE 175th Street, will retaining the 175th Street alignment result in improved circulation over the earlier realignment proposed in the NSCP (and reflected in P-Suffix conditions)?
9 (p 3)	Regarding "reductions in gross trips generated", provide a detailed basis for the 15 percent reduction (due to internal trips?). SEIS scope requires an explanation of factors included in the trip generation rates.
10 (p 4)	Provide a rational for using a different estimate procedure for trips outside of the established cordon line.
12 (p 3)	Regarding the "Northshore Community Plan Alternative", is the trip generation estimate of 14,212 daily trips for the Northshore alternative based on the same assumptions used to estimate daily trips for the proposal (i.e. ITE rates). If not, does a comparison accurately compare impacts? Also, even though the Northshore Community Plan Alternative has less commercial/retail space and fewer residential units, the Northshore Community Plan Alternative has more daily trips than the proposal. Please explain (possibly related to the above comment).
13 (p 1)	Please provide a more detailed discussion on impact of the proposal to pedestrian traffic (i.e. describe on-site trail accessibility, safety, etc.).
14 (p 5)	Regarding "changes in the 2005 condition compared to the Transpo Report", please explain why the changes were made.
15 (p 5)	Please explain why 140 and 150-second cycles were used instead of the 180-second cycle used in the Transpo Report.

Page/ (Paragraph)	*Comment*
16 (p 4)	Describe why the transportation performance measures improve after Lakepointe is developed.
16 (p 5)	Provide a more detailed discussion on why the system wide minimum delay optimization option was used.
17 (p 2)	Describe how Section 60 of Ordinance 11617 relates to the traffic analysis.
18 (p 3)	Is the anticipated queuing of traffic beyond the intersection of SR 522/Lakepointe Way considered a significant impact. Explain why it is or is not. Any mitigation for this impact?
19 (p 3)	Regarding the Baseline Option, would the increased trips relate to additional queuing or LOS impacts? Would impacts be significant - please discuss.
20 (p 4)	Define the RID process (area, benefited properties etc.), funding responsibilities and timing of improvements.
21 (p 3)	Relate the proposed mitigation to the mitigation described in the Transpo Report and mitigation established through the zoning actualization. Identify and discuss the project's full mitigation commitments.
21 (p 3)	Are there any additional mitigation measures for queuing back-up and LOS F intersection impacts?

RESPONSE TO SCOPING ISSUES - KPFF

see KPFF attachment A, #3.

Earth

1 (p 1)	Please describe how proposed excavation and fill relates to site cleanup under MTCA. It was our understanding that impacts related to excavation and fill were to be described as an element of site cleanup through the MTCA process.

Water

see KPFF attachment B, #1

2 (p 2)	Please describe in more detail which areas will be treated by wetpond and which areas will be treated by biofiltration.
3 (p 3)	When discussing downstream erosion, a discussion on the potential for erosion at each discharge location should be provided.
3 (p 4)	Describe how post development storm flows would be higher than existing conditions but would be controlled to limit erosion.

see KPFF attachment B #2

see KPFF attachment B, #3

Page/ (Paragraph)	*Comment*
3 (p 7)	Under "Sediment Deposition", quantify the effectiveness of sediment removal under the proposed system. Would there be sediment impact under the 100-year storm?
	See KPFF attachment B, #5
3 (p 9)	Under "Fire Flow Requirements", a description of available water system capacity for fire flow, without the proposal, is required per the EIS Scope.
	See KPFF attachment B, #6
4 (p 2)	Regarding the Northshore Utility District, state which reservoir serves the site.
	See KPFF attachment B, #7
4 (p 5)	Regarding "Projected Water Demand", what is the estimated 3.5 person per unit assumption based upon; this number seems high for multifamily use.
	See KPFF attachment B, #8
4 (p 7)	Regarding "Commercial and retail demand", clarify the assumptions for uses; are you assuming some restaurant uses (which use more water than shops)?
	See KPFF attachment B, #9
4 (p 8)	Regarding "Total Site Water Demand", for each phase describe the following: average yearly demand; peak 4 month demand; and, peak week demand (per EIS Scope).
	See KPFF attachment B, #10
5 (p 1)	Regarding "Ability to serve Water Demand", describe total capacity of district, existing demand on district capacity on an overall basis and available district capacity to serve the project.
	See KPFF attachment B, #11
	Also, describe any district deficiencies in storage, distribution, fireflow etc.
	See KPFF attachment B, #12
5 (p 2)	Regarding "Water District Impacts", indicate that no boundary expansion is required.

Sewers/Solid Waste

	See KPFF attachment B, #13
5 (p 9)	Regarding "Projected Wastewater Flows", what is the 3.5 persons per unit assumption based on; seems high.
	See KPFF attachment B, #14
6 (1)	Describe what the estimated effluent from the commercial retail based on.
	See KPFF attachment B, #15
6 (p 4)	Regarding "Capacity of Metro to Treat Sewage", describe the remaining capacity of the plant and the ability to serve project flows.
	See KPFF attachment B, #16
6 (p 5)	Regarding " Construction Waste", are there any proposed programs for composting and recycling?

Page/ (Paragraph)	*Comment*
Gas/Electricity	
7 (p 1)	Is the anticipated demand for natural gas based on primarily using gas or electricity for heating? Please explain in detail. See KPFF attachment B, #17
7 (p 1)	The anticipated gas demand for commercial/retail is stated to be for 500,000 square feet of area. The actual amount of commercial/retail space is closer to 650,000 square feet. Verify with Callison. See KPFF attachment B, #18
7 (p 4)	Is the anticipated demand for electricity based on primarily using gas or electricity for heating? Please explain in detail. See KPFF attachment B, #19
7 (p 7)	The anticipated electricity demand for commercial/retail is stated to be for 500,000 square feet of area. The actual amount of commercial/retail space is closer to 650,000 square feet. Verify with Callison. See KPFF attachment B, #20

TECHNICAL REPORT ON EARTH, WATER, TOXIC & HAZARDOUS MATERIALS - AGRA

Overall	Appendix A (Preliminary Geotechnical Engineering Evaluation) contains existing site condition discussions, identification of potential impacts, and mitigation measures (i.e. methane gas, dewatering etc.) which should be incorporated into or referred to in the technical report.
Overall	It was our understanding that environmental impacts relating to the excavation and fill on the site would be analyzed separately under the MTCA clean-up plan. Therefore, the impact analysis, as it relates to required excavation and fill, should include a detailed discussion on how the proposed grading activities relate to the MTCA clean-up process
Earth	
10 (p 5)	Regarding impacts to Topography/Geology, there should be a discussion on the overall plan to access underlying structuraly sound soils through the use of piles, thus minimizing the need to disturb contaminated soils. There should also be a discussion on potential impacts related to pile placement.
10 (p 5)	The discussion on "Additional Geotechnical Requirements", should recognize the geotechnical investigations completed to date. Would the additional geotechnical studies be considered typical for building permit review? If so, we should mention that these studies are typical.
13 (p 4)	When would the creosote analysis be completed and would this analysis be a part of the MTCA clean-up process?

Page/ (Paragraph)	*Comment*
13 (p 4)	How would the use of fill relate to settlement potential? Would the use of fill significantly reduce the potential for settlement?
14 (p 1)	Describe the relative significance of the estimated sediment generation presented in Table 1. Is the total annual existing sediment of 34.4 tons per year a relatively large number? Does the 34.4 tons reach adjacent waters and does it have any effect on the receiving waters?
14 (p 3)	Regarding landslide and seismic impacts, describe subgrade improvement and relate this improvement to the MTCA clean-up. This discussion should also describe how the proposed pilings relate (i.e. minimize) to landslide and seismic impacts.
14 (p 3)	The Earth section does not contain a mitigation discussion. Identify and consolidate all mitigation, including those identified in Appendix A.
Groundwater	
16 (p 1)	Is the groundwater table beneath the site hydrologically connected to the Sammamish River as well as to Lake Washington?
17 (p 1)	The discussion on surface water may be more appropriately located in the Earth section in relation to erosion.
17 (p 2)	When discussing "Estimated Increases in Shoreline Erosion", more location-specific (outfalls) analysis should be provided. Also, indicate if sediment would reach adjacent waters (Lake Washington or Sammamish River).
17 (p 4)	Regarding "Groundwater", is infiltration of stormwater proposed? Not consistent with KPFF's report.
17 (p 5)	Is there any potential impact to groundwater quantity as a result of proposed development? If not, state.
18 (p 3 &4)	The discussion on groundwater quality resulting from disruption of the soil cap should be discussed in terms of the MTCA clean-up. The impacts from MTCA clean-up is not to be analyzed in this document. Would not resolution of the Clean-up Action Plan likely preclude any possible impacts to contaminant levels for the site?
18 (p 6)	The Groundwater section does not contain a mitigation section. Identify and consolidate all mitigation.

Toxic & Hazardous Materials

Page/ (Paragraph)	*Comment*
28 (p 1 & 4)	Define the general term "engineered cap"; how do they work, what type of material generally used, what is required thickness, etc.
30 (p 2)	Describe what is ment by "localized remediation of the soil or debris?
30 (p 4)	It is stated that "contact with the debris fill will be prevented by the construction of an engineered cap". On page 18, it is stated that "project construction will disrupt the existing soil cap". Is there a contradiction or are you saying that the existing soil cap will be disrupted during establishment of the engineered cap? Please resolve this and refer to the MTCA process.
35 (p 2 & 4)	The groundwater discussions related to interception and monitoring could also be summarized as mitigation in the groundwater section.

TECHNICAL REPORT ON NATURAL RESOURCES* - BEAK CONSULTANTS

1-6 (p 1)	It is stated that "sand filter/biofiltration or a wetpond will be used". KPFF's Technical Information Report indicates that both will be used - please reconcile.
2-1 (p 1)	It is stated that the River has been identified as "Water Quality Limited" for fecal coliform along 47 percent of it's length. Does this include the portion of the River adjacent to the site.
2-8 (p 2)	The existing water quality conditions discussion should include some general description of existing pollution conditions from the existing industrial and harbor related uses.
2-8 (p 2)	The existing water quality conditions discussion should include a description of existing erosion conditions on the site, including a discussion on the character of erosion (i.e. is erosion primarily silt?). Is the erosion of 34 tons a significant amount. Does the 34 tons reach adjacent waters?
2-8 (p 3)	The water quality construction impacts discussion should include impacts from marina construction.
2-10 (p 1)	Would the anticipated sedimentation to the river and lake during construction be considered a significant impact?
2-23 (p 2)	Please describe why the surface water quality analysis does not assume that biofiltration would provide preliminary sediment removal.
2-31 (p 3)	What is the dissolved lake concentration of 0.001 mg/l based on?

Page/ (Paragraph)	*Comment*
2-32 (p 2)	Does the fact that necessary dilutions can be achieved mean no significant impacts? If it does, please explain.
2-32 (p 4)	It is stated that the high fecal coliform levels could only be achieved by a large storm exceeding interflow capacity and after an extended dry period. Were the numbers presented in Table 2.2-5 based on this condition?
2-34 (p 1)	State why wetpond discharge into the marina would not result in temperature impacts.
2-36 (p 2)	State why peak phosphorous concentrations would not pose a nutrient problem for Lake Washington. Is it due to dilution?
2-38 (p 1)	Please provide a more detailed description as to why stormwater from the site, which would have a cadminum concentration which exceeds standards, added to a river which exceeds standards, would not result in a significant impact.
2-40 (p 3)	It is stated that there would be no live-aboard tenants in the marina; verify with Callison that this would be the case (have seen reference to live-aboard).
2-40 (p 30)	It is stated that an increase in hydrocarbons in the marina would be off-set by wet season flushing. What would be the impact during the dry season?

** Note: Comments related to the Surface Water Quality section of the Beak Consultants report only. Comments on the Fisheries and Wetland sections will be provided upon completion of the second draft version of these sections.*

H/W

King County
Department of Development
and Environmental Services
Building Services Division
Site Engineering and Planning Section
3600 - 136th Place Southeast
Bellevue, Washington 98006-1400

Date: 4-29	No. of Pages 4	Collison Architecture, Inc.	
To: John Elisser		From: Lois Broadway	
Co: KPFF			
Phone:		Phone: 206-623-4646	
Fax:		Fax: 206-623-4625	

April 12, 1997

RECEIVED
APR 14 1997
SEPA

To: Barbara Questad, SEPA Planner

From: Jeff ONeill, Supervisor, Site Engineering & Planning

Re: Comments on LakePointe Preliminary Draft Supplemental EIS-March, 1997

See KPFF Attachment C for number Comments (1) + (8)

(1) Hazardous Waste Resolution - If the hazardous waste on site is capped instead of removed, then storm drainage facilities should not be placed in or below the cap. This may require a variance if minimum velocities or pipe slopes are not obtainable because of shallow placement of pipes.

(2) Lake Washington Elevation Datum - Several different elevation datum's are available on Lake Washington ranging including City of Seattle, US Engineers, US Geodetic Survey, and King County Aerial Survey. The static elevation of Lake Washington can vary by up to 12.98 feet depending on the datum used. There appear to be several different elevation datum's used on the plan set. It is essential that all datum's given for the elevation of Lake Washington and all drainage and elevation references on site is based on King County Aerial Survey datum.

(3) Capping of Hazardous Waste - The EIS states that there is offsite groundwater flowing through the site below the surface. If the site is capped, will this include water barriers for this subsurface interflow and if so, how will this blocked water be picked up and transported into Lake Washington.

(4) Sammamish River/Surface Water Quality Standards (page 3-22) -The first paragraph states that the Sammamish River is designated as Class AA water (extraordinary). The third paragraph states that it is identified as "limited" along 47% of its length. Isn't this a contradiction? The third paragraph under 'Water Quality Limited List also refers to five or six factors resulting in impaired uses.

(5) Groundwater Quantity (page 3-24) - First paragraph states that the reason the Corp lowers Lake Washington in the winter is for extra storage capacity. An additional reason the Corp lowers the lake is to reduce the shoreline wave damage from winter storms. The

rehabilitation of much of the shoreline may also be a mitigating factor in developing the site and reestablishing vegetation along the shorelines.

(6) Infiltration (page 3-24) - If the groundwater table on site is primarily influenced and coincidence with the level of Lake Washington, it would seem that very little actual 'recharge' of groundwater occurs from upland interflow or from rainwater infiltration. If this is so, how will capping of the site help the site prevent leaching of the waste buried within the groundwater table.

Would any significant velocity be expected from upland through the groundwater table on site if hydrostatic pressure from Lake Washington is maintaining the groundwater.

(7) Surface Water Quantity (page 3-25) - Sixth paragraph states that oil/water separators will be used as one of the primary pollutants removal systems. While Coalescing Plate Separators are good for mitigating large quantities of oils encountered in conditions such as oil spills, are they effective enough in removing the smaller and finer concentrations of oil in normal street/parking lot runoff to be listed as major component? Please quantify there effectiveness.

see KPFF Attachment A #1

(top of page 3-26) It is stated that roof runoff will be piped directly to the receiving bodies without water quality treatment. Will the roof top materials used for the structures be specified to not include materials such as copper or zinc that may produce untreated pollutants? Has Washington State Fisheries bought off on directing roof top runoff directly to receiving bodies?

see KPFF attachment A #1

Third paragraph states that there is currently no pipes discharging into the inner harbor area. Recent field trips have indicated a large offsite flow from a pipe entering at the head of the inner harbor.

see KPFF attachment A #2

(8) Erosion and Sedimentation - Please note approximate timing expected to complete all seven phases of construction.

The first paragraph states that during construction, no silt laden runoff is expected to leave the site. Temporary Erosion and Sediment Control Ponds are usually designed to contain approximately the 2 year return storm. During the many years of construction and given the recent history of extreme storm events, isn't it reasonable to expect that some silt laden runoff will leave the ponds? What kind of outlets are to be used in the ponds? Are we saying that they will reduce turbidity to 0 NTU or are we saying that no runoff will leave the site during construction?

Will the phases be constructed randomly?

If site is capped instead of removing of waste material, will the temporary ponds and other stormwater facilities have to be kept at an elevation above the cap?

Page 3-195 In the bullets at the top of the page, please elaborate on "conversion." Conversion of what? Could you say something like "conversion of storage space to regular classroom ..."?

Page 3-202 In the last paragraph, it says that the proposed marina would generate additional boat traffic and increase congestion. Various descriptions I've seen so far all imply that this won't be the case. This paragraph should be revised based on the Reid Middleton air and marine report, and some effort should be made to quantify the amount of daily boat traffic to and from the site given the proposed limitations on boat sizes and visitors. The amount of traffic may vary depending upon whether or not a hotel is built on the site and whether or not people are encouraged to commute to restaurants, etc., on the site.

Page 3-203 The comparisons in this section seem convoluted and confusing. I would rewrite some parts using shorter, more straight-forward sentences.

Page 3-206 Is the statement that the "Proposed Action would provide public moorage opportunities for recreational boaters" correct? This doesn't seem consistent with descriptions elsewhere, including the Reid Middleton report.

Chapter 3/UTILITIES

Page 3-208 Is the statement in the last paragraph ("construction debris ... was removed in 1996") true? Currently, there are large piles of concrete, lumber, and soil on the site at the southwest end of the inner harbor.

Page 3-209 Were sewer and water certificates submitted with the Commercial Site Development Permit? If not, at what point in the process will they be required?

Page 3-210 As we discussed in the May 1st meeting between Callison, Huckell/ Weinman, and King County, the analysis of impacts for alternatives should provide an overall, "order of magnitude" assessment and comparison to the Proposed Action. Detailed designs and quantification is not necessary.

← See KPFF attachment D #1

← See KPFF attachment D #2

December 4, 1996 letter to Barbara Questad
From Don Finney

conditions. We currently have no way of knowing what the final configuration of the shoreline, after cleanup, will look like. For example, existing "significant trees" and "regulated trees" found in sensitive areas buffer/shoreline zone may have to be removed, along with unknown quantities of soil. Existing allegedly contaminated shorelines may have to be excavated and resloped for example. At this point we simply do not know. Existing site conditions will change with site cleanup and this could have different or unforseen impacts on aquatic resources and buffer/shoreline zones. I recommend we wait until the site remediation plan is finalized and agreed to before conducting additional review, as the hazardous site cleanup appears to be the ultimate site limiting factor.

In addition, there has been a very recent (September/October 1996) redistribution of waste piles over a large portion of the site, including sensitive areas buffers. We noted fresh fill over an area approximately 1000 feet long by approximately 200 feet wide. The goose nesting easement was filled to within approximately 20 feet of the Sammamish River's edge. Apparently this waste was to be hauled off site. This action occurred after all of the studies (we are currently reviewing) were completed. Some fill was possibly imported to the site in addition to the waste pile redistribution. This new activity has changed surface elevatons, possibly recontaminated the site (surface and groundwater), and/or made future Sammamish River buffer replanting or enhancement difficult or impossible until cleanup. While on-site on 10/14/96, we observed wood and other waste roofing material, and general garbage up to approximately 6 feet deep in the Sammamish River buffer to be planted/enhanced. On 10/14/96, I waded through pools of black leach water ponded on the surface of the newly filled area. Rainwater was obviously soaking through the recently spread waste and picking up organics and possibly copper compounds (if the cedar shakes had been treated). As a general comment to all the studies being reviewed, has this changed surface runoff quality or quantity? How has groundwater quality and quantity been affected? Will River buffer plantings successfully grow in 3 to 6 feet of shredded cedar and composition roofing, and assorted garbage? Do the conclusions of any of the studies change, given the changed site conditions?

1) Draft TIR, and 2) Supplement to Draft TIR.

- Section I, Site Overview. In the Project Approach, it is stated that, "The site will become partially impervious." This is an understatement as the site will be 90% impervious according to page 35 of the AGRA Earth, Water, Toxic 11/8/96 report. Does this high percentage of impervious surface change the stormwater requirements and design elements in the TIR? Was 90% anticipated?

See KPFF attachment E #1

- The Upstream Drainage Basin Map, MP 3 shows a drainage path outletting to the SW corner of subject site. The shoreline plan maps show the upstream drainage basin culvert outletting at a point near the SE portion of the site. This outfall pipe CMP was observed on 10/14/96 at the eastern location. Are there additional outfall pipes into the river, lake, or inner harbor? These should be identified, located and mapped, if any.

See KPFF attachment E #2

- We noted a 1 foot diameter (est) white plastic outfall pipe exiting into the eastern end of the

Inner Harbor. Highly turbid water was exiting from this pipe on 10/14/96 into the Inner Harbor. The source appeared to be on site runoff from a fenced area adjacent to the east end of the harbor.

see KPFF attachment E #2

- Will the proposed ponds, biofiltration swales, and connecting channels to the river be attractive nuisances to fish? How will juvenile or adult fish stranding be prevented, given the alternating wet/dry cycles and stream like appearance. Will fish be stranded in the ponds when the outlet flows dry up? How will this be prevented?

- Will the biofiltration swales or their connectors function as wetlands given the constant wet/dry cycles that will occurr? In an average year, how often will these features be wet/dry?

- How was water temperature of stormwater runoff addressed? What criteria were used? We are concerned about temperature increases and the effects on salmonid adults and juveniles for both rearing and migration. Will a thermal barrier be created or worsened at the mouth of the Sammamish River or the Inner Harbor due to elevated runoff temperatures? How will this be addressed? A major identified salmonid limiting factor at the subject site location is excessively high water temperatures. Given 90% impervious surfaces, was temperature considered a water quality parameter? Can it be controlled? Were other stormwater quality issues addressed for the non parking lot runoff areas?

3) Preliminary Geotechnical Evaluation

- Does the spreading out of the stockpiles noted on page 3, or the addition of fill, topped with wood and composition roof waste and garbage, change the issues addressed, the analysis, or the conclusions of this study? If so, how? Is additional work now needed?

- I defer review of this document to Steve Bottheim, Senior Geologist.

4) Phase II Environmental Assessment, Volumes I and II.

- I conducted only a skim review of these documents, due to the limited review period allowed. While the documents were dated 5/21/96, I did not receive them for review until 11/7/96. Given a four day work week, snow closure days, Thanksgiving and Veterans day holidays, and Lakepointe meetings, I have had only eight working days to review these very complex, technical studies. Also, with the previous deadlines for review of the Natural Resources Technical Report, my focus was on the Natural Resources report, not the E.A. I feel the tight deadline on this detailed two volume technical report is unattainable and should be extended to an appropriate date.

- The report states that medical waste was not discovered during subsurface explorations. Was it noted during surface examinations? Were the stockpiles sampled? On 10/14/96 we observed

- Studies need to be revised to reflect existing conditions subsequent to the filling and grading that occurred on the site in September/October 1996. Field observations of surface water movement around 6-foot-deep test pits revealed extensive lateral movement (interflow) of water through the surficial waste material. A discussion of these fill materials as possible sources of surface and groundwater contamination needs to be provided, as well as a discussion of the transport potential of any contaminants, and their interaction with the Sammamish River and Lake Washington.

  The scope of the submitted studies is limited to the upland portions of the site; the studies need to include the littoral, or near shore, zone of Lake Washington. Staff have observed significant areas of submerged fill and debris located along the Lake Washington shoreline. Debris included steel plates, tires, concrete, container drums, and miscellaneous construction debris. Parcel boundaries include portions of this littoral or near shore area, thus it is appropriate to characterize the existing conditions in this area. The analysis of the littoral should include an inventory of the type and amount of debris, a sediment analysis and bioassay, and an alternatives analysis to identify mitigation measures needed to remediate past contamination of this near shore area.

- Information in different technical studies is sometimes inconsistent. In addition, technical studies are sometimes inconsistent with reports from site visits by King County staff. These inconsistencies need to be reconciled.

Draft and Supplemental TIR

NOTE: Some of the questions below appear to be answered in the memo from John Eliason, KPFF, to Lois Broadway, Callison Architecture, dated October 17, 1996. This memo was forwarded to Huckell/Weinman and more recently to the King County SEPA Section. It would be helpful to incorporate information from this memo into the TIR so that all reviewers have the information in a consolidated form rather than in separate memos and reports. It would also be helpful to have the information consolidated in the TIR when it is appended to the EIS for public review. — See KPFF attachment F #1

Draft/page 5: The Draft TIR indicates that the project site is 45 acres in size. This appears to refer to the largest parcel (112604-9001) which is 45.26 acres. Did the study include the additional three parcels which make up the site? (Parcels 112604-9020, -9133, and -9137 total 9.63 acres.) — See KPFF attachment F #2

Draft/page 5: The report states that existing site conditions are considered to be exposed pervious soil, and after development, the site will become "partially impervious." What percentage of the entire site was considered to be impervious for purposes of the drainage calculations? — See KPFF attachment F #3

Draft/page 28: The report states that "The entire site is considered to be glacial till." However, on page 54, the report states, "The native soil descriptions from soil boring logs consists of silt, sand, and some peat." As written, the descriptions are not consistent. Please clarify or explain the apparent inconsistency. ← See KPFF Attachment F #4

Draft/page 46: The report states that the on-site conveyance system has been designed and analyzed at a schematic level for the 25-year peak flow at developed conditions. The Supplemental TIR provides calculations for sizing facilities for Phase I development, the access road and Building A landscaping, and Lakepointe Boulevard. Please explain how the schematic design relates to the site design for the Master Plan, the Commercial Site Development Permit, and the Shoreline Permit, and at what point in the review process more detailed drainage plans will be submitted for each phase of development. ← See KPFF Attachment F #5

Draft/page 54: The description of the existing project site needs to be revised to include recent grading and filling. ← See KPFF Attachment F #6

References are made in other technical reports to infiltration on-site (e.g., Earth, Water, Toxic and Hazardous Materials states on page 17, "Intercepted runoff would be treated ... or would be infiltrated to the upgradient groundwater table ...") Please clarify whether or not infiltration is proposed anywhere on the site. See KPFF Attachment F #7

Suppl/pages 1-2: How will oil/water separators and wet ponds collect water if they are upgradient of the site? ← See KPFF Attachment F #8

Earth, Water, Toxic, and Hazardous Materials

Overall

The study characterizes the Lakepointe site as it was prior to the regrading and filling that occurred on the site in September/October 1996. The study should be revised to accurately reflect the changed conditions. Does the regrading and filling change the results and conclusions of the study

Earth

Page 12: The Significant Impacts – Topography/Geology section should discuss an overall plan to access underlying structurally sound soils through the use of piles and assess the impact that pile placement would have on contaminated soils and ground water.

The Additional Geotechnical Requirements section should identify and cite the geotechnical investigations completed to date. State whether the additional geotechnical

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Received
4/29/97
JE

LAKEPOINTE MIXED USE MASTER PLAN
PRELIMINARY DRAFT SUPPLEMENTAL EIS -- March 1997

AGENCY STAFF REVIEW & COMMENTS
April 21, 1997

General Comments

Some of the comments below require clarification of information that we already have available to us. Others require a response from the applicant.

Throughout the document, you should assume that the lay reader does not understand technical terms and "plannerese". Whenever possible, use common language or give a brief explanation of technical terms before using them in a discussion.

Metro is now a part of King County. Throughout the document, correct reference needs to be made to what was formerly "Metro." When referring to the former Metro's solid waste or water pollution control functions, I would suggest using:

King County Department of Natural Resources (formerly "Metro") ← see KPFF Attachment 6 #1

When referring to the former Metro's transit functions, I would suggest using:

King County Department of Transportation (formerly "Metro")

A consistent reference needs to be made to the Washington Department of Ecology (DOE). I would suggest spelling it out the first time it is mentioned in each section such as EARTH or WATER, and thereafter referencing it as "DOE," since that seems to be the common term used.

An acronym or a symbol should be indicated in parentheses only when it is going to used as a reference later; otherwise the acronym/symbol can be left out (i.e., no need to use KCC or Pb, when there will be no further reference).

Please use the following references: Environmental Impact Statement (EIS), Supplemental EIS, Draft Supplemental EIS, Final Supplemental EIS.

When referring to streets and avenues throughout the text, please use a consistent convention:

NE 175th St	or	**Northeast 175th Street**
68th Ave NE		**68th Avenue Northeast**

Consistently use "and" or "&", "AM/PM" or "a.m./p.m.", and "SF", "sq. ft.", or "square feet."

Use a consistent convention when referencing figures and tables, e.g., "(see Figure 3)" or "(Fig. 3)."

Reference numbers/numerals consistently, e.g., spell out "one" through "twenty" and use numerals for "21" and up, or use some other consistent system you decide upon. This includes consistently using the convention "two-story" or "2-story."

Also, two or more words describing a noun should be hyphenated, e.g., "30,000-square-foot, two-story building."

Does this EIS analyze the Master Plan, the Commercial Site Development Permit, the Shoreline Permit, or all three? This is something we should discuss with the applicant, clearly state in the introduction and on page 2-8, and then review the document to be sure that we are, in fact, doing what we say.

Throughout the document, it needs to be clearly stated whether each analysis is based on the 45-acre site or the 50-acre site, and then call out when additional analysis will be needed later. I would avoid using percentages when referring to the amount of acreage. If you use percentages, then you have to define whether it is a percent of 45 acres or 50 acres.

See KPFF Attachment G #2

The heading at the end of each section should read UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS.

See handwritten editorial comments in the text of the document.

Chapter 2/DESCRIPTION

NOTE: Comments in this section and in the text reflect my review as an Environmental Planner.

Page 2-2 It makes more sense conceptually to discuss the King County Comprehensive Plan (KCCP) prior to discussing the Northshore Community Plan (NSCP), even though the NSCP was issued first. You could include a sentence such as the following:

page 3-14 If the impacts of pile driving are going to be evaluated at some later point in time, then the section on **UNAVOIDABLE SIGNFICANT ADVERSE IMPACTS** should state that vibrations from pile driving are unavoidable, adverse, and possibly significant.

Chapter 3/AIR QUALITY

NOTE: Comments on this section are provided in the text of the Preliminary Draft Supplemental EIS and reflect my review as an Environmental Planner.

Chapter 3/WATER

NOTE: Comments in this section and in the text reflect my review as an Environmental Planner. Also see comments by Jeff O'Neill, Supervisor, DDES Site Engineering and Planning, dated April 12, 1997.

Figures cited throughout the document for acreage and percentages are inconsistent. Does the WATER section analyze 45 or 50 acres? The document needs to clearly state acreage used in analyzing existing conditions and proposed development. Will the proposed action result in 60%, 65%, or 90% impervious surface?

Pages 3-21 to 3-23 The Surface Water Quality section is confusing and repetitious. I would suggest beginning with an explanation of federal and state standards with a brief statement of designations for Lake Washington and the Sammamish River. Then move into an explanation of how each waterbody meets the standards. Time frames for sampling, monitoring, etc., need to be provided or clarified, e.g., define "current."

Page 3-21 Briefly define "trophic."

What is the significance of all of the information provided in the last paragraph? For example, what is the impact on the lake when chlorophyll-a levels are above- or below-average and transparency, phosphorus, and fecal coliforms are above average?

Page 3-22 It is not clear what WAC 173-201A-130 refers to.

What does it mean to "exceed state standards"? Is this good or bad?

Statements about prohibition of live-aboard tenants don't seem consistent with statements elsewhere that showers and other amenities will be provided (see page 2-17).

Please summarize surface water impacts in a section titled **Summary of Surface Water Impacts**.

The second paragraph under **Groundwater Quantity** should be moved to the **Groundwater Quality** section.

Page 3-37 Comparisons of greater or lesser impervious surface areas need to be verified when consistent data are provided by the applicant. ← See KPFF attachment G #3

Page 3-38 Under **MITIGATION MEASURES**, please identify clearly which measures are required by King County Code or other regulations, which are proposed in addition to code requirements, and other possible mitigation measures. ← See KPFF attachment G #4

The paragraph under **Surface Water Quantity** needs to be written more clearly. ← See KPFF attachment G #5

Page 3-39 Please define "sumps."

Page 3-40 Potential mitigation measures for surface water quality (see Jeff O'Neill's comments) should include something to the effect:

- **Prohibit the use of roof-top materials such as copper, zinc, etc.**
- **Restrict the use of fertilizers, etc.**
- **Restrict above water-line work on boats, etc.**

Please define "constructed wetlands" and "wetland confluences."

How would "wet street sweeping" be enforced?

Are there regulations in place to ensure that erosion from pile-driving would not result in water-quality impacts?

Chapter 3/PLANTS AND ANIMALS

DDES is deferring comments on this section until the final **Technical Report on Natural Resources** is submitted by the applicant.

Pages 3-75 to 3-79 It seems that two receiving areas should be added to the analysis of construction noise -- the residential area on the hill north of the site above NE Bothell Way and an area across the water to the west. There would be no sound barriers between construction on the site and either of these areas, and anyone who has ever walked on one of the many beaches in the Seattle area knows that sound travels remarkably well over water. The discussion should include the effects of sound traveling over water.

A separate section should be provided on the noise impacts of pile driving. It should clarify the type and specifications of the piling proposed to be used (wood or steel). If the typical sound level for driving wooden piles is 88 dBA, estimate the typical sound level for driving steel piles. Include a description of approximately how many piles would be driven in each phase, the depth to which they would be driven, the applicant's projected schedule for each phase (hours each day, number of days/months). Calculations should be provided of the sound levels residents would be subjected to at the receiving sites listed in Table 21 as well as the sound levels residents to the north and west (described above) would be subjected to.

see KPFF attachment #1

Table 21 indicates that sound level measurements at Inglewood Shores would increase in Phases 1 through 5 by more than twice the level defined by the EPA as "very serious", and in Phase 6 would increase by 1.5 times this level. The IMPACTS section should include a discussion of the serious health effects of noise, especially when it would continue for more than seven years. Include a discussion of the impacts of the consistent and repetitive nature of the noise. No doubt there is considerable documentation in the literature. You may wish to contact the King County Public Health Department for assistance (Wally Swofford, 296-4784). The City of Everett may be able to provide studies of the effects of pile driving done for the Homeport project.

Page 3-75 See the earlier note about exemptions from noise regulations.

Page 3-76 Table 20 should include noise levels for both vibratory and piston methods of pile driving.

Page 3-78 Do the calculated noise levels in Table 21 include Kenmore Pre-Mix, seaplanes, and traffic? If not, we need a table that does. In other words, what are the total noise levels from all sources during construction? Also, include a clear statement of how long the Kenmore Pre-Mix plant is likely to continue in operation.

Callisen

Page 3-79 The discussion of construction noise impacts should honestly analyze the significance of increased noise levels indicated in Table 21 and eliminate efforts to minimize those impacts (see notes above and edits in the text).

DRAFT

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

The comments in this section are all by Judith Aitken and are intended to deal only with concerns of the Toxics Cleanup Program, Washington State Department of Ecology. Some editorializing may have seeped in, I apologize.

Pages 2-16 and 3-36, The Marina. There are a lot of inconsistencies here. Proposed facilities are discussed and in one part of the document (page 2-16) there are indications are that people will be able to stay on their boats, albeit not permanently (Cable TV, storage areas, shower facilities plus long term parking all provided), yet the document states that the boats moored in the marina may not be used as a permanent dwelling. On page 3-36 the statement is made that no dredging will be required for construction of the marina, and on page 2-16, Paragraph 8 it clearly states that dredging will be required in the southwest portion of the harbor. Dredging that will be conducted by the Corps of Engineers will need to be discussed, it is an integral part of developing the marina. You should also take into account that pleasure boats do use antifoulants (such as TBT) on the boat keels and marinas often are more contaminated that commercial boat moorages. Also, you cannot rely on removal of the hydrocarbons from the marina waters by the "wet season"; this is not an acceptable pollution prevention tactic. Plans have to be drawn up that address the problems associated with fuel spills. Beak

Page 3-20, Paragraph 4. The statement about 24 acres north of NE Bothell Way can be interpreted as meaning the 24 acres are part of the site. This needs to be clarified.

Page 3-25 Paragraph 1. You cannot state the number of acres that will be impervious since the cleanup plan and the proposed cap have not been approved. There is a potential for far greater (or less) use of capping on the site, depending on the outcome of the Agreed Order and the Remedial Investigation/Feasibility Study (RI/FS). If it is thought that this is the way it is going to be, you need to put conditional words in the sentence. ← See KPFF Attachment H #2

Page 3-25, Paragraph 4. I am very concerned about this statement. Storm water may indeed impact the waters of Lake Washington and the Sammamish River and some sort of detention may be necessary. Some of the surface storm water in the southeast part of the site was polluted with metals and other contaminants and drained, by way of a drainage ditch, directly to Lake Washington. Conditions like this will have an effect on the sediments in that area. You need to also take into account that the existing surface will be disturbed when construction activities occur on the site and conditions at that time may release substances that are now unavailable for transport by the surface water. ← See KPFF Attachment H #3

Page 3-30, Paragraphs 4 and 5, and Page 3-33, Paragraph 1. Treatment by dilution, that is, by additional water being added to the storm water does not solve the problem of the

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MEMORANDUM - May 21, 1997

To: Lois Broadway
Callison Architecture

From: Rich Schipanski RS
Huckell/Weinman Associates

Re: Lakepointe Master Plan Draft SEIS

I have provided a list of pile driving information which McCulley Frick & Gilman requires to respond to King County comments on the Noise section of the Lakepointe Master Plan Draft SEIS. Although I have directed this memo to you, KPFF will need to provide input.

1. Please estimate the type(s) and numbers of piles. If different types of piles will be used in different portions of the site, please describe. ← See KPFF Attachment I #1

2. Please estimate the time it takes to set up the equipment to drive each pile, and the time it takes to drive each pile.

3. Estimate the approximate duration of pile driving for each individual phase. ← See KPFF Attachment I #2

4. What type(s) of pile-driver is proposed and why? If the specific equipment to be used is known, would this equipment be fitted with any type of noise mitigation?

5. Would it be possible to use a vibratory hammer for some or all pile placement?

6. Would it be possible to use a cushioned insert between the hammer and the pile head? If not, why?

Please provide the requested information by June 4, 1997.

If you have any questions, please don't hesitate to call.

CC: Barbara Questad, King County DDES
John Eliason, KPFF

ATTACHMENT A

RESPONSE TO PDSEIS

1. Storm runoff from the Proposed Action would be treated to remove pollutants in one of three ways. From the high use traffic areas (Lakepointe Way, Lakepointe Boulevard and surface parking areas), stormwater runoff would be routed through **[a series of treatment systems starting with]** a oil/water separator **[to remove oil spills,]** then to a 2-celled water quality wet pond **[to remove fines and small concentrations of oil per King County standards.]** Discharge from the wet pond would be conveyed by pipe to the north end of the inner harbor marina channel to promote flushing of the marina area. Stormwater from the lesser used roadways, including NE 173rd Place and NE 174th Street, would be directed to one of two sand filtration/biofiltration swales for treatment. Treated discharge from these swales may be directed to the back end of artificial wetland confluences before entry into the lower Sammamish River; otherwise treated discharge would be conveyed directly to the river in a pipe. **[At the discharge location, quarry spalls and plantings will be placed to control erosion adjacent to the pipe. Discharge velocities within 10 feet of the outlet will be less than 1/2-foot per second which is nonerosive.]** Rooftop runoff would be directed in part to the Sammamish River and in part directly to Lake Washington. Excluding rooftop runoff from the stormwater treatment facilities would enhance treatment capacity for runoff from streets and parking areas. **[Roofing will not include exposed copper or zinc materials. Refer to Section 4, Technical Information Report Exhibit MP.A1 showing the areas of the site draining to the various water quality features.]**

2. **[The existing on-site storm drain system is largely undocumented. Field observations noted several catch basins in the paved developed area around the harbor. It is assumed these catch basins drain through pipe outfalls to the harbor in multiple locations, although only one is visible.**

   The remainder of the site is undeveloped from a storm drain perspective. Field observations indicate the majority of the site drains through infiltration and minor overland sheetflow. SR 522, NE 175th Street and the off-site property in the northeast corner drain to a storm drain which crosses through the site and outfalls to the Sammamish River 450 feet downstream of the 68th Avenue NE bridge.

   The Proposed Action will collect stormwater, provide water quality treatment, and discharge to both the harbor and Sammamish River. To improve the water quality and provide some flushing action, treated runoff and clean roof water will be discharged to the harbor through a new outfall.]

3. There are no topographic constraints that would affect the proposed development. The upland portion of the site where building and road development would occur is relatively flat with elevations ranging from 23 to 32 feet. Alteration of the site topography under the Proposed Action would be limited to demolition of existing buildings, excavation for building and garage areas, and fill for a portion of the embankments for the Lakepointe Way intersections with NE Bothell Way and 68th Avenue NE. **[Cut material, which is suitable, will be used for on-site fill. Excess material will be disposed off-site in accordance with the applicable laws and regulations.]** Total excavation volumes would range from approximately 160,000 to 180,000 cubic yards and total fill volumes would range from approximately 65,000 to 75,000 cubic yards. **[The finish floor elevations of the garage and building are set to meet the constraint of joining existing grades at SR 522 and 68th Avenue NE. This results in the need to excavate nominally 1-foot of material from the site. Selected eastern portions of the site require cuts up to 4 feet. The building/garage floor slabs will be designed to form the site "cap." Open areas between buildings will have an earth-type or membrane-type cap. Capped areas are presumed to meet Department of Ecology/MTCA requirements.]**

4. **[The increased excavation of Alternative 1 results from the need to construct underground parking beneath the building footprints. This additional parking is required to meet King County codes.]**

5. **[Alternative 1 requires excavating significant quantities of contaminated soils to construct underground parking structures. The Proposed Action eliminates this impact by creating parking at existing grade and elevating the roadways.]**

6. **[Electrical service in the site vicinity is provided by the Puget Sound Power and Light Company (Puget Power). Existing on-site uses are served by underground transmission lines along NE 175th Street. Puget Power has indicated their system has adequate capacity to serve the project. Upgrades to some localized lines and transformers may be required. Puget Power has indicated they will determine the exact scope of upgrades at the design stage of the project.]**

7. **[Washington Natural Gas indicated their system has adequate capacity to serve the project. They have indicated that the location of site specific improvements will be identified at the design stage.]**

8. **[Water Supply: Total water consumption and domestic flow rates for Alternative 1 will be 80 percent of the Proposed Action since Alternative 1 is 80 percent the size of the Proposed Action. The fire flow requirements are roughly the same since fire flow is governed by individual building size.**

   Sewer/Solid Waste: Total sewage flows and solid waste generation for Alternative 1 will be 80 percent of the Proposed Action.

   Natural Gas/Electricity: Total use of natural gas and electricity for Alternative 1 will be 80 percent of the Proposed Action.]

9A. [The Northshore Utility District provides domestic water from three reservoirs located at NE 195th Street and 5th Avenue NE, 88th Avenue NE and NE 190th Street, and NE 150th Street and 81st Avenue NE. All reservoirs are on the system which serves the project site.

The District's planning documents show a 1993 metered average water consumption of 4.9 million gallons per day (MGD). The water consumption forecast based on area zoning is 6.9 MGD in the year 2002 and 7.2 MGD in 2012. The project site is included in these numbers.]

9B. [The Proposed Action would generate the following water demands in addition to a 5,000 gpm, 4-hour duration fire flow demand.

Phase	*Average Day*	*Peak Week*	*Peak 4-Month*	*Average Year*
1	0.25 MG	2.6 MG	33 MG	92 MG
2	0.06 MG	0.6 MG	8 MG	21 MG
3 & 4	0.07 MG	0.8 MG	10 MG	28 MG
5	0.07 MG	0.8 MG	10 MG	28 MG
6	0.02 MG	0.1 MG	2 MG	5 MG
Totals	0.47 MG	4.9 MG	63 MG	174 MG

The Northshore Utility District has stated they can supply the needed volumes to serve the Proposed Action. There is no Water District boundary expansion required to serve the project.]

ATTACHMENT B

RESPONSE TO PDSEIS UTILITIES INFORMATION NEEDS

1. See revised PDSEIS narrative in Attachment A, No. 1.

2. See revised PDSEIS narrative in Attachment A, No. 1.

3. Revised PDSEIS narrative to:

   Upon full development of the first six phases of the Master Plan, it is estimated that flows of approximately **26 cubic feet per second (cfs) for the 25-year storm and 32 cfs for the 100-year storm would be generated, compared to 18 cfs and 24 cfs** under existing conditions, respectively. Because no detention facilities would be provided, the duration of stormwater flow would not be significantly greater than under existing conditions.

   [Post developed flows are higher than predeveloped flows because the site has more impervious areas, such as paving and rooftops. The actual flows at each new outfall will be controlled to limit erosion by using pipe sizes which result in low velocity and using quarry spalls and plantings to control erosion adjacent to the pipe. Once discharged to receiving water, the velocity will be less than 1/2-foot per second at 10 feet from the outlet which is a nonerosive velocity.]

   Refer to Section 5 of the Final Technical Information Report for calculations of peak flow rates for the developed 25- and 100-year storms for the 5 proposed drainage outfalls.

4. By Beak.

5. Information is in the PDSEIS, Page 3-208, first paragraph (5,000 gpm).

6. See revised PDSEIS narrative in Attachment A, No. 9A.

7. The estimated 3.5 persons per unit is the planning level criteria used by Northshore Utility District which is the governing jurisdiction. We agree it is high (conservative).

8. The Northshore Utility District planning criteria for areas of commercial business is 3,600-gallon/acre/day. We have used a more refined City of Bellevue Water Department planning value of 30-gallon/250-square foot/day since we have building areas. The City of Bellevue planning criteria includes a factor for restaurants. Residential demand is 95 percent of the total.

9. See revised PDSEIS narrative in Attachment A, No. 9B.

10. See revised PDSEIS narrative in Attachment A, No. 9B.

11. The District has indicated they have capacity and no deficiencies.

12. See revised PDSEIS narrative in Attachment A, No. 9B.

13. See response on Comment No. 7 above.

14. The sewage effluent estimates are based on Northshore Utility District criteria which is Water Demand ÷ 1.1.

15. The King County Department of Natural Resources (formerly Metro) sewage treatment plant has been designed to serve the project area as zoned. King County Department of Natural Resources (formerly Metro) has indicated adequate capacity to serve the project, but will not state what their remaining capacity is.

16. There is very little demolition material suitable for recycling or composting. We plan on allowing the existing concrete and asphalt to be recycled.

17. It is expected that natural gas will be the most economical and practical means of heating the commercial buildings. The residential structures may be heated by gas or electricity.

18. See response to No. 17 above.

19. Electrical demand will be primarily for lighting and power with the potential for electric heating in residential structures. The use of electric heat will be driven by economics and building configuration.

20. See response to No. 19 above.

ATTACHMENT C
RESPONSE TO PDSEIS

Comment Letter From Jeff O'Neill
April 12, 1997

1. Storm drainage facilities will be placed below the cap. The detailed design of the storm drainage will include special details where the pipes exit the cap. We expect the details will be similar to those recently used on the Port of Seattle Southwest Harbor project which is being constructed on a former superfund site.

2. The architectural and civil site drawings are on King County datum.

3. - 6. Answered by other consultants.

7. Please see KPFF Attachment A, Nos. 1 and 2 for information which addresses this comment.

8. Temporary ponds and stormwater facilities do not have to be kept above the cap. Please see response to Comment No. 1.

All other comments are answered by other consultants.

ATTACHMENT D
RESPONSE TO PDSEIS

Comment Letter
May 9, 1997

1. Sewer and water availability certificates were submitted with the Commercial Site Development Permit.

2. Alternative 1 utility qualitative information is provided in Attachment A, Nos. 8 and 9b.

All other comments are answered by other consultants.

ATTACHMENT E
RESPONSE TO PDSEIS

Comment Letter from Don Finney
December 4, 1996

1. Refer to the revised project approach in the Final Technical Information Report (TIR). The project site will not have detention since it is adjacent to Lake Washington. The only impact would be increased developed flows to Lake Washington. Existing and developed flows are also provided in the Final TIR Section 5.

2. Refer to the revised MP3 plan in the Final TIR. During a site observation, we located the outfall pipe in the southeast portion of the site as noted in your comment. Refer to Attachment A, No. 2, for additional information.

All other comments are answered by other consultants.

ATTACHMENT F
RESPONSE TO PDSEIS

Comment Letter
January 14, 1997

1. KPFF provided a report, dated October 17, 1996, which addressed EIS scope questions. We also provided our March 15, 1996, Draft and October 1, 1996, Supplemental Technical Information Reports based on King County Surface Water Design Manual requirements. Our Final Technical Information Report incorporates our October 17, 1996, report information where possible.

2. The areas used in our report were based on Table 1, "Proposed Uses by Acreage," provided by Callison Architecture on Page 2-11 of the PDSEIS. This table includes building area for Buildings A through G, but does not include the property north of the marina.

3. AGRA Earth & Environmental confirmed that the site will be capped based on current negotiations with the Department of Ecology. The current plan includes capping with use of buildings, roadway, and earth- or membrane-type over approximately 90 percent of the project site. Our Final Technical Information Report, Section 5, shows existing storm drainage calculations assuming the site will be 90 percent impervious.

4. Our Final Technical Information Report has been revised to be consistent with the soil boring logs.

5. The Final Technical Information Report provides calculations for facilities for the entire project site, including Phase 1 and future phases. The report is based on Civil Engineering Master Plans, Shoreline Substantial Development Plans, and Commercial Site Development Plans. Additional detail will be provided at the time of construction permit submittals.

6. The Final Technical Information Report, Section 1, includes a description of recent grading at the project site provided by AGRA Earth & Environmental.

7. Infiltration is not proposed as a design feature on the project site at this time. Some landscaped areas outside the site cap may have a small amount of infiltration.

8. Our civil engineering Commercial Site Development Permit plans show pumping of the water quality storm from site areas subject to vehicular traffic to the water quality facilities. The locations of proposed pump stations are shown on our civil engineering plans.

All other comments are answered by other consultants.

ATTACHMENT G
RESPONSE TO PDSEIS

Agency and Staff Review Comments
April 21, 1997

1. We have revised our responses as in Attachment B, No. 15.

2. Refer to Attachment F, No. 2.

3. Based on King County recommendations, comparisons with Alternative 1 are qualitative only.

4. Storm drainage from pavement subject to vehicular traffic will be treated based on the requirements provided in the King County Surface Water Design Manual. We plan to use new water quality facilities provided in the Draft Surface Water Design Manual including the new 2-cell wet pond and combination biofiltration and sand filter swales. An oil/water separator will be provided to pretreat the high use areas before discharge of the water quality storm to the wet pond.

5. Refer to Attachment A, No. 1, for a new description for Surface Water Quantity.

All other comments are answered by other consultants.

ATTACHMENT H
RESPONSE TO PDSEIS

Comment Letter
April 21, 1997

1. Refer to Attachment I, Nos. 1 and 2, for information about pile type, numbers of piles per phase and approximate time per phase. All other comments are answered by others.

2. Refer to Attachment F, No. 3.

3. During construction, temporary erosion and sedimentation control facilities will include defined clearing limits, cover measures, perimeter protection, traffic area stabilization, sediment retention, surface water controls, and dust control. These measures and facilities are designed based on the King County Surface Water Design Manual to minimize sediment from construction entering public storm drains and public water bodies. Refer to Section 8 in the Final Technical Information Report for additional information on proposed temporary erosion and sedimentation control facilities.

   The requirements for the developed site since it is adjacent to Lake Washington and the Samammish River do not include detention. Direct discharge is allowed by the King County Surface Water Manual Core Requirement 3 to Lake Washington as a receiving water. Water quality facilities will be provided for the site to treat pavement subject to vehicular traffic. Refer to Attachment A, No. 1, and the Final Technical Information Report for additional information about the proposed water quality facilities.

   Drainage discharged to Lake Washington or the Samammish River will be a combination of treated water from water quality facilities, roof drainage, and drainage from open areas and walkways. Erosion control of open swales for the developed site will be provided by a combination of limiting the velocity of the discharge water by using open pools or drop structures to reduce velocity, planting and rock armor.

All other comments are answered by other consultants.

ATTACHMENT I
RESPONSE TO PDSEIS

Comment Letter From Rich Schipanski
May 21, 1997

1. According to the Preliminary Geotechnical Report issued by AGRA Earth & Environmental in December 1995, concrete filled pipes or driven grout piles would be the most economical types of piles for this site. We estimate the total number of piles for the project to be approximately 5,000. That includes 2,100 for Phase 1, 800 for Phase 2, 700 for Phase 3, 400 for Phase 4, 500 for Phase 5 and 500 for Phase 6.

2. AGRA Earth & Environmental estimated that it would take 17 weeks to drive the piles for Phase 1; 7 weeks for Phase 2; 5 weeks for Phase 3; and 4 weeks each for Phases 4, 5 and 6.