City of Bellevue
Department of Planning & Community Development
P.O. Box 90012, Bellevue, WA 98009-9012
(425) 452-6864 Fax (425) 452-5225

Shoreline Management Act of 1971
Permit for Shoreline Management Substantial Development
Conditional Use and/or Variance

Application No. 07-143077-WB

Date Received 11/28/2007

[X] Approved / Date 02/28/2008
[ ] Denied / Date

Type of Action:

[X] Substantial Development Permit
[ ] Conditional Use Permit
[ ] Variance Permit

Pursuant to Chapter 90.58 RCW, a permit is hereby granted/denied to: Kevin Cosens

to undertake the following development:

The applicant proposes to construct a new pier and relocate an existing free-standing boatlift on Lake Sammamish. The proposal includes the demolision of an existing pier and the construction of a new fully grated pier with a four foot wide walkway and an ell six feet by twenty six feet wide. Total overwater coverage is 476 square feet. The proposal includes a ten foot wide planting plan for the installation of native vegetation along the landward side of the ordinary high water mark. Project is located within the Lake Sammamish FEMA floodplain and the Shoreline Overlay District.

upon the following property: 1836 West Lake Sammamish Pkwy SE

within Lake Sammamish
and/or its associated wetlands. The project will be located within Shorelines of Statewide Significance (RCW 90.58.030). The project will be located within a Shoreline Overlay District designation. The following master program provisions are applicable to this development:

- Land Use Code(LUC) Section 20.25E.080(B)General Regulations Applicable to all Land Use Districts & Activities:
- LUC Section 20.25E.080 (N) Moorage Regulations; LUC Section 20.30R.155 Shoreline Substantial Development Permit
- Bellevue Comprehensive Plan, Shoreline Management Program Element, Policy SH-1

Development pursuant to this permit shall be undertaken in accordance with the following terms and conditions:

Conditions of Approval (Land Use Division)

The following conditions are imposed under authority referenced:

1. To mitigate impacts to the fisheries resources, in-water construction shall occur during the period of July 16th through December 31st, unless otherwise determined by the Hydraulics Project Approval issued by the Washington State Department of Fish and Wildlife.

   Authority: Shoreline Master Program Policies SH-13

2. To mitigate impacts to water quality from the migration or lateral spreading of re-suspended sediments, a silt curtain shall be placed underwater around the boundaries of the pier construction area. The silt curtain shall extend from the lake bottom to the water surface and shall be securely placed prior to construction of the pier. All materials used in the temporary containment shall be non-toxic. At project completion, the silt curtain shall be removed in such a manner to minimize sediment disturbance.

   Authority: Bellevue City Code 23.76.090

3. To mitigate water quality conditions, federal and state water quality standards shall be met. All required federal and state permits and approvals must be received by the applicant prior to the commencement of any work. A copy of the approved Hydraulic Project Approval (HPA) issued by the Washington State Department of Fish and Wildlife shall be submitted to the City of Bellevue prior to construction.

Authority: Bellevue City Code 20.25E.080.B.1

4. To mitigate potential water quality degradation if a sewer line were broken during construction activities, locate in the field the existing sewer main along the shoreline prior to construction.

Authority: Bellevue City Code Title 24- Utilities Code

5. To mitigate noise impact to adjacent residents and the natural environment, construction shall utilize electric tools when feasible and attenuate pile driving sound through the use of a wooden dampening block. Hours of construction are limited to 7:00 a.m. to 6:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on Saturdays which are not legal holidays.

Authority: Bellevue City Code 9.18

6. To mitigate potential impacts to the fisheries resources, the shoreline area shall be re-vegetated according to the approved Planting Plan. The plantings must be planted within 30 days of completion of the pier and prior to project final inspection and signed off by the City unless prior City approval is granted to extend the planting deadline.

Authority: LUC 20.25E.080.N and LUC 20.25H.220

This permit is granted pursuant to the Shoreline Management Act of 1971 and nothing in this permit shall excuse the applicant from compliance with any other federal, state or local statutes, ordinances or regulations applicable to this project, but not inconsistent with the Shoreline Management Act (Chapter 90.58 RCW).

This permit may be rescinded pursuant to RCW 90.58.140(8) in the event the permittee fails to comply with the terms and conditions hereof.

Construction pursuant to this permit, or substantial progress toward construction, must be undertaken within two years of the date of final approval. This permit shall expire five years from the date of local approval.

Construction pursuant to this permit will not begin or is not authorized until twenty-one (21) days from the date of filing, as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within twenty-one (21) days from the date of such filing have terminated; except as provided in RCW 90.58.140(5) (A) (B) (C).

February 28, 2008 — Date

City of Bellevue, Land Use Division

CC: Attorney General, Department of Ecology, Northwest Region
Dept. of Fish and Wildlife, c/o Dept. of Ecology, 3190 160th Ave SE, Bellevue, WA 98008-5452 attn: Stewart Rienbold
DOE, Joe Burcar, 3190 160th Avenue SE, Bellevue, WA 98008-5452

City of Bellevue
Department of Planning & Community Development
Development Services Division
Land Use Staff Report, Environmental Review and
State Environmental Policy Act Threshold Determination

Proposal Name:	Cosens Pier
Proposal Address:	1836 Lake Sammamish Parkway SE
Proposal Description:	Application for Shoreline Substantial Development Permit for the construction of a new pier associated with a single family residence. The proposal includes the demolision of an existing pier and the construction of a new fully grated pier with a four foot wide walkway and an ell six feet by twenty six feet wide. The proposal includes a ten foot wide planting plan for the installation of native vegetation along the landward side of the ordinary high water mark.
File Number:	07-143077-WB
Applicant:	Kevin Cosens
Decisions Included:	Shoreline Substantial Development Permit
Planner:	Heidi M. Bedwell Associate Land Use Planner
State Environmental Policy Act Threshold Determination:	**Determination of Non-Significance (DNS)**

Carol V. Helland,
Environmental Coordinator

Director's Decision: **Approval with Conditions**

Heidi M. Bedwell, Associate Planner
Department of Planning and Community Development

Bulletin Publication Date:	February 28, 2008
Appeal Deadline:	March 20, 2008 or 21 days from the date of filing with Department of Ecology

For information on how to appeal a proposal, visit the Permit Center at City Hall or call 425-452-6864. Comments on State Environmental Policy Act (SEPA) Determinations can be made with or without appealing the proposal within the noted comment period for a SEPA Determination. Appeal of the decision must be made by 5 p.m. on the date noted for appeal of the decision. Appeals must be made to the Washington State Shoreline Hearings Board.

I. Request/Project Description

The applicant proposes to construct a new pier and relocate an existing free-standing boatlift on Lake Sammamish. The proposal includes the demolision of an existing pier and the construction of a new fully grated pier with a four foot wide walkway and an ell six feet by twenty six feet wide. Total overwater coverage is 476 square feet. The proposal includes a ten foot wide planting plan for the installation of native vegetation along the landward side of the ordinary high water mark.

Private moorage or other structures waterward of the ordinary high water mark must be located no closer than 12 feet to any adjacent property line per Land Use Code section 20.25E.080.N.8. The applicant indicates on the plans that the proposed pier will be set back 12 feet from the north and 57 feet from the south property lines.

The project has received approval from the Army Corps of Engineers (USACE) using the RGP 3 permit requirements.

II. Site Description and Context

The site is in the R-3.5 land use district and is designated Single Family – Medium in the Southeast Bellevue Subarea of the Comprehensive Plan. The proposed pier is a typical ancillary development to the single family residences along Lake Sammamish.

The property is approximately 23,357 square feet in size and contains an existing home. The area between the home and the beach contains a gradually sloping landscape area. The littoral area consists of gravel, cobble, and sand. No removal of existing vegetation has been included with this proposal.

III. Consistency with Land Use Code/Zoning Requirements

The site is in the Shoreline Overlay District and is subject to the regulations regarding moorage (Land Use Code (LUC) Section 20.25E.080.N). The proposal, as conditioned below, meets the applicable moorage regulations listed in Land Use Code Section 20.25E.080.N.

New or Expanded Residential Moorage Facilities.

a. When Allowed. Construction of one noncommercial, residential moorage facility per upland residential waterfront lot or one joint-use moorage facility for two or more adjacent waterfront lots is allowed in accordance with this subsection N. Expansion of any legally established existing moorage facility is permitted only to the extent the expansion complies with the development standards of subsection N.1.b below, and does not cause the moorage facility to exceed, or further exceed, any of the limitations in subsection N.1.b.

Moorage shall only be permitted within:

i. Lots created on or after the effective date of the ordinance codified in this section having water frontage meeting or exceeding the minimum lot width required in the applicable land use district;

ii. Lots created prior to the effective date of the ordinance codified in this section; or

iii. Nonbuilding tracts platted for the purpose of providing common moorage for a group of contiguous properties.

For the purposes of meeting the requirements of subsection N.1.a.i above, adjoining property owners may combine their water frontage by mutual agreement recorded with the King County Records and Elections Division and the Bellevue City Clerk. Only one moorage facility is permitted pursuant to such a combined frontage agreement, which may connect with the property landward of the ordinary high water mark at only one location.

b. Development Standards.

i. The only structures permitted in the first 30 feet waterward of the ordinary high water mark are piers and ramps. All floats and ells must be at least 30 feet waterward of the OHWM.

ii. No skirting is allowed on any structure.

iii. Surface coverage (includes all overwater portions of the moorage structure):
(1) Moorage facilities serving only one residential waterfront lot shall not exceed 480 square feet.
(2) Moorage facilities serving two residential waterfront lots shall not exceed 700 square feet.
(3) Moorage facilities serving three or more residential waterfront lots shall not exceed 1,000 square feet.

iv. Location, Width and Length Regulations. Docks with configurations that do not include any or all of the elements below shall be subject to the overall length and square footage limitations of this section. No portion of a dock shall exceed four feet in width, unless allowed in this subsection N.1.b.iv.
(1) Piers shall not exceed four feet wide and shall be fully grated.
(2) Ramps shall not exceed three feet wide and shall be fully grated.
(3) Ells.
(a) Ells are allowed only over water with depths of nine feet or greater at the landward end of the ell.
(b) Ells may be up to six feet wide by 20 feet long with a two-foot-wide strip of grating down the center; or
(c) Ells may be up to six feet wide by 26 feet long with grating over the entire ell.

(4) Floats.
(a) Floats are allowed only over water with depths of 10 feet or greater at the landward end of the float.
(b) Floats may be up to six feet wide by 20 feet long, with a two-foot-wide strip of grating down the center.
(5) Total Facility Length. In no case may any moorage facility extend more than 150 feet waterward of the ordinary high water mark.

v. Structural Piling Specifications. The first (nearest shore) piling shall be steel, four-inch piling and at least 18 feet waterward of the ordinary high water mark. Piling sets beyond the first are not required to be steel, shall be spaced at

least 18 feet apart and shall not be greater than 12 inches in diameter. Piles shall not be treated with pentachlorophenol, creosote, CCA or comparably toxic compounds. If ACZA pilings are proposed, the applicant will meet all of the Best Management Practices, including a post-treatment procedure, as outlined in the amended Best Management Practices of the Western Wood Preservers. Steel piles will be installed using approved sound attenuation measures.

vi. Shoreline Critical Area and Critical Area Buffer Functions.
   (1) Existing Habitat Features. Existing habitat features (e.g., large and small woody debris, substrate material, etc.) shall be retained and new or expanded moorage facilities placed to avoid disturbance of such features.
   (2) Invasive weeds (e.g., milfoil) may be removed with nonchemical means only.
   (3) Shoreline Planting. In order to mitigate the impacts of new or expanded moorage facilities, the applicant shall plant emergent vegetation (if site-appropriate) and a buffer of vegetation a minimum of 10 feet wide along the entire length of the lot immediately landward of ordinary high water mark. Planting shall consist of native shrubs and trees and, when possible, emergent vegetation. At least five native trees will be included in a planting plan containing one or more evergreen trees and two or more trees that like wet roots (e.g., willow species). Such planting shall be monitored for a period of five years consistent with a monitoring plan approved pursuant to LUC 20.25H.210. This subsection is not intended to prevent reasonable access through the shoreline critical area buffer to the shoreline, or to prevent beach use of the shoreline critical area.

vii. Setback. No private moorage or other structure waterward of the ordinary high water mark, including structures attached thereto, shall be closer than 12 feet to any adjacent property line except when a mutual agreement of adjoining property owners is recorded with the King County Records and Elections Division and the Bellevue City Clerk. Excepted from the requirements of this section are boat lifts or portions of boat lifts which do not exceed 30 inches in height measured from ordinary high water mark.

IV. State Environmental Policy Act

The environmental review indicates no probability of significant adverse environmental impacts resulting from the proposal. Issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

Adverse impacts which are less than significant are usually subject to City Codes or Standards which are intended to mitigate those impacts. Where such impacts and regulatory requirements correspond, no further documentation is necessary. For other adverse impacts which are less than significant, Bellevue City Code Section 22.02.140 provides substantive authority to mitigate impacts disclosed through the environmental review process. A copy of the environmental checklist is attached to this report.

The proposal includes the demolision of an existing pier and the construction of a new fully

grated pier with a four foot wide walkway and an ell six feet by twenty six feet wide. Total overwater coverage is 476 square feet. The proposal includes a ten foot wide planting plan for the installation of native vegetation along the landward side of the ordinary high water mark.

Chinook and coho salmon utilize the shoreline of Lake Sammamish. Chinook and coho salmon have been listed as threatened and candidate species, respectively, by the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA). Bull trout are also listed as threatened under ESA by the U.S. Fish and Wildlife Service (USFWS). However, although Lake Sammamish is within the historical range of bull trout, no bull trout have been found recently in Lake Sammamish. Additionally, both resident and migratory bald eagles are known to inhabit the shores of Lake Sammamish.

A. EARTH AND WATER

Construction of the new pier will involve driving four 4 inch in diameter steel piles and ten 6 in diameter steel piles. The pile driving activity will increase the amount of suspended sediment in the water column. Water currents will carry the suspended sediment some distance from the project site, depending upon the wind patterns. Water quality in this area of Lake Sammamish will be impacted during construction and until the sediments settle. To mitigate the impacts of increased turbidity in the water, the installation of a silt curtain will be required to limit the migration of suspended sediment. Further, the construction barge will not be permitted to ground out. Impacts are mitigated by the City's Clearing and Grading Ordinance (Chapter 23.76 BCC). Refer to Section X for a related condition of approval requiring the installation of a silt curtain.

B. ANIMALS

The site abuts Lake Sammamish, which is used as a fisheries breeding and rearing resource for chinook and coho salmon, as well as other fish. The proposed development must ensure that there will be no take of chinook and coho salmon and bull trout as listed under the Endangered Species Act in order to receive development approval.

The City of Bellevue commissioned an analysis of the effects of bulkheads, piers and other artificial structures, and shoreline development on salmonids and other species listed as threatened, endangered, or as candidate species under the Endangered Species Act (ESA). The Watershed Company and the University of Washington's Washington Cooperative Fish and Wildlife Research Unit prepared the report entitled "A Summary of the Effects of Bulkheads, Piers and other Artificial Structures and Shorezone Development on ESA-listed Salmonids in Lakes". The report, dated July 13, 2000, is the product of a literature review initiated to determine the state of knowledge about the utilization of the regional lakes and streams as salmonid and bull trout habitat and the impacts of lakeshore development on salmonids. The report conclusions include: itemization of current research results on various shoreline development impacts to the fish utilizing these waterbodies; lists of issues requiring additional research to evaluate impacts to the resource; and a list of

recommendations for ensuring protection of the fish and their habitats.

Following is a partial list from the bulkheads and pier report of potential impacts resulting from development of docks, bulkheads, boatlifts, boathouses, and other shorezone structures and activities on juvenile and adult chinook and coho salmon, and bull trout. Although individual shoreline projects may appear to have minimal impacts, analysis of cumulative impacts of numerous shorezone structures indicates the impacts to the habitat and health of the fish and animal species can be catastrophic. Some of these impacts include:

- Piers, piles, boatlifts, and moored boats provide cover, shade, and focal points for exotic predators, such as smallmouth and largemouth bass, which prey on juvenile chinook, coho, and sockeye salmon.
- Shading from piers, boat canopies, boathouses, and moored boats may reduce the abundance of prey organisms available to juvenile chinook, coho, and sockeye salmon, and to forage fish of bull trout, by reducing aquatic vegetation and phytoplankton abundance.
- Reduction of nearshore aquatic vegetation may reduce complex refuge habitat.
- Temporary turbidity associated with construction of docks and bulkheads may reduce water quality to the detriment of chinook, coho, and sockeye salmon, bull trout, and forage fish of bull trout.
- Pile driving may disrupt the distribution and behavior of, or injure, chinook and coho and sockeye salmon, bull trout, and forage fish of bull trout.
- Piers and bulkheads may disrupt the migratory and rearing behavior of juvenile chinook, coho, and sockeye salmon.
- Boating activity that usually accompanies development of piers could disturb rearing and migrating of salmon.
- Chemicals used to preserve or clean wood structures, and hydrocarbons from boats and personal watercraft could be acutely or chronically toxic to the salmonid species, bull trout, or prey items of these species.
- Pier lighting may facilitate nocturnal predation on juvenile salmonids by visual predators such as smallmouth bass, cutthroat trout, and piscivorous birds.
- Piers and bulkheads and other shoreline structures eliminate or disrupt potential spawning areas, interrupt shoreline currents, wave action or groundwater upwelling essential to proper oxygenation of eggs, and change gravel movement and the pattern of gravel deposition.
- The permanent removal of woody debris during bulkhead and pier construction reduces the availability of complex refuge habitat for small fish, and attachment surfaces for periphyton.

Both resident and migratory bald eagles are known to make use of the shores of Lake Sammamish and the surrounding upland areas. No known active bald eagle nests are located within one mile of the subject property.

Adverse impacts to the fish and other aquatic organisms in the lake can be partially mitigated by complying with conditions imposed by the state and federal agencies that also regulate development in the lake. A Hydraulics Project Approval is required from the State Department of Fish and Wildlife, which will limit construction to

periods identified as less impacting to the fisheries resources.

To mitigate the adverse impacts to the fisheries resources, in-water construction shall be limited to July 16th through December 31st. No wintering or nesting bald eagle activity has been recorded within the vicinity of this site. If there is a conflict between the construction window imposed by this approval and that determined by the Hydraulics Project Approval issued by the Washington State Department of Fish and Wildlife, the more restrictive requirement must be met. Refer to Section X for related conditions of approval.

To prevent the suspension of sediments and impact o fish habitat by construction activities, a protective silt fence will be required in the water. The silt fence will remain in place during the duration of construction activities and for a period after construction when turbidity has returned to acceptable levels.

According to the bulkheads and pier report, shading from piers may reduce the amount of aquatic vegetation and produce artificial cover for predators of juvenile salmon. The applicant is proposing to fully grate the pier surface. The application complies with the development standards required for new moorage found in the City's Land Use Code.

C. PLANTS

In order to reduce the cumulative impacts of numerous over water structures in the lake, the applicant will be required to plant approximately 950 square feet of native vegetation along the shoreline. Within this replanting area, native vegetation will consist of trees, shrubs, groundcover, and emergents (see attached Planting Plan for details). The vegetation will provide root structure to reduce erosion, and will supply food, and organic matter.

D. NOISE

The site is adjacent to single-family residences whose residents are most sensitive to disturbance from noise during evening, late night and weekend hours when they are likely to be at home.

In addition to the noise impacts to upland residents during construction, noise from pile driving translates to shock waves in the water. According to the bulkhead and dock report, these shock waves could potentially disrupt the foraging behavior of juvenile salmonids, cause them to move away from the shoreline or exhibit a startle response, or delay migratory progress. The bulkhead and dock report further states that the pile driving sound may "mask" the sound of an approaching predator, or that salmon would become habituated to the sound and fail to hear the approach of a predator.

A pile driver will be used in the proposed project. Because of the short duration of pile driving activities, this impact will be limited. Impacts are mitigated by WDFW conditions of approval with regards to fisheries and by the City's Noise Ordinance (Chapter 9.18 BCC) which limits construction hours. Refer to Section X for a related

condition of approval.

E. UTILITIES

A sewer line is located in the nearshore area. Lines could be broken if struck during construction of the pier, resulting in infrastructure damage and water quality degradation. Field locating the utility lines prior to construction can mitigate impacts. Refer to Section X for a related condition of approval.

V. Summary of Technical Reviews

The Utilities Department has identified a sewer line in the vicinity of the proposed pier. This line must be located prior to any construction, and a minimum 5 foot setback must be maintained unless otherwise approved by the City of Bellevue Utilities Department. Refer to Section X for a related condition of approval.

VI. Public Comments and Response

Public noticing began on January 10, 2008 with a minimum comment period of 30 days ending on February 11, 2008. No public comments have been received regarding this project to date.

VIII. Applicable Decision Criteria

The Director of Planning and Community Development may approve or approve with modifications if:

1. The applicant has carried the burden of proof and produced evidence sufficient to support the conclusion that the application merits approval or approval with modifications; and
2. The applicant has demonstrated that the proposal complies with the applicable decision criteria of the Bellevue City Code; and
3. The applicant has demonstrated that the proposal is consistent with the policies and procedures of the Shoreline Management Act and the provisions of Chapter 173-14 WAC and the Master Program.

Finding: The applicant's proposal meets the above criteria by complying with the policies and procedures of the Shoreline Management Act, provisions of Chapter 173-14 WAC and the Master Program. The proposal includes the requirement to plant shoreline vegetation. As conditioned below the plantings must be planted within 30 days of completion of the pier and prior to project final inspection and signed off by the City unless prior City approval is granted to extend the planting deadline.

IX. Decision of the Director

After conducting the various administrative reviews associated with this proposal, including applicable Land Use consistency, SEPA, and City Code and Standard compliance reviews, the Director of Planning and Community Development does hereby **APPROVE WITH**

CONDITIONS the subject proposal for a Shoreline Substantial Development Permit.

X. Conditions of Approval

The following conditions are imposed under authority referenced:

1. To mitigate impacts to the fisheries resources, in-water construction shall occur during the period of July 16th through December 31st, unless otherwise determined by the Hydraulics Project Approval issued by the Washington State Department of Fish and Wildlife.

   Authority: Shoreline Master Program Policies SH-13

2. To mitigate impacts to water quality from the migration or lateral spreading of re-suspended sediments, a silt curtain shall be placed underwater around the boundaries of the pier construction area. The silt curtain shall extend from the lake bottom to the water surface and shall be securely placed prior to construction of the pier. All materials used in the temporary containment shall be non-toxic. At project completion, the silt curtain shall be removed in such a manner to minimize sediment disturbance.

   Authority: Bellevue City Code 23.76.090

3. To mitigate water quality conditions, federal and state water quality standards shall be met. All required federal and state permits and approvals must be received by the applicant prior to the commencement of any work. A copy of the approved Hydraulic Project Approval (HPA) issued by the Washington State Department of Fish and Wildlife shall be submitted to the City of Bellevue prior to construction.

   Authority: Bellevue City Code 20.25E.080.B.1

4. To mitigate potential water quality degradation if a sewer line were broken during construction activities, locate in the field the existing sewer main along the shoreline prior to construction.

   Authority: Bellevue City Code Title 24- Utilities Code

5. To mitigate noise impact to adjacent residents and the natural environment, construction shall utilize electric tools when feasible and attenuate pile driving sound through the use of a wooden dampening block. Hours of construction are limited to 7:00 a.m. to 6:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on Saturdays which are not legal holidays.

   Authority: Bellevue City Code 9.18

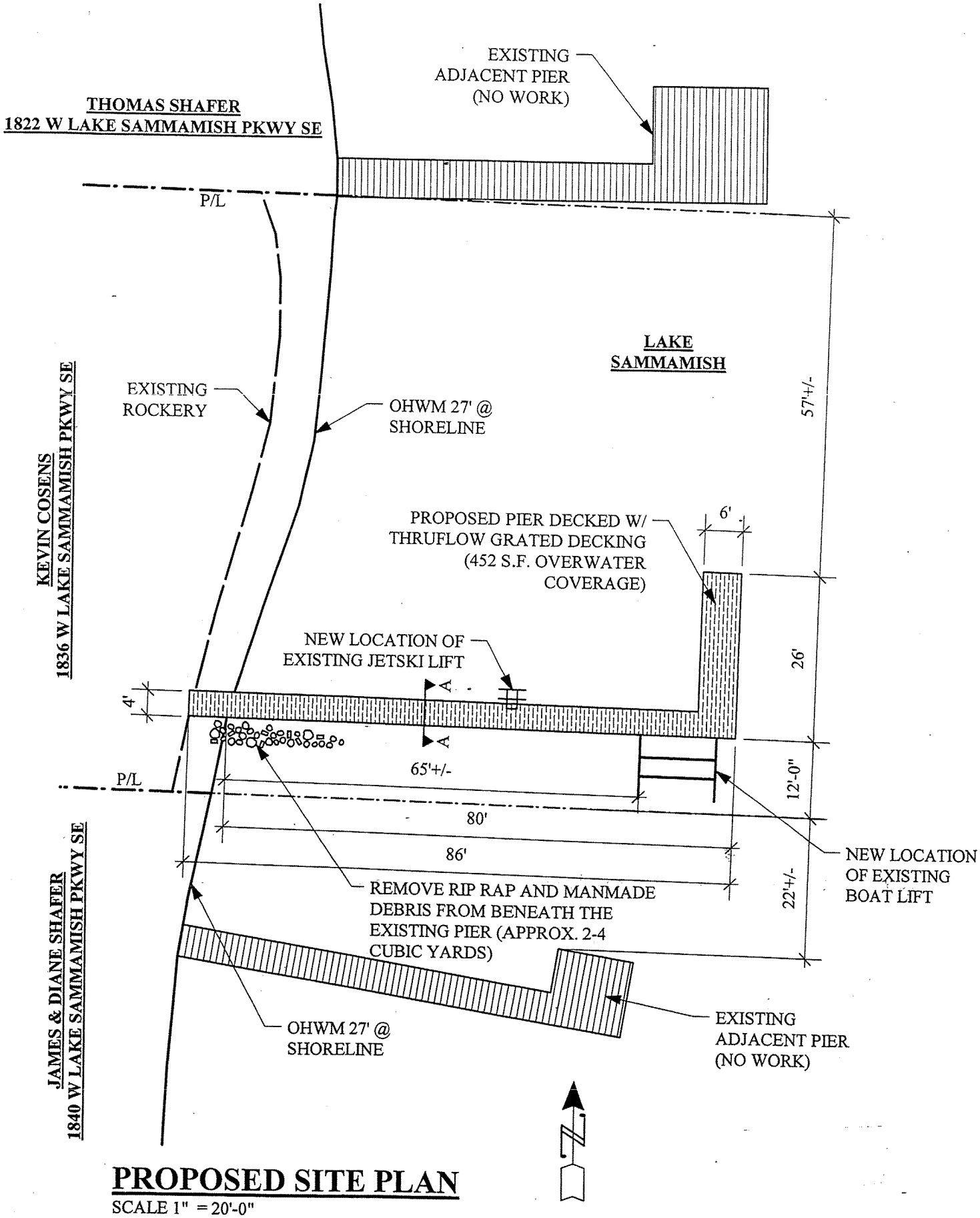
6. To mitigate potential impacts to the fisheries resources, the shoreline area shall be re-vegetated according to the approved Planting Plan. The plantings must be planted within 30 days of completion of the pier and prior to project final inspection

and signed off by the City unless prior City approval is granted to extend the planting deadline.

Authority: LUC 20.25E.080.N and LUC 20.25H.220

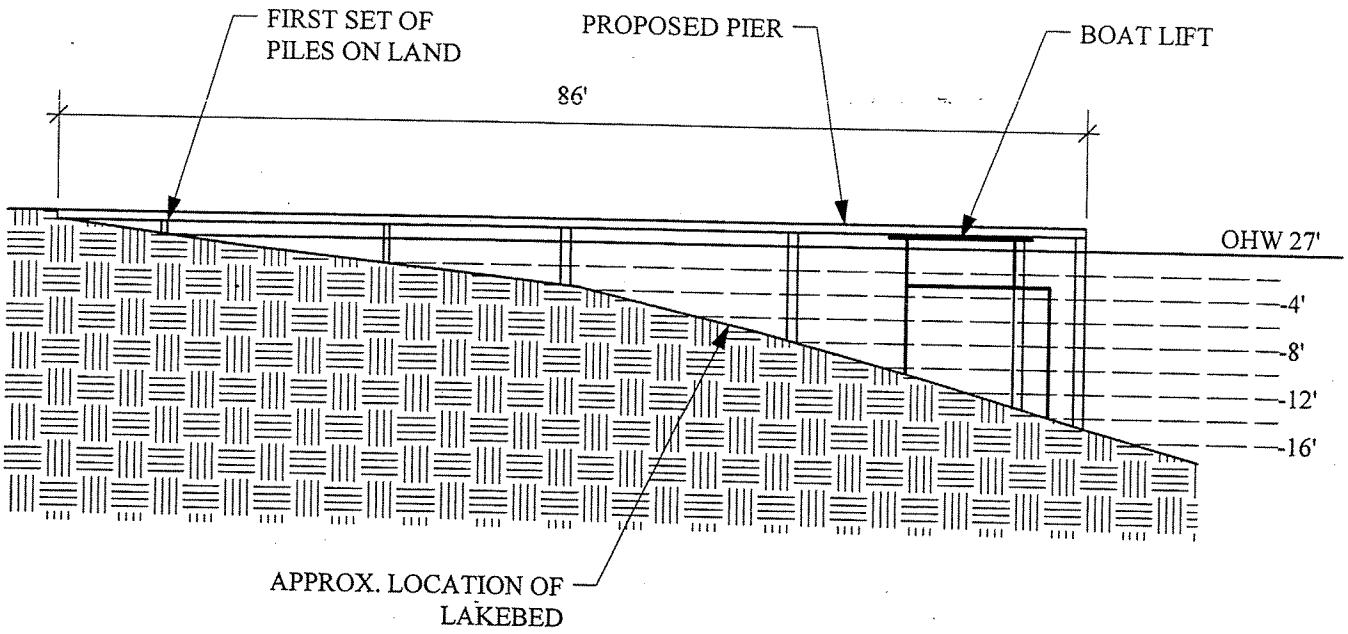
Attachments

1. Approved Site Plan
2. Approved Dock Construction Plans
3. Approved Revegetation Plan



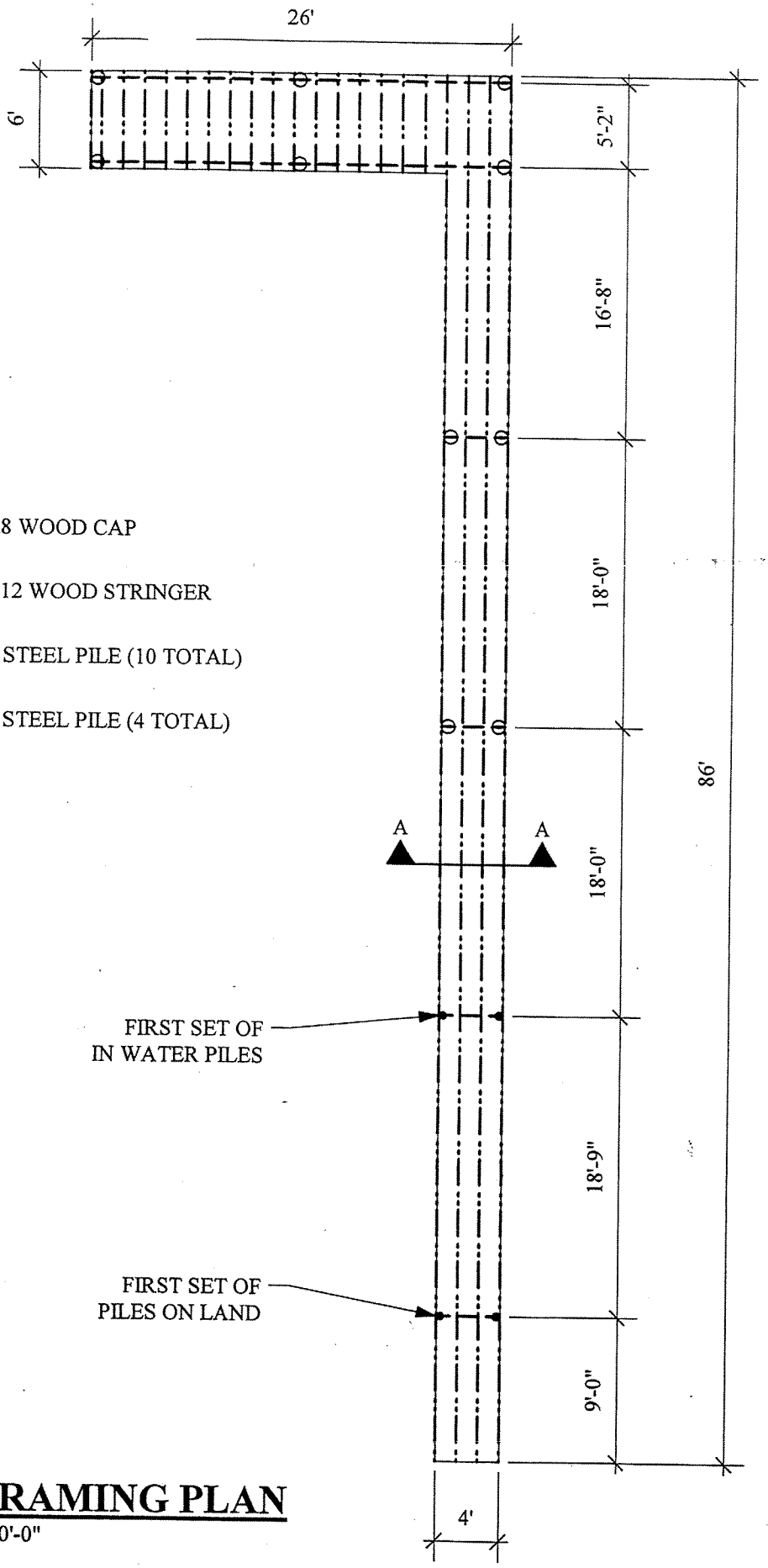
PROPOSED SITE PLAN

SCALE 1" = 20'-0"



PIER ELEVATION

SCALE 1/16" = 1'-0"

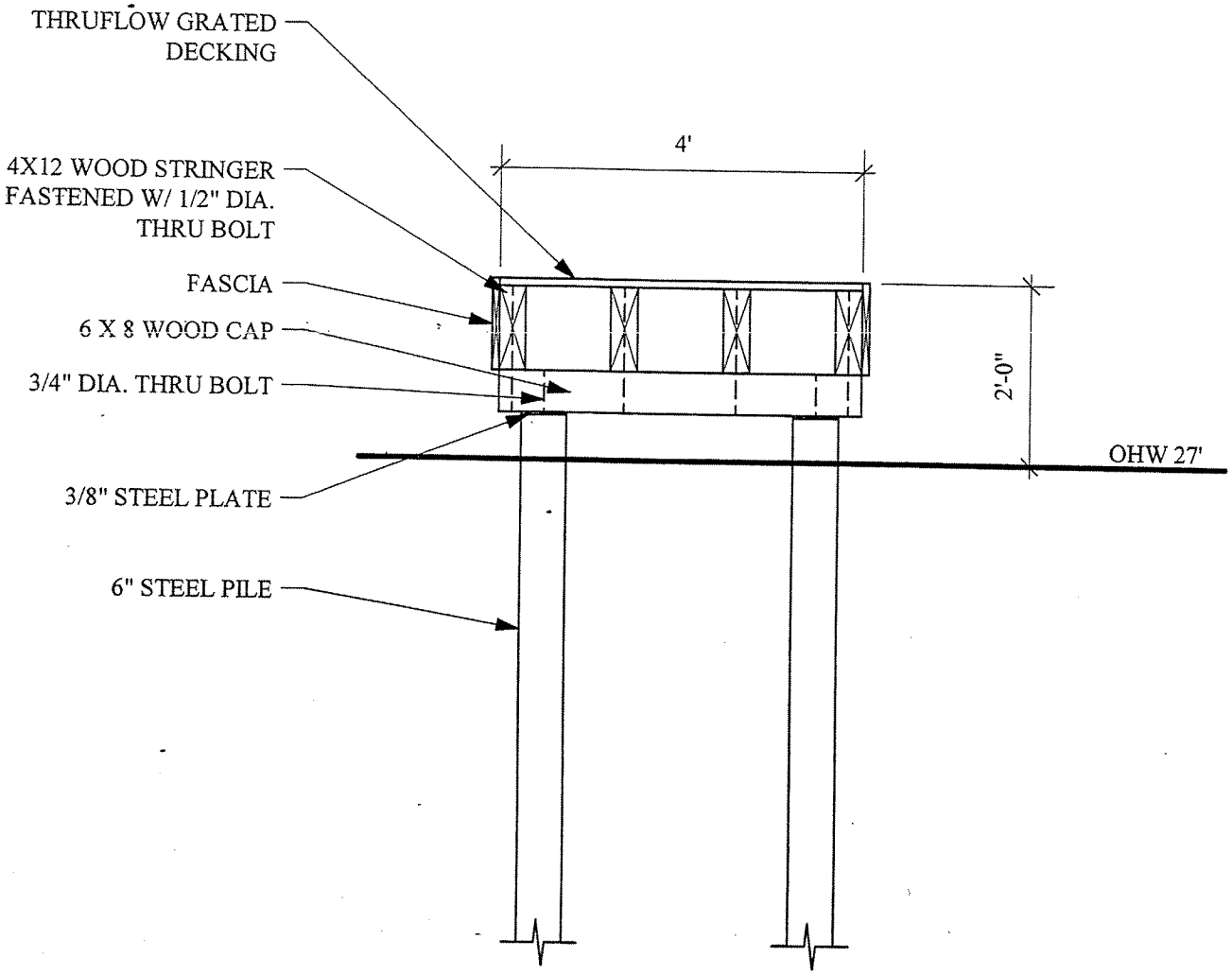


LEGEND

- 6x8 WOOD CAP
- 4x12 WOOD STRINGER
- 6" STEEL PILE (10 TOTAL)
- 4" STEEL PILE (4 TOTAL)

PIER FRAMING PLAN

SCALE 1" = 10'-0"



A-A SECTION DETAIL

SCALE 1/2"=1'

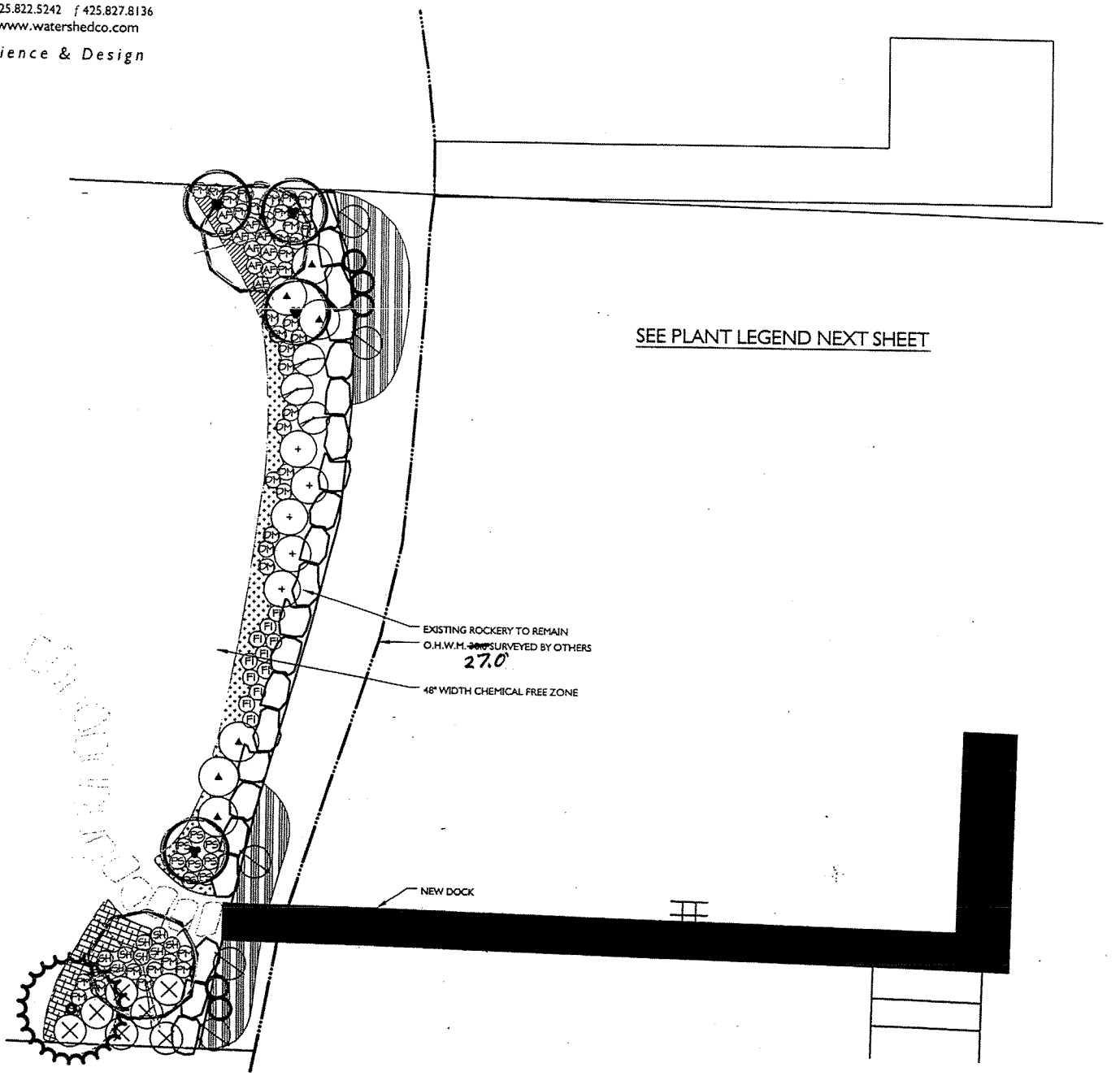
PRESENTED BY:

THE WATERSHED COMPANY

750 Sixth Street South
Kirkland WA 98033

p 425.822.5242 f 425.827.8136
www.watershedco.com

Science & Design



PLANTING PLAN

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

SHORELINE PLANT SCHEDULE

SYMBOL	NAME	SIZE	QTY	REMARKS
	TREES			
	BETULA PAPYRIFERA PAPER BIRCH	1.5" CAL. CONTAINER NO B&B	2	WELL BRANCHED, SINGLE OR MULTI-STEM
	PICEA SITCHENSIS SITKA SPRUCE	1" CAL. CONTAINER NO B&B	1	FULL AND BUSHY
	SALIX SITCHENSIS SITKA WILLOW	1 GAL.	5	
	SHRUBS			
	ACER CIRCINATUM VINE MAPLE	2 @ 1.5" CAL.; 2 @ 2" CAL.	4	ALL SHRUBS FULL AND WELL-BRANCHED
	CORNUS SERICEA RED-OSIER DOGWOOD	2 GAL.	5	
	HOLODISCUS DISCOLOR OCEANSPRAY	2 GAL.	6	
	RIBES SANGUINEUM RED FLOWERING CURRANT	2 GAL.	3	
	SYMPHORICARPOS ALBUS SNOWBERRY	2 GAL.	5	
	VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	2 GAL.	7	
	PERENNIALS & FERNS			
AF	AQUILEGIA FORMOSA RED COLUMBINE	1 GAL.	10	ALL PERENNIALS FULL AND VIGOROUS
DM	DELPHINIUM MENZIESI MENZIES' LARKSPUR	1 GAL.	14	
IF	FESTUCA IDAHOENSIS IDAHO FESCUE	1 GAL.	11	
PS	PENSTEMON SERULATUS COAST PENSTEMON	1 GAL.	8	
PM	POLYSTICHUM MUNITUM SWORD FERN	1 GAL.	27	
SH	SIDALCEA HENDERSONII HENDERSON'S MALLOW	1 GAL.	9	
	GROUNDCOVER			
	ARCTOSTAPHYLOS UVA-URSI KINIKINNICK	4" POTS	72	18" O.C.
	ASARUM CAUDATUM WILD GINGER	4" POTS	18	24" O.C.
	FRAGARIA CHILOENSIS BEACH STRAWBERRY	4" POTS	18	24" O.C.
	EMERGENTS			
	CAREX OBNUPTA SLOUGH SEDGE	10 CU. IN. POTS	48	12" O.C.
	JUNCUS ENSIFOLIUS DAGGER LEAF RUSH	10 CU. IN. POTS	48	12" O.C.
	IRIS TENAX WESTERN IRIS	10 CU. IN. POTS	48	12" O.C.
	SCIRPUS MICROCARPUS SMALL FRUITED BULRUSH	10 CU. IN. POTS	48	12" O.C.
	SCIRPUS ACUTUS HARDSTEM BULRUSH	10 CU. IN. POTS	48	12" O.C.

CONSTRUCTION SEQUENCE

1. Native plant installation shall occur between October 15th and December 15th during frost-free periods only.
2. Before final grading is completed by the general contractor, the landscape contractor should inspect the site to insure that soils, surface and grades are suitable for planting. At that time, assess soil conditions and if necessary provide amendment in planting areas such that there is a minimum of 20% organic material.
3. Locate all existing utilities within the limit of work. The contractor is responsible for any utility damage as a result of the landscape construction.
4. Loosen any compacted soils in the planting area.
5. Amend soil as needed per #2.
6. Insure that all finish grades are 1/2" below top of adjacent paved surface.
7. Layout plant material per plan for inspection by the Landscape Architect. Plant substitutions will NOT be allowed without the approval of the Landscape Architect.
8. Install plants per planting details.
9. Water each plant thoroughly to remove air pockets.
10. Install a 4" depth, coarse wood-chip mulch ring around each plant, outside of Lake Sammamish OHWM mark only. Cedar Grove compost may be substituted for coarse wood chips at the discretion of the owner.
11. Revise on site irrigation system as needed to insure that it is capable of delivering 2" of water per week to the entire planted area. Maintain irrigation system in working condition for two (2) summers after initial plant installation.
12. One year after initial plant installation, apply organic, slow-release fertilizer such as Osmocote or Perfect Blend 4-4-4 to each plant outside of Lake Sammamish OHWM mark only.

The landscape contractor shall maintain all plant material until final inspection and approval by the Owner or Owner's representative. All plantings and workmanship shall be guaranteed for one year following final owner acceptance

PLANT LEGEND AND CONSTRUCTION SEQUENCE

PLANT INSTALLATION SPECIFICATIONS

NOTE: THESE SPECIFICATIONS ARE A LEGALLY BINDING CONTRACT.

GENERAL NOTES

QUALITY ASSURANCE

1. PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
2. PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
3. TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUNSCALD WILL BE REJECTED.
4. NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 1973 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997.

DEFINITIONS

1. PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC.; SPRIGS, PLUGS, AND LINERS.
2. CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

SUBSTITUTIONS

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
2. SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE STREAM RESTORATION CONSULTANT.
3. IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES, WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
4. SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

INSPECTION

1. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE STREAM RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
2. PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE.
3. THE STREAM RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH. AFTER INSPECTION AND ACCEPTANCE, THE STREAM RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

MEASUREMENTS OF PLANTS

1. PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
2. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
3. WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.)

SUBMITTALS

PROPOSED PLANT SOURCES

1. WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

PRODUCT CERTIFICATES

1. PLANT MATERIALS LIST - SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
2. HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION. INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

DELIVERY, HANDLING, & STORAGE

NOTIFICATION

CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

PLANT MATERIALS

1. TRANSPORTATION - DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
2. SCHEDULING AND STORAGE - PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
3. HANDLING - PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL, BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
4. LABELS - PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

WARRANTY

PLANT WARRANTY

PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH.

REPLACEMENT

1. PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONSULTANT'S DISCRETION.
2. PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED.

PLANT MATERIAL

GENERAL

1. PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
2. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

QUANTITIES

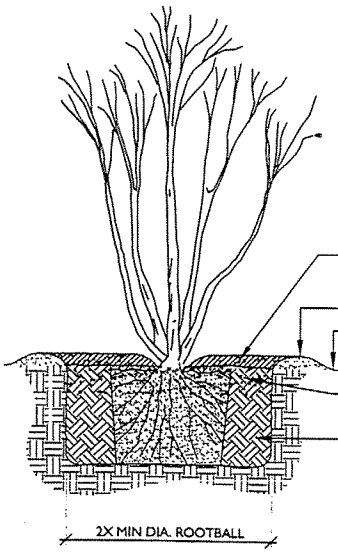
SEE PLANT LIST ON ACCOMPANYING PLANS.

ROOT TREATMENT

1. CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
2. PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
3. ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.

PLANT SPECIFICATIONS

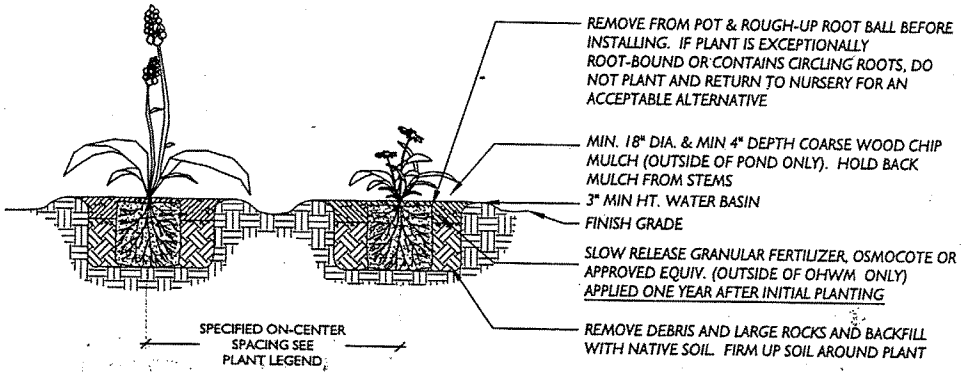
NOTES:
1. PLANTING PIT SHALL NOT BE LESS THAN (2) TIMES THE WIDTH OF THE ROOT BALL DIA.
2. LOOSEN SIDES AND BOTTOM OF PLANT PIT
3. REMOVE FROM POT & ROUGH-UP ROOT BALL BEFORE INSTALLING. IF PLANT IS EXCEPTIONALLY ROOT-BOUND OR CONTAINS CIRCLING ROOTS, DO NOT PLANT AND RETURN TO NURSERY FOR AN ACCEPTABLE ALTERNATIVE. IF B&B STOCK, REMOVE ALL TWINE/WIRE, & REMOVE BURLAP FROM TOP 1/3RD OF ROOTBALL PRIOR TO PLANTING
4. SOAK PLANTING PIT AFTER PLANTING



NOTE: TREES OVER 6'-0" HT. MAY NEED STAKING - VERIFY ON SITE WITH THE STREAM RESTORATION CONSULTANT

(A) TREE AND SHRUB PLANTING DETAIL
NTS

NOTES:
1. PLANTING PIT SHALL NOT BE LESS THAN (2) TIMES THE WIDTH OF THE ROOT BALL DIA.
2. LOOSEN SIDES AND BOTTOMS OF PLANTING PIT
3. SOAK PLANTING PIT AFTER PLANTING



(B) PERENNIAL/ FERNS/ GROUNDCOVER PLANTING DETAIL
NTS

PLANTING DETAILS