City of Seattle

Department of Planning and Development
D. M. Sugimura, Director

CITY OF SEATTLE
ANALYSIS AND DECISION OF THE DIRECTOR
OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT

Application Numbers:	3012330
Applicant Name:	Sally Fisher for Seattle Aquarium
Addresses of Proposal:	1483 Alaskan Way

SUMMARY OF PROPOSED ACTION

Shoreline Substantial Development Application to remove 7,304 sq. ft. of existing treated timber pile & apron and replace with 8,176 sq. ft. concrete apron and steel pile.

The following approvals are required:

Shoreline Substantial Development Application to allow development in the UH Shoreline Environments.

SEPA - Environmental Determination - (SMC Chapter 25.05)

SEPA DETERMINATION: [ ] Exempt [ ] DNS [ ] EIS

[X] DNS with conditions

[ ] DNS involving non-exempt grading, or demolition, or another agency with jurisdiction.

BACKGROUND DATA

Site Description

The project site is located on Piers 59 and 60 along Alaskan Way in Elliott Bay on the Seattle Waterfront and is currently developed with the Seattle Aquarium. The Seattle Aquarium is located north of and immediately adjacent to Seattle's Waterfront Park.

Proposal Description

The Seattle Aquarium proposes to replace an existing timber promenade structure at Pier 60 due to the deterioration of piles, pile caps, stringers and cross bracing. The project will include the removal of approximately 3,648 sq. ft. of existing treated-timber decking, and 102 creosote-treated timber piles. The piles will be replaced with approximately 35, 24-inch steel piles. The decking will be replaced with 4,520 sq. ft. of precast and cast-in-place concrete decking. There will be a temporary 872 sq. ft. increase in over-water coverage.

The increase in over-water coverage is temporary, in that areas of existing timber decking at other locations on Pier 60 have been identified for removal to mitigate the increase in over-water coverage. The exact location of the decking to be removed will be determined after the proposed Seawall project improvements in the vicinity of Pier 60 are designed. The decking removal work will be accomplished after the proposed repair work is completed but before the permits associated with that work have expired.

Proposed in‐water construction activities include removal of existing piles and installation of new piles and replacement of the west walkway using barge‐mounted equipment. Most of the existing creosote‐treated timber piles will be cut off 2 feet below mudline and the lower portion will be left in place to help maintain soil stability. Existing piles will be completely removed at any location where they will interfere with installation of the new piles. The removed piles will be cut into 4‐foot‐long sections and disposed in accordance with applicable regulations. The holes created by pile removal will be filled with sand. Approximately 10 cubic yards of sand will be used (total). Piles will be installed using vibratory equipment and tested using impact pile driving equipment.

Although repair and maintenance may be exempted under Seattle's Shoreline Code and SEPA Ordinance, the proposal includes new development in excess of exemption thresholds and therefore both a Shoreline Substantial Development Permit and a SEPA determination are required.

Public Comments

The official comment period for this project ended on September 16, 2011. No public comments were received.

ANALYSIS - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT

The proposal is located within the UH (Urban Harborfront) Shoreline Environment as designated by the Seattle Shoreline Master Program (SSMP). The Shoreline Master Program, Chapter 23.60 of the Seattle Municipal Code, regulates use and development in the City's shoreline districts to implement the policy and provisions of the Shoreline Management Act of 1971 and the Shoreline Goals and Policies.

The SMC requires that a shoreline permit be obtained prior to the undertaking of any substantial development within a shoreline environment. SMC Section 23.60.030 includes criteria for

evaluating a shoreline permit. A substantial development permit shall be issued only when the development proposed is consistent with:

A. The policies and procedures of Chapter 90.58 RCW;
B. The regulations of this Chapter; and
C. The provisions of Chapter 173-27 WAC.

Conditions may be attached to the approval of a permit as necessary to assure consistency of the proposed development with the Seattle Shoreline Master Program and the Shoreline Management Act.

A. THE POLICIES AND PROCEDURES OF CHAPTER 90.58.RCW

The State of Washington Shoreline policies (RCW Chapter 90.58) provide for the control of pollution and prevention of damage to the natural environment, and to protect the resources and ecology of the shoreline over the long term. It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. The Shoreline Management Act of 1971 provides definitions and concepts, and gives primary responsibility for initiating and administering the regulatory program of the Act to local governments. The Department of Ecology is to primarily act in a supportive and review capacity, with primary emphasis on insuring compliance with the policy and provisions of the Act. As a result of this Act, the City of Seattle and other jurisdictions with shorelines adopted a local shoreline master program, codified in the Seattle Municipal Code at Chapter 23.60 that also incorporates the provisions of Chapter 173.27 WAC. Development on the shorelines of the State is not to be undertaken unless it is consistent with the policies and provisions of the Act, and with the local master program. The Act sets out procedures, such as public notice and appeal requirements, and penalties for violating its provisions.

The City of Seattle Shoreline policies incorporate these goals by reference and include area objectives pursuant to these goals. These policies contemplate protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting public rights of navigation and corollary incidental rights. Permitted uses in the shorelines shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water.

As discussed below, the City's Shoreline policies encourage water-dependent public facilities on the Central Waterfront. The proposal to repair and replace portions of the Seattle Aquarium facility is consistent with these policies. Thus, this proposal is consistent with the policies and procedures of the RCW Chapter 90.58.

B. THE REGULATIONS OF CHAPTER 23.60

The regulations of Section 23.60.064 SMC require that the proposed use: 1) conform to all applicable development standards of both the shoreline environment and underlying zoning;

2) be permitted in the shoreline environment and the underlying zoning district and 3) satisfy the criteria of shoreline variance, conditional use, and/or special use permits as may be required.

The proposed maintenance and replacement of portions of the Seattle Aquarium is permitted outright as a water-dependent public facility over-water in the Urban Harborfront (UH) environment (SMC 23.60.660). Uses and development standards in the underlying Downtown Harborfront 1-45 zone are determined by the Seattle Shoreline Master Program (per SMC 23.49.300 and SMC 23.49.302).

SMC 23.60.004 - Shoreline Policies

Policies governing approval of development in shoreline districts are set out in the Land Use Element of the Seattle Comprehensive Plan and SMC Section 23.60.004. Seattle's Comprehensive Plan Shoreline Goals and Policies encourage the siting of water-dependent uses on waterfront lots (Land Use Policy 232).

This proposed will provide for repair and replacement of a water-dependent public facility and is therefore consistent with adopted Comprehensive Plan policies.

Shoreline Development Standards

The proposed maintenance barge and gangway are located in the UH Shoreline Environment. Pursuant to the Seattle Shoreline Master Plan, the proposed action is subject to:

1. the general development standards (SMC 23.60.152); and
2. the development standards for uses in the UH environment (SMC 23.60.690 through 23.60.704).

1. SMC 23.60.152 - General Development Standards for all Shoreline Environments

General standards for all uses and development in all shoreline environments are established in SMC Section 23.60.152. Generally, these standards require that all shoreline activity be designed, constructed, and operated in an environmentally sound manner consistent with the Shoreline Master Program and with best management practices for the specific use or activity, in order to have minimal impact on the shoreline environment. The following general development standards are relevant to the proposed project:

A. The location, design, construction and management of all shoreline developments and uses shall protect the quality and quantity of surface and ground water on and adjacent to the lot and shall adhere to the guidelines, policies, standards and regulations of applicable water quality management programs and regulatory agencies. Best management practices such as paving and berming of drum storage areas, fugitive dust controls and other good housekeeping measures to prevent contamination of land or water shall be required.

B. Solid and liquid wastes and untreated effluents shall not enter any bodies of water or be discharged onto the land.

C. Facilities, equipment and established procedures for the containment, recovery and mitigation of spilled petroleum products shall be provided at recreational marinas, commercial moorage, vessel repair facilities, marine service stations and any use regularly servicing vessels with petroleum product capacities of ten thousand five hundred (10,500) gallons or more.

D. The release of oil, chemicals or other hazardous materials onto or into the water shall be prohibited. Equipment for the transportation, storage, handling or application of such materials shall be maintained in a safe and leakproof condition. If there is evidence of leakage, the further use of such equipment shall be suspended until the deficiency has been satisfactorily corrected.

G. All shoreline developments and uses shall control erosion during project construction and operation.

H. All shoreline developments and uses shall be located, designed, constructed and managed to avoid disturbance, minimize adverse impacts and protect fish and wildlife habitat conservation areas including, but not limited to, spawning, nesting, rearing and habitat areas, commercial and recreational shellfish areas, kelp and eel grass beds, and migratory routes. Where avoidance of adverse impacts is not practicable, project mitigation measures relating the type, quantity and extent of mitigation to the protection of species and habitat functions may be approved by the Director in consultation with state resource management agencies and federally recognized tribes.

J. All shoreline developments and uses shall be located, designed, constructed and managed in a manner that minimizes adverse impacts to surrounding land and water uses and is compatible with the affected area.

K. Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. Surfaces cleared of vegetation and not to be developed shall be replanted. Surface drainage systems or substantial earth modifications shall be professionally designed to prevent maintenance problems or adverse impacts on shoreline features.

L. All shoreline development shall be located, constructed and operated so as not to be a hazard to public health and safety.

N. All debris, overburden and other waste materials from construction shall be disposed of in such a way as to prevent their entry by erosion from drainage, high water or other means into any water body.

O. Navigation channels shall be kept free of hazardous or obstructing development or uses.

The applicant provided a Mitigation Plan (Seattle Aquarium Pier 60 Piling Replacement Project – Mitigation Plan, April 5, 2012, BergerABAM) to offset the negative impacts on aquatic life and of the placement of in-water and overwater structures at this location. Specific potential project impacts and mitigation measures are described below.

Potential project impacts include:

- Temporarily increasing overwater coverage/shading at Pier 60 by 872 square feet due to the expanded viewing area on the west walkway at the marine mammal exhibit.
- Potential noise impacts during pile installation activities.
- Potential impacts to aquatic vegetation (if present) adjacent to the west walkway or loading dock during construction activities.

The applicant proposes to mitigate project impacts by a combination of benefits to aquatic habitat resulting from (1) materials used for the new structures; (2) design measures used to avoid and/or minimize impacts; and (3) implementation of best management practices during construction. Specifically, benefits to the aquatic habitat at the project site resulting from replacing the creosote timber structure with steel piles and concrete decking include:

- Replacing 102 existing approximately 16‐inch‐diameter creosote‐treated timber piles with approximately thirty‐five 24‐inch‐diameter steel piles will result in an approximately 35‐square‐foot net gain of benthic habitat.
- Light conditions under the structure will improve because fewer piles will be used to support the new structure and the new concrete decking will reflect light.
- Removal of creosote‐treated timber piles will improve water quality.

In addition, the applicant proposes to avoid and/or minimize project impacts from overwater coverage and noise to the extent practical by the project design and selection of construction equipment as described below.

Decking – Overwater Coverage

The temporary 872 sq. ft. increase in overwater coverage will be minimized by:

(1) limiting the decking increase at the marine mammal exhibit to the minimum needed to improve safety and viewing of the exhibit based on the previous visitor volume; and
(2) identifying areas of timber decking at other locations on Pier 60 (the deck on the east side of Pier 60) that could be removed to mitigate the overwater coverage increase for the project. The exact location of the additional decking to be removed will be determined after the proposed Seawall project improvements in the vicinity of Pier 60 are designed. The Pier 60 project team will coordinate with the Seawall project team to determine the best areas and time to remove Pier 60 decking relative to the Seawall construction plan.

The decking removal work is proposed to be accomplished after the west walkway and loading dock repairs are completed but before the project permits expire (within 3 years of permit approval). The removal of decking and associated piles will be accomplished using land‐based equipment.

Grating for Light Transmission

With regard to grating, the applicant explains that grating of the deck surface was explored during design, but was determined not to be feasible because:

- Grating would require a different structural system that would result in a larger footprint than the current structure.

- Grating could be a safety hazard; the promenade is used by a diverse population visiting the aquarium with a variety of footwear choices and there are a large number of visitors with small children, strollers, and mobility concerns.
- Grating provides a less secure surface with the potential for tripping hazards, and the potential for shoes to be caught in the grating.
- There is greater potential for things to fall into the water if grating is used instead of a continuous surface.
- The limited width and necessary depth of the grating would result in limited increase in light transmission. The decrease in the number of piles and replacement of the dark wood surfaces with lighter concrete are expected to result in a greater increase in light than the grating.

Pile Installation Noise

Potential noise impacts to fish, marine mammals, and birds are proposed to be minimized by the structural design to the extent practical by using the fewest number of piles possible, using hydraulic pile installation methods, minimizing the number of piles requiring proofing with an impact hammer, and limiting the number of strikes per day for use of the impact hammer during proofing (testing).

Only one of every four piles will be proofed using an impact hammer (9 of the 35 new piles). We expect proofing will require approximately 50 to 100 strikes per pile and the total number of strikes for the project will likely range between approximately 450 and 900. We expect that one to three piles will be proofed per day. The resulting number of strikes per day will range from about 50 to 300, depending on the number of piles proofed per day.

Noise during proofing with the impact hammer will be attenuated using a bubble curtain, which is expected to provide approximately 10 dB of attenuation. Marine mammal monitoring will be performed during all vibratory pile installation activities.

"Soft starts" will be used to create warning noise before starting vibratory or impact pile driving.

Best management practices

Best management practices (BMPs) are proposed to be used during construction to avoid and minimize noise and potential damage to the aquatic environment. These include the following:

- Work in the loading dock area at the north end of the project site will likely be conducted from the shoreline and will be unlikely to disturb known bull kelp beds north of the project site.
- In-water work will be conducted in the fall and winter when bull kelp and other aquatic vegetation are in a dormant period.
- Divers will observe and video the subsurface areas adjacent to the west walkway and the loading dock for the presence of aquatic vegetation (eelgrass and kelp) prior to construction and, if present, will mark the boundaries using floats, buoys, or other means as appropriate to restrict access and anchoring by construction barges.

- In-water work barges will not be allowed to anchor in areas where aquatic vegetation is present.
- In-water work barges will not be allowed to continuously shade any aquatic vegetation for more than 24 hours.
- The contractor will be required to develop and follow a Site Health and Safety Plan, including a Spill Prevention and Pollution Control Plan.

The applicant has committed to completing the specified BMPs during project construction and removing a minimum of 872 sq. ft. of decking and associated piles from the east side of Pier 60 to mitigate the temporary increase in overwater coverage prior to expiration of the WDFW Hydraulic Project Approval (HPA) permit. The permit will expire 3 years following permit issue.

These mitigation measures and BMPs will be required as conditions of approval of this permit.

Construction activity will be restricted to timing limitations set forth in the Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife.

2. SMC 23.60.690 through 23.60.704 - Development Standards in the UH Environment

As noted above, the proposed repair and replacement of the Seattle Aquarium facility are permitted outright as a water-dependent public facility over-water in the Urban Harborfront (UH) environment (SMC 23.60.660).

Development standards in the UH environment regulate structure height, lot coverage, side setbacks, view corridors, moorage requirements, regulated public access, and historic character review. The project meets all applicable development standards.

Therefore, this project is consistent with the development standards of the UH Shoreline Environment.

C. THE PROVISIONS OF CHAPTER 173-27 WAC

Chapter 173-27 WAC sets forth permit requirements for development in shoreline environments, and gives the authority for administering the permit system to local governments. The State acts in a review capacity. The Seattle Municipal Code Section 23.60 (Shoreline Development) and the RCW 90.58 incorporates the policies of the WAC by reference. These policies have been addressed in the foregoing analysis and have fulfilled the intent of WAC 173-27.

DECISION - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT

The proposed shoreline substantial development permit for the proposed repair and replacement of the Seattle Aquarium facility is **CONDITIONALLY GRANTED.**

Shoreline Substantial Development conditions are listed below.

ANALYSIS – STATE ENVIRONMENTAL POLICY ACT (SEPA)

Seattle Municipal Code (SMC) Section 25.05.660 provides that proposals can be conditioned or denied in order to mitigate environmental impacts. All conditions must be related to impacts identified in the environmental documents, based on adopted policies, be reasonable and capable of being accomplished. This proposal is reviewed under that substantive SEPA authority.

Disclosure of the potential impacts from this project was made in the environmental (SEPA) checklist dated August 10, 2011 and the Mitigation Plan described above. This information and supplemental information provided by the applicant (plans, written descriptions of the project) and the experience of this agency with review of similar projects form the basis for this analysis and conditioning.

The SEPA Overview Policy (SMC 25.05.665) establishes the relationship between codes, policies, and environmental review. Specific policies for specific elements of the environment, certain neighborhood plans, and other policies explicitly referenced may serve as the basis for exercising substantive SEPA authority. The Overview Policy states, in part, *"Where City regulations have been adopted to address an environmental impact, it shall be presumed that such regulations are adequate to achieve sufficient mitigation"* subject to some limitations. Under such limitations or circumstances (SMC 25.05.665 D) mitigation can be considered.

Thus, a more detailed discussion of some of the impacts is appropriate. Short-term and long-term impacts are anticipated from the proposal and are discussed below.

Short-term Impacts

The following temporary or construction-related impacts are expected: temporary increased water turbidity levels, decreased air quality due to increased dust and other suspended air particulates during excavation, filling and transport of materials to and from the site as well as due to vehicle exhaust from operation of construction equipment; increased noise and vibration from pile driving, construction operations and equipment and slightly increased traffic and parking demand from construction personnel traveling to and from the work site.

Several adopted codes and/or ordinances provide mitigation for some of the identified impacts. Specifically these are: the Seattle Noise Ordinance (construction noise); and State Air Quality Codes administered by the Puget Sound Clean Air Agency (air quality). In addition Federal and State regulations and permitting authority (Section 10 Permit, 404 Permit from the Army Corps and HPA permit from Washington Department of Fish and Wildlife) are effective to control short-term impacts on water quality. Compliance with these codes and/or ordinances will lessen the environmental impacts of the proposed project.

The applicant's SEPA Checklist and Mitigation Plan disclose that the proposed construction work will take place in the waters of Elliott Bay and in the near shore environment. With the proposed work taking place in and near water, there exists the potential for debris and other deleterious material to enter the water during this proposed work as well as other impacts due to construction-related activities such as noise levels during pile driving. A list of mitigation measures and BMPs is provided above in the discussion of general development standards in the

shoreline code that address these potential impacts. The mitigation measures listed will be required as conditions of approval of this project.

Regarding plants and animals that may utilize the project area, the SEPA Checklist prepared by the applicants identified the following Endangered Species Act (ESA)-listed and proposed species that may occur in the project area would be affected by the proposed project. These species identified include:

- Chinook salmon (*Oncorhynchus tshawytscha)*
- Steelhead (*Oncorhynchus mykiss*)
- Pacific elachon (*Thaleichthys pacificus*)
- Bocaccio (*Sebastes paucispinus*)
- Yelloweye rockfish (*Sebastes ruberrimus*)
- Canary rockfish (*Sebastes pinninger*)
- Southern Resident Orcas (*Orcinus orca*)
- Humpback whale (*Megaptera novaeangliae*)
- Steller sea lion (*Eumetopias jubatus*)
- Bull trout (*Salvelinus confluentus*)
- Marbled murrelet (*Brachyramphus marmoratus*)

To reduce potential impacts on wildlife from temporarily elevated underwater noise, to the greatest extent possible, pile driving will be performed using a vibratory hammer. Piles will be driven to final tip elevation or proofed, as necessary with an impact hammer. A bubble curtain or similarly effective noise attenuation device would be employed during any impact pile installation or proofing activities.

Regarding aquatic vegetation, there is a known bull kelp bed north of the project site, as discussed above. To minimize disturbance, the following BMPs are proposed: Work at the north end of the project site will likely be conducted from the shoreline and will be unlikely to disturb known bull kelp beds north of the project site; in-water work will be conducted in the fall and winter when bull kelp and other aquatic vegetation are in a dormant period; divers will observe and video the subsurface areas adjacent to the west walkway and the loading dock for the presence of aquatic vegetation (eelgrass and kelp) prior to construction and, if present, will mark the boundaries using floats, buoys, or other means as appropriate to restrict access and anchoring by construction barges; in-water work barges will not be allowed to anchor in areas where aquatic vegetation is present, nor be allowed to continuously shade any aquatic vegetation for more than 24 hours.

Construction material and equipment pose some potential danger of water and near shore contamination and erosion. The contamination and erosion could lead to both water quality and aquatic habitat damage. In order to be prepared to provide a fast and effective response to spills or other actions which cause new contaminants to be introduced into the shoreline environment, the contractor will be required to develop and follow a Site Health and Safety Plan, including a Spill Prevention and Pollution Control Plan.

Construction activity will be restricted to timing limitations set forth in the Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife.

No further SEPA conditioning of potential short-term impacts appears to be warranted.

Long Term Impacts

Long-term or use related impacts are also anticipated from the proposal and may include: increased human activity in the near-shore and shoreline environment and increased noise from human activities. These long-term impacts are not considered significant because they are minor in scope.

Other Impacts

Several adopted Codes and Ordinances and other Agencies will appropriately mitigate the other use-related adverse impacts created by the proposal. Specifically, these are the Puget Sound Air Pollution Control Agency (increased airborne emissions); and the Seattle Energy Code (long-term energy consumption).

The other impacts not noted here as mitigated by codes, ordinances, or conditions (increased ambient noise; increased pedestrian traffic; increased demand on public services and utilities) are not sufficiently adverse to warrant further mitigation by conditions.

CONDITIONS – SEPA and SHORELINE

Conditions of Approval Prior to Building Permit Issuance:

1. The mitigation measures and Best Management Practices (BMPs) proposed by the applicant and described on pages 6, 7 and 8 of this document must be shown on the plans.

Conditions of Approval During Construction:

The following condition(s) to be enforced during construction shall be posted at the site in a location on the property line that is visible and accessible to the public and to construction personnel from the street right-of-way. If more than one street abuts the site, conditions shall be posted at each street. The conditions will be affixed to placards prepared by DPD. The placards will be issued along with the building permit set of plans. The placards shall be laminated with clear plastic or other waterproofing material and shall remain posted on-site for the duration of the construction.

2. The applicant shall implement the Spill Prevention Control and Countermeasure (SPCC) Plan and the mitigation measures and Best Management Practices (BMPs) proposed by the applicant and described on pages 6, 7 and 8 of this document.

Conditions for Life of Project:

3. The applicant shall identify and remove areas of over-water coverage equivalent to the proposed 872 sq. ft. increase in overwater coverage. This mitigation work is proposed to be accomplished after the west walkway and loading dock repairs are completed but before the project permits expire (within 3 years of permit approval). The removal of decking and associated piles will be accomplished using land-based equipment.

Signature: (signature on file) Date: June 4, 2012
Molly Hurley, Senior Land Use Planner
Department of Planning and Development

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